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UTILITIES COMMISSION

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# **BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION**

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THOMPSON RIVER CO-GEN, LLC a Colorado Company,

COMPLAINANT, vs.

AVISTA CORPORATION dba AVISTA UTILITIES, a Washington Corporation,

RESPONDENT.

CASE NO. AVU-E-05-7

DIRECT TESTIMONY OF RONALD R. PETERSON

FOR AVISTA CORPORATION

| 1  |                | I. INTRODUCTION   |
|----|----------------|---|
| 2  | Q.             | Please state your name, employer and business address.                              |
| 3  | А.             | My name is Ronald R. Peterson. I am employed as Vice President of Energy            |
| 4  | Resources by   | Avista Corporation at 1411 East Mission Avenue, Spokane, Washington.                |
| 5  | Q.             | Please state your educational background and professional experience.               |
| 6  | А.             | I began my career at Avista Corp. in 1975 after graduating from Washington          |
| 7  | State Univers  | sity with a degree in business administration, majoring in accounting. I passed     |
| 8  | the Washingt   | on State CPA examination in 1976 and worked as a staff accountant in a variety      |
| 9  | of positions   | until 1987, when I became Supervisor of the Company's Corporate Accounting          |
| 10 | function. In   | 1991, I was selected Customer Service Manager, and in 1992 was elected              |
| 11 | Treasurer.     | I was elected Controller and assumed the Director of Information Services           |
| 12 | responsibiliti | es in 1996. In 1998, I was elected Vice President and Treasurer. I served as        |
| 13 | both the Co    | rporate Treasurer and Utility Controller beginning in August 2001. I was            |
| 14 | appointed to   | my current position in March 2003.  |
| 15 | Q.             | What is the scope of your current responsibilities?                                 |
| 16 | А.             | In my role as Vice President of Energy Resources, the following functional          |
| 17 | areas fall une | der my area of responsibility: power supply, gas supply, environmental affairs,     |
| 18 | hydroelectric  | and thermal production, and substation construction and support.                    |
| 19 | Q.             | What is the scope of your testimony in this proceeding?                             |
| 20 | Α.             | I will explain the basis for Avista's determination that the TRC project has a      |
| 21 | capacity in e  | xcess of 10 aMW and, therefore, does not qualify for the published avoided cost     |
| 22 | rates in the s | tate of Idaho. In the course of doing so, I will provide a brief description of the |
| 23 | Thompson R     | iver Co-Gen, LLC (TRC) project located near Thompson River, Montana. I will         |

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address the utility's responsibility to make a determination of the generation output capacity
of the TRC project, based on prior direction given by this Commission. I will address why,
from a policy perspective, it is important that <u>a project capacity determination</u> be utilized to
distinguish eligibility for certain PURPA (Public Utility Regulatory Policy Act) rates, as
opposed to a simple willingness on the part of project owners to artificially reduce their net
output level to 10 aMW as part of a contract.

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### Q. Please describe the primary issue being presented to the Commission.

8 A. The central issue on which the parties disagree is whether the TRC project is 9 eligible for Avista's published avoided cost rates in the state of Idaho. The applicable avoided 10 cost rate is different depending on whether the PURPA Qualifying Facility (QF) project 11 capacity is either 10 aMW or less, or is above 10 aMW.

Consistent with the requirements of Order No. 29632 in the <u>U.S. Geothermal</u> case discussed below, the Company has fulfilled its responsibility and has made a determination that the capacity of the TRC project is <u>greater than 10 aMW</u>, and therefore not eligible for Avista's published avoided cost rates, and Avista requests a finding to that effect. Resolution of this issue will help provide necessary guidance as the parties seek to implement this Commission's prior orders.

18 Q. What is the scope of the testimony of other Company witnesses in this
19 case?

A. The testimony of <u>Mr. Robert Lafferty</u>, Manager, Wholesale Marketing & Contracts, will address FERC's definition for PURPA project "net output" for purposes of determining project capacity. Mr. Lafferty will also address why it is a reasonable requirement for off-system, out-of-state PURPA projects to be responsible for arranging all transmission, scheduling, losses, and other services necessary to deliver power to the Company's electric system and to bear the costs thereof. He will also explain why it is reasonable, in this case, for the Company to require an affirmative declaration by TRC to the effect that their obligations under a prior 10-year power sales agreement with NorthWestern Energy have, in fact, terminated.

