Decision No. C04-1060

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

DOCKET NO. 03S-539E

RE: THE INVESTIGATION AND SUSPENSION OF TARIFF SHEETS FILED BY AQUILA, INC., DOING BUSINESS AS AQUILA NETWORKS-WPC, WITH ADVICE NO. 586.

ORDER REGARDING ELECTRIC RATES

Mailed Date: September 3, 2004
Adopted Date: August 3, 2004

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I. BY THE COMMISSION

A. Statement

1. This is the cost allocation or Phase II of Aquila, Inc., doing business as Aquila Networks – WPC (Aquila or Company) Rate Case. Phase I was completed and approved through a Settlement Agreement approved by the Commission in Decision No. C03-0697, issued June 25, 2003. On November 25, 2003, Aquila filed its Advice Letter No. 586 and

accompanying tariffs. On December 1, 2003, Aquila filed its Direct Testimony and Exhibits supporting the Advice Letter filing. Aquila indicated that the filing was made pursuant to Decision No. C03-0697 in Docket No. 02S-594E. The purpose of the filing, according to Aquila, is to redesign the existing base electric rates so they are based more closely to the cost to serve each of the customer classes. The proposed rates in Advice Letter No. 586 also incorporated the general rate increase of $16 million we authorized in Decision No. C03-0697. In its direct case, Aquila proposed a rate design which included some revisions to the General Rate Schedule Adjustment (GRSA) which was a result of Phase I. Aquila also presented Exhibit No. 1 which indicated the overall impact of its rate proposal on each of the customer classes proposed by Aquila. These rate changes proposed for each customer class ranged from a 3.21 percent increase to a 3.9 percent decrease, from the 15.60 authorized percentage change we approved in Decision No. C03-0697.

2. Intervenors in this matter included Staff of the Commission (Staff), the Colorado Office of Consumer Counsel (OCC), the Fountain Valley Authority, the Board of Water Works of Pueblo, and the City of Canon City (collectively, Public Intervenors); and Cripple Creek & Victor Gold Mining Company, Goodrich Corporation (Goodrich), Holcim (U.S.), Inc. (Holcim), and The Trane Company (Trane) (collectively, CGHT). Generally, the Intervenors took issue with the cost of service methodology and tariffs proposed by Aquila. The Intervenors included their own cost of service study in pre-filed Answer Testimony and Exhibits. The Intervenors also generally indicated difficulty in assessing Aquila's direct case due to the lack of transparency of its Threshold Associates Cost of Service (TACOS) model.

3. In rebuttal testimony, Aquila responded to the concerns raised by Intervenors that significant errors were present in its cost of service study and resulting calculations. Aquila

provided updated testimony and exhibits representing the changes it incorporated into its TACOS model. Commencing on June 23, 2004 and continuing through June 30, 2004, we conducted a hearing in this Phase II general rate case.

4. In order to determine whether Aquila's tariffs result in rates that are just and reasonable, in general we must allocate costs among customer classes to ensure that the revenue generated by each class is equal to the cost of serving that class. This difficult process is exacerbated by the fact that this entity last filed a Phase II rate case in May, 1983. This requires that Aquila's tariffs go through a major revamping effort. We commend all the parties in this matter for their extensive work and analysis.

II. PROCEDURAL HISTORY

5. As indicated earlier, on November 25, 2003, Aquila filed Advice Letter No. 586, along with supporting testimony and exhibits. Aquila requested an effective date of January 1, 2003 for the revised tariff and revised Rules and Regulations attached to the Advice Letter. Aquila indicated in its filing that the proposed tariffs would produce $118,890,870, or the overall level of revenue authorized by the Commission in Decision No. C03-0697, and would result in an annual increase in the Company's base electric rates of approximately $16 million based on the revenue requirement established in the Phase I docket.

6. By Commission Decision No. C03-1423, pursuant to § 40-6-111(1), C.R.S., we set the proposed tariffs for hearing and suspended their effective date until April 30, 2004 to determine whether the rates, terms, or conditions contained in the tariffs were proper.

7. On February 11, 2004, we held a prehearing conference in this matter. Appearances were entered by Staff, OCC, Public Intervenors, and CGHT. The parties mutually agreed to a procedural schedule that set a hearing in this matter for June 23, 2004 through July 2,

2004. Statements of Position were due on July 16, 2004. Decision No. C04-0176 memorialized the procedural schedule.

8. On April 14, 2004, we issued Decision No. C04-0382, granting a request by Aquila, Staff, and OCC to modify the procedural schedule. In order to allow the parties sufficient time to review Aquila's TACOS model, we modified the procedural schedule by increasing the time for filing answer testimony, rebuttal testimony, and cross-answer testimony. We also further suspended the effective date of the tariffs attached to Advice Letter No. 586 an additional 90 days, or until July 29, 2004. We further advised Aquila in this Order that should it require a Commission decision no later than September 3, 2004, it should file an amended Advice Letter changing the effective date of its proposed tariffs.

