

## 4.0 MARGINAL COST ANALYSIS

### 4.1 Introduction

The Marginal Cost Analysis (MCA) is used for two purposes in the rate case. First, it is used to inform, but not to directly set, the price level at which BPA buys and sells in the bulk power market. For a complete description of BPA's bulk revenue forecast, *see* BPA's Risk Analysis Study, WP-02-FS-BPA-03. Second, the MCA informs BPA's rate design such that BPA's rates send economic price signals. For example, marginal costs are used as a starting point in deriving the relative levels of the monthly energy rates, and also in deriving the relative levels of HLH energy rates versus LLH energy rates in a given month.

The marginal cost in the MCA is equal to the hourly variable cost of the marginal resource for energy available at the Mid-Columbia (Mid-C) trading hub. The marginal cost is used as an indication of a market-clearing price for hourly bulk energy transactions. Therefore, it is related to the cost that BPA could experience to acquire additional energy, or the price that BPA could realize in selling surplus bulk energy. The actual cost that BPA experiences for bulk power transactions may not be exactly equal to the hourly market clearing price, because BPA may buy or sell a different product than what is traded in an hourly market. In addition, BPA bulk energy transactions may occur at a price not exactly set by the marginal resource in a particular hour. In either case, the hourly marginal cost is related to the market clearing price for bulk energy and is therefore used as a starting point for the price that BPA will experience for hourly bulk energy transactions.

To model marginal costs, BPA used an electric market model called AURORA. AURORA uses an economic fundamentals based approach that models wholesale energy transactions in a competitive pricing system. AURORA uses a demand forecast and supply cost information to find an hourly market clearing price, or equivalently, the marginal cost. To determine the price in a given hour, AURORA models the dispatch of electric generating resources in a least cost order to meet the load (demand) forecast. The price in the given hour is equal to the variable cost of the marginal resource. Over time, AURORA will add new resources and retire old resources based on the net present value of the resource. In this way, AURORA models the functioning of a competitive economic market system.

### 4.2 The Methodology for Forecasting Resource Additions

#### Issue 1

*Whether BPA's forecast of new generation is reasonable.*

#### Parties' Positions

The Joint DSIs argue that some new resources should be directly input (hardwired) into the generating resource data set. The amount of hardwired resource additions proposed by the DSIs is based on their reading of historical pricing and generation development patterns and an

analysis of planned future generation. Schoenbeck and Bliven, WP-02-E-DS/AL/VN-02, at 45-46. “We believe that the increase in market prices over the past three years is evidence of the upswing part of the cycle.” *Id.* at 46. “Because market prices have sustained high levels over the past number of months, we believe that the Western Systems Coordinating Council region is at the top of the generator development cycle. The market response will be to a [sic] significant amount of the proposed new generation within the next few years. It is appropriate to include the portion of proposed new generation that has a high likelihood of being constructed prior to the time AURORA would choose based on its perfect foresight.” *Id.* at 46-47.

WPAG argues that “BPA should not revise the method by which resources are added to the AURORA model, as proposed by Schoenbeck *et al.*” Cross *et al.*, WP-02-E-WA-02, at 37. WPAG notes that the DSIs “propose to impose a resource construction cycle starting in 2000 by adding resources in the early years of the model. This results in a substantial surplus of resources in the rate period, which in turn depresses the forecast average price of energy.” *Id.* at 35-36. WPAG argues that the historical pattern was dominated by regulated utilities having an obligation to serve and including capital investments in their rate base. *Id.* at 36. Additionally, generation units were typically large central station units. *Id.* WPAG states that this is not the situation in the current power industry. *Id.* at 36-37. The current situation is driven by independent power producers who make decisions on the amount and timing of new generation based on market factors. *Id.* In addition, generation technology is shifting to smaller, more modular units that can be added in increments that more closely match load growth. *Id.* WPAG concludes, “While the AURORA assumption of perfect foresight in the addition of generating resources does not precisely match up with reality, it is a more accurate depiction of how generating resources are likely to be added to the system during the rate period than that proposed by Schoenbeck *et al.*” *Id.* at 37.

