

Electric Utility System Reliability Rulemaking - UE-991168
Public Workshop
October 13, 1999
Meeting Minutes

Welcome and Introductions

Bob Wallis - facilitator - [opened meeting and explained packet materials; agenda, ground rules, comment, and evaluation forms]. - If anyone would like to submit comments after the meeting, the comment form has been provided for your convenience. I suggest we begin with introductions of the people in the room and on the bridge line. Please state your name, affiliation, and nature of interest.

WUTC Staff Attendees

Bob Wallis, Mark Anderson, Graciela Etchart, Roger Kouchi, Dave Dittimore, Deborah Stephens, Sharyn Bate, Ken Hua, Julia Ojard and Sher L. Hadfield

Company/Stakeholder/Consumer Attendees

Philip Popov - PSE, Rates & Regulation Department, Economist
George Pondorf - PSE, Director of Regulatory Planning, we serve 9000 residential customers in the state of Washington
Mark Dirstine - Local 77 IBEW, represent employees of PSE
Dave Timothy - Local 77 IBEW, Business Manager, represent 7000 workers and all the utilities in the state, interest is the workers and the consumer part of this.
Mel Grassia - Consumer, engineer, concerned about the quality of power distributed by PSE.
Carole Rockney - PacifiCorp, Regulatory area, responsible for service standards for the last 4 or 5 years at my company.
Gene Morris - PacifiCorp, Operations Director, my interest is reliability.
Steve Henderson - PacifiCorp, I've been involved with service standards in several of our states.
Dave De Felise - Avista Corporation, Rate Analyst, general, financial and economic interest.
Mike Broemling - Avista Corporation, Business Analyst/Strategist, general interest.
Marshall Law - Avista Utilities, Electrical Engineer, Working on the outage management tool.
Bruce Folsom, Avista Corporation, Rates & Regulation
John Ovitt - Puget Sound Educational Service District, public interest.
Alec Burden - Scottish Power,
Robin Goss - PacifiCorp
Twan Tran - Tacoma Power
Michael Sheehan - PSE, Operations Planning, reliability interest.
Heidi Caswell- PSE, Manager of Operations Planning
Bob Tulp - City of Bremerton, Public Works, concerned with reliability issues, and the reliability

of PSE as they transform themselves into a company. Their track record has been excellent, but we're concerned about the record they may have in the future.

Eric Englert - PSE, Rates & Regulations

Arne Olsen - WA Dept. of Community Trade and Economic Development, Energy Policy Specialist and Economist

Cheryl Gardner - Homeowner

Mike Tracy - PSE, Director of State Government Relations, reliability issues with regard to Y2K

Matt Steuerwalt - Public Counsel

Explanation/Introduction of the rulemaking Process

Bob Wallis - The rulemaking process is set out in the statutes. The statute sets out the process by which an agency may adopt rules. In general terms, if the agency fails to follow the steps that are set out in the process, the rulemaking is ineffective and the rule may be invalid. The first step is for the agency considering a rulemaking to identify a problem, and identify that one of the options to deal with that problem may be rulemaking. There are then a range of possibilities. Sometimes we're pretty sure there is going to be a rule, maybe amending an existing rule, and other times we're not sure there is going to be a rule.

This proceeding is one of the latter, it is structured in a way to try to get comments from a broad variety of participants to help the Commission Staff and the Commissioners decide whether to proceed and if so, how to proceed. The Commission has issued a CR101 saying it's going to think about a rulemaking and has identified this as an opportunity to participate, and has set a deadline for written comments. Many of you have submitted those comments and will have an opportunity to submit more. During this process, the staff and interested parties engage in discussions. If there is a recommendation to proceed with rulemaking, then drafts are prepared and exchanged and comments are prepared. Additional workshops are held for the opportunity for dialogue. That is more than just the opportunity to send in a written statement of what you think, but actually an opportunity to come in and talk about the pros and cons of the options that the Commission is facing. We try in general terms to set these up on a collegial basis, so everyone involved can be an active participant and has the opportunity to affect the result in the rulemaking and to represent the interests you have. We've found in general terms, that everyone's interests are valid and by engaging in this discussion, we can build bridges and resolve problems. Unfortunately, there are times when we can't resolve all the problems that arise. In that instance, the Commission staff has the responsibility to work with the Commissioners and to prepare a recommendation for the Commissioners.

If a rulemaking is decided, if drafts are prepared and ready to go out, if issues are resolved to the extent possible; the staff will take the proposal to the Commissioners and ask that a formal notice of proposed rulemaking, or a CR102 be filed with the Code Reviser. This sets in motion the opportunity for additional comment and additional dialogue and it identifies a date on which the Commissioners will hold a rulemaking hearing. These are generally scheduled during an open meeting so the Commissioners can decide whether to adopt a rule, or in general terms - how to

proceed. If the Commissioners adopt a rule, the language is finalized and it is filed with the code reviser and is effective 30 days after filing. There in a nutshell is the rulemaking process at the Commission. If you have any questions about that as we proceed, please let us know and we'll try to answer.

Background

Mark Anderson - I've been asked to take a few minutes to provide you with some background information that explains why we are here today - what has taken place that has caused the commission to get to this point? I will be reading my comments, but I will try to make them easy to listen to.

The stated purpose of our presence here today is to consider the reliability of the electric service and electric systems of investor-owned electric companies, and specifically to consider issues that address service interruptions and power quality.

But why? Why does the Commission believe it is important to bring us all together to take an in-depth look at these issues? Staff have identified three problem areas with respect to reliability: difficulty tracking current reliability and trends, difficulty knowing what reliability ought to be, and the likely increase in power quality problems being experienced by customers. I will address each of these in turn.