9. On June 18, 2004, we issued Decision No. C04-0660 which granted Aquila's amendment to Advice Letter No. 586, changing the effective date of the tariffs to allow the Commission to issue a decision in this matter by September 3, 2004 without exceeding the 210-day suspension period.

10. Pursuant to the directives in Decision No. C04-0176, we conducted hearings on the Phase II rate case on June 23 through 29, 2004. Witnesses for Aquila, OCC, Staff, Public Intervenors, and CGHT appeared and defended their respective positions regarding the cost of service study and cost allocation issues. Now, being duly advised in the matter, we adopt the rate design consistent with the discussion below.

III. LINE EXTENSION

A. Summary of Testimony

11. Aquila proposes to use a financial model to calculate the Construction Allowance (CA) for individual connections, based on incremental revenues. The financial model would use

the energy and capacity requirements and other parameters for a new customer to estimate the total future costs to serve the customer (excluding connection costs), and subtract that from the revenues that are forecast to be received from the customer under tariff rates, to determine the incremental revenues. Aquila would then set the CA equal to the net present value of five years of incremental revenue. Customers must pay for connection costs in excess of the CA.

12. Aquila states that it proposes to calculate power supply costs for the new customer based on incremental resource costs. That is, Aquila would use its most recent system supply acquisition costs in its estimate of costs to serve the customer. Customer service expenses, support services, and network investment costs would be set at 10 percent of incremental revenues. Aquila asserts that the incremental revenue model provides better price signals to customers, as the evaluation is based on individual project economics. It also minimizes the cost burden on existing customers. For an individual residential service CA, Aquila proposes to provide a "basic connection" for overhead service consisting of a pole, meter, transformer, and 100 feet of line free of charge, rather than using the financial model.

13. Staff opposes Aquila's proposed CA method. Staff asserts that rates are based on costs associated with facilities used to serve existing customers, and the utility CA should pay the portion of line extension cost that equals the average embedded cost of such facilities for an individual customer. Rather, Staff proposes that existing plant should be functionalized, classified, and allocated, as proposed in testimony by Staff witness Wendling, to determine the portion of rates that should be used to establish the CA.

14. Staff argues that Aquila's method takes into account revenue streams not related to line extensions. For example, Staff maintains that portions of rates for lighting, substations, transmission, and production should not be included. Additionally, a separate tariff rider covers

capacity, fuel, and purchased energy costs, and Aquila improperly subtracts these. As a result, Staff maintains the new customer would pay these costs twice – as a reduction in CA, and through rates. Staff takes the position that it is totally inappropriate to include power and supply costs as part of the Company's distribution line extension charge. Rather, Staff submits that a distribution line extension policy must be based solely upon the cost of investment to extend service to a new customer and the anticipated revenue associated with the new load of the customer.

15. Staff also finds that Aquila's 5-year gross margin calculation is too short since approved service lives are 23.9 to 50 years. Instead, Staff proposes a 20-year levelized revenue requirement.

16. Additionally, Staff opposes Aquila's residential "basic service" CA provision, arguing it should be a tariff amount rather than a list of facilities. Staff's proposed approach is based on the CA methodology recently approved by the Commission in Docket No. 02S-574G, using costs as allocated in the Wendling model. Staff proposes separate CA amounts for service laterals and distribution system extensions. Under Staff's proposal, the service lateral portion of the CA is based on the fixed customer charge component, and the distribution system portion of the CA is based on energy and demand rates. A fixed residential CA can then be calculated based on average class usage.

17. Staff also takes issue with Aquila's inclusion of a tax gross-up factor on customer contributions, finding it inconsistent with the recent ruling in 02S-574G. Staff argues that Aquila's proposed tariffs do not meet the requirements of 4 *Code of Colorado Regulations* (CCR) 723-3-31 (Service Connection and Distribution Line Extension) regarding line extension rates and due diligence in estimating.

18. Staff urges the Commission to reject Aquila's feasibility models used for calculating a CA and instead approve the use of Staff's CA calculation models, and order Aquila to work with Staff to create appropriate tariff language outlining the CA portion of Aquila's line extension policy. Staff also maintains that Aquila's Electric Extension Standards contain rate provisions, and should therefore be submitted for Commission approval.

19. In its rebuttal testimony, Aquila disagrees with Staff's position that it is improper to consider the total incremental revenue stream and all areas of costs in setting the CA. Aquila argues that its method aligns incremental service costs with the projects that cause those costs. According to Aquila, Staff's method does not send an appropriate price signal to influence an applicant's load characteristics. Further, Staff's method does not provide the proper CA levels to customers with different load factors.

20. Aquila asserts that Staff witness Fischhaber's statement that tariff riders cover capacity, fuel, and purchased energy costs is not correct. The amount of $21.54/MWh is included in base rates, and the incentive cost adjustment (ICA) allows for recovery above this rate. Further, Aquila states that its model can accommodate changes in production costs from year to year.