### **BPA’s Position**

The method used by BPA lets AURORA use standard economic logic to determine the amount and timing of new resources that will be added. Anderson *et al.*, WP-02-E-BPA-16, at 2-3; Marginal Cost Analysis Study, WP-02-E-BPA-04, at 4-5; Tr. 1246-48. AURORA’s economic logic will add a resource when the return to the resource exceeds its cost. *Id.* AURORA’s routine for forecasting new generation was detailed by BPA. Anderson *et al.*, WP-02-E-BPA-16, at 2-3; Marginal Cost Analysis Study, WP-02-E-BPA-04, at 4-5; Tr. 1246-48. Furthermore, the parties had ample opportunity to question the use and operation of AURORA. Anderson *et al.*, WP-02-E-BPA-16, at 3-7.

BPA explained its reasons for selecting the economic logic in AURORA instead of the approach proposed by the Joint DSIs. Anderson *et al.*, WP-02-E-BPA-42, at 6-8; Tr. 1286-87. BPA noted that the relevant time period for this forecast was 2002 to 2006, and for this time period, a structural forecast was a reasonable approach. Anderson *et al.*, WP-02-E-BPA-42, at 7. The specifics of forecasting generation development cycles are problematic and introduce a strong possibility of skewing the results. *Id.* The AURORA model produces reasonable results. Tr. 1292.

## Evaluation of Positions

There are two fundamentally different methods of forecasting new resources at issue here. The approach used by BPA and supported by WPAG adds new resources based on the economic profitability of resources. Anderson *et al.*, WP-02-E-BPA-16, at 2-3; Marginal Cost Analysis Study, WP-02-E-BPA-04, at 4-5; Tr. 1247-48. This method assumes that developers will, on average, respond to economic logic. Marginal Cost Analysis Study, WP-02-E-BPA-04, at 2; Tr. 1248. The method proposed by the Joint DSIs adds new resources based on an exogenous forecast by an analyst. Schoenbeck and Bliven, WP-02-E-DS/AL/VN-02, at 45-49. The amount of new resources proposed by the Joint DSIs was based on a review of cyclical patterns, and a judgment of which planned units would come online and the timing of these units. *Id.*

The Joint DSIs' specific proposal is inextricably bound with their forecast of generation development cycles. Anderson *et al.*, WP-02-E-BPA-42, at 6-8. Alcoa/Vanalco assert that this link between pricing and generation cycles and the new generation data the Joint DSIs propose is a BPA "straw man." Alcoa/Vanalco Ex. Brief, WP-02-R-AL/VN, at 4-5. However, the conclusion that the Joint DSIs' new generation data and the Joint DSIs' argument for cycles are linked was reached independently by WPAG. WPAG notes that the DSIs "propose to impose a resource construction cycle starting in 2000 by adding resources in the early years of the model. This results in a substantial surplus of resources in the rate period, which in turn depresses the forecast average price of energy." Cross *et al.*, WP-02-E-WA-02, at 35-37; Anderson *et al.*, WP-02-E-BPA-42, at 6-8. Alcoa/Vanalco's brief on exceptions ignores this intertwined analysis by arguing for generation additions which were separated from the Joint DSIs' argument favoring cyclical patterns. Alcoa/Vanalco Ex. Brief, WP-02-R-AL/VN-02, at 5. This approach was not part of their evidentiary proposal.

The BPA approach is grounded in fundamental economic principles. Even the Joint DSIs concede that AURORA's approach is "an appropriate theoretical treatment." Schoenbeck and Bliven, WP-02-E-DS/AL/VN-02, at 44. It is a reasonable assumption that generation development will follow economic principles. With the Joint DSIs' proposed method, an analyst must independently hardwire in some selected new resources that will be brought online. In this method the analyst uses his or her own judgment or "perfect foresight" as to the amount, timing, and location of new generation that will be built. Tr. 1286-87.

The development of the Joint DSIs' forecast of new generation is prefaced by their arguments for a cyclical generation development pattern. Schoenbeck and Bliven, WP-02-E-DS/AL/VN-02, at 45-49. There are important complexities in forecasting a cyclical generation development pattern. Anderson *et al.*, WP-02-E-BPA-42, at 6-8. The Joint DSIs have not addressed these complexities. *Id.*

The Joint DSIs' forecast is not substantiated by any evidence on the duration, timing, or amplitude of cycles; how other cyclical variables may interact with generation development; or how generation development patterns may evolve in the energy market. *Id.* The lack of substantiation for the future pattern of cyclical generation development undermines the Joint DSIs' exogenous forecast of generation development. *Id.*

Even if the issue is reduced to simply a choice of hardwiring in an exogenous new generation forecast versus letting economic logic internal to AURORA select new generation, the economic logic used by AURORA is a reasonable method to forecast new generation. Anderson *et al.*, WP-02-E-BPA-16, at 2-3; Marginal Cost Analysis Study, WP-02-E-BPA-04, at 4-5; Tr. 1246-48; Tr. 1286-87.