The Commission needs to track reliability in order to ensure that service is "adequate," as required by statute. Chapter 80.28.101 of the Revised Code of Washington states that "every... electrical company shall furnish and supply... service... as shall be safe, adequate and efficient, and in all respects just and reasonable." This requirement receives heightened attention at the Commission whenever there are circumstances that may significantly change the investment incentives under which utilities normally operate. For example, when Puget Sound Power & Light proposed to merge with Washington Natural Gas, the Commission perceived that there might be incentive to realize merger benefits at the expense of reliability and service quality. Specifically, the Commission wanted to ensure that investments in reliability and service quality were not reduced to produce the savings projected by the merger. The result was a stipulation, agreed to by the parties, that the new company, Puget Sound Energy, for five years after the merger, would track certain indicators and meet certain benchmarks or pay a penalty for failure to do so. The stipulation is referred to as the PSE Service Quality Index.

Over the past few years, another circumstance has arisen with the potential to significantly alter the normal investment incentives of the utilities. I am speaking, of course, of competition and the promise of competition. Because of competition, in recent years, utilities have, in their own words, felt increasing pressure to reduce costs. This much was established in the development of a recent report by the agency for the legislature, "The Washington State Electricity System Study," or, as we refer to it here by the bill that required it - Engrossed Substitute Senate Bill 6560 - the "6560 study." The Commission does not pretend to know either what level of

competition will eventually exist in Washington, or what effect competition will have on reliability. In fact, we can see that along with incentives to reduce costs, which might reduce reliability, there may be counterbalancing incentives to increase reliability, for example the incentive to attract or maintain customers. But the issue remains the same. The Commission wants to be able to track reliability to know when and if there are changes.

However, we found out some other interesting things during the 6560 study, that relate to tracking reliability. Measures which are reported by the utilities are not comparable. In fact, because some utilities have made changes over time in the methods by which they develop reliability statistics, we cannot always compare one year to another for the same utility. This makes trends analysis difficult. In addition, we discovered that the accuracy of utility reliability statistics is questionable. Each utility includes some estimates in the development of its statistics, and they may be less than robust. For one utility, a crew member may estimate the number of houses without power. For another utility, the entire estimate may be built around full-feeder outages, with no account for outages that occur on just a part of a feeder. As part of the 6560 study, we asked utilities to estimate the accuracy of their numbers. The range of responses from investor-owned utilities was from “plus or minus 5 percent,” to “greater than plus or minus 25 percent,” and one utility does not statistically track interruptions.

Finally, most of the utility statistics that track reliability, provide averages for an entire system, or perhaps, for rather large subsystems of the system. None track reliability at the customer level, system-wide. It is possible for utilities to have reasonably good system-wide reliability, while at the same time having individual customers, or groups of customers with significantly worse reliability. Staff are concerned that the meaning and value of utility reliability statistics may be insufficient for the purposes and requirements of the Commission to track reliability. This is a problem area that we would like to investigate in this rulemaking - and possible alternatives.

I spoke of a second problem area - difficulty knowing what reliability ought to be. The legislature has said electric service must be “adequate,” but has provided no clarifying definition. The Commission has not, to this point, to my knowledge, with the exception of the PSE Service Quality Index, established any specific definition of “adequate.” This does not mean the Commission has not implemented the statute. Through ratemaking, orders, stipulations, informal meetings, response to complaints and assistance to customers, among other things, the Commission has acted to ensure service was adequate. The Commission has used the tools available to it to regulate in the public interest.

However, regulating in this way, while appropriate, has at some drawbacks. It really is difficult, in all these venues, to ensure that reliability issues are being handled in a consistent and equitable way. Also, it is not so clear to anyone - staff, customers, even the utilities - what “adequate” service means. This way of effectively defining “adequate” may be most lost on customers themselves, for whom the meaning is arguably the most important. During the 6560 study, utilities stressed early and often that in a competitive environment, what the customer wanted and was willing to pay for, was the most important measure of reliability. It is possible, we were

told, that customers may be interested in reduced reliability, not an increase, and that different customers might desire and be willing to pay for different levels of reliability.

Staff are intrigued by this notion. During the same time as the 6560 study, the legislature required utilities to provide us with customer survey information, and we found that only one of the regulated utilities had even asked its customers a specific question about reliability. The way questions were worded, the way responses were tabulated, caused Staff to write in the 6560 report “These data do not provide a very definitive look at what is arguably the most important measurement of the reliability of Washington’s electricity system. However, such surveys are the only information currently available. While these results suggest that consumers may be generally satisfied, the importance of the issue and the changing environment faced by utilities both argue for more definitive and regular measurement of the consumer’s view of service reliability.”

Staff are concerned that the difficulty inherent in the current way of effectively defining what is “adequate” service, may not be appropriately balancing the needs and desires of customers and the utilities. This also is a problem area that we would like to investigate in this rulemaking - and possible alternatives.

The third problem area concerns power quality. Staff are quite candid in saying that we do not really know if a problem exists, but some deductive reasoning has led us to suspect so, and there is some evidence for it. What we do know, is that customers’ end-use equipment has become more sensitive over time to variations in power quality - variations in voltage and frequency that can cause equipment to shut down, or, in the worst case, to be damaged. The increased sensitivity is largely due to the proliferation of computers and other electronic devices. In the past power quality was primarily the concern of large commercial or industrial businesses. Today, we fear it is becoming a problem for residential customers.

