

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-14 \_\_\_\_

DIRECT TESTIMONY OF

THOMAS C. DEMPSEY

REPRESENTING AVISTA CORPORATION

**I. INTRODUCTION**

**Q. Please state your name, business address, and present position with Avista Corporation.**

A. My name is Thomas C. Dempsey. My business address is 1411 East Mission Avenue, Spokane, Washington, and I am employed by the Company in the Generation Production and Substation Support Department. My title is Manager, Thermal Operations and Maintenance.

**Q. What is your educational background and prior work experience?**

A. I am a 1993 graduate of the University of Texas at Austin with a Degree in Mechanical Engineering. I started my career as a performance engineer at Houston Lighting & Power in Houston, Texas. While working there I participated in equipment performance testing activities on a number of gas-fired steam facilities, a coal facility, and several simple-cycle gas turbine facilities. I started working for Avista in December 1996 as a mechanical production engineer. In that capacity I participated in a wide variety of hydro and thermal generating station projects. I joined the Generation Production Substation Support Department in 2014. My primary responsibilities include operations and maintenance management for all of Avista's thermal facilities. I am the corporate representative for Colstrip as well. For the last 17 years at Avista I have had a number of engineering and supervisory roles related to our thermal generation fleet.

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

A. My testimony will describe the generator outage at Colstrip that caused the plant to drop below a 70% availability factor for the year 2013. I will also demonstrate that the outage

1 was not the result of imprudent actions on the part of Avista. Finally, I will note the  
2 recommendations reported in the incident Root Cause Analysis Report.

3 **Q. Are you sponsoring any exhibits to be introduced in this proceeding?**

4 A. Yes. I am sponsoring confidential Exhibit No. \_\_\_\_ (TCD-2C), which includes the  
5 Root Cause Analysis Report on PPL Montana Colstrip 4 Core Failure Event prepared by  
6 Generator Consulting Services, Inc. on November 18, 2013.

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8 **II. COLSTRIP OUTAGE**

9 **Q. Please describe the outage at Colstrip that caused the plant to drop below a**  
10 **70% availability factor for the year 2013.**

11 A. After returning from service subsequent a routine scheduled generator overhaul  
12 that began in May 2013, a generator protective relay tripped the unit at approximately 10:20 pm  
13 on July 1, 2013. The unit experienced massive core damage and moderate rotor damage. The  
14 subsequent repairs took just under seven months to complete; the unit returned to service on  
15 January 23, 2014.

16 **Q. What was the availability factor for 2013?**

17 A. The equivalent availability factor for 2013 for the Colstrip plant (Units 3 and 4)  
18 was 65.8%.

19 **Q. Please summarize the analysis undertaken to determine the cause of the**  
20 **generator failure?**

21 A. Subsequent to the generator failure, PPL Montana (PPL), as owner and operator  
22 of the facility, hired an independent consulting firm (Generator Consulting Services, Inc.) to  
23 perform a root cause analysis, which has been provided as confidential Exhibit No. \_\_\_\_ (TCD-

1 2C). This analysis concluded that the cause of the failure was, "...most likely inadequate  
2 interlaminar insulation permitting shorting between laminations caused during the prior outage  
3 by rotor insertion, skid pan damage or air gap baffle installation." (Id. at page 5) All of the  
4 overhaul work performed on the generator prior to the failure was performed by Siemens, the  
5 Original Equipment Manufacturer.

6 **Q. In your opinion was the Colstrip outage a result of imprudent actions on the**  
7 **part of Avista?**

8 A. No. In my opinion, the outage on Unit 4 was not the result of imprudent actions  
9 on our part. The outage work was performed by Siemens, the Original Equipment Manufacturer  
10 (OEM). As the OEM, they are the most qualified party able to perform the work. Per Section  
11 5.1 of the Root Cause Analysis report, "In our opinion, PPL [the Colstrip managing operator] did  
12 everything according to standard industry practice such as hiring the OEM (Siemens) to perform  
13 the maintenance, performing El Cid testing on the core, operating their unit according to industry  
14 practice, (since there was no indication of mis-operation), and protecting the unit with adequate  
15 relay protection. Nothing they did or could have done, could have prevented this failure."<sup>1</sup>  
16 (Exhibit No. \_\_\_\_ (TCD), at page 46)

17 **Q. What is Avista's role in the planning, management and operation of the**  
18 **Colstrip plant?**

19 A. Avista is a 15% owner of the Colstrip 3 and 4, twin-unit, coal fired, generating  
20 facility, and is not directly involved in the day to day operations of the plant. Avista, along with  
21 the other owners of the facility, and according to ownership percentage, provide oversight of the

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<sup>1</sup> El Cid is Electromagnetic Core Imperfection Detection.

1 facility. The operator, PPL, carries out the daily operation of the facility, and develops the  
2 detailed planning for the operation.

3 **Q. Please describe the actions the plant owners are taking to hopefully prevent a**  
4 **future outage of a similar nature.**

5 A. The Root Cause Analysis Report recommends that, “they continue to utilize El  
6 Cid testing and continue to operate and protect their units as they have been doing.” (Id. at page  
7 46)

8 **Q. Does that conclude your pre-filed direct testimony?**

9 A. Yes.