Weaknesses in the DSIs' method were also noted by WPAG. WPAG argues that an analysis based on historical patterns is flawed. Cross *et al.*, WP-02-E-WA-02, at 35-37. The nature of both generation developers and generating units is changing. *Id.* at 36. WPAG's argument is persuasive.

The Joint DSIs' specific new generation development forecast is highly speculative. This issue was described in cross-examination of BPA's Marginal Cost Analysis Study panel:

- Q. (Mr. Uda for Alcoa/Vanalco) The question that was pending was whether it was reasonable to expect that the majority of these resources, if completed, would come online in the rate period at issue in this case.
- A. (Mr. King for BPA) That depends on how one views the statement "if completed." Clearly if they are completed they would be in service.
- Q. So is your answer, then, that these projects, if they followed the normal track, normal construction schedule, would come online during the rate period?
- A. (Mr. King) If these projects follow the normal track, very few of these will be completed. And the reason I say that goes back to an earlier question, and that is that in recent years we have not seen necessarily cycles of overbuilding. What we have seen have been cycles of overpermitting. Of the projects that have been permitted in recent years, perhaps the last 10, very, very few have seen construction and even fewer have been completed. And that is the way I view the majority of these projects.
- Q. Would that be true just of those that are in the permitting stage or also those that are in the construction stage?
- A. (Mr. King) We have seen projects that have been under construction either deferred or terminated.
- Q. That was in different markets than we face today?
- A. (Mr. King) It was in a market that was evolving towards markets that we are seeing today. Developers and their financiers are extremely cautious in deciding whether to proceed with a project. And having a project permitted is no--is no evidence that that project will see service.

Tr. 1290-91.

The Joint DSIs' data are problematic. The Joint DSIs' data base did not produce results that are verifiable. Anderson *et al.*, WP-02-E-BPA-42, at 2-5. Therefore, the Joint DSIs' data base does not meet a basic standard of credibility. Moreover, when the Joint DSIs' data base is run with AURORA, it produces a result that conflicts with the Joint DSIs' testimony. Cross *et al.*, WP-02-E-WA-02, at 32; Tr. 1257-58. This puts BPA in the untenable position of evaluating Joint DSI data that ultimately conflict with the Joint DSIs' own testimony. To fully evaluate the Joint DSIs' data, BPA would have had to decide which to accept as the Joint DSIs' analysis, either their data base or their testimony. The Joint DSIs were asked to reconcile the discrepancy and failed to do so. Anderson *et al.*, WP-02-E-BPA-42, at 3-5. BPA cannot be expected to decide which parts of the Joint DSIs' data base and testimony to accept and which to ignore.

Ultimately, the Joint DSIs' data are not usable because the data base is not verifiable and produces inconsistent results.

BPA's data underlying its forecast of new generation are described in detail in the Marginal Cost Analysis Study Documentation, WP-02-E-BPA-04A, at 2-10, and the Marginal Cost Analysis Study, WP-02-E-BPA-04, at 20-24, 26-31. For reasons described in great detail within this portion of the ROD, BPA's decision meets the appropriate standard of review. *See* ROD section 1.4 and Issue 4, *infra*.

### **Decision**

*BPA's forecast of new generation is reasonable. The Joint DSIs' forecast of new generation should not be substituted.*

### **Issue 2**

*Whether BPA ignored the DSIs' proposal for new resources.*

### **Parties' Positions**

Alcoa/Valanco argue that BPA did not evaluate or include the new generation that the Joint DSIs proposed should be directly input (hardwired) into the new generating resource data set. Alcoa/Valanco Brief, WP-02-B-AL/VN-01, at 36-44; Alcoa/Valanco Ex. Brief, WP-02-R-AL/VN-02, at 8, 10.

