Docket No. 10-999-01

Public Utilities and Technology Interim Committee

Utah State Legislature

Renewable Energy Targets

2011 Progress Report

For Electrical Corporations

Submitted in Response to

Utah Code Ann. § 54-17-604(6)

By

Utah Division of Public Utilities

December 29, 2010

State of Utah
Department of Commerce
Division of Public Utilities

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TRANSMITTAL LETTER

To: Public Utilities and Technology Interim Committee
Representative Michael Noel, Chairman
Senator Stephen H. Urquhart, Co-Chairman
Utah State Legislature
State Capital Complex
Salt Lake City, UT 84114

From: Division of Public Utilities

Thad LeVar, Acting Director
Artie Powell, Manager, Energy Section

Date: December 29, 2010

Dear Chairman Noel,

Attached is the progress report from the Division of Public Utilities regarding renewable energy targets for electrical utilities. This report is in response to Utah Code Ann. § 54-17-602 which specifies target amounts of renewable energy by 2025 for electrical utilities in Utah.

The Division acknowledges and appreciates the effort of Mr. Mike Peterson from the Utah Rural Electric Association as well as representatives from Rocky Mountain Power for their help and support in compiling this information. The primary contact at the Division of Public Utilities is

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RENEWABLE ENERGY TARGETS
2011 PROGRESS REPORT
FROM
DIVISION OF PUBLIC UTILITIES

EXECUTIVE SUMMARY

Utah Code Ann. § 54-17, Part 6, covering privately owned electric utilities and cooperative associations, established a target of 20 percent renewable energy generation by the year 2025 for electrical corporations. In pursuit of this target, Utah electrical corporations are required to submit renewable energy progress reports every few years until 2025. The electric companies are to report actual and projected renewable energy, qualifying energy for this target, cost or cost-effectiveness information, as well as describe issues and conditions, and make recommendations. These reports are submitted to the governing bodies of the various corporations. The statute also requires the Division of Public Utilities to provide the Legislature with a summary report on the progress made by these electrical corporations. The Division of Public Utilities submits this report in response to that requirement.

PacifiCorp filed its carbon reduction progress report on December 31, 2009, with the Utah Public Service Commission. Its progress report is included here as Appendix A. To develop the carbon reduction progress report for cooperative associations, the Division worked with the Utah Rural Electric Association (UREA). UREA consulted with its members to develop its progress report, which is included here as Appendix B. From PacifiCorp's progress report, it appears well positioned to meet or exceed the 20 percent target by the year 2025. Deseret members are in a unique situation, with surplus energy and adequate resources to meet foreseeable future demand. UREA also suggests that the transition to renewable energy will be long with many challenges. UREA also identified a number of issues or conditions, including cost, technology, and transmission. UREA also made a number of recommendations to address the issues and conditions it faces including, ensuring that policy makers continue to consider the cost-effectiveness of meeting future renewable energy targets.

INTRODUCTION

Utah Code Ann. § 54-17-602 specifies a target amount of renewable energy beginning in the year 2025. To the extent that it is cost effective to do so, annual retail electric sales of each electrical corporation shall consist of qualifying electricity or renewable energy certificates to at least 20 percent of adjusted retail sales. This section of the Code also addresses how the amount is calculated and the cost-effectiveness basis for this amount. Utah Code Ann. § 54-17-604 "Plans and reports," directs electrical corporations to: "develop and maintain a plan for implementing Subsection 54-17-602(1), consistent with the cost-effectiveness criteria." These plans or progress reports are to be filed by January 1 of each of the years 2010, 2015, 2020, and 2024 either with the electrical cooperative association's board of directors or with the Utah Public Service Commission, if the electrical corporation is other than an electrical cooperative association. Subsection 54-17-604(6) then directs "By January 1 of each of the years 2011, 2016, 2021, and 2025, the Division of Public Utilities shall submit to the Legislature a report containing a summary of any progress report filed under Subsections (2) through (5)." The Division's Summary Report is the summary of the progress reports from PacifiCorp and from the Utah Rural Electric Association.

