

REGIONAL TECHNICAL FORUM MEETING NOTES

March 8, 2005
Northwest Power & Conservation Council Offices
Portland, Oregon

DRAFT

1. Greetings and Introductions.

Today's Regional Technical Forum meeting, held March 8, 2005 in Portland, Oregon, was chaired by Tom Eckman. Eckman led a round of introductions and a review of today's agenda. The following is a summary (not a verbatim transcript) of the items discussed and decisions made at that meeting. Anyone with questions about these notes should contact Eckman at 503/222-5161.

2. Presentation, Discussion and Decision on Proposed Deemed Savings Measures for Commercial Lighting Measures.

Charlie Grist led a presentation titled "Draft Deemed Savings Measures for Commercial Lighting Retrofits." He noted that there are a lot of different options in the commercial lighting sectors; BPA has developed a calculator to estimate deemed savings for many of these measures. What I'm going to present today is an expansion of that list, he said. Grist's presentation (available in its entirety via hot-link from today's agenda on the RTF homepage) touched on the following major topics:

- Approach – fixture-for-fixture retrofit; one or two measures per base lighting system; Fifth Plan estimates; costs include lamps, ballasts, labor and fixture costs if applicable; cost and savings include ongoing periodic replacement costs or savings; many applications have significant space heat interaction; a 12-year measure life is assumed for the package. Disposal costs were not factored in; they were assumed to be the same as the previous system disposal cost.
- Measure List – started with BPA list of existing fixtures; culled 24 measures; added 24 measures; plan to cull another 10 measures for post-2006. 125 measures total.
- Measure list – categories (incandescent to screw-in CFL, incandescent to hard-wired CFL, incandescent to ceramic metal halide etc.)
- Nomenclature – matches BPA's drop-down lighting calculator
- Nomenclature: measure name
- Review of measures spreadsheet (demonstration)
- Results – 6,375 deemed savings values; 93% of measures have at least one cost-effective

application; 76% of applications are cost-effective; measures frequently NOT cost-effective include expensive measures like ceramic metal halide, some standard T8 to HPT8 retrofits without delamping, some 8-foot T12 retrofits; applications frequently NOT cost-effective include school applications due to low hours and electric space heat.

- Proposed high-performance T8 specifications (CEE revision of February 1, 2005)

The group devoted a few minutes of discussion to the nuances of the commercial lighting deemed savings measures calculator, offering a few minor clarifying questions and comments. Many of these focused on how Grist developed his cost and hours of operation estimates.

Eckman said there are two issues that need to be resolved – first, we need to produce a list with the Council assumptions embedded in it; second, we need to resolve whether this list will apply to the current rate period, or the next one, post-2006, he said. Grist noted that the CEE proposed high-performance T8 specifications are very close to the ones Bonneville has been using; the group probably needs to decide whether or not to adopt them, and if so, whether they should apply in this rate period or the post-2006 rate period.

Eugene Rosolie said his concern is that contractors are familiar with the BPA list; the CEE specifications may be throwing a cog in the engine that doesn't really need to be there. When will BPA adopt the CEE specs? Rosolie asked. Mostly it's a ConAug program, Jack Callahan replied – I don't really see the need to make a change at this time. We want them to conform with each other, but every change takes a lot of work. Currently, the BPA and CEE specs are 90% compatible, he added.

Rosolie moved that the RTF accept the CEE specs for the post-2006 period; this motion was seconded and unanimously approved. What about the commercial lighting deemed savings measures? Eckman asked. After a brief discussion, Rosolie moved that the RTF recommend to Bonneville that they add these measures to the list of deemed commercial measures for use in the current rate period; this motion was seconded and unanimously approved.

3. Presentation, Discussion and Decision on Petitions for PTCS Service Provider Equivalency.

Todd Currier of the Washington State University Energy Program provided an overview of this proposal, titled "Request for Certification as Performance-Tested Duct System Trainers, and Certification System Operators for New and Existing Site-Built and Manufactured/Modular Homes in Washington State." He noted that WSU has been working with ducts for more than 15 years; this certification would allow WSU to consolidate its PTCS and Energy Star certification operations.

