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From: The Office of Consumer Services
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To: Utah Public Service Commission

Date: December 2, 2010

Subject: Comments on the Division's Working Group I-II Report (Docket 09-035-23)

Cc: Working Group I-II Participants

Background

On November 30, 2010, the Division filed a Working Group I-II Report (Report) with the Commission that identifies the set of issues analyzed by the task force and the Division's specific conclusions and recommendations. The Office appreciates the Division's efforts in preparing the Report and we believe it does a reasonably good job of presenting the issues analyzed by the work group and summarizing the parties' positions. As discussed in the Report, there was general agreement to increase the number of load-research meters to improve the accuracy of the coincident-peak load estimates for sampled classes. In the end, however, the Report represents the Division's views on particular key issues where there is a lack of consensus among parties. The Office has prepared comments to attach to the Report, which provide the Office's perspective on two related issues involving the Calibration and Weather Normalization of monthly peak loads in the Jurisdictional Allocation Model (JAM) and Class Cost of Service (COS) model. We also discuss a proposal that may produce a more accurate forecast of test year loads for the irrigation class.

Comments

- **Calibration**
  Calibration involves an artificial adjustment (increase) to the sampled customer classes in order to close the difference between forecasted peak loads at the class and jurisdictional levels. No adjustment is made to the classes that are interval metered. The presumption underlying calibration is that the loads forecasted in JAM are more accurate than the forecasted COS loads and the gap between the two is chiefly attributable to problems with the Company's load research data used in the COS model. Proponents contend that calibration represents a temporary solution until better load sample data is available in a few years. However, other

possible causes of the discrepancy between class and jurisdictional peak loads include:

1) The JAM state peak loads are based on regressions of historical data using normalized weather, while the COS peak loads are based on a completely different set of regression equations. Every regression analysis has a confidence interval around its estimates of the best-fit equation and an even wider prediction interval around the projection for any particular set of inputs. There is no reason to expect that the projections from two regressions will exactly match.

2) The JAM estimate of Utah's contribution to system peak does not even directly result from the regression analysis. The Company separately forecasts hourly state loads, monthly peak state loads, and monthly energy loads based on regression analysis; turns the hourly forecasts into a monthly load duration curve; shifts the curve vertically to fit the state peak and rotates the curve to fit the energy forecast; turns the load duration curve back into hourly loads; adds loads across states and selects the peak hour. There are clearly many assumptions and judgments made by the Company's forecasters, along with possibility for errors, in completing this process.

3) JAM loads are normalized for weather and other conditions, but the loads in the COS model are not weather normalized (see next section). The task force was unable to determine what portion of the difference between jurisdictional and class peak loads stems from differences in the weather normalization of loads in the JAM and COS models.

4) Certain loads are included in the JAM model but not in the COS model. When these loads are included in the COS model, there are many months when the class peak loads actually exceed the jurisdictional load (see Slide 6 of the Office's September 16, 2010 WG I-II Presentation, attached to the Division's Report).

5) Losses from wholesale transactions and power transfers through Utah may be inappropriately assigned to the Utah jurisdiction, thereby inflating Utah loads reflected in the jurisdictional model. This was one of the primary reasons that prompted the Company to abandon calibration in 2002; yet the Company has made no effort to measure these losses since that time and the working group performed no analysis of the magnitude of these losses.

6) Errors may occur in the class loads that are interval metered. In task force discussions, a company representative stated that significant errors are sometimes reported for metered loads.

Thus, there are a number of factors that potentially account for the disparity between loads in the JAM versus COS models and the "gap" cannot be ascribed exclusively to errors in the load data for the sampled classes without further analysis. This is discussed in greater detail on pages 4-10 of a September 16, 2010, OCS Presentation to the Working Group, which is attached to the Division's Report.

The Division's Report clearly indicates that the Company and Division, supported by the industrial interveners, will propose a tight calibration scheme in the next rate case that could materially impact three of the Company's largest rate schedules – Residential Schedule 1, General Service Schedule 23 and General Service Schedule 6. These three classes represent over 70% of the Company's Utah retail revenue. The Commission should require any party proposing calibration to produce substantial evidence that factually demonstrates that the gap between jurisdictional and class peak loads primarily stems from the problems with the class load samples rather than simply assume that is the case.

The Office submits that a gap between jurisdictional and class peak loads should be expected and there are currently a number of potential sources that collectively appear to contribute to the size of the gap in each rate case. All of these potential sources are equally important and require further investigation before the Commission gives serious consideration to adopting any calibration proposal.

- **Weather Nomalization**

  The Company currently weather-normalizes peak loads in the JAM model but does not weather normalize peak loads in the class COS model.[1] This discrepancy appears to be one important factor accounting for some of the difference between the jurisdictional and class peak loads. The Company asserts that it presently doesn't possess the modeling capability to weather normalize loads for COS purposes, but that a software fix is possible within two years. An interim method of weather normalizing monthly load shapes using historical ratios of class coincident peak contribution to class monthly sales was suggested by the Division and Office, but no agreement was reached on the historical time period for the data.[2]

  The Commission should order the Company to expedite the acquisition, implementation and testing of software for the express purpose of weather normalizing Utah class loads. Based on discussions with its load forecasting experts from GDS, the Office submits that this software fix could take place much more quickly that suggested by Company representatives, possibly within six months. The Commission should also require the Company to perform a weather normalization study along the lines suggested by the Division and the Office. The

[1]In its Rebuttal COS model in the last rate case (09-035-23), the Company simply used load shapes from a single year (2008) to forecast class peak loads.

[2]In working group discussions on the topic, the Division proposed 3-5 years and the Office proposed 10-20 years.

Office proposes that the Company initially use data for a 10-year period (2000-2010) in the study.

- **Irrigation Class**
  As set forth in the Division's Report, all parties agreed that producing accurate load research data for the irrigation class is problematic. Possible solutions discussed by parties ranged from 1) staying with current load research practices (Company), 2) using an average of historical irrigation load data as a basis to forecast test year irrigation loads (Division, Office) and 3) giving the irrigation class the jurisdictional average rate change in future rate cases (Office). In its Report, the Division proposes using a five-year rolling average of historical irrigation loads as a supplement to the Company's forecasts for the irrigation class. The Division recommends this approach be used on a trial basis.

  In response to the Division's proposal, the Office believes that five years may be too short of a period to normalize out short-term effects of weather variability, the 2008-2009 economic recession and crop rotations. Alternatively, we propose using a ten-year rolling average of historical irrigation loads as the primary basis for forecasting test year loads for the irrigation class. The Office recommends this approach be used on a trial basis in the next general rate case.