6 Mr. George Perks, Manager, Generation - Joint Projects, will provide testimony 7 explaining that any "boiler limitation" in the TRC project would already be included in the 8 generation net output levels measured during the approximately nine months of project 9 testing. His testimony will also address the ability of a thermal-fired generation project to 10 produce a certain level of power continuously for a month, under normal design conditions, 11 once that project has demonstrated that it can operate continuously at a given net output level 12 for a period of 16 hours during the testing phase. He concludes that the generation net output 13 data from the TRC project during the testing phase is sufficient to make a determination that 14 the monthly generation capacity of the project is above 10 aMW.

Mr. Thomas Dempsey, Manager, Thermal Engineering, will provide further testimony explaining the basis for the Company's determination that the net output capacity of the TRC project is greater than 10 aMW, even given the environmental permitting requirements. Mr. Dempsey will explain that project operation within the maximum fuel input level is achievable and at a net output capacity in excess of 10 aMW, while still operating within the parameters of the new Montana Department of Environmental Quality (MDEQ) Preliminary Determination for the TRC air quality permit.

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## II. Why The Determination Of Net Output Capacity Is Important

2 Q. Why is the determination of project size important for the application of 3 avoided cost rates?

A. The generation net output capacity of the project is important because it determines which PURPA rates are applied to the TRC project. The published avoided cost rates applicable to "fueled" PURPA projects that are 10 aMW or less are significantly above the Integrated Resource Plan (IRP)-based rates available to PURPA projects that are over 10 aMW.

9 The levelized published avoided cost rates for "fueled" projects are projected to be 10 <u>\$71.51/MWh</u>, based on forward natural gas prices as of February 17, 2005. This exceeds the 11 IRP-based levelized avoided cost rates of <u>\$48.47/MWh</u>, based on the Company's 2005 12 Integrated Resource Plan.

13 The following chart illustrates the comparison between the "fueled" avoided cost rates14 and the IRP-based avoided cost rates.

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**Illustration 1: Comparison Of Projected Avoided Cost Rates** 

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# 4 Q. How is the estimated "fueled" avoided cost calculated, as used in your 5 illustration?

A. The calculation of the "fueled" avoided cost is based on the avoided cost formula for fueled avoided cost. The 2006 value represents the actual current value for the fueled avoided cost based upon the Northwest Power and Conservation Council (NPCC) natural gas price forecast published in its Draft 5<sup>th</sup> Power Plan on September 29, 2004. Each year thereafter, the fueled avoided cost is calculated based upon the average of the past two years' actual natural gas prices plus the current year forward price. The fuel cost is then added to the fixed plant cost component to derive the total fueled avoided cost rate. For the

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purpose of this illustration, the "fueled" avoided cost prices beginning in year 2007 assumes 1 that the natural gas prices are updated by the NPCC annually. However, the fueled avoided 2 cost is not necessarily updated by the NPCC on an annual basis, and therefore, fueled avoided 3 cost changes will follow actual timing of the NPCC natural gas forecast updates. 4

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Please explain how the other avoided costs, as shown on the chart, are 0. determined?

The IRP Avoided Costs are a forecast of future market electricity prices 7 A. developed in the Company's integrated resource planning process using the Aurora model, 8 and are published in the Company's recent 2005 IRP. The Aurora model is a fundamentals-9 based electricity market price forecasting tool widely used by many utilities in the Pacific 10 Northwest. 11

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#### What is the impact of the difference between the "fueled" avoided cost 0. rate and the IRP avoided cost rate? 13

The sum of the difference between the "fueled" avoided cost rate and the IRP-14 A. based avoided cost rate over a twenty-year contract term, for an 11 MW project at 90% 15 availability, is over \$43 million. Accordingly, the longer-term consequences of this 16 determination of the appropriate rate are significant. 17

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#### III. TRC Output Exceeds 10 aMW

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# Please describe the TRC project and its net output capacity.

