REGIONAL TECHNICAL FORUM MEETING NOTES

August 4, 2004

NORTHWEST POWER PLANNING COUNCIL OFFICES
PORTLAND, OREGON

DRAFT

I. Greetings, Introductions and Review of the Agenda.

The August 4, 2004 Regional Technical Forum meeting, held at the Northwest Power Planning Council's offices in Portland, Oregon, was chaired by Ken Corum and Tom Eckman of the Council staff.

The following is a distillation (not a verbatim transcript) of items discussed during the meeting, together with actions taken on those items. Please note that some enclosures referenced in the body of the text may be too lengthy to attach; all enclosures referenced are available upon request from Eckman at 503/222-5161.

Corum led a round of introductions and a review of the agenda. The minutes from the February RTF meeting were adopted with a few minor corrections.

II. Presentation and Discussion of Revised RTF Standards Determining PTCS Service Provider Equivalency.

Charlie Stephens and Bruce Manclark led this presentation, which grew out of a discussion at the most recent RTF meeting in April. Stephens noted that, at that meeting, the concept of third-party QA wasn't fully resolved, primarily because of the nature of the players in any given set of programs – the provider, the utility that hired the provider, and BPA, which authorizes the credit. There is also the RTF, he observed. The bottom line is that, what is third-party to one entity wouldn't necessarily be third-party to another. The BPA proposal, scheduled for discussion later on today's agenda, may help to resolve that issue, Stephens observed.

Moving on, Stephens noted that the database question is another issue that has yet to be resolved; Manclark said he had sent out an email summarizing the discussion on the topic of acceptable deemed-equivalent QA programs at the recent RTF subgroup meeting; he noted that what he had intended to propose to the RTF was that utilities could do their own QA if they met certain criteria.

Eugene Roslie said that, in his view, service provider equivalency and third-party certification may be two separate issues. They were all a part of the broad proposal the RTF discussed at its April meeting, Stephens replied; each of those things is an element in the larger picture. We were looking at third-party in connection with QA, he added. The RTF needs to make a decision about data management and archiving, observed Lavelle Perin – we need to take a vote and resolve that issue. Until we stop putting that off, she said, we're going to be unable to move forward on vital work in a number of areas. We have to decide whether we want third-party QA, and if so, where that will be accumulated and archived. Certainly the RTF can make a recommendation, said Stephens, but it will be up to Bonneville to decide. Mark Johnson noted that the BPA proposal (Agenda Item III) does discuss this issue -- we would require utilities to maintain a database that includes certain elements, and to provide that data to the RTF upon request. And at our meeting, added Stephens, there was general agreement on what those certain elements

should be, as well as what information would not be shared. Most of the remaining questions are mechanical – who will archive the data, who will manage it, who will authorize its release, and who will pay for it.

The group devoted a lengthy discussion to these questions; ultimately, Stephens said he and Manclark will draft a memo describing what he called some "minor adjustments" to the conclusions reached at the last RTF meeting regarding specs for the trainers and providers. He then asked BPA to talk about their proposal for third-party QA.

III. Presentation and Discussion of Proposed BPA Policy on PTCS Quality Assurance/Quality Control by Utilities.

Adam Hadley went briefly through Bonneville's proposal, titled "Utility QA Exemptions." A utility would not be required to get third-party QA under this proposal; instead, the utility would be the certifier. Hadley noted that the exemption from QA proposed by Bonneville would be based on a high level of QC. The idea is that utilities would look at this proposal to see whether they would qualify; if so, they would submit that conclusion to the RTF, which would then make a recommendation to Bonneville.

