In the Matter of the Application of PacifiCorp for a Certificate of Convenience and Necessity Authorizing Construction of the Currant Creek Power Project

Docket 03-035-29

DPU Exhibit 2

Direct Testimony of Andrea Coon
Division of Public Utilities

February 4, 2004

Q. Please state your name and business address for the record.

A. My name is Andrea Coon. My business address is 160 East 300 South, SLC Utah.

Q. For which party will you be offering testimony in this case?

A. I will be offering testimony on behalf of the Utah Division of Public Utilities.

Q. What is your position and duties with the Division of Public Utilities?

A. I am a Utility Analyst with the Division of Public Utilities. I am a member of the Energy section, whose responsibilities lie in regulating Utah's energy oriented utilities.

Q. What will be the general area of your testimony?

A. I will be offering testimony on:

1. Whether PacifiCorp is in need of new generating plant to meet current and future demand in a reliable manner.
2. Whether future demand is likely to continue and to lead to higher capacity needs.
3. If additional capacity is needed, whether the proposed Current Creek facility meets those needs.
4. Whether or not the proposed facility would provide benefits to Utah ratepayers.
5. Whether all necessary permits have been obtained.
6. Whether the proposed facility meets other terms for a Certificate of Convenience and Necessity such as: whether or not the proposed detrimentally competes with other Utah public utilities, whether the

construction is consistent with state policy on growth, whether the interests of the public were considered, and other issues as necessary.

I will not be addressing the bidding process under which Current Creek was selected as the preferred generating facility, nor whether or not the selected facility is least cost to ratepayers; Dr. William Powell will address these areas on behalf of the Division of Public Utilities.

Needs Analysis

Q. How did you go about determining whether or not PacifiCorp is in need of new generating plant to meet its demand?

A. The first thing that I did was to consult PacifiCorp's 2003 Integrated Resource Plan (IRP). Chapter 2 of the IRP gives an overview of what PacifiCorp's current load resource position is as well as what is expected going forward. PacifiCorp expects that its loads will continue to grow, based on historical load growth numbers, but that its available resources will decrease due to several factors including plant retirements and contract expirations. Taking into account both the expected changes in load and resources, PacifiCorp is expecting significant resource shortages in the next ten years. These expectations appear to be reasonable.

Q. Why do you feel that the IRP is a good resource to consult in order to determine future capacity needs?

A. For the first time in some years, PacifiCorp has a filed IRP that has been acknowledged by the Utah Public Service Commission as being a reasonable plan going forward. As such the 2003 IRP is the best place to get a clear indication of what PacifiCorp believes its load and resource balance will be going forward.

Q. Are the conclusions reached in the latest PacifiCorp IRP consistent with those reached in past IRPs?

A. As far as the need for capacity is concerned, yes. As far back as RAMPP-4, the last previous IRP acknowledged by the Utah Commission, PacifiCorp was showing the need for additional capacity to be built by 2002, when using a 12% reserve margin. RAMPP-5 and RAMPP-6, neither of which were acknowledged by the Utah Commission, also showed that PacifiCorp was short on capacity needed to meet its summer peak load requirements, based on a 10% reserve margin. The new Gadsby peaking units as well as the contracted West Valley units have filled at least part of the need demonstrated in those past IRPs.

Q. Why is understanding PacifiCorp's load and resource balance important in determining need for future generating plant.

A. PacifiCorp's load and resource balance is important in determining the need for new generating resources in a couple of ways. First, PacifiCorp is mandated to supply reliable service to its Utah customers. A shortage of capacity on a going forward basis would put this reliable service at a greater

risk than if the available capacity met the expected load with some excess. This reserve could be called into use in case of plant failure, extreme weather, or other related circumstance. For the 2003 IRP, PacifiCorp compared its resources against its expected load and then added a 15% reserve margin to be used in case of one of the above contingencies. Therefore, the load and resource balance numbers in the IRP are aimed at providing reliable service.

