BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UE 196

In the Matter of	)
PORTLAND GENERAL ELECTRIC,	)
Application to Amortize the Boardman Deferral.	)

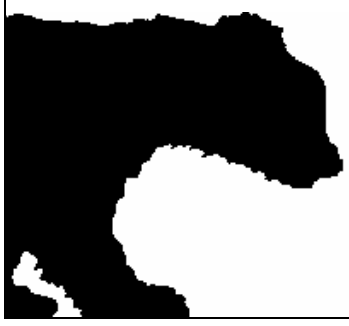
REPLY TESTIMONY

OF THE

CITIZENS' UTILITY BOARD OF OREGON

REDACTED

February 20, 2008



BEFORE THE PUBLIC UTILITY COMMISSION

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In the Matter of PORTLAND GENERAL ELECTRIC, Application to Amortize the Boardman Deferral.	)	REPLY TESTIMONY OF THE CITIZENS' UTILITY BOARD OF OREGON

My name is Bob Jenks, and my qualifications are listed in CUB Exhibit 101.

I. Introduction

In this testimony we will review whether PGE's actions with regard to the installation of low-pressure rotors at the Boardman plant were prudent, and whether the Company took the proper and reasonable steps that could have prevented the 2005-2006 Boardman outage or at least mitigated its financial impact. CUB's review shows that PGE purchased untested, experimental technology for Boardman, yet failed to conduct significant analysis of the risks that were being incurred. PGE then failed to follow through on its plans to mitigate those risks that the Company had identified in its meager analysis. These failures directly contributed to the financial impact associated with the outage. Based on PGE's fundamental failures to conduct its business practices in a prudent manner, there are no grounds to charge customers for the costs of the 2005-2006 Boardman outage.

It is not surprising that neither PGE, which operated the plant, nor Siemens Westinghouse, which maintained the plant, offer proof that plant operation or maintainence were at fault. Instead, we are told that the cause was "unknown."[1] CUB's analysis demonstrates that, regardless of the Company's operation of Boardman, PGE's due diligence and contractual risk mitigation in the 2000 turbine upgrade were so poor, that customers cannot reasonably be asked to pay the costs of replacement power for the 2005-2006 outage. Given PGE's choices and lack of preparation for the risk of equipment failure, these costs should be the Company's responsibility.

II. Background

In 2000 Siemens Westinghouse installed new low-pressure rotors at Boardman that were specifically designed for the plant.[2] In 2002, Siemens Westinghouse performed work under warranty provisions of the 2000 contract.[3] In 2004 [redacted].[4] In July 2005, plant engineers noticed increasing vibrations in one of the turbine bearings. By October, the vibrations had become so severe that the plant had to be taken offline.[5]

PGE retained Mechanical & Materials Engineering (M&M) to review and observe the repair of the crack in the rotor. In the repair process, fractography investigation verified that the rotor suffered fatigue cracking with multiple initiation sites.[6] The 1999 contract between PGE and Siemens Westinghouse dictated that the installed

[1] UE 196 PGE/100/Quennoz/7. "Siemens considers that high cycle fatigue 'due to misalignment induced by an unknown operational condition is the most probable root cause'."
[2] UE 196 PGE/101/Quennoz/3.
[3] *Id.* at 4.
[4] CUB Exhibit 102. Excerpt: PGE & Siemens Westinghouse 2003 Contract, Article 1 page 1.
[5] UE 196 PGE/100/Quennoz/3.
[6] UE 196 PGE/105-D/Quennoz/1.

equipment would have a life of at least [redacted].[7] For regulatory purposes, when the rotor was installed in 2000, its expected depreciation life was 35 years. In 2005 the rotor's depreciation life was extended to 2040.[8] The turbine rotor failure occurred 5 ½ calendar years after the rotors were installed, and after the equivalent of only 4 ½ years of operation.[9]

Three root-cause analyses were conducted to determine the cause of the rotor failure.[10] PGE claims that "none of [the analyses] found any operational error that could cause the cracking," thus suggesting that the Company cannot be held responsible for the costs resulting from the 2005-2006 outage.[11] We disagree. While the physical cause or causes of the rotor failure might be in dispute, the risk of new technology failure was known and understood to be a critical risk of the project. Nevertheless, PGE failed to conduct any proper analysis of technology risk, and failed to protect itself contractually from the costs of technology failure in any reasonable way.