The basic requirements of the Bonneville proposal include the following:

- The utility must have a qualified inspection staff
- The utility must have a high-level quality control program
- The utility must be able to do the certification
- The utility must have a qualified registry system

The group discussed the recommendation that the RTF establish a 40 cfm error threshold; ultimately, Stephens recommended that the RTF designate a technical subgroup to weigh this and other technical issues related to this proposal. It was so agreed. After a few minutes of additional discussion, Stephens moved that the RTF working subcommittee on PTCS equivalency be asked to review BPA's proposal and attempt to reach agreement on all of these technical details: deciding what data will be collected and what format and spreadsheet will be used, ensuring that specs for error bands and requirements for certification are consistent with existing RTF programs, and developing a recommendation that these become the requirements for the new RTF program. Those recommendations could then be used to modify the BPA proposal as needed, he said, adding that the overall goal is for the subcommittee to develop a proposal as to what should be considered PTCS service provider equivalency. This motion was seconded and unanimously approved. In the meantime, Stephens said that he and Manclark will develop a concise written summary of the subgroup's conclusions, have the subgroup review it, and present it at the next RTF meeting in September. Perin said she will submit a draft database to the subcommittee within the next week.

The group devoted a few minutes of discussion to the question of the usefulness of the modified BPA proposal to all utilities, in particular, to smaller utilities. Ultimately, Ken Eklund moved that the RTF adopt the following resolution: "Resolved: that the RTF is committed to the objective of creating an exemption for utilities from the PTCS quality assurance requirements. Such exemptions would be in the nature of the BPA proposal under consideration by the RTF."

After a few minutes of intensive discussion, Eklund amended his motion as follows: "I move that the proposed requirements for utility quality assurance exemption be adopted subject to technical review by the technical working group, and amendment by the RTF on the following issues: Section 2B, review to be broadened to include all elements of 4.1, and require review of completeness; Section 2C, requirement for percentage of inspections; Section 2D, the standard for remediation of contractor error; Section 3, the first two bullets to be reviewed; Section 4.1, review the information elements; Section 4.2, define the Excel data format." Eckman seconded this motion; it was unanimously improved.

Annie Tucher of Idaho Power said that, while she is not a voting member of the RTF, last winter, Ecos, one of Idaho Power's providers, asked for and was granted equivalency as a PTCS provider, for 1,500 manufactured homes in Idaho Power's service territory. She said her purpose, at today's meeting, given the fact that more than 1,200 of those homes have now been completed, was to ask for an additional 1,500 homes, until the issues from this

morning are resolved.

Eklund moved that the Ecos PTCS status as an equivalent PTCS provider be increased to 3,000 homes, with all of the terms and conditions of the original grant of equivalency remaining in force. This motion was also seconded and unanimously approved.

IV. Presentation and Discussion of Request to Offer PTCS Equivalent Training and Certification Services for Manufactured Housing by Idaho Energy Division.

Eklund provided copies of the Idaho Energy Division's "Request for Certification as PTCS Duct System Trainers and Certification System Operators for New and Existing Site-Built Homes and New Manufactured and Modular Homes In Idaho." He provided a brief overview of its contents, noting that the idea here is to leverage the opportunity IED has, being on-site already, in the case of new homes, for the Energy Star home program. While we're on site with our staff, he explained, we would like to be able to do PTCS quality assurance at the same time. He noted that IED considers itself a third party; if we have to use a different third-party provider, it will add considerably to the cost and timeline of the process. The full text of the IED proposal is available via the August 4 agenda on the RTF homepage; please refer to this document for full proposal details.

The group offered a few clarifying questions and comments; many had to do with potential conflict of interest, and the propriety of considering IED a truly independent third party with respect to its training and QA/QC functions. Ultimately, Corum moved that the RTF approve IED's request for certification as proposed, contingent on its being made consistent with whatever the RTF adopts with respect to PTCS equivalency at a future meeting. This motion was seconded and unanimously approved.