Second, PacifiCorp is also expected to supply this service at reasonable costs. As we witnessed in 2000, a shortage of capacity, which forces an electric supplier to rely heavily on markets to fill the gap, also exposes ratepayers to enormous amounts of market risk. In order to supply service at reasonable costs, it appears to be better to have a large part of the demand covered by existing resources, be it plant or long term contract, instead of relying on the market for large blocks of power during particularly volatile time periods, such as summer daytime hours. The 2003 IRP also took risk into account when selecting resources that would lead to benefits to ratepayers. Due to the fact that the Utah Commission has acknowledged the IRP, it is reasonable to accept the assumptions that PacifiCorp made in order to reach its load resource balance numbers for at least the near future. The load and resource balance facing PacifiCorp going forward is one that shows increasing gaps over time as load increases, old plant is retired, and long term power contracts expire. In fact, over the next five years, through 2009, PacifiCorp shows the gap in its load resource balance growing to over 800 MW during

the coincident peak hour on the system. If a 10% reserve margin is to be maintained, the gap grows to around 1700 MW by 2009.[1]

Q. From the above testimony, it is clear that you concede that PacifiCorp will be resource short in the future. When will these capacity shortages begin to occur?

A. The Division does conclude, based on our IRP analysis, that PacifiCorp will be resource short in the near future. Even if the load forecasts are inaccurate, the system is still going to be showing a sizeable resource gap during the Coincident Peak by 2007 without any reserve margin. When taking a conservative reserve margin of 10% into account, the gap by 2007 grows to 1128 MW. Of course, the project in question is meant to address a gap that occurs in 2005. Using the same 10% reserve margin, PacifiCorp is showing a resource gap of 947 MW by 2005. Considering that summer 2005 is only about 18 months away, it is unlikely that the load forecasts will be sufficiently inaccurate to account for the entire projected gap.

Q. Does the gap occur over a large range of hours and seasons?

A. The gap in 2005 is only present on the east (Utah) side of the system during certain months of the year (summer peak) and only during high load hours. PacifiCorp has indicated that transmission constraints on the east side of the system make it difficult to bring power in from very far outside of the Wasatch Front in order to serve the Utah loads.

[1] 2003 Integrated Resource Plan, Appendix F, page 299

Q. Forecasts should show changes as conditions change through time. Has PacifiCorp updated the forecasts that showed a power shortage for the summer 2005 time frame?

A. Yes, PacifiCorp filed an IRP update with the Commission in October 2003 that used a newer load forecast than had the acknowledged IRP. The newer forecast increased the rate at which PacifiCorp's load, particularly that in Utah, is expected to grow over the next 20 years. The update also took into account "worst case" outages to determine the resource gap.[2] This update showed that PacifiCorp believes that the load/resource balance will be worse than previously expected in the very near future. Not taking into account the possibility of outages during peak periods, PacifiCorp will still find itself around 500 MW short in the Utah load center during the peak hours of the year, typically in July and August by 2005.

Q. Which of the aforementioned load forecasts did you use to make your analysis of the merits of this application?

A. I primarily used the forecasts contained in the Commission acknowledged January 2003 IRP. I did consider the forecasts contained in the IRP update, but did not give as much weight to the data therein because it has not been thoroughly reviewed and analyzed by Division analysts or acknowledged as acceptable by the Commission. The update was used more of a check on continuity. To this end, I also examined growth forecasts from the Governor's Office of Planning and Budget that are utilized by the state planners. Many of these forecast numbers can be found in the 2003 and 2004 Economic Reports

[2] The forecast planned for a major plant outage (550 MW) to occur at the peak.

to the Governor. These numbers were used only as a check on general continuity and reasonableness of the IRP forecast numbers. It is difficult to make a straight comparison due to the fact that the forecasts are measuring growth in areas that are not identical.

Q. Does your analysis show a clear need for capacity additions through some means in the future?

A. Yes. Although there is some argument over how much of a reserve margin is necessary to enable PacifiCorp to provide reliable service, the forecasts are showing that PacifiCorp should add resources to serve its load during peak periods even if large outages do not occur during inopportune hours.