III. PGE Failed To Conduct Proper Due Diligence

In 1998 PGE decided to upgrade the turbines at Boardman.[12]

BEGIN CONFIDENTIAL MATERIAL

[7] UE 196 ICNU/103/Martin/6. PGE & Siemens Westinghouse 1999 Contract, Part I, Section 3, 2.1.1.
[8] CUB Exhibit 104. PGE response to CUB Data Request 9 re: turbine useful life.
[9] UE 196 PGE/101/Quennoz/4 & PGE/105-D/Quennoz/1 (39,500 ÷ 8,760 = 4.5).
[10] UE 196 PGE/100/Quennoz/6. The analyses were performed by Siemens, the manufacturer, Alstom, the repair contractor, and PGE.
[11] UE 196 PGE/100/Quennoz/7.
[12] CUB Exhibit 105 at 1. PGE response to CUB data request 7 re: Company analysis.

END CONFIDENTIAL MATERIAL

PGE, however, appears not to have seriously considered the total risk in its evaluation of the project. CUB asked PGE for "the analysis (including any feasibility

studies) which PGE relied upon for its decision to proceed with these upgrades." The material PGE provided in response to CUB's question demonstrates a serious lack of due diligence.

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Further illustrating PGE's disregard for the risks inherent in the Boardman upgrade is the Company's testimony in UE 115 regarding the associated capital addition to rate base:

> In 1998, we upgraded Boardman's boiler, resulting in a 13 MW increase in our capacity share. In 2000, we will complete an upgrade of Boardman's turbine, resulting in an 18 MW increase in our capacity share. Along with a few very minor changes, these upgrades account for 29 MW increase in capacity since UE 88, at a capital cost of $13.7 million.

UE 115 PGE/300/Pollock-Huntsinger/49.

That's it. That's the extent of the Company's discussion in its UE 115 testimony of what should have been a seriously-considered and weighty decision to undertake a technologically-risky project at one of the Company's more-significant generating facilities. The utility did not inform the Commission and the parties what the upgrade entailed or if there were any special circumstances associated with it. Yet, this was no ordinary "upgrade."

IV. PGE Failed to Follow Through on Its Plan to Mitigate the Risk

PGE knew that this experimental technology came with a risk, and that a big portion of the risk was related to the potential failure of the equipment and the resultant costs of replacing power during a forced outage.

Subsequent to PGE's October 1998 analysis supporting the go-ahead for the project, PGE also provided a project analysis to Enron. CUB Exhibit 106 contains this analysis.

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PGE's contract with Siemens Westinghouse shows that PGE completely failed to enact its risk mitigation strategy.

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This means that the contract for the upgrade contained significantly larger risk than PGE seriously considered or attempted to model in its analysis. PGE has provided no information in response to our data requests that shows that the Company considered the implications of a contract that failed to mitigate a significant risk that PGE's presentation to its own and Enron's management suggested would be mitigated. This failure to account for and mitigate the risk of a forced outage – in this case, an extended one – due to the failure of a new technology, and the corresponding risk of replacement power costs demonstrates a reckless approach to a major capital project.

V. Conclusion

PGE undertook a technologically-risky retrofit at one of its major generating facilities, failed to adequately consider the ramifications of the very-real risk of forced outage due to technology failure, and then utterly failed to mitigate that risk in any meaningful way, thus leaving the Company and its customers completely exposed. Such an irresponsible approach to, and execution of, a significant capital investment representing a significant portion of PGE's baseload generation is unfathomable. As PGE found such an approach to be reasonable, however, the Company should also reasonably be expected to pay for the replacement power costs associated with the technology failure that was deep within the range of possibility, but to which PGE left itself completely unprotected.

WITNESS QUALIFICATION STATEMENT

NAME: Bob Jenks

EMPLOYER: Citizens' Utility Board of Oregon

TITLE: Executive Director

ADDRESS: 610 SW Broadway, Suite 308
Portland, OR 97205

EDUCATION: Bachelor of Science, Economics
Willamette University, Salem, OR

EXPERIENCE: Provided testimony or comments in a variety of OPUC dockets, including UE 88, UE 92, UM 903, UM 918, UE 102, UP 168, UT 125, UT 141, UE 115, UE 116, UE 137, UE 139, UE 161, UE 165, UE 167, UE 170, UE 172, UE 173, UG 152, UM 995, UM 1050, UM 1071, UM 1147, UM 1121, UM 1206, and UM 1209. Participated in the development of a variety of Least Cost Plans and PUC Settlement Conferences. Provided testimony to Oregon Legislative Committees on consumer issues relating to energy and telecommunications. Lobbied the Oregon Congressional delegation on behalf of CUB and the National Association of State Utility Consumer Advocates.

Between 1982 and 1991, worked for the Oregon State Public Interest Research Group, the Massachusetts Public Interest Research Group, and the Fund for Public Interest Research on a variety of public policy issues.