Alcoa/Valanco argue that, "when confronted with obvious evidence that generating plants will likely come on line during the rate period (WP-02-E-DS/AL/VN at 46-49), BPA refused to add any exogenous generation to AURORA to allow for more accurate forecasting." Alcoa/Valanco Ex. Brief, WP-02-R-AL/VN-02, at 5. Alcoa/Valanco also add a new argument in their brief on exceptions, "BPA should have added generation that BPA knows will come online during the rate period. In fact it is common knowledge that since BPA's AURORA analysis, approximately 1,200 new aMW of generation has come on line in the WSCC. *Market Clearing Prices Under Alternative Resources Scenarios*, California Energy Commission, Appendix C (Feb. 2000)." Alcoa/Valanco Ex. Brief, WP-02-R-AL/VN-02. Finally, Alcoa/Valanco argue that BPA's actions were arbitrary and capricious. Alcoa/Valanco Ex. Brief, WP-02-R-AL/VN-02, at 13.

## **BPA's Position**

BPA fully evaluated the Joint DSIs' proposed method for adding new generation. Anderson *et al.*, WP-02-E-BPA-42, at 6-8; Tr. 1256-59; Tr. 1286-87. *See also* Issue 1, *supra*. BPA also noted weaknesses in the development of the Joint DSIs' data on new generation. Anderson *et al.*, WP-02-E-BPA-42, at 7-8. BPA noted that that the Joint DSIs' data base did not produce verifiable results. *Id.* at 2-5. BPA stated that the Joint DSIs' data did not corroborate the Joint DSIs' testimony. Tr. 1257. BPA reasonably rejected the Joint DSIs' proposed generation revision to AURORA.

The introduction of new evidence by Alcoa/Valenco, *Market Clearing Prices Under Alternative Resources Scenarios*, California Energy Commission, Appendix C (Feb. 2000) at this late stage of the rate proceedings violates the Rate Case Rules of Procedure and should be ignored.

## **Evaluation of Positions**

Alcoa/Valenco misstate BPA's position on the Joint DSIs' proposal for new generation and draw an erroneous conclusion that BPA failed to consider new generation. BPA stated only that it did not complete an extensive analysis of the amount and timing of the generation proposed by the DSIs. Tr. 1257-60. BPA reviewed the Joint DSIs' proposal and did not adopt the Joint DSIs' data for both methodological and empirical reasons.

First, BPA did not adopt the methodology for hardwiring in new generation proposed by the Joint DSIs. BPA fully stated its reasons for this decision. Tr. 1246-50; Tr. 1286-87; Anderson *et al.*, WP-02-E-BPA-42, at 6-8. BPA fully evaluated the Joint DSIs' proposed method of hardwiring in new generation and compared this to letting the economic logic in AURORA determine the new resource additions. *Id.* at 6-8; Tr. 1246-50. Because BPA chose to use AURORA's internal economic logic for building new resources, it was not necessary to do an extensive analysis of the specific construction and timing that was offered in the Joint DSIs' testimony. In Alcoa/Valenco's initial brief, an attempt is made to blur the distinction between evaluating the Joint DSIs' proposal on methodological grounds and reviewing the Joint DSIs' data. This distinction was clearly drawn in cross-examination. Tr. 1257-58.

Second, BPA did review and critique the data provided by the Joint DSIs, and BPA found the Joint DSIs' data lacking in substantiation. Anderson *et al.*, WP-02-E-BPA-42, at 7. BPA stated that the Joint DSIs offered no substantive evidence to describe the timing, duration, or amplitude of generation development cycles, nor did the Joint DSIs describe how a cyclical pattern would evolve under electricity restructuring. *Id.* at 7-8. BPA also noted that the amount of new generation proposed by the Joint DSIs is highly speculative. Tr. 1290-91. WPAG also noted weaknesses in the applicability of the data to a forecast of new generation. Cross *et al.*, WP-02-E-WA-02, at 35-37.

Third, BPA clearly stated that the Joint DSIs did not provide a data base that produced verifiable, consistent results. Anderson *et al.*, WP-02-E-BPA-42, at 6-8. Alcoa/Valenco now admit this infirmity. Alcoa/Valenco Ex. Brief, WP-02-R-AL/VN-02, at 8. Therefore, the Joint DSIs' data are not credible.

Fourth, both WPAG and BPA noted that the Joint DSIs' data base produced results inconsistent with the Joint DSIs' testimony. Cross *et al.*, WP-02-E-WA-02, at 35-37; Tr. 1257-58. The Joint DSIs have failed to reconcile this discrepancy. BPA is not required to unilaterally decide which parts of the Joint DSIs' analysis to select as representing the Joint DSIs' position.