During the 6560 study process, we asked utilities if power quality problems were an increasing concern of residential customers. Several public utilities reported that they had noticed a sharp increase in power quality complaints. Investor-owned utilities reported that they did not notice an increase. They said, however, that their customer complaint processes were not able to discriminate between power quality complaints and complaints about outages. We have that same problem at the Commission. In the past, consumer affairs personnel have generally not tracked power quality complaints, because rule and tariffs generally hold companies as not liable except in cases of negligence, therefore there was usually no action for the Commission to take. It is only in the last year that the Commission itself has begun to track complaints about power quality.

We also asked utilities in the 6560 study to provide us with data about claims made and damages paid for equipment harmed by variations in power quality. We thought we might be able to see a trend. But only one of the investor-owned utilities provided that information, the others reported “not available,” or “no corporate data.” No trend could be discerned for the utility that was able

to comply.

We also know that the actions of utilities themselves may be increasing variations in power quality. The placement of certain equipment on lines, such as automatic reclosers, while protecting utility equipment and reducing the number of large interruptions, actually increases the number of voltage sags and surges. This is not to suggest that such equipment ought not be used, indeed, it is done for reliability purposes. But its increased use may exacerbate the power quality problems experienced by customers. At the same time, monitoring on utility systems is insufficient at the customer level to give us a real picture of the quality of power actually being delivered to customers.

This information seems to indicate, that even if power quality is held at historical levels, customers may experience an increasing number of problems. If systems are also becoming more variable, for whatever reason - good or bad, we can only expect problems to increase - whether that be inconvenience, lost work or damaged property. Staff are concerned that this represents a real change in service reliability. This also is an area that we would like to investigate during this rulemaking: what, if anything, should be done about it.

We are not sure where this rulemaking will lead. We are depending on you, to tell us what you think the problems are, and the solutions. Everyone here is a stakeholder, or you would not be here. We are looking to you, to help us determine what the goals and objectives of this process should be, and then to carry them out. We are attempting to give you every opportunity to comment on this process - through e-mail, on the phone, through written comments, and at public meetings such as this. In fact, the next agenda item provides an opportunity to speak, and we petition and welcome your comments.

Comment and Dialogue

Bob Wallis - [explained ground rules for the workshop] - If you have a comment that expresses a view that you don't make, we don't get the benefit of that. If you do have a differing viewpoint or if you want to indicate agreement with others, please speak up and share that with us. I'm going to ask everyone to pull a microphone close to you. We'll be going around the table, speaking in order. We want everyone to have a chance to make comments. We want to hear what you're here to share with us, and with that we'll move to my right to begin.

George Pondorf - PSE - I would encourage all of you to read through the comments we've submitted. We've tried to keep them brief, and I can provide an outline of the issues covered in the comments. Puget Sound Energy would like to state at the outset, that there is no more paramount an issue for an electric utility, especially one that is focusing on distribution as Puget Sound Energy is, than electric system reliability. We take the reliability needs of our customers very seriously, and we are very proud that since the merger, we have met our Service Quality Index. Despite some very significant cost cutting that the company has gone through since the merger, there has been a dual dividend paid to customers. The rates were set assuming these

savings would materialize. There have been rate benefits to customers, and there have been reliability benefits with the merger, and we just see that as a great win/win and we're very proud of that.

Our comments start out by asking some questions we hope the Commission can take up throughout this process. We think that the Commission and other agencies have a number of tools available to them to deal with reliability issues. Our service quality index is one example of a very good tool that dealt with a specific reliability concern. We should probably consider all the tools available to us when we come up with a better definition of exactly which problems we're looking to solve. A rulemaking process, for those of you who don't deal with the Commission much, is one tool. As far as the issue of tracking of data goes, a WUTC rulemaking process will not address the public utilities yet. We think data tracking requirements probably should do that. Other efforts that we've collaborated with the Commission in the recent past have allowed us to come up with regulatory tools to allow us to some make real strides as far as reliability goes. One of them was a program called Tree Watch. That's a program we developed in collaboration with the Commission Staff and we worked an excellent way to enable that program through regulation and have had a lot of success with that program. Today before the Commission was another program called silicone injections, another very promising program. Both of these were created and implemented without rulemakings. We should consider a broad array of tools to address whatever problems we narrow in on and decide to address.

Beyond that, we feel very strongly that as we look at possible prescriptive tools, protecting customers is a dual edged sword as reflected in the 6560 report. That is that cost and reliability to customers are both very important and we need to keep very cognizant of the cost impacts. Puget will try to provide any information we can as we look through the cost and impacts of various approaches. Generally, Puget has been very supportive of the Commission's past policies to set very broad requirements and allow the utility to innovate within those and acknowledge its day to day decisions within those broad requirements. We think that if we should move to more prescriptive approaches, that could cause a number of problems.

I guess I could touch on a couple more subjects. One is the unique nature of distribution service in Washington State. For those of you unaware of legal statutes governing electric service around here, Washington State is unique in that we don't have exclusive distribution territories and we don't have certificate electric distribution service territories. So the utilities have experienced in the recent past specific instances where one customer may leave and another provider may threaten to build duplicate facilities to serve that customer. In most states in the nation that is not allowed; it is bad public policy. Distribution of electric service is a natural monopoly and should stay so. In this state, the statutes are somewhat fuzzy on that point. To the extent we see that bad incentive comes out of that, the utilities may be worried about stranding their distribution investments. Maybe the best tool there is a legislative fix, where we can go with the Commission to the legislature and talk about ways to make these provisions in state law more similar to other states throughout the nation. That may be one way to address that kind of incentive that could exist.