BACKGROUND

Utah Code Ann. § 54-17-604 requires electrical corporations to develop and maintain a plan for implementing a 20 percent renewable energy target and is to be consistent with the cost-effectiveness criteria of Subsection 54-17-201(2)(c)(ii). Section 602 requires, beginning in 2025, that each electrical corporation in Utah shall have at least 20 percent of its annual retail electric sales consist of qualifying electricity or renewable energy certificates. (See subsection 54-17-602(1)(a).) These retail electric sales are calculated based upon adjusted sales 36 months before the year 2025 target is calculated. (See subsection 54-17-602(1)(b).) Notwithstanding the 2025 targets, the annual target from one year to the next may not exceed the greater of 17,500 megawatthours or 20 percent of the prior year's amount. (See subsection 54-17-602(1)(c).)

The plans or progress reports are to be filed either with the electrical cooperative association's board of directors or with the Utah Public Service Commission (Commission), if the electrical corporation is other than an electrical cooperative association. The plans or progress reports are to be filed by January 1 of each of the years 2010, 2015, 2020, and 2024.

PacifiCorp filed its carbon reduction progress report on December 31, 2009, with the Commission. PacifiCorp's carbon reduction progress report is included here as Appendix A and is available on the Commission's website as part of Docket No. 09-035-117 (http://www.psc.state.ut.us/utilities/electric/elecindx/2006-2009/09035117indx.html).

To develop the carbon reduction progress report for cooperative associations, the Division worked with the Utah Rural Electric Association (UREA). Letters were sent to each UREA member, and the Utah Division of Public Utilities consulted with Mr. Mike Petersen, Executive Director of UREA. Mr. Peterson of UREA offered to develop the cooperative association progress report and coordinate member responses into one document, which is included here as Appendix B.

While both PacifiCorp and the cooperative associations are directed by legislation to submit progress reports, they represent different parts of the electric industry. PacifiCorp, with 800,000 customers in Utah, also serves portions of the states of California, Idaho, Oregon, Washington, and Wyoming.

Deseret Generation & Transmission (Deseret) was formed in 1978 and consists of six rural electric cooperatives. They are:

- Bridger Valley Electric Association, Mountain View, Wyoming
- Dixie Escalante Rural Electric Association, Beryl, Utah
- Flowell Electric Association, Flowell, Utah
- Garkane Energy, Loa, Utah
- Moon Lake Electric Association, Roosevelt, Utah
- Mt. Wheeler Power, Ely, Nevada

Each member obtains all of its power from Deseret. In a project to provide electric power for the cooperatives, the Bonanza Power Plant was completed in 1985. Growing electric power requirements, however, has dampened and in a span of 2 years Deseret went from needing substantially more power to having surplus power.

SUMMARY OF PROGRESS REPORTS

Both the PacifiCorp and UREA reports cover specific sections of 54-17-604. The specific sections of 54-17-604 covered in the two progress reports and presented in the Division's Summary Report are:

- Actual and projected amount of qualifying electricity through 2025 (54-17-604(3)(a)).
- Source of qualifying electricity (54-17-604(3)(b)).
- Analysis of cost-effectiveness (54-17-604(3)(c)(ii)) or estimated cost of achieving the target (54-17-604(3)(c)(ii)).
- Conditions impacting the renewable energy source and qualifying electricity markets (54-17-604(3)(d)).
- Recommendations (54-17-604(3)(e)).
- Other information (54-17-604(3)(f)).

For each of the Section 54-17-604 items, this Summary Report first provides a brief overview of the issue, and identifies how the individual progress reports responded to the specific item. PacifiCorp's approach to the issue is then summarized first, followed by the Utah Rural Electric Association's approach to the issue.

Actual and projected amount of qualifying electricity through 2025: 54-17-604(3)(a).

