

1 **BEFORE THE PUBLIC UTILITY COMMISSION**  
2 **OF OREGON**

3 UE 196

4 In the Matter of Application of Portland  
5 General Electric Company's Application to  
6 Amortize the Boardman Deferral

7 STAFF'S OPENING BRIEF

8 **INTRODUCTION**

9 In Order No. 07-049 the Commission decided that the Boardman outage was a scenario  
10 event and that because the financial impact of the event was material, *i.e.* it was at least 250 basis  
11 points on Portland General Electric's (PGE or Company) return on equity, it satisfies deferral  
12 discretionary criteria. *Id.* at 10. The Commission concluded that the amount of excess power  
13 costs eligible for deferral was \$42.8 million. But because the Commission believed that the  
14 Company should bear a level of power cost risk, the Commission applied dead bands and costs  
15 sharing to the amount, reducing the deferral amount to \$26.4 million. The Commission ordered  
16 that ratemaking treatment of those costs be deferred for a ratemaking proceeding.

17 **DISCUSSION**

18 Before Staff addressed the question of the prudence in operation and maintenance of the  
19 turbine, it evaluated whether amortization of any deferral was allowed under ORS 757.259.  
20 Staff reviewed the Company earnings test report as required by ORS 757.259(5). The earnings  
21 period is the twelve months ending March 31, 2006. Staff agreed with PGE that even if the  
22 Commission allowed recovery of the entire deferred amount, the Company's earnings would still  
23 be significantly below its authorized rate of return. Staff also agreed with the Company that its  
24 earnings do not preclude the recovery of the deferred amounts. Staff reviewed whether the  
25 deferred amount would exceed the three percent limit of the Company's gross revenues of the  
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1 preceding calendar year.<sup>1</sup> Three percent of the Company's \$1.6 billion in revenue in 2007 is \$48  
2 million. Accordingly, the deferral would not exceed the three percent limit if it were amortized  
3 into rates. Even though it does not appear necessary to offset the Boardman deferral to satisfy  
4 the three percent limit, the Company has proposed to use rate credits previously deferred,  
5 including surplus funds in the Trojan Decommissioning Trust so that the net rate effect would be  
6 zero. Staff has not verified that there are sufficient funds in the Trojan Decommissioning Trust  
7 to provide the necessary offset. However, subject to verification, Staff supports the Company's  
8 proposal to use the rate credit offsets.

### 9 **Company Prudence and Excess Power Costs**

10 In 2000 PGE rebuilt the Low Pressure turbine (LP1). The rebuild incorporated new and  
11 different rotating elements and casing liners. These upgrades were performed to improve unit  
12 efficiency and resulted in an efficiency gain of more than four percent that benefited customers.  
13 The turbine operated for a period of five and one half years during which no problems occurred  
14 with the LP1 shaft. However, in November, 2005, shaft vibration monitoring equipment picked  
15 up an increase in the LP1 shaft vibration leading to a forced outage. After efforts to reduce the  
16 vibration and restart the turbine were unsuccessful, Siemens, the original equipment  
17 manufacturer was called. Siemen's inspection of the LP1 turbine shaft revealed previously  
18 undetected fatigue cracking leading to a lengthy tear down and repair that resulted in the excess  
19 power costs that are the subject of the deferral.

20 The standard for reviewing prudence is what PGE knew or should have known at the  
21 time it chose to install the LP1 turbine and whether it maintained the turbine in a prudent  
22 manner. *See generally In re PacifiCorp* Order No. 02-469 at 30.

23 Staff reviewed PGE's testimony about the breakdown and subsequent repair, including a  
24 review of Root Cause Analysis (RCA) evaluations by PGE, by Siemens, and by Alstom. Not  
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26 <sup>1</sup> ORS 757.259 provides, in relevant part, "...the overall average rate impact of the amortization authorized under [757.259] in any one year may not exceed three percent of the utility's gross revenue for the preceding calendar year."

1 one of these RCAs was able to identify a specific action, event or omission that caused the  
2 cracks. But the RCAs considered and rejected a number of potential causes. The RCAs  
3 reviewed whether an operating event caused the failure. The turbine's operation is continuously  
4 monitored and recorded. After review of the operating records all three RCAs concluded that the  
5 unit was started, stopped and operated according to the manufacturer's operating procedures.