On the power quality front, the Commission has held close the concepts of customer choice and reliance on market mechanisms. We should not discount those through this process. For instance, the personal computer revolution has occurred and computers do require a certain grade of power typically. However, the advent of surge protectors has happened through no intervention by utilities, regulators or government, it's just happened, and it's been a very good thing. It's a very cheap way to address a need. We can examine if we think that has gone on enough, but my basic point is, we should allow the free market also to step up and impose its wisdom when that's appropriate. Just some things and mostly just some questions and things for the Commission and the rest of you to think about at the outset.

Dave Timothy - Local 77 IBEW - If you look at this reliability, not only speaking as a business manager, but a craft worker, journeyman lineman, who used to work at PSE in the trenches, it seems pretty simple. To the customers, it's lights on, lights off and how long. I think a very important part of that reliability is also worker safety and public safety. If we don't maintain the lines, and stuff starts falling down, somebody's going to get hurt. We're experiencing in the utility industry a downsizing of the qualified workers, more and more subcontracting, no apprenticeships are starting, so we're going to lose our qualified workforce as time goes by. Some options for reliability are not so different from when you maintain your car. You have to change the oil, you have to replace the oil filter, you have to spend a little bit of money to maintain it, so like that commercial, you won't have to pay the big costs at the end. It is no different in this field. I mean, pole replacements, cable replacements, tree trimming, it's just not different, you've got to spend that money to maintain it, which in turns keeps a good reliable system, and keeps the workers and the public safe out there. I feel we do need some type of a rule and should have the regulatory agency look at this and I'll be more than willing to help in any way I can.

Matt Steuerwault - Public Counsel - I don't think I have prepared remarks like Puget, I'm sorry about the short turn around on the time frame there. Some general concerns, we've worked with PSE, PacificCorp and Scottish Power on their most recent merger on reliability and overall service quality performance. So we would support some further notions of what's actually getting done on the ground to get a sense of what the baseline measurements are. Beyond that, I think it's not at all clear in any of the utilities' jurisdictions in this state, public or private, what the customer's value of reliability is. So if we start to think about that question and how we get at that question is interesting to us. The power quality question is more and more of a concern. We would be interested in some of the solutions that are out there like Puget's service quality index, the Scottish Power/PacificCorp customer guarantees that were implemented as a result of the merger, and looking at what sort of innovative, broad based ways we might address these questions in the future.

Mel Grassia - Consumer - I did submit written comments. The written comments have some statements in them that are actually loaded because they have to be analyzed. I won't go into them until people have had a chance to read them, and if they wish they can get in touch with me and we'll discuss them. One of the comments made was to track reliability. First, it seems that

there's a difference in definition between reliability and quality and reliability. Reliability, as near as I can sense, is the number of power outages.

Where that is of concern, my main thrust is with regards to the quality of power being provided. I've had in the last 10 years, two series of equipment failures where the number of equipment that conked out alarmed me. It was far more than just plain coincidence, so I began to suspect power. When I got in touch with the utility, the response was they would come out and measure it. So they connected a recording volt meter for a week and it didn't exceed the plus or minus 5% tolerance, so they said it was ok. They refused to lower the voltage from 125 volts down to 120 volts stating that if they did that, then people at the far end of the line would have too low a voltage. That begs the question, first of all the distribution system was inadequate or the wire size is inadequate. It seems to me that the consumer should be given the so called "standard" voltage of a 120 volts period. The upward tolerance should not be allowed to stay above the 120 volt level for a period of time, because equipments are time sensitive. If you hit something with higher than the designed voltage for that device it fails over a period of time. For example, if you buy an electric lightbulb that has 1000 hours of life expectancy at 120 volts. But if you use 125 volts, its life expectancy is less because the very nature of resistance which the tungsten wire is, is that the molecules are causing movement as a result of the current passing through it and there is just so much life to be expected from a device that moves. So it is with every gadget whether it's a transformer, capacitor, IC, or whatever.

Admittedly, the advent of microprocessors in computers has made the problem of quality worse, but that problem existed long ago, not just because microprocessors came into being. I suggest that the consumer is not aware of what the problems are with power. When you talk about surge protectors - we must define what we mean by surge protectors. This APC is doing great guns on the stock market because they're selling surge protectors at a fast rate. However, these are for instantaneous surges, not for higher levels of voltage over a period of time. For example, if you hit it with 125 volts for hours or days, that's very much different than getting an instantaneous breakthrough of a couple micro seconds. You don't have to control those voltages in some computer applications of course who use regulated transformers and other means of regulating the voltage, but that doesn't happen in a house. I suggest that our safety is being impaired when we use these surge protectors because many of them are just lying all over the floor and the cables and connectors themselves are a hazzard unless they are moved. So that's not a very good idea. Putting surge protectors in the control box might take care of instantaneous surges, but the long term surges are an entirely different problem and the control of such a problem is extremely expensive. It is not reasonable to expect the homeowner to do that.

I suggest that the utilities are not the proper source for getting information regarding consumer complaints. In fact the consumer in general is not a good reliable source. We need to get comments from engineering personnel that are knowledgeable about the subject matter. The consumer is completely oblivious, I can't get my own family and friends to understand what's going on. I have a long background in the subject matter, therefore I have an understanding of what is happening. I can't even explain it to them because I can't explain power to a blind man.