MEMBERSHIP: National Association of State Utility Consumer Advocates
Board of Directors, OSPIRG Citizen Lobby
Telecommunications Policy Committee, Consumer Federation of America
Electricity Policy Committee, Consumer Federation of America

UE 196

Confidential and Subject to Protective Order No. 07-433

Excerpt: PGE & Siemens Westinghouse 2003 Contract

UE 196

Confidential and Subject to Protective Order No. 07-433

Excerpt: PGE & Siemens Westinghouse 1999 Contract

February 6, 2008

TO: Lowrey Brown
Citizens' Utility Board

FROM: Patrick G. Hager
Manager, Regulatory Affairs

PORTLAND GENERAL ELECTRIC
UE 196
PGE Response to CUB Data Request
Dated January 24, 2008
Question No. 009

Request:

When PGE installed the new rotors, what was their expected useful life? Has PGE conducted any review to determine whether this failure suggests that the expected useful life for the rotor should be different than is currently in rates?

Response:

When PGE installed the new low-pressure rotors in 2000, we determined that the depreciation life was 35 years. In our 2005 depreciation study (UM 1233), we changed the depreciation such that the entire amount would be depreciated by 2040. We will re-examine the expected useful life of the rotors in our 2010 depreciation study.

February 6, 2008

TO: Lowrey Brown
Citizens' Utility Board

FROM: Patrick G. Hager
Manager, Regulatory Affairs

PORTLAND GENERAL ELECTRIC
UE 196
PGE Response to CUB Data Request
Dated January 24, 2008
Question No. 007

Request:

With regards to the 2000 Turbine upgrades (the installation of LP1 and LP2):

a. **When did PGE make the decision to proceed with these upgrades?**
b. **Please provide the analysis (including any feasibility studies) which PGE relied upon for its decision to proceed with these upgrades**
c. **Please provide copies of any analyses that was provided to Enron management and/or the PGE Board of Directors regarding this upgrade.**
d. **Please provide a copy of PGE's testimony and work papers from UE 115 which discussed this turbine upgrade.**

Response:

a. When did PGE make the decision to proceed with these upgrades?

PGE decided to proceed with the low-pressure turbine upgrades in Fall 1998. See PGE's response to part b. below.

b. Please provide the analysis (including any feasibility studies) which PGE relied upon for its decision to proceed with these upgrades.

Attachment 007-A is a copy of the approved final capital review group document for the upgrades. This document summarizes the analysis that was the basis for decision**.** Attachment 007-A is confidential and subject to Protective Order No. 07-433. It is provided under separate cover.

c. Please provide copies of any analyses that was provided to Enron management and/or the PGE Board of Directors regarding this upgrade.

PGE objects to this request because it is overly broad and unduly burdensome. Without waiving objection, PGE responds as follows:

Attachment 007-B is a copy of the Enron approval document. This attachment is confidential and subject to Protective Order No. 07-433. It is provided under separate cover.

d. Please provide a copy of PGE's testimony and work papers from UE 115 which discussed this turbine upgrade.

PGE objects to this request because CUB already has this material. Without waiving objection, PGE responds as follows:

Attachment 007-C contains relevant pages from PGE's UE 115 testimony.

UE 196

Confidential and Subject to Protective Order No. 07-433

Turbine Upgrade Approval Document

UE 196

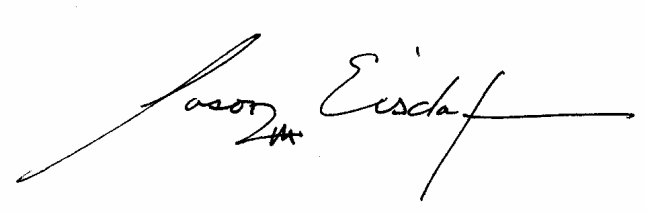
Confidential and Subject to Protective Order No. 07-433

Enron Risk Assessment And Control Deal Approval Sheet

CERTIFICATE OF SERVICE

I hereby certify that on this 20th day of February 2008, I served the foregoing Reply Testimony of the Citizens' Utility Board of Oregon in docket UE 196 upon each party listed below, by sending a non-confidential version via email and, where paper service is not waived, by U.S. mail, postage prepaid, and by sending a confidential version to the appropriate parties as identified on the service list by U.S. mail, postage prepaid, and upon the Commission by emailing a non-confidential version and by sending 6 confidential copies by U.S. mail, postage prepaid, to the Commission's Salem offices.

Respectfully submitted,



Jason Eisdorfer Attorney #92292
The Citizens' Utility Board of Oregon

W=Waive Paper service, C=Confidential, HC=Highly Confidential

PORTLAND GENERAL ELECTRIC

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