Alcoa/Valanco attempt to bolster their factual argument in their brief on exceptions by introducing a California Energy Commission document that is not part of the rate case record. Alcoa/Valanco Ex. Brief, WP-02-R-AL/VN-02, at 4. This violates the Rate Case Rules of Procedure, which state that, "All evidentiary arguments in briefs must be based on cited material contained in the record." *Procedures*, §1010.13(a). The document and the argument, which relies on its content, must be rejected. In any case, the document is not dispositive of either BPA's choice not to introduce cycles to its MCA or to include the addition of new generation independent of AURORA's method, because the document and the Alcoa/Valanco argument do not make BPA's choice to rely on AURORA unreasonable.

Finally, BPA was left to evaluate whether a piecemeal proposal of additional generation by the Joint DSIs (Schoenbeck and Bliven, WP-02-E-DS/AL/VN-02), which Alcoa/Valanco now characterize as "conservative," is superior to the method for adding new generation that AURORA uses despite the fact that AURORA's approach could be evaluated both methodologically and empirically by BPA and rate case parties. BPA chose to use AURORA's method in its Marginal Cost Analysis. It simply produced reasonable results and was available to all parties, while the Joint DSIs' proposal failed on both counts. This meets the standard for review for this proceeding. See ROD section 1.4 and Issue 4, *infra*.

### **Decision**

*BPA did not ignore the Joint DSIs' proposal. BPA's response to the DSIs' proposal was reasonable.*

### **Issue 3**

*Whether BPA arbitrarily and capriciously treated data inputs inconsistently, thereby discrediting BPA's Marginal Cost Analysis.*

### **Parties' Positions**

Alcoa/Valanco argue that BPA treated new generation inconsistently with other data inputs. Alcoa/Valanco Brief, WP-02-B-AL/VN-01, at 36-44. Alcoa/Valanco note that BPA arbitrarily changed some data from the default input data base and did not change others, specifically new generation, and claim that the rate case should be recommenced. *Id.* at 42-44. Alcoa/Valanco complain that BPA did not compare the load forecast used in the MCA to an earlier default forecast that was not used. Alcoa/Valanco Ex. Brief, WP-02-R-AL/VN-02, at 7. They also argue that the MCA is not relevant and reliable due to evidentiary issues. *Id.* at 11.

## **BPA's Position**

BPA fully explained the changes made in the default data base and the reasons for these changes. Marginal Cost Analysis Study Documentation, WP-02-E-BPA-04A. BPA fully detailed the sources of these data and the techniques used to derive its data. Marginal Cost Analysis Study, WP-02-E-BPA-04; Anderson *et al.*, WP-02-E-BPA-16, at 3-7. Alcoa/Vanalco have not established any error or that any error caused the MCA to fail as relevant and reliable evidence.

## **Evaluation of Positions**

Alcoa/Vanalco have raised a new argument in briefs, that changing some data from a default database and not changing other data is a flawed technique. Alcoa/Vanalco have not offered any direct evidence or analysis as to why changing some data, and not others, from a default discredits the reasonableness of the data itself.

Alcoa/Vanalco have treated the data base simplistically and have misunderstood the mechanics of AURORA. Alcoa/Vanalco's argument that all data sets should be treated the same is not valid. The data that Alcoa/Vanalco describe as inconsistent represent fundamentally different phenomena. To insist on consistency for fundamentally different phenomena is overly simplistic.

Alcoa/Vanalco allege that BPA was in error because it treated data inputs for loads, gas prices, hydroelectricity, and new resources differently. Alcoa/Vanalco Brief, WP-02-B-AL/VN-01, at 36-44. Alcoa/Vanalco reveal a fundamental misunderstanding of the mechanics of AURORA. AURORA requires a direct, exogenous forecast of loads and gas prices. For new generation, AURORA has an internal logical routine based on standard economic logic to derive a forecast. Marginal Cost Analysis Study, WP-02-E-BPA-04, at 4-5. Unlike loads and gas prices, there is no new generation default input data base with a forecast of new plants for BPA to change or not change.

Alcoa/Vanalco's misunderstanding appears to be the basis for other factually incorrect statements. For example, Alcoa/Vanalco state, "The relationship between market prices and the construction of new resources is seen in the real world power market but not in the world of the AURORA model because the model assumes perfect knowledge and it only "builds" enough new generation to maintain a stable price." Alcoa/Vanalco Brief, WP-02-B-AL/VN-01, at 37. This statement contains two factual errors.