So you have to depend upon professional engineering personnel to identify where the problems are and to come up with rules and regulations that make some sense in the best interests of the public. The utilities have a conflict of interest so you're not going to get good information from a utility company. Let me give you an example of the kind of problem we have - if you have a failure and you complain to the utility company, they come over and put a recording volt meter on your line and record for a week. As long as it's within the 5% tolerance that they apply, they consider it proper. If their standard is 120 volts, and you get 125 volts, that's within the plus or minus 5 volt tolerance. However, if there's a surge due to something else in the grid, whether it's 5% at some other location, the effect can be such that it will drive that voltage at your house to something higher than 126 volts. The result is you have equipment failures. Now if you put a recording volt meter on after the stuff is burned out, that doesn't do you any good, because nothing is on the record that said that you had a surge that burned out your equipment. It might happen once every three months or every year or two years, but all you need is one failure, and the equipment is destroyed. To come and measure the voltage after the failure occurred and the customer complained, it's too late. You're not going to see anything. You have to have instrumentation of a recording type permanently installed at various locations at the consumer level, not at the power generating place or at the distribution point. You have to have it so that you are sampling and monitoring constantly. When the power company provides improper power, it should be held liable for the damages that occur.

When I read the regulations, I was horrified. The reason that I got involved was when I had the first series of failures, I wasn't satisfied with what I was getting from the power company. I wanted to find out from the utilities commission what kind of regulations they imposed on power companies and what they agreed to that the power company is obligated to provide? I am horrified that there isn't anything that makes any sense. The one area really got me - "where variations in voltage in excess of those specified, caused by infrequent and unavoidable fluctuations of short duration due to system operations or by operation of power apparatus on the customer's premises which necessarily requires large starting currents that only affects then such apparatus should not be considered a violation of this rule." Well, I don't know about that, I don't think the rule is very good. I looked at the Washington Code, yet another headache - "the greater variation of voltage beyond the 5% variation may be allowed when service is supplied directly from a transmission line or in case of emergency service or in a limited or extended area where revenues received do not justify close regulation." Here we're using economics to determine whether or not you're allowed to supply higher voltage than consumer's equipment can tolerate. That is inexcusable. "In such cases, the best volt regulation that is practical in circumstances shall be provided." In any event, we can't excuse the utility when the power goes beyond that which the equipment can tolerate.

There is another element I'd like to comment on. That is, this standard voltage is not standard. It is something that is dreamed up by the power company and doesn't seem to be defined in any of your regulations as far as the utilities are concerned. Since it's not defined, what is going on is constant change - years ago it used to be 110 volts, then up to 115, now it's 120. This gradual creep of higher and higher voltage has two affects. One is it affects safety, the higher the voltage

the more dangerous it is to human lives. Secondly, unless you cause equipment that's being used to be designed to handle that voltage, we've done the consumer a disservice. [Mr. Grassia presented two up-to-date tool catalogues]. These catalogues list equipment designed for 110 volts, 115 volts, and 120 volts. In other words, we're still allowing equipment to be sold in this state which has been designed for a lower voltage than 120 volts. If you hit the lines with a 5% increase which is 126 volts, then the 110 volts stuff is dead meat.

This does not serve the consumer very well when the rules and regulations regarding quality are so loose. We're not talking about a few bucks for a little light bulb, we're talking about hundreds of dollars, and in my case, upwards of \$2000 worth of equipment. Since the general public doesn't sense what the problem is, he doesn't blame the power company, he's blaming the equipment manufacturer. It's pretty hard to tell who really is responsible, whether it's the equipment manufacturer for lousy design, or whether it's the power company. I suggest that in the case of power, that unless we do something about monitoring the power at the consumer level, and have a permanently installed requirement over long periods, we're not going to get anywhere. What goes on is that the industry, makes equipment and doesn't complain because they're happy to provide replacement apparatus. They have a range for their warranty periods to be relatively short, one year maximum usually. If you want it guaranteed more than that you have to pay, let's say \$100 for three more years on a normal tv set. So we've created huge industries for this at consumer expense because power is so lousy. That is wrong. We really need to define what power should be provided to the consumer and not just talk about reliability. We need to be specific about the quality requirements that the utilities are obligated to provide the consumer.

Carole Rockney - PacifiCorp - We agree with Puget that we're not sure that we need rulemaking, but we do think that exploring the issues and seeking improvements in reporting and understanding what customers want is a good idea. So we're happy to be here today and look forward to some future meetings. It sounds as if each utility is addressing reliability in a different way. Puget has their Service Index - we're excited about our merger commitment with Scottish where we have seven performance standards and eight customer guarantees. We think that the Commission can request consistent information on reliability. We also think that we could do a better job of tracking some of the complaints, especially the power quality complaints and separating those from the reliability complaints, and understanding more what customers want. I think that's very intriguing with the idea of surveying and actually finding out what customers would want and how much would they be willing to pay for increased reliability. Finally, in doing this, we'd like to make sure that the cost benefits are always looked at and considered in anything that we all come up with as a group, because I think that that's an important piece of this too.

Alec Burden - Scottish Power - System Performance Manager back in the UK. If I could just go through some of the points covered and give some of the Scottish Power background. Because we've come from a position of having performance guarantees and performance standards in place. We need to be clear, are you measuring reliability as delivered to customers or are you

measuring ability of the utility to manage the network in terms of investments? They're both different, they both need different data, and one costs a lot more than the other, so you need to be clear in your objective of any rulemaking. I don't think you need rulemaking, I think we can achieve the goals without setting punitive rules. Comparisons between customers are almost meaningless, the service quality index, which I've not seen from Puget, a lot of these quality indexes get right to the heart of the problem for individual customers. Once you start rolling up to the utility level, then they become an averaging process.

