BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATI	ON COM	AISSI	ON
DOCKET NO. UE-10			
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THOMAS C. DEMPSEY		2010 HAR 31	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
REPRESENTING AVISTA CORPORATION		$\frac{2}{3}$	
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1		I. INTRODUCTION
2	Q.	Please state your name, business address, and present position with Avista
3	Corporation	n.
4	A.	My name is Thomas C. Dempsey. My business address is 1411 East Mission
5	Avenue, Spe	okane, Washington, and I am employed by the Company in the Energy Resources
6	Department.	My title is Manager, Generation Joint Projects.
7	Q.	What is your educational background and prior work experience?
8	A.	I am a 1993 graduate of the University of Texas at Austin with a Degree in
9	Mechanical	Engineering. I started my career as a performance engineer at Houston Lighting &
10	Power in Ho	ouston Texas. While working there I participated in equipment performance testing
11	activities on	a number of gas-fired steam facilities, a coal facility, and several simple-cycle gas
12	turbine facil	ities.
13	Q.	How long have you been employed by the Company and what are your duties
14	as Manager	, Generation Joint Projects.
15	A.	I started working for Avista in December 1996 as a mechanical production
16	engineer. In	that capacity I participated in a wide variety of hydro and thermal generating station
17	projects. I	joined the Energy Resources Department (Manager Generation Joint Projects) in
18	2008. M	y primary responsibilities in my present position involve being the corporate
19	representativ	ve for the Colstrip Generating Station and also as Avista's corporate manager

overseeing operations and maintenance at the Coyote Springs 2 generating station. I have also

worked in engineering and management capacities at all of Avista's other thermal facilities.

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Q. What is the scope of your testimony in this proceeding?

A. My testimony will describe the outage at Colstrip that caused the plant to drop below a 70% availability factor for the year 2009. I will also demonstrate that the outage was not the result of imprudent actions on the part of Avista. Finally, I will discuss what actions are being taken to hopefully prevent a future outage of a similar nature.

II. COLSTRIP OUTAGE

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- Q. Please describe the outage at Colstrip that caused the plant to drop below a 70% availability factor for the year 2009.
- A. During a routine maintenance inspection of the Colstrip Unit 4 Low Pressure turbine section we discovered several cracks in a rotor disk at the interface between the rotor and turbine blades. In accordance with the original equipment manufacturer (OEM) guidelines, we removed the rotor and sent it off-site for repairs. The time necessary to complete the repair and return the unit to service resulted in an outage extension beyond the originally planned return to service date, and an availability factor of less than 70%
- Q. What was the availability factor for 2009?
- 16 A. The equivalent availability factor for 2009 for the Colstrip plant (Units 3 and 4) was 68.3%.
- Q. Has the cause of the rotor failure been determined?
- A. Yes. The root cause of the cracking was determined to have likely initiated from an event that occurred in July of 2004. The event in 2004 was a major condenser tube leak caused by a structural failure of a component in the condenser. This physical failure resulted in contamination of the condensate water. The chemical constituents present in the contaminated water infiltrated the interface between the blades and the rotor and initiated corrosion pitting.

The cracks initiated from stress concentration points present in these pits. The operator (PPL 1 Montana, PPLM) followed the OEM and industry guidelines and discovered the cracks when the 2 3 machine was opened for inspection in 2009. What is Avista's role in the planning, management and operation of the Q. 4 5 Colstrip plant? Avista is a 15% owner of the Colstrip 3 and 4, twin-unit, coal fired, generating 6 A. facility, and is not directly involved in the day to day operations of the plant. Avista, along with 7 the other owners of the facility, and according to ownership percentage, provide oversight of the 8 facility. The operator, PPLM, carries out the daily operation of the facility, and develops the 9 10 detailed planning for the operation. In your opinion was the Colstrip outage a result of imprudent actions? 11 Q. No. In my opinion, the outage on Unit 4 was not the result of imprudent actions. 12 A. The rotor on which the cracks occurred is identical to the rotors in Unit 3. The rotors were 13 installed in Unit 3 in 1995 and in Unit 4 in 1996. Both units have operated without incident until 14 the crack was discovered on Unit 4 this past year. Unit 3's rotors were fully inspected in 2007. 15 Additionally, PPLM's actions and practices were consistent with industry actions and practices 16 17 during, and following the 2004 event. Please describe the actions the plant owners are taking to hopefully prevent a 18 0. 19 future outage of a similar nature. The owners initiated a root cause analysis to address the factors that led to the 20 A. specific event and, thus, reduce the likelihood of a similar event in the future. As a result of the 21

root cause analysis, actions were developed. With regard to the specific failure that occurred in

2004, measures have been taken to physically reinforce certain condenser areas to prevent this

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- type of failure from occurring in the future. Additional actions being taken include tightening
- 2 the operating chemistry parameters, as well as implementing new emergency operating
- 3 procedures if a similar condenser event occurs. Furthermore, in order to mitigate the potential
- for a similar outage, we have ordered a spare set of Low Pressure rotors that will be delivered in
- 5 2011, prior to the Unit 3 overhaul.
- 6 Q. Does that conclude your pre-filed direct testimony?
- 7 A. Yes.