The TRC project is a co-generation project located adjacent to the Thompson 21 A. River Lumber Company facility in Montana. TRC supplies process steam and electric power 22 to the Thompson River Lumber Company. According to TRC, the co-generation project and 23

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the Thompson River Lumber Company currently do not share any common owners. The TRC project receives its water supply and a limited amount of wood sawdust from the neighboring Thompson River Lumber Company mill operation. The TRC project also leases land from the Thompson River Lumber Company. TRC has a 10-year coal supply agreement with an option, with certain adjustments, to extend the term for another ten years. TRC filed with the Federal Energy Regulatory Commission (FERC) for self-certification Qualifying Facility (QF) status on August 15, 2005.

8 According to TRC, at page 3, lines 7-8 of Mr. Busch's testimony, the condensing 9 steam turbine has a 16.5 MW nameplate and is coupled with a 17.65 MVA generator. TRC 10 has indicated that the project is "boiler limited." Illuminating that point, Mr. Busch states, at page 6, lines 3-4, "the boiler did not have the capacity to meet full capacity requirements of 11 the Elliot [steam] turbine." However, a review of documentation provided by TRC, 12 13 demonstrates that the project capacity is above 10 aMW. Accordingly, Avista has made a determination that the net output generation capacity of the TRC project is above 10 aMW, 14 for purposes of establishing eligibility for PURPA rates in the state of Idaho. 15

Q. What guidance has the Commission given to utilities concerning the
 determination of the generation net output capacity used for establishing eligibility for
 published PURPA rates?

- A. In Order No. 29632, at page 14, in <u>U.S. Geothermal, Inc. vs. Idaho Power</u>
  Company (Docket Nos. IPC-E-04-8 and IPC-E-04-10), the Commission states:
- 21 "We find that the 10 MW threshold limit, however, must have
  22 some import, some significance if eligibility is to mean
  23 anything. The Commission finds it reasonable to define
  24 firmness as predictability on a monthly basis. By way of

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| 1  | eligibility criteria, we find it reasonable for the <u>utility</u> to make                    |
|----|---|
| 2  | an initial capacity determination and require that the QF                                     |
| 3  | demonstrate that under normal or average design conditions                                    |
| 4  | that the project will generate at no more than 10 aMW in any                                  |
| 5  | given month." (Emphasis added.)   |
| 6  |   |
| 7  | The essence of this guidance requires the following actions:                                  |
| 8  | • The <u>capacity</u> is to be determined under <u>normal or average design</u> conditions,   |
| 9  | and does not involve voluntary curtailment of generation.                                     |
| 10 | • The utility is to make the initial capacity determination.                                  |
| 11 | • The project must demonstrate that it will generate no more than 10 aMW in                   |
| 12 | any month   |
| 13 | The Company has made a capacity determination that the TRC project exceeds 10                 |
| 14 | aMW and is capable, under normal or average design conditions, of generating a net output     |
| 15 | of over 10 aMW on a monthly basis. This is based not only on TRC's own statements and         |
| 16 | documentation, but also on Avista's own review of the actual facility and the analysis of the |
| 17 | underlying output data.   |
| 18 |   |
| 19 | Q. Has the TRC project previously been described by TRC, or other parties,                    |
| 20 | as having a capacity greater than 10 MW?  |
| 21 | A. Yes. The TRC project has been represented as having a capacity greater than                |
| 22 | 10 aMW on a number of occasions, by both TRC and by NorthWestern Energy, both of              |
| 23 | whom are parties to a 10-year "Co-Generation Power Sale Agreement" dated September 12,        |
| 24 | 2002. In addition, the following is a summary of various statements or representations        |
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| 1  | previously made by TRC and NorthWestern Energy attesting that the project output is        |
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| 2  | expected to be above 10 aMW. Mr. Lafferty will elaborate on each item, and has included in |
| 3  | his exhibits the source documents for each of the references listed.                       |
| 4  | • " <u>16 megawatt</u> ("MW") wood waste and coal fired cogeneration plant";               |
| 5  | "will sell no more than 13 MW of Thompson's output to NWE." [TRC                           |
| 6  | Amended Petition For Acceptance Of Initial Rate Schedule – FERC Docket                     |
| 7  | No. ER02-298-000, p. 3]  |
| 8  | • " <u>12 average MW</u> to NWE as part of NWE's default supply portfolio." [TRC           |
| 9  | Amended Petition For Acceptance Of Initial Rate Schedule – FERC Docket                     |
| 10 | No. ER02-298-000, p. 4]  |
| 11 | • <u>16 MW</u> – maximum purchase obligation of buyer (NorthWestern Energy);               |
| 12 | 13  MW – maximum delivery obligation of the seller. ["Co-Generation Power                  |
| 13 | Sale Agreement" dated September 12, 2002 between TRC and NorthWestern                      |
| 14 | Energy, Original Sheet No.17]  |
| 15 | • <u>12.5 MW</u> – amount "capable of reliably generating" from the project. ["Co-         |
| 16 | Generation Power Sale Agreement" dated September 12, 2002 between TRC                      |
| 17 | and NorthWestern Energy, Original Sheet No.18]   |
| 18 | • <u>"16 MW</u> thermal generation facility"; "net output is anticipated to be             |
| 19 | approximately <u>12 MW</u> ." [NorthWestern Energy Default Supply Tracker Filing           |
| 20 | - filed June 7, 2004 with the Montana Public Service Commission - page 2]                  |
| 21 | • "16 MW thermal generation facility"; "net output is anticipated to be                    |
| 22 | approximately <u>12 MW</u> ." [Testimony of Mark D. Thompson in the                        |