Brady Peeks then described Oregon DOE's request for certification as PTCS duct system trainers and certification system operators for new and existing homes. He noted that ODOE, too, has been active in duct work and training for nearly 15 years; ODOE was a part of the state group that developed and created PTCS Inc. in 1997/'98. Since 1998, ODOE has certified more than 200 technicians and performance testers from over 50 companies. He said ODOE expects to process more than 1,000 applications for duct sealing tax credits for 2004. Peeks provided an

overview of ODOE's duct sealing accomplishments. Please note that both the Washington and Oregon proposals are available via hot-link from today's agenda.

Suppose we had a small number of houses to test, but we had to do dramatically more than one in 10? David Baylon asked. I'm committed to having a system that's valid, Peeks replied; we would simply need to find a way to get it off the ground. Carrier added that installers new to PTCS receive additional oversight for the first several houses. Will this essentially take over what Climate Crafters has been doing? Mark Johnson asked. We are prepared to deal with existing and new homes, yes, Carrier replied. Bruce Manclark said he is intrigued by this proposal, but he is wondering where large-scale manufactured home duct sealing fits in. Some of that is done by utilities, Peeks replied; we can pull all of the contractor's jobs to assure that it has third-party quality assurance. Is there a budget for this? Johnson asked. We're developing a proposal for federal funding, Peeks replied. Carrier said Washington currently charges \$75 to certify an Energy Star home. We're trying to fit this additional oversight element within that \$75 fee, he said. Whether or not that will work remains to be seen, he added; we're going to try it for a year and see.

My point is that when a utility is running a large-scale manufactured home duct sealing program, they are responsible for the administrative and record-keeping costs, said Manclark; they should pay you, and I would encourage you to look at those utilities as a source of income.

Eckman noted that the RTF does have criteria in place covering PTCS duct sealing certification; he briefly recapped them. The question is whether the Oregon and Washington proposals comply with these criteria, he said. The answer is yes on whether or not they've been doing training, Eckman said; they offer two-day training, so we can check that box. We have written documentation of competency; we need to get copies of your written exams. Eckman went through the rest of the PTCS criteria; ultimately, the RTF concluded that both Oregon's and Washington's proposals meet these criteria.

Ken Eklund moved that the RTF accept the Oregon and Washington applications for PTCS certification; this motion was seconded and approved unanimously.

Eklund noted that Idaho Energy Division would also like to have the capability to provide this service, particularly given the uncertainty about what Climate Crafters will be doing in the future. I don't think it will be an issue, Eckman said; please send me something in writing, and we'll put it on the April RTF agenda.

4. Presentation, Discussion and Decision on Petition for Utility Exemption from PTCS Independent Third Party Quality Assurance.

Eckman noted that this request, for exemption from Climate Crafters (or equivalent) third-party quality assurance, is from the City of Richland; he distributed a document called "Proposed Utility QA Exemption – City of Richland," noting that there are a couple of

outstanding questions on this proposal. Charlie Stephens said he is looking for a bit more detail as to the duct certification program proposed by Richland; it isn't really enough just to say "City of Richland will comply with the requirements of the RTF for duct certification." I'd prefer to see something similar to what Brady Peeks presented in the previous agenda item, Stephens said – more detail about their proposed program. I trust Lori, he said, but the next entity that applies for this exemption may be less trustworthy.

Eckman noted that he had asked Lori Sanders to submit some additional data, but has not yet received the requested information. He said he will circulate this additional information to the RTF membership via email once it is received. I'd like to know what their QC process is going to be, whether they plan to have staff do it, or plan to hire it out, Stephens said. I'd also like more detail on the remediation of contractor error, he said. Ultimately, it was agreed to defer an RTF decision on this request until Sanders provides the additional information requested on how the City of Richland will comply with sections 2.2, 2.3 and 2.4.