First, Alcoa/Vanalco are wrong to state that the relationship between market prices and the construction of new resources is not seen in AURORA. *Id.* There is a direct relationship between market prices and the construction of new resources in AURORA. Marginal Cost Analysis Study, WP-02-E-BPA-04, at 4-5. The forecast of market prices drives new construction, and the amount of new construction directly affects market prices. *Id.* This relationship requires AURORA to use an iterative process to solve for the amount of new construction and market prices. *Id.* The bulk of AURORA's running time is in solving precisely this issue, the direct relationship of market prices and new construction.

Second, Alcoa/Vanalco are wrong to state that AURORA will build only enough generation to maintain a *stable* price. Alcoa/Vanalco Brief, WP-02-B-AL/VN-01, at 37 (emphasis added). AURORA will build resources whenever the resource's revenues exceed its costs. Marginal Cost Analysis Study, WP-02-E-BPA-04, at 4-5. AURORA's long-term price forecast will gravitate toward the fully allocated cost of the long-term marginal resource. *Id.* at 2. However, there is no inherent reason that a cost of marginal resources in the long run must be "stable"; it depends on the specifics of the evolving market. To state that AURORA builds only enough resources to maintain a stable price is simplistic and wrong.

Alcoa/Vanalco argue, "AURORA's inaccurate modeling for when new generation comes online led it to incorrectly conclude that generation addition would have no discernible effect on market prices in the rate period." Alcoa/Vanalco Brief, WP-02-B-AL/VN-01, at 39. This statement is wrong. BPA makes no such conclusion. BPA realizes that new generation will affect market prices. BPA stated, "The market clearing price will affect the revenues any particular resource will receive, and consequently which resources are added and retired. In parallel, changes in the resource portfolio will change the supply cost structure and will therefore, affect the market clearing price. AURORA uses an iterative process to address this interdependency." Marginal Cost Analysis Study, WP-02-E-BPA-04, at 4-5. Alcoa/Vanalco seem to confuse the movement toward an equilibrium price with new construction having no effect on price. BPA did not make this mistake.

The DSIs' argument that BPA did not compare the load forecast in the MCA to the default forecast misses the point. BPA fully documented its load forecast. Marginal Cost Analysis Study, WP-02-E-BPA-04, at 6-9. Though not required to, BPA compared the forecast it used in the Marginal Cost Analysis to both historical data and to a load forecast completed by the WSCC in the interest of documenting and fully explaining its inputs. *Id.*

Alcoa/Vanalco waived any argument regarding the evaluation of the evidence, since the testimony was not challenged as required by the rate case rules. *Procedures Governing Bonneville Power Admin. Rate Hearings*, §1010.11(d) and §1010.13(d). They did not object to the qualifications of the panel, the introduction of the Marginal Cost Analysis Study, WP-02-E-BPA-04, and Marginal Cost Analysis Study Documentation, WP-02-E-BPA-04A, or the oral (Tr. 1222-97) and written testimony (Anderson *et al.*, WP-02-E-BPA-16) at the hearing. The MCA and its supporting evidence represent a reasoned and scientifically valid evaluation of BPA's future costs for this rate proposal by BPA staff, and they reflect the input of Alcoa/Vanalco, the Joint DSIs, and other parties. *See, also*, Issues 1-2, *supra*.

In summary, Alcoa/Vanalco's allegation of inconsistent treatment of input data is irrelevant. The mere observation that some data are changed from defaults and some data are not is a trivial fact and irrelevant to the reasonableness of the data. Alcoa/Vanalco's argument for consistency of fundamentally different data is simplistic and misunderstands both the data and the mechanics of AURORA. While more accurate information usually produces better results, it does not follow that BPA's treatment of the Joint DSIs' data in this case ignored this general rule. BPA chose to rely on AURORA's mechanism for predicting the addition of generation resources. BPA's action meets the appropriate standard of review. *See* ROD section 1.4.

**Decision**

*The observation that BPA changed some data from a default data base and did not change other data is irrelevant. Therefore, it does not discredit the reasonableness of the MCA. BPA's testimony and evidence regarding the MCA will not be disregarded, and the rate case will not be recommenced.*