NorthWestern Energy Default Supply Tracker – filed June 7, 2004 with the Montana Public Service Commission – page 4]

- <u>13.2 MW</u> of project net output; 10 MW delivered to Avista; 2.4 MW delivered to NorthWestern Energy; and 0.79MW delivered to Thompson River Lumber Company. Values previously calculated by Avista based on data supplied by TRC. [TRC materials distributed at a meeting in Avista offices on May 14, 2005 p.6]
- "Up to <u>14 MW</u> of base-load ... supply". [NorthWestern Energy Form 10K for the fiscal year ended December 31, 2004, filed on July 15, 2005 – p.10]
- 10 <u>12.5 Megawatts/hr.</u> "Average process rate." [Montana Air Quality Permit
   11 Application For Stationary Sources dated November 9, 2005 p. 8]
- Q. Has Avista relied only on prior representations of TRC or others
   concerning the output of this plant, or has it done its own independent corroboration?
- A. Avista has engaged in extensive discovery with TRC concerning project output and has reviewed test data from the plant. It has also made a site visit to the project in order to better understand project equipment components and operating characteristics.
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# Q. Have TRC representatives, in fact, indicated that the TRC project could increase the capacity above current levels?

A. Yes. TRC witness Mr. Busch, at page 6, lines 7-10, states that TRC has "investigated the potential to increase generating capacity (estimated up to 2 MW) at an estimated cost in excess of \$1.3 million, but without performance guarantee of actual performance." This suggests that TRC could increase project capacity in the future. 1 Q. Will you please summarize the basis for the Company's determination 2 that the TRC project is capable of generating in excess of 10 aMW, under normal or 3 average design conditions.

- A. Yes. The Company considered the capability of the project equipment, the representations of the project capacity by TRC and other parties, the actual project net output data from the nine-month testing and tuning period, and the ability of the project to operate within heat input and steam output limits while producing near design output levels. It also considered the ability of the project to install emissions control equipment necessary to achieve the new NOx and SO2 air quality limits described in the Montana Department of Environmental Quality's February 10, 2006 Preliminary Determination.
- As discussed previously, representations by TRC indicate that the project equipment is sized such that greater than 10 aMW net output can be produced by this project. Stated differently, the project has the capacity under normal or average design conditions to generate in excess of 10 aMW, under the Commission's guidelines in <u>U.S. Geothermal</u>.

As Mr. Perks explains, because this is a thermal fired-generation project, the net output capacity maintained for a 16-hour period, during the testing phase, can be sustained for a month long period. Therefore, <u>daily average net output data</u> is sufficient to demonstrate project net output capacity on a monthly basis. The review of daily average generation demonstrates that there were 38 days, during the testing phase of the project (January 1, 2005 through September 30, 2005), in which the TRC project produced net output greater than 10 aMW.

Furthermore, Mr. Dempsey provides a review of the emissions control changes contained in the Montana Department of Environmental Quality Preliminary Determination

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and concludes that those levels of emissions controls are achievable, with generation levels 1 2 above 10 aMW.

Therefore, based on the factors discussed above, the Company has determined that the 3 TRC project has the capability to generate net output level greater than 10 aMW over a 4 5 month.