Utah Code subsection 54-17-604(3) specifies the contents of the progress reports to the Utah legislature. Subsection 54-17-604(3)(a) specifies that the progress reports shall report actual and projected amounts of qualifying electricity through 2025. Qualifying electricity is defined in subsection 54-17-601(7) as electricity generated from a renewable energy resource on after January 1, 1995. Additionally, the renewable energy source must be located in the Western Electricity Coordinating Council (WECC), or must be deliverable to the electric utility with its renewable energy attributes available for application to the Utah targets.

PacifiCorp addresses its actual and projected renewable resources in Exhibit A of its carbon reduction report, which is included here as Exhibit A of Appendix A. PacifiCorp forecasts retail sales of about 28,512 gigawatthours (GWh) for the year 2022. This forecast was an extrapolation of the PacifiCorp forecast in its 2009 General Rate Case. Adjusted retail sales are then calculated from this amount by subtracting generation from qualifying zero emission generation as well as the amount from Demand Side Management programs. This results in adjusted retail sales of 24,672 GWh. Calculating the requirement for twenty percent renewable energy results in an estimated amount of 4,934 GWh. In comparison to this amount, PacifiCorp reports estimated eligible qualifying electricity in 2025 of about 53,585 GWh, which includes both estimated generation and banked renewable electricity from qualifying renewable energy resources. Based on these representations, it appears that PacifiCorp is well positioned to meet or exceed the 20 percent target by 2025. In future reports, the Division will ask PacifiCorp to identify separately the amounts attributed to renewable generation and renewable energy credits.

Every three years Deseret prepares an Integrated Resource Plan (IRP). The IRP provides a guide for Deseret and its Members to determine future planning needs. Each Deseret Member seeks public involvement, holds public meetings, and has its board of directors approve the IRP. The most recent IRP available from Deseret is from December 2007 and presents forecasts through the year 2013.[1] The next, updated Deseret IRP is being updated by the Utah Cooperative Associations and will be available in 2011.

The Deseret IRP load forecasts use specific Member customer load, statistical analysis, and demographic information to develop forecasts for each individual cooperative. The load forecasts for each Member Cooperative are then aggregated into a combined Deseret member load forecast. Deseret forecasts excess energy and capacity through the year 2025 and also expects to have adequate resources to satisfy Member future load growth. Deseret and its Members do not foresee the need for new or additional capacity over the IRP planning horizon.

Deseret members are in a unique situation, with surplus energy and adequate resources to meet foreseeable future demand. Therefore, consistent with 54-17-602(3)(a)(b)(c), Deseret Members would not be required to substitute qualifying electricity for existing resources owned or contractually committed.

[1] Deseret's 2007 IRP is available for review upon request from either the Division or the UREA.

Source of qualifying electricity: 54-17-604(3)(b).

PacifiCorp addresses its actual and projected renewable resources in Exhibit A of its carbon reduction progress report, which is included here in Appendix A. Exhibit A lists the sources of generation by resource used for the adjustment to the retail sales for the target year. It is noted that Klamath River generation was not used in the retail sales adjustment for the target year, since it was assumed that the Klamath River facilities will be decommissioned and no longer in service.

Deseret and its Members have surplus energy resources and are therefore not required to purchase additional qualifying electricity. Nevertheless, Deseret and its Members continue to investigate different renewable energy options. Deseret and its Members have identified customer interest in renewable energy. As an example, the Deseret Member Dixie Escalante worked with the City of St. George to build a 100 kW solar facility, with an additional 150 kW to be installed. In addition, Section 54-17-602(6)(b) allows cooperative associations to count against the target either qualifying electricity (generated or acquired) or credits for a program for retail customers to voluntarily contribute to a renewable energy source. Deseret Members promote the "Green Way" program, in which customers pay a premium on their utility bill to support renewable energy production.

Analysis of cost-effectiveness of achieving the target: 54-17-604(3)(c)(i) or estimated cost of achieving the target: 54-17-604(3)(c)(ii).