V. Presentation, Discussion and Decision on Revised Deemed Savings Calculator for Commercial Refrigerators and Freezers.

Eckman noted that the RTF adopted specs for a variety of commercial freezers and refrigerators two years ago; one problem was, at the time, the only database available was a list of models on the CEC website that met Title 24 standards. The more recent CEC data set has more models in it; there has also been an Energy Star standard adopted, and it isn't too tough for the models on the list to qualify for Energy Star. The CEC Tier II standards are more stringent than the Energy Star standards, said Eckman; our thinking was that we needed to give some thought to how tough it is to achieve the Energy Star standards before awarding credits.

Eckman then provided a Powerpoint presentation, touching on the following major topics:

- Current deemed savings calculation baseline efficiency assumptions baseline vs. Energy Star/CEE tier 1 (table)
- Energy use of Energy Star and CEE qualifying models vs. all available models of solid door refrigerators (graph)
- Energy use of Energy Star and CEE qualifying models vs. all available models of transparent door refrigerators (graph)

The problem with this data is that it appears that too many models are qualifying too easily for the CEE Tier 1/Energy Star standards, Eckman observed. Moving on, he touched on

- Energy use of Energy Star and CEE qualifying models vs. all available models of solid door commercial freezers (graph)
- Energy use of transparent door refrigerators/freezers (graph)
- Energy use of Energy Star models vs. all available models of solid door regrigerator/freezers (graph)
- Energy use of Energy Star and CEE qualifying models vs. all available models of reach-in, roll-in and pass-through solid door refrigerators (graph)
- Energy use of Energy Star and CEE qualifying models vs. all available models of milk and beverage coolers solid door refrigerators (graph)
- Energy use of Energy Star and CEE qualifying models vs. all available models of undercounter and wine coolers solid door refrigerators (graph)

- Energy use of Energy Star and CEE qualifying models vs. all available models of reach-in, roll-in and pass-through transparent door refrigerators (graph)
- Energy use of Energy Star and CEE qualifying models vs. all available models of milk and beverage coolers transparent door refrigerators (graph)
- Energy use of Energy Star and CEE qualifying models vs. all available models of reach-in, roll-in and pass-through solid door freezers (graph)
- Energy use of Energy Star and CEE qualifying models vs. all available models of reach-in, roll-in and pass-through transparent door freezers (graph)
- Revised baseline recommendations – solid door refrigerators (table)

Eckman noted that most of his recommendations would bring the proposed baseline assumptions closer to the CEE Tier II specs. And this would be model-specific? Stephens asked. Yes, Eckman replied. And you're asking us to switch to your recommended new standards? asked another participant. Yes, Eckman replied. In response to another question, Eckman said he has already fixed the calculator, but it is not yet available on-line. After a few minutes of additional discussion, Eckman noted that no RTF action is needed on this item today, because the new standards will not go into effect for a year. However, there was general agreement that the RTF may choose to adopt them now. Stephens moved that the RTF adopt the appropriate CEE Tier standards, as outlined by Eckman, for the various categories of commercial refrigerators and freezers. The motion was seconded and carried unanimously.
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VI. Draft Fifth Power Plan Conservation Elements.

Corum went through a PowerPoint presentation on this topic, touching on the following major topic areas:

- 20 years of progress in conservation (graph)
- Code accomplishments
- Energy efficiency standards accomplishments
- PNW savings from codes and efficiency standards, 1980-2002 (graph)
- 20 years of total PNW conservation savings, 1980-2002 (graph) – 2,600 megawatts, total, enough electricity to serve the entire state of Idaho
- Conservation supplies over 10% of the region's energy, and over 1/4 of the region's load growth in recent years (graphs and pie charts)
- How regional conservation acquisitions have helped balance regional loads and resources
- What's left to do?
- Cost-effective and achievable conservation could meet 10% of PNW loads in 2025 (graph)
- Cost and achievable potential by sector and end use
- Where does all this come from?
- Higher forecast of future market prices!
- Total residential sector cost effective and realistically available potential (through 2025) – 1275 aMW