Power quality has been touched on, and we've done a lot of work in UK on power quality. That is a very specific issue. We have seen industrial customers willingly pay two million dollars to protect their sensitive processes. What the typical utilities have is that they manufacture, transport and deliver electricity at the speed of light. This goes beyond what even the space shuttle can deliver in terms of performance. But the downside to that is that defects are delivered before they are discovered. So there is a natural disturbance in the system for any fault, outage, or lightning strike.

Similarly, power quality is a pollution issue. Apart from what the utility delivers that has a pollution factor, customers with their own equipment can pollute the network. The irony is that any rule that wasn't applied would also have to apply to customers, the very ones we're trying to protect.

The recorders were discussed earlier as well as a source of power quality problems. I see them differently. I think personally, I would prefer to have my supply restored within ten seconds, rather than wait four hours just because someone up the line hasn't made the investment to protect his own equipment. Which brings me to equipment, in the role of the manufacturers in all of this, and I don't know this from the U.S. perspective, whether there are any standards governing the manufacturer's equipment. There is in Europe, where the manufacturer must declare what their equipment is resilient to in terms of system disturbances. Again, that would have to be brought up in any discussions. To get back to power quality, they are two different things and if you try to mix the two of them together, you end up going in circles. I think the package of service commitment we've offered to give the whole range that cover 15 guarantees which we think covers the whole gambit of quality supply.

Dave DeFelice - Avista - Most of what's been said already has been captured in our comments that have been provided. But just as a brief review, we share the concerns about reliability of the system and power quality. I think the challenge before we enter into any rulemaking process is to define the issues that people have brought up. Just what is power quality? What is reliability, and what would be the proper measurements? I think as an example of what Mark touched on and what I've heard the other gentleman mention is, is reliability desired to be measured at the consumer level as opposed to the system level because of particular customers receiving a deviation of quality of service from the average? That gives me a little bit of concern about using system wide indexes, let alone applying those indexes to all utilities state wide. Also, as was touched on, if we are going to be expected to embark on some type of a system that can monitor,

regulate, and provide data down to that level of detail, what is the cost impact of that system to the utility and ratepayers? Again, as was mentioned before, this is a fairly complex issue that the majority of the general public doesn't understand, including some of us utility employees. I think before we delve into whether or not there needs to be regulation, I think a lot of these detailed issues need to be resolved and everyone needs to be educated to that fact. Because setting rules and regulations that are only partially valid, I think is going to be a much worse situation than the rules that we have right now. I really want to stress that the study analysis needs to be done from start to finish so that we all know what the impacts are before we set rules. I don't think this is a case where we can set rules to produce a desired outcome given the complexities of the issue. I think we need to analyze what those particular phenomena are before we set rules.

Bob Wallis - Thank you for the comments. There will be further opportunity after today to submit additional comments. Of course we do encourage you to say as much as you can today so that everyone is aware of where you're coming from and the nature of the observations that you might have. This is not the end of the comment period.

Dave Timothy - Local 77 IBEW - Now that I've heard the concerns around the room, I have a question and a comment. I hear about the customers, what are the customers willing to pay for reliability? I guess that bothers me a little bit, I just paid my power bill here a few weeks ago and I feel I paid for my portion of reliability. The last time I checked, I think the state and federal law is that energy is to be supplied to every consumer at a reasonable price, and I feel that pretty strongly. The question that I do have is what do you mean by paying for reliability?

Bob Wallis - I was going to suggest that we might engage in some questions and some interchange and dialogue. Perhaps one or more of the utilities could expand upon the concept of paying for reliability.

Dave Dittmore - I, as a staff member coming from industry, will attempt to answer that. To throw the ball out a little bit, I know we talked about the state statute allowing service out of standards at the customer's permission. An example - say I have a hunting lodge six miles in the back woods with many tree limbs between me and the road. I think we all acknowledge that tree limbs falling are a hazard and would decrease reliability. But I really would like to have service out there, so I think there's a very definite possibility that I might agree to allow a lower level of reliability rather than say running a buried line out there in conduit to give me 100% reliability. I would just as soon string it from tree to tree and do it on the cheap and dirty because I'm out there one weekend a year and I want to have a light out there and plug in my PC obviously and check my email. I think there are trade offs. Like I say, coming from the telecom side, we're much more into competition where the electric side is just getting into it. Say, if we get to the point where we have very high reliability and maybe plus or minus 1% voltage tolerance and things like that, as has been noted, we're going to pay for that. If xyz distribution company furnishes that level of reliability, maybe there's a 10% premium on that service, but if I just have a baseboard and I don't need plus or minus 5%, the baseboard heater doesn't really care about minor variations. We don't want to make assumptions that everyone wants the same type of

service. There are different types of consumers, so there may be opportunities for different levels of service.

Mike Tracey - PSE - I'd like to give you an example, I believe the gentleman from Scottish Power mentioned it was the manufacturer's role. My dad has a piece of equipment, he's an asthmatic so he needs to sleep with this piece of ventilating equipment. He could purchase this equipment U.S. manufactured, and the voltage use ranges on it are relatively narrow, 125 volt I think. He bought one manufactured in Australia. It has an automatic voltage adjustment on it, and all it needs is an adaptor for whatever the receptacles in the wall use. You can plug it into a range of voltage up to 250 volts. The American manufactured one cost about \$600, the equipment he bought that was Australian manufactured, was around \$1400. Since he travels, he chose the \$1400 piece of equipment which he could plug in without much of a problem. The cost differential is what I'd call the manufacturer's side of this reliability issue.