5. Proposed Deemed Savings Values for Energy Star Lighting in New Energy Star Single Family Construction.

Baylon said this is an effort to solve a perceived problem as to how the lighting calculation is performed for a full house. He then provided an overhead presentation (available via hotliink from today's agenda on the RTF website), touching on the following major points:

- Current method
- Example homes (spreadsheet)
- Current lighting design
- Appliance and lighting usage (table)
- Residential lighting use estimates (table)
- CALMAC results = no correlation between house size and average hours of lighting use (graph)
- Estimated CFL usage is equivalent to the estimated hours of usage for all lamp types based on the most recent study on run time hours for residential lighting (graph)
- CALMAC study – hours of use by household type
- Proposed method for Northwest Energy Star new homes – set a baseline lighting power density (LPD) for residential single family new construction (1.6 w/sf); establish average hours of operation (2.1 hrs/day); develop target LPD for whole house lighting measures; calculate electric savings from change in LPD
- Proposed deemed savings calculation for Energy Star new homes (table)

Baylon closed with the following list of remaining issues:

- Does a baseline LPD of 1.5 watts/sf seem reasonable for new construction?
- Does 2.1 hrs/day "full load equivalent hours" seem reasonable for the whole house?
- Should average "full load equivalent hours" (2.1 hrs/day) be adjusted to reflect "takeback" assumptions used in retrofit analysis?
- Should "removal" assumption used in retrofit analysis be reflected in new homes

analysis?

After a few clarifying questions and comments, Rosolie moved that the RTF recommend to Bonneville that it adopt the deemed savings value for Energy Star new homes based on the LPD of 1.11, 0.67 and 0.58 watts/sq. ft. and an average on time of 2.1 hrs/day. This motion was seconded and unanimously approved.

In response to a question from Grist, Baylon clarified that these deemed savings values apply to hardwired fixtures only, not floor and table lamps. In response to these comments, Baylon said he will modify the LPD watts/square foot numbers in his proposed deemed savings calculation for Northwest Energy Star new homes table upward to reflect the fact that some fraction of the lighting use is caused by plug-in fixtures that are not installed at time construction. Stephens then moved that the RTF amend its prior recommendation to Bonneville to reflect indicate that the LPD budgets apply only to hardwired lighting fixtures. This motion was seconded and unanimously approved.

6. Presentation, Discussion and Decision on Deemed Savings for Commercial Food Service Spray Rinse Heads.

Grist noted that this proposal refers to the spray rinse heads used to pre-rinse dishes in restaurants and other commercial kitchens. He said that, initially, because most commercial kitchens heat their water with gas, he didn't think there would be significant savings associated with this new measure. However, a recent King County study found that about 30% of commercial kitchens have electric water heating. If we have low-flow shower heads as a measure, said Grist, it makes sense to add this as a measure as well.

Grist said the cost of the spray heads themselves is almost nothing, but the cost of running the program, which includes door-to-door sales visits by trained personnel, is high. However, the potential savings are also high – 5,500 kWh/year for kitchens with electric water heat, based on some very conservative assumptions. The benefit-cost ratio is also very high – nearly 6. The C&R credit was set at \$711.

Ken Keating noted that there are a couple of other factors to consider with this measure. The first is water consumption; there is considerable variability in the amount of spray head use between a deli, say, and a hospital kitchen. Second, he said, water pressure varies considerably from location to location, and can have a major impact on assumed savings. Third, he said, in last week's CEE letter to EPA, CEE concluded that the average duration of use for low-flow spray nozzles is several seconds longer than for conventional spray nozzles. The bottom line is that I think your savings assumptions may be too optimistic, he said.

After several minutes of debate, Stephens moved that the RTF recommend that Bonneville adopt the most conservative possible savings assumption – 3,800 kWh/yr – in calculating the savings associated with this measure. This motion was seconded and unanimously approved. It was also agreed that the savings will be calculated based on an assumption that the change would be from a 2.4 gpm spray head to a 1.6 gpm spray head.