Where did these numbers come from? Schumacher asked. All of these start with two basic sets of numbers, Eckman replied. In order to determine the "unit savings", one has to have data or the energy use of the baseline technology and of the energy efficient technology. In order to determine "cost-effective potential" one needs to have incremental cost information and data on the number of potential units to which the technology is applicable. Data limitations often require professional judgment to be used to develop these inputs. Keating asked whether Alliance research was used to inform the industrial sector conservation assessment. Eckman replied that Alliance data as well as Oregon Energy Tax Credit and Energy Trust of Oregon program experience were used to estimate the achievable potential in the industrial sector. The documentation will be made available in the draft plan, Eckman continued; a lot of the industrial sector information was based on past experience, as well as input from industrial sector representatives – we're figuring on a baseline of 5% energy efficiency improvement over the next 20 years. We don't know exactly what the industrial mix will be 20 years from now, but it will likely be smaller, said Eckman. This doesn't include DSIs, because we didn't assume that they will have any reliable load. And what's the cost of the achievable? asked another participant. We're estimate that the average cost of all of the achieveable savings to be 2.4 cents/kilowatt-hour, Eckman replied.

Eckman moved on to some of his assumptions for specific residential-sector subcategories – water heating, appliances, space conditioning. How do we get better market penetration – even Energy Star status – for heat pump

water heating? asked Jim Lazar. Eckman replied that a significant market transformation effort will be needed. With respect to the space conditioning subcategory, one participant said that, according to studies conducted by her utility, Eckman's assumption of an incremental cost, installed, of $18 per square foot for windows is too low – we're seeing an average cost closer to $26 per square foot, she said. Eckman invited her to submit this comment to the Council in writing.

Moving on, Eckman touched on

- Total commercial sector cost effective and realistically available potential (non-buildings) – 420 aMW (through 2025)
- Total commercial sector cost effective and realistically available potential for buildings – 685 aMW (through 2025)
- Industrial sector conservation potential – 350 aMW at 1.7 cents per kWh – significant uncertainty around this estimate due to ongoing changes in region's industrial mix
- Irrigated agriculture sector realistically achievable potential – 80 aMW
- How much should we do? – derivation of regional conservation targets using Portfolio model to identify "least risk" and "least cost" level of conservation development
- regional conservation supply curve (graph)
- Conservation development levels analyzed (graph) – about 160 aMW per year
- Average cost of conservation by level of development (a range of 2,050 to 3,110 aMW) (graph)
- System cost vs. risk for alternative levels of conservation development (graph)
- Annual conservation development for least risk and least cost plans (preliminary) (graph) – 130 to 150 aMW per year, on average
- Preliminary annual target in the range of 130-150 aMW
- Residential sector preliminary annual acquisition targets, 2005-2010 – 75 aMW, annual total resource cost $155 million
- Commercial sector preliminary annual acquisition targets, 2005-2010 – 55 aMW
- Industrial sector preliminary annual acquisition targets, 2005-2010 – 15 aMW, annual total resource cost $20 million
- Agriculture sector preliminary annual acquisition targets, 2005-2010 – 5 aMW
- Regional conservation resource preliminary annual acquisition target: 150 aMW. Total resource acquisition cost – $380 million
- To meet the Council's draft plan targets, regional conservation investments will have to increase significantly to be more efficient (graph)
- Is 150 aMW/year "doable?"
- Plan conservation action items – focus on "lost opportunity" conservation, establish mechanism for regional coordination and program administration, aggressive utility action is needed to achieve targets, utility programs should be efficient, but meet targets, mix of mechanisms will be needed, including a doubled budget for regional market transformation

The group devoted a few minutes of discussion to the assumptions underlying Eckman's analysis, offering a variety of clarifying questions and comments. Ultimately, it was agreed to revisit this topic at a future RTF meeting, once the draft Power Plan has been adopted.

With that, today's meeting was adjourned. The next RTF meeting was set for September 14. Meeting summary prepared by Jeff Kuechle.

RTF Participant List
August 4, 2004

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