Alec Burden - Scottish Power - The counter to that is there was a subject on PCs which for an extra \$7.00 would give double the withstand in terms of power quality resilience. On the question of who should pay for the quality of supply, we did a survey in the UK and the regulator did a survey in the UK in terms of the customer and what would they pay. Surprise, surprise, the customers said they would not pay for any improved reliability. What they did show, it gave them a range of options, and the customers were generally willing to defer rate reductions for an improved service. It wasn't quantified, but they were willing to forego some promised rate reductions for that improvement.

Mel Grassia - Consumer- When you're out in the boon docks you're willing to accept a lower amount of reliability, and you can accept power outages. The cost of interrupted power supplies isn't too great, but when it comes to the quality of power, that's more the story. If I remember my history, the first computer installed in Norfolk was cooled by an air conditioning system costing \$100,000. In the meantime we've come into the era of PC's, which is a heck of a lot of computer put into a small package. They generate a lot of heat, and if you run those things at higher than normal voltages whether or not they can take the extra power is a real question. Trying to get all the various manufacturers to identify what the upper limits of power on computers might be at various ambient temperatures is virtually impossible to do. You may get one or two to give you that kind of information, but it is very doubtful that it would really be of much benefit to the consumer. I suggest that you can't really tolerate upward movement in voltage supplied to any consumer. Where you might tolerate power interruption, power quality becomes a much more sensitive issue, and it is there with every microprocessor and every electrical compound.

Matt Steuerwalt - Public Counsel - I think you've just heard three pretty interesting illustrations of what people value for reliability and power quality. Which might lead you to believe that customers are going to make different decisions, and so there might be some flexibility that you'd be looking to build into whatever rule you do decide to adopt. One of the ways you might get to that is looking at the way that customers currently get to have input onto system reliability

and onto power quality. If I understand the current rules correctly, one of the ways you could do system reliability much better is undergrounding, in terms of number and frequency of outages. But if you want underground, I think the rule says the municipality has to come up with the money. I'm not sure about that, I don't think you can build it into system rates. You guys might be able to speak to this better than me. So one of the things you might look at is, can you align the costs and the benefits of undergrounding more closely, so that a community or a neighborhood or a circuit that wanted to pay for more reliability would have a chance to fold that into their rates without folding into the rates of the general rate payers?

Gene Morris - PacifiCorp - I'd like to just address the undergrounding issue just a little bit. That also has its problems both for the consumer and the utilities. Anybody that's worked on power lines understands outages and problems with underground are of a lot longer duration, and the cost of undergrounding the system is tremendous. As an ex-linemen, I get a little nervous when I hear a lot about underground.

John Ovitt - Puget Sound Educational Service District - I'm not really a consumer who can comment on it, I'm just listening on behalf of public education. There are some interesting comments that have come up on the regulatory side. Mark Anderson said "reduced costs would reduce reliability" and the energy side is what cost enhancements would create a better quality? You're kind of looking at half full versus half empty. One of the problems that I see is that there doesn't seem to be a standard of what is the base line for measuring power quality. Is there a standard that can be applied to all customers? The second issue I see, is that as we've moved into a computerized economy, the demands on the utilities have increased, and have the rates increased to reflect the complexity necessary to keep that dynamic system stable? Perhaps we have some false assumptions about the fact that power should be perfect based on something that we developed 30 years ago. When really our standards might have to be different than how we've looked at it. Lastly - it seems that as we move into a restructured utility industry, we probably should have some sort of standard for how this measurement occurs so that as we start to pick up marketers and we look at diversification of the IOUs to go into different markets, that there is some commonality as to the rules that we all play by.

Mel Grassia - Consumer - The characteristics of power being supplied are pretty well known among the technical community. Namely the regulation, knowing the factors, and the ability to measure those factors is pretty much a known quantity. It is a matter of reaching agreement as to what levels each of these characteristics should be held to. That takes a lot of effort on the part of the utilities as well as the Commission. Certainly, user inputs are needed in that area.

Bob Tulp - City of Bremerton - I started my career as an inside electrician, served my apprenticeship and have been involved in the electrical trade throughout my career. But in 16 years that I've been in the City of Bremerton, we've had a good working relationship with what was then Puget Power. One of the things that concerns me, and I don't know if it fits in with everything that we're talking about today, but it's not just the reliability, but the service that ties in with the reliability. As I came in this afternoon, I read some of the letters that were filed with

the Commission in regards to complaints from Consumers. I remember as a city employee, working in the field, that I could go down to Puget Power's dispatch, and say we've had an inspection made here and we need a connect right away and we got it. Now today, along with this reliability issue, I call a 1-800 number and I talk to someone in Bellevue in a six story building that has no windows. They don't even know who I am or where I'm from until I give them my account number. A lot of times that information is turned back over to the local community and it's some time before we get service.

I think we're leaving out one thing that some of your customers took the time to write in to you about and that is they don't think they're getting the service. We've kind of hinged a little bit on reliability and voltage values, but I think they're also looking for the service that we used to have, that even I can see in the 16 years is diminishing through the utility companies. Now the restructuring is supposed to make it better, and from what I can see, it's doing the opposite. What concerns me more as we listen and watch for de-regulation to happen is, we're all familiar with what happened with Communications and how that got disrupted, now as residential users, is your bill less today or is it more? My concern is, as I look down the road two years from now, what is my power bill going to be from PSE? What are our customer's bills going to be? As communities and government entities, we also pay that same service through lots of services that we give to our communities. I'm concerned that reliability and service go hand in hand. I think that our service with the utility companies is not near as good as it used to be. I don't think they've ignored it. I think they're working hard to try to make changes that will improve it, but you know as well as I do with transitions and changes come difficulties and sometimes the difficulties aren't addressed as important issues to the user as they should be. I think that is some of the frustration you see. I know from working in a municipality, that those are some of the frustrations that our field personnel have. They used to walk in and get things done, and they knew the guys by their first name. The particular office in Bremerton, used to be open for the public to pay their bills. With the new facility they built, you can't even do that in Bremerton anymore. You can go pay it at the grocery store and they don't have any idea. They couldn't answer any questions for you. You just pay your bill and give it to them, and they'll see to it that PSE gets it. There again, maybe it's something that the question needs to be asked, does the consumer want to pay for that service? I think if you ask the consumer, do you want to pay for service, I think they're going to tell you, yes they do. I think they want the same service that they're paying for in their bill that they're paying for now, that they've been paying for all along and is increased with inflation and all the other factors that come along with capital improvements. I think if we take service and put it on a back shelf, now we can tie it into our reliability, whether or not they have enough people taking care of the outages. I know that from what I've seen in our area, it's not the same service.