Plant Alternatives

Q. Does the proposed Current Creek project fill the needs as identified above?

A. Not entirely. The proposed project is being built in two phases. The first phase, a single cycle plant with a nameplate rating of 280 MW, is intended for use in the summer of 2005. According to PacifiCorp's estimates, the Company could be as much as 500 MW short, not counting unplanned outages based upon at least 10% reserves. Even if the proposed plant is completed on time, the Utah load could still be more than 200 MW greater than the available resources, even if outages do not occur. Also, because the proposed plant is an air-cooled plant, its efficiency will be affected by ambient temperature, so the amount of useable electricity produced by the plant will

actually decline slightly in the hottest, highest demand hours of the summer. Phase Two of the project will increase the capacity of the plant to 525 MW, but even this increase will not entirely close the projected gap due to load growth, contract expirations and plant retirements that are due to occur in the next 2-5 years. According to the IRP, even with the second phase of Current Creek completed on time, the load resource gap could be 1000 MW when using a 10% planning margin.[3]

Q. Was the Current Creek project or similar generic project identified as PacifiCorp's best alternative as the next plant to be built in the selected IRP portfolio?

A. Well, yes and no. Diversified Portfolio I (DPI), which was the portfolio selected by PacifiCorp as the best choice shows 225 MW of capacity being added on the east side in fiscal 2006 (April 1, 2005-March 31, 2006). This capacity was actually in two pieces: the first is a 25 MW contract purchase and the second is 200 MW of peaking capacity. SCCT's (Simple Cycle Combustion turbine) were chosen to fill the gap in 2005, probably due to operating characteristics as well as the necessary lead-time for building. The Current Creek project will be a peaking resource in summer 2005, but it is larger than what DPI calls for. The project does, however, meet the needs as expressed in the IRP update.

The second phase of the project would involve converting the SCCT into a CCCT (Combined Cycle Combustion Turbine). This conversion would supply approximately an additional 245 MW of capacity to the east side of the

[3] 2003 Integrated Resource Plan, Appendix F, page 299

system. The CCCT will also be more efficient, with a projected heat rate of 7,190 Btu/kWh (9,370 for the Duct firing 105 MW) as compared to 10,500 Btu/kWh for the SCCT. The project as proposed would continue to provide purely peak power, as called for in the IRP, in the form of duct burning as well as efficient power that can be cycled daily to meet demand in the form of the CCCT. This phase could also match needs identified in later years as the load on the east side outgrows its resources for more hours of the day. DPI did identify base load needs by fiscal 2008, at least part of which could be filled by the CCCT expansion.

Q. What are the risks associated with Current Creek?

A. Current Creek has both positive and negative aspects when looking at risk. Current Creek has lower environmental risk than would a coal plant. It is also a peaking type of resource that could be used to firm up wind resources and further decrease environmental impact. The gas-fired plant will also provide PacifiCorp with a little more diversity in its overall portfolio. But due to the fact that it is a gas-fired plant, it is also has much more exposure to price volatility of its inputs. The natural gas market is unsettled at best. This puts ratepayers at additional price risk that would not necessarily exist with other types of plant.

Q. What benefits would Utah customers obtain from the proposed Current Creek facility?

A. There are several benefits that the Division believes could accrue to Utah ratepayers from the proposed plant. First, according to PacifiCorp testimony,

the proposed plant is adjacent to adequate transmission capacity, protecting against blackout risk that could arise due to demand along the Wasatch Front outstripping the ability of the currently operating transmission system to supply it.[4] Also, this plant as proposed lies inside of Utah and would alleviate the need to import power from out of state over already busy high voltage lines.[5]

Second, the 2003 IRP called for the addition of 1400 MW of wind generation into the PacifiCorp system over the next decade. Unfortunately, due to the fact that wind is a variable resource, it must be firmed up by some other resource. Gas-fired generation is a perfect fit for this purpose due to its ability to be quickly and easily ramped up and down. Using gas to firm up wind generation would also cut down on variable costs more than using coal due to the operating characteristics of coal plants in general. The Division believes that given the need to add wind resources, gas-fired generation is a good way to firm up supply while discovering the actual operating characteristics of the added wind resources.

Third, the Division believes that gas-fired generation is a good way to decrease environmental risk to PacifiCorp customers by providing portfolio diversification. If in the near future, carbon taxes or other related environmental regulations were put into effect, a diversified portfolio would decrease the price impact that PacifiCorp customers would be likely to feel.

[4] Testimony of Rand Thurgood, page 8, lines 10-12; page 9, lines 16-17
[5] Testimony of Jon Cassity, page 4, lines 4-9

Fourth, due to the fact that for at least the next couple of years, PacifiCorp is mostly in need of power during on peak hours on the east side of the system, a gas-fired plant would provide the ability to cycle the plant down if the power was not needed for a few hours or a few days. Coal resources are much less forgiving of frequent cycling.