PacifiCorp and the Utah Rural Electric Association addressed this Subsection in different ways. PacifiCorp is governed by Section 604(3)(c)(i), which requires "an analysis of the cost-effectiveness of renewable energy sources for other than a cooperative association." The Utah Rural Electric Association provided "an estimate of the cost of achieving the target for an electrical corporation that is a cooperative association" as identified by Section 604(3)(c)(ii). Subsection 54-17-602(2) specifies cost-effectiveness and how it is determined: for Subsection (2)(a), cost-effectiveness "for other than a cooperative association is determined in comparison to other viable resource options using the criteria provided by Subsection 54-17-201(2)(c)(ii), and in Subsection (2)(b) cost-effectiveness for a cooperative association "is determined using criteria applicable to the cooperative association's acquisition of a significant energy resource established by the cooperative association's board of directors."

PacifiCorp uses an integrated resource planning (IRP) process as a resource acquisition framework. The PacifiCorp IRP is a strategic roadmap that results in a preferred portfolio that is intended to identify low-cost resources, balance risk, and address environmental concerns. PacifiCorp's 2008 IRP is available at http://www.pacificorp.com/es/irp.html. PacifiCorp is preparing its 2011 IRP, which is scheduled to be completed in March 2011.

PacifiCorp maintains it has been successful in acquiring cost-effective renewable resources through several different acquisition approaches. Its renewable project acquisitions are evaluated using the "alternative cost for compliance" (ACC) methodology. The ACC methodology is described in detail in PacifiCorp Carbon Reduction Report, which is found in Appendix A attached to this report, and in its most recent IRP.

Deseret and its Member system boards of directors, meet on a regular basis and review purchased power prices and various proposals by renewable energy developers. Dixie Escalante, in particular, regularly communicates the findings of its solar project to other Deseret Members. Of note, Dixie Escalante submitted a report to the Public Utilities and Technology Interim Committee on June 23, 2010. That report is included as Appendix C. The Utah Rural Electric Association, in its Progress Report, uses the Dixie Escalante cost information as a reasonably good estimate for the renewable energy cost premium for achieving the target for all Deseret Members.

Conditions impacting the renewable energy source and qualifying electricity markets: 54-17-604(3)(d).

Both PacifiCorp and the Utah Rural Electric Association (UREA) identified several conditions that affect renewable energy sources. These conditions cover cost, policy, and technology issues.

PacifiCorp identified production tax credits, transmission, cost implications, Federal carbon legislation, and other energy policy directives as critical issues as of December 31, 2009, affecting renewable energy resources and qualifying electricity markets.

The renewable energy production tax credit (PTC) was extended through December 12, 2012. While the extension to near the end of 2012 will aid the acquisition of new renewable energy sources, PacifiCorp also points to the uncertain future of the PTC. PacifiCorp maintains that an uncertain future of the PTC will affect how many economic renewable resources are available for its system before the expiration date. Regarding transmission, the construction of new infrastructure to connect remote renewable resources will be necessary to satisfy new mandates. This generation, however, may have a delivery premium as well as an additional system integration cost for intermittent renewable energy. As an intermittent and sometimes highly variable resource, renewable energy may require additional costs for dispatching and integrating. PacifiCorp identified the possibility of Federal carbon legislation and its potential effect on its operation. Finally, PacifiCorp notes that it operates in six states, four of which have differing provisions concerning renewable resources, and that the Company faces the challenge of differing state energy policy directives.

The UREA identified three primary conditions that affect renewable development: renewable energy's cost, its intermittent nature, and the required transmission necessary to deliver it. Cost concerns, for example, by renewable developers have led Congress and the states to continue existing subsidies (such as the federal production tax credit), as well as establish mandates for utility renewable acquisition. UREA references an Energy Information Administration 2007 study that identified subsidies for solar and wind that were about two orders of magnitude higher than subsidies for coal and natural gas (approximately \$25 per megawatthour as opposed to \$0.25-\$0.50 per megawatthour). Not only are renewable resources considerably more expensive, UREA also points out the intermittent nature of these resources. UREA concludes that renewable resources are fundamentally intermittent, at unpredictable times and in unpredictable quantities. As another important condition, transmission is also identified as a key piece of the renewable energy puzzle. Transmission expansion necessary to support 20 percent of the nation's energy from wind energy, may require 15,000 miles of new high-voltage transmission lines, cooperation by most states east of Colorado, and the coordination of eight transmission planning authorities. In addition, transmission siting varies from state to state, even recognizing the federal backstop, and is complicated by land ownership and environmental issues. Even solving the many transmission siting issues, leads UREA to ask who will pay the billions of dollars for new transmission lines, the states with wind resources or customers in states purchasing renewable energy? New transmission lines over 15,000 miles and up to $5 million per mile, and traversing multiple jurisdictions, pose difficult cost allocation questions. An additional complication for transmission planning will be the intermittent nature of renewable energy sources.