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- Why are the capacity determination directives of the Commission 0. 7 important as a matter of policy?

As the Commission previously recognized in its Order No. 29632, at page 14, 8 Α. 9 in U.S. Geothermal, "...the 10 aMW threshold limit, however, must have some import, some significance if eligibility is to mean anything." The Commission specifically required a 10 11 determination, on a monthly basis, based on average or normal design conditions, that the net 12 output capacity of a project shall be no greater than 10 aMW.

It is important to consider what the Commission meant by "average or normal design 13 conditions." The Company believes that the Commission intended that the full capability of 14 15 the project be evaluated. The Commission did not say that the net output determination is based upon the discretion of the operator to voluntarily reduce output. There are many 16 factors that are under the control of the operator of a "fueled" project that allow net output to 17 18 be adjusted up or down at the discretion of the operator. A capacity determination is to be based upon the capability of the project equipment and not on decisions that the operator may 19 20 make in order to reduce output.

The Commission's prior guidance is important both in this case and for other projects 21 going forward. To rely on a determination of capacity that is based upon anything other than 22 the design capacity or overall capability of the project equipment potentially opens the door 23

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to qualification of a project of an even greater capacity size for published avoided cost rates.
If a utility were to consider an operator's <u>willingness</u>, by contract or otherwise, to restrict fuel
input, adjust the mix of fuel input, shut down for periods or time, or otherwise rely on the
operator's flexibility to simply put an artificial cap on output (below the capability of the
equipment), it would undermine the Commission's policy directive to limit qualification to
those projects of 10 aMW of less.

Furthermore, if project size were based upon project operator's willingness, by contract or otherwise, to only produce a net output of 10 aMW or less, then there would be no need for a utility to make a capacity determination based on the project equipment design capability. Simply stated, the 10 MW threshold limit would <u>not</u> "have some import, some significance if eligibility is to mean anything." (See <u>U.S Geothermal</u> at p. 14.) The requirement to make an initial capacity determination would essentially become moot.

Q. What are potential consequences of basing PURPA contracts on a project
 owners "willingness" to artificially restrict generation output to a level of 10 aMW of
 lower?

A. TRC witness Busch states at page 6, lines 14-15 of his pre-filed direct testimony that "[t]he plant does have the capability to throttle down its output in the unlikely event that average generation would near 10MW average per month." TRC witness Underwood similarly states at page 15, lines 9-10 of his pre-filed direct testimony that "TRC has the ability to reduce or shut down, plant generation to ensure that delivered load will never exceed 10 aMW."

22 Once an over 10 aMW PURPA project owner has executed a PURPA contract based 23 on their "willingness" to restrict net output to 10 aMW, it may be difficult, as a practical

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1 matter, for the utility to effectively enforce that restriction. Such contractual arrangements 2 may encourage either on-system or off-system projects to sign such agreements in order to 3 get the first 10 aMW sold to the utility under PURPA and then later, after the contract is 4 signed, to make power sales with the balance of the power into the wholesale market. The 5 utility would then be put to the burden of enforcing the contract and proving damages in any 6 later action based on breach of contract.

7 Therefore, it is important that the initial project size be determined using consistent 8 criteria based on the capability of the equipment and not on the project operator's 9 willingness, by contract or otherwise, to limit the amount of power sold to the utility.

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# Q. Would you please summarize your testimony.

Yes. This Commission's prior directives in the U.S. Geothermal case 11 A. emphasize that the 10 MW threshold limit has "some import, some significance if eligibility 12 is to mean anything." The utility is to make initial capacity determination, and to assess 13 whether the facility is eligible for published PURPA rates. Avista has done that in this case, 14 carefully and after reviewing available documentation and has reached an informed judgment 15 16 that the project can generate in excess of 10 aMW in a month under normal or average design conditions. The alternative, of course, to a careful utility review of the project is to simply 17 allow the project to "self-certify" that it is not capable of producing in excess of 10 aMW. 18 This, however, would remove all effective review and oversight of the initial capacity 19 determination, and could invite future abuses of the process. 20

21 In this case, the Company has discharged it responsibilities to make a capacity 22 determination in accordance with the Commission's prior directives.

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

Peterson, Di 14 Avista Corporation A. Yes it does.

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