Fifth, upon completion of the second phase (conversion from an SCCT to a CCCT), PacifiCorp customers would benefit by being exposed to a lower amount of gas-price risk as the plant efficiency increases. The proposed plant will have much better efficiency than either the Gadsby or West Valley peaking units or the Gadsby Steam units.

Sixth, due to the fact that the plant is air-cooled rather than water-cooled, Utah ratepayers will have less of a risk associated with obtaining water to use in the plant during drought years. In the past few years of heavy drought, PacifiCorp has had to pay for additional water to keep some of the large coal plants in operation.[6]Additional water needs would open ratepayers up to price risk as water becomes more expensive in Utah due to rising culinary and industrial demand.

Finally, Utah ratepayers will benefit by an increased amount of protection from market price risk. As the Commission no doubt remembers, market price risk for load not covered by long-term resources can be large. Utah ratepayers are still paying in part for the market price risk from 2000. Even though costs for Utah ratepayers do increase with new plant, the increase can be stable, not volatile.

[6] See PacifiCorp 2002 Depreciation Study

Q. Does the Division feel that this plant type is a good choice, given the relative risks and benefits?

A. The Division believes that portfolio diversity can lower risk and overall cost to ratepayers and feels that a gas-fired plant is a good choice for ratepayers.

Permits

Q. Has PacifiCorp obtained all of the requisite permits for constructing the Current Creek plant?

A. No. According to PacifiCorp's response to D.P.U. data request 3.6, neither the air permit nor the water rights have been obtained from the pertinent state agencies. PacifiCorp has, however, received approval from the Division of Water Rights to drill wells on the Current Creek site. Both of the permits have been applied for and are going through the regular agency approval process.

Q. Does this situation change your recommendations as to whether the Certificate should be awarded at this time?

A. Not materially. I would, however, ask the Commission to account for this contingency if it decides to issue the Certificate. If the necessary permits are not issued in time to allow for a summer 2005 completion, the economics of the project upon which this analysis was based will be materially altered, perhaps altering the conclusions reached herein. This type of condition would be similar to that issued in conjunction with the recent Gadsby Certificate of Convenience and Necessity.

Other Considerations

Q. In your opinion, will the Current Creek project compete detrimentally with other Utah public utilities?

A. No. This plant is primarily intended to serve PacifiCorp's loads. It should not materially affect the ability of other Utah public utilities to engage in their respective businesses. This is not to insinuate that the new plant will in no way compete with any other business, but the other public utilities regulated by the Commission should be unaffected.

Q. Is the proposed construction consistent with state policy on growth?

A. Yes, specifically as it relates to energy policy. Former Governor Leavitt set out as specific policy that Utah will have reliable, affordable, sustainable, and clean energy. The priorities relate very closely to the benefits to ratepayers outlined above. First, ratepayers must have access to an adequate supply of energy. The proposed plant is a step in this direction. Second, ratepayers must have reasonable prices associated with this supply of energy. The proposed plant will decrease the amount of energy that PacifiCorp must purchase at market prices and will hopefully lead to lower purchased power costs to offset whatever costs of the plant that will be included in rates. Third, the policy called for diversification and flexible supply. The proposed plant will lead to diversification of the PacifiCorp's coal-heavy east side portfolio of resources. As stated above, it will also provide flexibility to the system in the forms of

flexible operation necessary for load following and enabling the system to absorb intermittent renewable resources such as wind.[7]

Q. Were the interests of the public considered in this proceeding?

A. Yes. The Division of Public Utilities has conducted its analysis with the interests of the Utah ratepayers in mind. In the form of a Commission acknowledged IRP, the Division also utilized a tool in analyzing this issue that had previously been examined in depth by a variety of ratepayer groups and ratepayer advocates. The Division also took note of possible risks and benefits to Utah ratepayers that could arise from building this facility. We believe that it will reasonably serve the public interest.

Q. Does this conclude your direct testimony in this case?

A. Yes, it does.

[7] Statement on Utah's Energy Policy by Governor Michael O. Leavitt, March 14, 2001