Recommendations for suggested legislative or program change: 54-17-604(3)(e).

The carbon reduction progress reports were current as of December 31, 2009, and it must be noted that these recommendations were made as of that time. The Utah Division of Public Utilities anticipates that additional recommendations will be made in future progress reports.

PacifiCorp made no specific recommendations in its progress report. However, it did note in its recommendations section that cost-effectiveness of renewable resources is site-specific but that acquiring renewable resources for the 2025 target date has provided and will continue to provide a "benefit to its customers."

The Utah Rural Electric Association (UREA), in contrast, made a number of recommendations as of December 31, 2009, in its progress report. UREA stressed in its recommendations that policy makers place a priority on renewable resource cost-effectiveness. UREA noted that "renewable energy," without sound energy policy well-grounded in reality, may not be tenable. While not opposed to the transformation to renewable resources, UREA maintains this transition will be long and difficult.

In addition, UREA made a recommendation concerning the three rural Electric Cooperative Associations that are headquartered outside the state of Utah and are not members of Deseret, but serve customers in Utah. UREA identified these Electric Cooperative Associations as: 1) Empire Electric Association, Cortez, Colorado; 2) Raft River Electric Cooperative, Malta, Idaho; and 3) Wells Rural Electric Company, Wells, Nevada. All three have contracts to purchased power outside Utah but have less than 3,000 Utah customers. UREA recommended, under 54-17-604(3)(e), a provision of 54-17-604 similar to the net metering language of 54-17-107. UREA suggested this provision be along the lines of:

> "An electric corporation with fewer than 5,000 customers in this state that is headquartered in another state is in compliance with this chapter if the electrical corporation conforms to any applicable cost-effective renewable energy provisions/ goals of the appropriate authority in the state in which the electrical corporation's headquarters are located."

Other information: 54-17-604(e)(f).

By referring only to electrical corporations other than cooperative associations, this Subsection concerned PacifiCorp and not the cooperative associations.

PacifiCorp stated in its Carbon Reduction Progress Report that its 2008 IRP is a source of relevant information for its Carbon Reduction Progress Report. PacifiCorp's 2008 IRP included several renewable resource scenarios in an effort to assess compliance with different state renewable mandates. Since PacifiCorp operates in six states, it must often balance load and regulatory across all six jurisdictions. PacifiCorp's 2008 IRP was filed on May 28, 2009.

CONCLUSION

Given PacifiCorp's projections of its loads and qualifying electricity for 2025, PacifiCorp is well positioned to meet a target of 20 percent renewable energy by 2025. The electric corporations under UREA expect to have surplus energy and capacity for the foreseeable future and, therefore, do not believe that it would be cost effective to pursue additional resources at this time. However, the UREA and its members are not opposed to renewable energy per se and will continue to evaluate its costs effectiveness through its IRP planning process.

Questions concerning this report can be directed to the Division of Public Utilities:

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Deseret Power St

Cooperative Association Progress Reports – Qualif

In accordance with Section 54-17-604, Utah Code,
behalf of the rural electric cooperatives operating i
following progress report. Part 1 details the rural c
Deseret Generation and Transmission. Part 2 cove
of Deseret, who are headquartered outside the state

Cooperative Association Progress Report, Utah Co

Part 1

Introduction:

In the early 1970's unprecedented growth hit the ut
power resources. The pri er for

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