6 The RCAs also reviewed both routine and major maintenance and could not find any  
7 evidence of imprudent maintenance. A potential cause of fatigue cracking could be that the rotor  
8 was not aligned properly. But PGE contracted with Siemens to perform all of its turbine  
9 maintenance. The maintenance performed by Siemens included routine checking of the  
10 alignment of the turbine shaft and made adjustments where necessary. None of the RCAs  
11 identified any act or omission in maintenance that contributed to the failure.

12 The RCAs also analyzed whether the breakdown could have been caused by factors other  
13 than operation and maintenance. Metallurgical tests were performed on the shaft; no defects in  
14 the material were found and shaft metallurgy was found to be consistent with what was  
15 originally specified and similar in content to other turbine shafts. Engineering design tests were  
16 performed. The LP1's design was found to be adequate. The study also found that the shaft  
17 should have been capable of handling operating stresses.

18 CUB and ICNU assert that the turbine upgrade was experimental and argues that the  
19 Company failed to adequately analyze and mitigate risk and the 2005 failure was the result of  
20 PGE's imprudence. The Company denies that the upgrade was experimental. PGE notes that  
21 the upgrade only involved an upgrade of the last row of blades, a feature that was not involved in  
22 the turbine failure at issue here. Because neither CUB nor ICNU point to specific evidence  
23 showing that the upgrade caused the failure, Staff does not believe that evidence shows the  
24 Company's turbine upgrade was imprudent.

25 Staff believes that PGE is should consider cost effective efficiency improvements such as  
26 the upgrade performed on this turbine in 2000. Staff agrees with CUB and ICNU that, in making

1 such improvements, the Company is required to attempt to avoid and mitigate risk that may  
2 result if those changes do not work as predicted. However, contrary to CUB and ICNU, Staff  
3 does not believe that PGE failed to exercise reasonable care in making the upgrades and  
4 mitigating the risks. The Company recognized that upgrades might present some risk to  
5 customers particularly during the initial start-up and operational period when the Company  
6 assumed any defect would reveal itself. Accordingly, PGE also took several important steps to  
7 mitigate risks during the first year of operation after the upgrade. PGE secured an uptime  
8 guarantee from the manufacturer for the first year of operation. The Company also required that  
9 a supply of specialty spare parts, unique to the machine, be readily available from the supplier.

10 CUB and ICNU argue that the Company should have had damage insurance to cover  
11 power costs in the event of a forced outage. The Company produced evidence that consequential  
12 damage insurance is not a viable cost mitigation strategy for their thermal facilities. No party  
13 produced evidence demonstrating that Company's position is erroneous. Staff does not believe  
14 that the evidence shows that PGE was imprudent in not taking out insurance in the event of a  
15 failure.

#### 16 CONCLUSION

17 Staff does not believe that the evidence shows imprudent behavior on the part of the  
18 Company in the operation and maintenance of the Boardman turbine. Nor does Staff believe the  
19 Company acted imprudently in connection with the costs associated with the outage of the  
20 Boardman plant from November 18, 2006, to February 5, 2006. Staff filed a motion on July 25,  
21 2008, to hold this matter in abeyance pending the outcome of a circuit court case in which  
22 Turlock Irrigation District has sued PGE alleging that PGE was negligent with respect to the  
23 LP1. PGE has deferred credits that offset the rate effect of this deferral amortization so a delay  
24 in the decision would not unduly burden any party. If additional evidence is uncovered in the  
25 circuit court case it might serve to better inform the Commission's decision. If, the Commission  
26 decides to rule on this matter now, Staff believes that the evidence supports the Commission

1 allowing the Company to recover the deferral amount of \$26.4 million plus interest through its  
2 rates.

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4 DATED this 3<sup>rd</sup> day of September 2008.

5 Respectfully submitted,

6 HARDY MYERS  
7 Attorney General

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1 **CERTIFICATE OF SERVICE**

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3 I certify that on September 3, 2008, I served the foregoing BRIEF upon all parties of  
4 record in this proceeding by delivering a copy by electronic mail and by mailing a copy by  
5 postage prepaid first class mail or by hand delivery/shuttle mail to the parties accepting paper  
6 service.

7 **W**

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