Johnson asked whether the RTF would be willing to recommend a C&RD credit for this measure. Eckman indicated that use of the RTF's standard calculation assumptions yielded \$504 in credit, but that it was up to Bonneville to determine the credit amount to be offered.

7. Presentation, Discussion and Decision on Proposed Revised Deemed Savings Calculator for Energy Star Commercial Refrigerators.

When we last left this issue, said Eckman, we agreed that the Energy Star requirements were a little looser than they should have been, and too many models were qualifying as Energy Star – it just didn't seem to be much of a hurdle. What I've done is to modify the calculator to show which models show a 10% improvement and a 15% improvement over Energy Star and CEE Tier 2 criteria, he explained. Eckman spent a few minutes demonstrating his proposed revised commercial refrigeration deemed savings calculator. The change would go into effect in October, he added.

Stephens moved that the RTF recommend that Bonneville adopt the revised deemed savings calculator as written. The motion was seconded and unanimously approved.

8. Presentation, Discussion and Decision on Proposed Revised Deemed Savings Calculator and Deemed Savings Values for Energy Star Commercial Clothes Washers.

Eckman explained that the current calculator does not take into account the new federal standard for Energy Star clothes washers; this revised calculator has been changed to reflect that new standard. He noted that this measure is focused exclusively on common-area clothes washers, including coin-operated washers. Eckman added that the savings in the calculator were based on about 4 cycles per day. He then demonstrated the calculator, noting that it is ready to go into effect on October 1 or even sooner. The sooner the better, he said, because the current calculator is quite outdated because it bases savings on the prior federal standard.

Bruce Cody moved that the RTF recommend that Bonneville adopt the revised deemed savings calculator for Energy Star commercial clothes washers for use this fiscal year; this motion was seconded and unanimously approved.

9. Presentation, Discussion and Decision on Proposed Revised Deemed Savings Calculator for Residential Refrigerator Decommissioning.

Eckman explained that this calculator offers a series of credits for decommissioning residential refrigerators of various vintages (e.g., 1993-2001, 1989-1992, etc.). He indicated that he had updated the calculator to include "post-2000" vintage refrigerators for the sake of completeness. Charlie Stephens moved that the calculator be updated to include the "post-2000" vintage. The motion was seconded and unanimously approved.

10. Presentation, Discussion and Decision on Proposed Revised Deemed Savings for Networked PC Management (Surveyor™) Software.

Grist said he had reviewed the power consumption estimates for this deemed measures list and concluded that they are likely wrong. This applies to networked personal computers and the software IT uses to turn off computers when they aren't in use. One thing that has changed since this was last updated is that LCD monitors are now more numerous than CRT monitors, so the monitor energy savings need to be revised downward. However, at the same time, the CPUs used by more recent computers run hotter, so that savings estimate would need to go up. The net effect of these changes is that the savings associated with this measure go down from 200 kWh/yr to 174 kWh/yr, Grist said. I'm not sure we even need to tell people about this change, Johnson observed – it's very minor.

Bruce Cody moved that the RTF recommend that Bonneville adopt the revised deemed savings estimates for Networked PC Management (Surveyor™) Software. The motion was seconded and unanimously approved.

11. Presentation, Discussion and Decision on Proposed Revised Deemed Savings Values for LED Traffic Signals.

What we have on LED traffic signals in the Plan isn't a change in estimated savings, but a change in capital cost, said Eckman – prices have come down by nearly half on LEDs, which impacts the benefit-cost ratio. After a brief discussion, Bruce Cody moved that the RTF recommend that Bonneville adopt the revised incremental cost assumptions for LED traffic signals. This motion was seconded and unanimously approved.

12. Next RTF Meeting Date.

The next meeting of the Regional Technical Forum was set for April 5. Please note that this meeting will be held in a different location (possible PNGC) – see agenda. Meeting summary prepared by Jeff Kuechle.

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March 8, 2005**

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