Dave Timothy - Local 77 IBEW - I'd like to kind of piggy back that. I feel he's absolutely right, and just for your information at the table, and most of the utilities know this, we have a shortage of workers in Washington State of qualified workers that do this for a living. Out of our local union, we cannot supply the workers to the contractors or the utilities because we don't have them. What we're experiencing throughout the nation, example: California is paying \$25,000 for

a journeyman lineman to come down there and stay for two years. A lot of our members are down there, they're getting the bucks, and it goes right along with service. That's one of the reasons why I think this service is depleting, because we don't have the work force out there. It's back to that car example, if you don't have a mechanic to change the oil, it's not going to get done.

Cheryl Gardner - Homeowner- Tenino Resident - A couple of things that I would like to see as a homeowner are timely service and customer service. An issue that I dealt with was, I called at 8:30 am, I was told that I was getting too much power, and then they didn't get there to fix it until 8:30 that night. With the amount of power that I told them I was getting, I believe they should have been out there a lot sooner. When they came out, they immediately shut us down because of the power.

Another thing, there has got to be some way that the equipment (transformers) can be checked and maintained. That was our problem, there is no way that we can tell when a transformer is going bad. It's not our equipment and Puget Sound Energy didn't know they had gone bad until things started going wrong. There has got to be a way to catch these things before they happen. I don't want to replace another furnace or another well pump. What I would really like to see, my dream is - adequate, consistent, reliable, uninterrupted power.

Arne Olsen - WA Department of Community Trade and Economic Development - There is one area that no one has really raised yet today, that I think we should keep in mind, that the system that we know now may not look very much like it does today in 15 or 20 years. One of the big reasons for that is distributing systems are on their way. Those have the ability to really allow customers for the first time to pay for and get a level of reliability that they really want, whereas, it may not be possible if you're trying to invest on a system wide level. There is also the danger that if you tried to design systems that are wire intensive, if these distributor systems become cost effective enough in the future that you may not want to have that much wire in the air. You may not want to be investing in all that wire if there's a danger that at some point it could become stranded. We'll be developing some comments along those line as I don't have them in so much detail yet.

Bob Wallis - [Summarized the comments received at today's meeting and invited further comment.]

Mel Grassia - Consumer - I'd like to make one additional comment which I thought I had tried to bring out. That is, I think it would be well to define the specific technical parameters for standard voltage and tolerance levels. That has not been defined, we talk about standard voltage, but we don't say its 120 or 115 or whatever. We say it's within a tolerance of plus or minus 5%, but in that area, I suggest that the upper limit is too high and doesn't accommodate the variations in level due to fluctuations throughout the grid system.

Steve Henderson - PacifiCorp - I think it was kind of hinted by a couple of parties, but to stress that if there is something that goes forward, a level playing field with the public and also to reiterate Puget's comment about the duplication of distribution facilities, you know, the legislative action there.

Bob Wallis - As we indicated at the outset of our discussion, the staff has not come to any conclusion about recommendations to the Commissioners on whether to proceed. Staff is contemplating holding probably two sessions for members of the public to comment. One in western Washington and one in eastern Washington. I also want to afford the opportunity to those present today, either to refine the comments that you've already made in light of these discussions, or to make written comments if you haven't already done so. I wanted to ask what kind of time frame would allow you to explore whether you want to pursue additional comments and to present them. Would a couple of weeks be sufficient at this point? [The group decided that three weeks would be best]. Why don't we say three weeks from today then? Anyone who wants to build upon the comments today, revise anything, refine anything that you've presented, or offer anything additional that is relevant to the inquiry. We will ask that those be presented within three weeks again so that staff has an idea of the nature of comments and then can start to draw conclusions. We will advise parties at Commission will, when the sessions are set for hearing comments from members of the public so that you will be able to attend those sessions as well. Is there anything further that we want to say today or anything that anyone has in conclusion?

Mel Grassia - Consumer - I have one more comment that I might make with regards to this issue of not being able to get responses from the utility companies. The interesting thing that I encountered was that I was unable to talk to the local organization that was actually performing the work, in other words the shop in the local area. The only contact I could have with the organization was very remote, in another city, yet the work is done by a local agency, a local distribution. If you can't talk to anyone at that location, that is not good customer relations.

Bob Tulp - City of Bremerton - I just want to reiterate, I think I mentioned it earlier, that was kind of the same focus that I had pointed out. That the one call center they now have is probably a very good concept, and I applaud the effort of trying to do that to consolidate their resources, but I think the outcome and the downfall is, it is not as good as what they had when it comes to service reliability.

Bob Wallis - Thank you very much. We'll let you know what develops and keep you informed. Thank you very much for coming today.