21. Aquila disagrees with Staff's 20-year term for commercial and Industrial CAs, instead arguing there is no reasonable assurance that the customer will be in business that long. Aquila also disagrees with Staff's recommendation to eliminate tax gross-up on customer contributions. Though the Commission denied inclusion of tax gross-up in 02S-574G because of administration concerns, Aquila proposes a factor of only 20 percent, which is less then the full tax amount. Aquila maintains this will help to mitigate the tax burden without creating additional administration costs.

22. Regarding Aquila's proposed "basic connection" policy for single residential service based on overhead components, it states that the facilities equate to approximately the investment that can be supported by the incremental revenue of an average residential customer.

23. Last, Aquila asserts that its electric extension standards handbook provides only technical designs and standards. Therefore it should not be in its tariff, which addresses Rules and Regulations.

B. Line Extension Policy Issues

24. First we discuss the overarching policy issues associated with the methods proposed by Aquila and Staff, and provide guidance on the applicability of these methods to the goals and objectives of a line extension policy. We then address the details of the proposal methods.

25. Incremental Revenue Versus Functional Line Extension Policy -- The parties have essentially provided two options for a Commission policy on line extension. On the one hand, Staff advocates a Commission policy that only specific rate components should be used to calculate a CA. Aquila advocates a Commission policy based not on a rigid regulatory structure, but instead directs utilities to base their line extension policies on the overall projection of the impact of adding a new customer.

26. Aquila proposes an incremental revenue approach which generally takes the total revenues that will be received from the customer under current rates over a specified future period, and subtracts the costs to serve the customer over that period (excluding costs to extend service and connect the customer). This difference between cost and revenue represents the excess revenues that the utility would receive from the new customer. The utility would then pay the net present value of this amount towards a customer's service extension in the form of a CA.

27. Staff asserts that the utility costs upon which the current rates are based must be functionalized, classified, and allocated to determine the portion of rates that can be used to establish the CA. According to Staff, the CA amounts are intended to be used for specific cost categories such as service laterals, meters, and distribution system extensions. Therefore, only the revenues generated from the corresponding components of rates should be used to calculate the CA.

28. The Commission recently completed an extensive revision of Public Service Company of Colorado's (Public Service) gas department line extension tariffs. This was accomplished over the course of three years through Docket Nos. 01S-404G and 02S-574G. In Docket No. 02S-574G, the Commission approved the same method that Staff now advocates, but based its decision on selecting the method that best meets the goals of a line extension policy. The Commission identified the principle goals of an extension policy as: 1) to compensate the utility for its investment in facilities; 2) to promote equity between new and existing customers, and between customer classes; and 3) to perform a rationing function so that the decision to extend gas service is economically rational.

29. In the instant docket, Staff witness Wendling provides a good discussion of the purpose of a line extension policy:[1]

> The line extension policy limits the utility's construction obligation or its obligation to make uneconomic investments. An uneconomic extension would be an extension where the expected revenue generated from the expected load and its projected revenue stream (estimated using the retail tariffs) would not be equal to the levelized revenue requirement of the capital required to be invested in the extension.

[1] Answer testimony, p19, lines 15-20

30. Mr. Wendling's discussion is consistent with the principle goals of a line extension policy as stated above. However, in certain cases Staff's proposed method may not theoretically calculate the level of a CA that best meets the principle goals.

31. If the costs a new customer imposes on the system are lower than the average cost of existing customers, then Staff's method would understate the proper level of the CA. Many components of utility costs may not increase with additional customers. For example, customer billing systems, accounting functions, and executive management costs are not likely to increase proportionally with the addition of new customers. An incremental approach can accommodate the economies of scale created by increasing the customer base, as well as the incremental costs incurred to connect the customer. In theory, an incremental approach could establish the proper level of a CA better than the average investment approach advocated by Staff. However, the accuracy of the incremental cost forecasts then becomes a significant consideration in assessing whether an incremental revenue approach provides a better result than an average investment approach. The Commission provides relevant discussion about the policy issues surrounding an incremental approach in Decision No. C03-0899 of Docket No. 02S-574G at Paragraph 33.

> Last, we agree with Public Service and Staff that HBA's marginal cost proposal should be rejected, even though we recognize that there could be a degree of merit to a marginal cost approach. For example, a utility does not require a new billing system to connect a new customer. Though Public Service incurs administrative costs to connect a customer, we find it likely that the costs that a new customer imposes on the system will be lower than the average cost of existing customers. While in theory an incremental approach could better represent actual costs of serving the new customers, the complexities and uncertainties associated with an incremental approach outweigh any possible benefits.

32. We disagree with Staff's assertion that only certain rate components should be considered in calculating the CA. Under Staff's position, utilities would never use an incremental approach. We find that we should consider the merits of a proposed extension

policy in light of the principal objectives of a line extension policy, as stated above. We believe that a properly designed incremental approach could more accurately match actual results, and could provide a better price signal to customers. We encourage parties to propose CA methods that best meet the principle goals of a line extension policy.

33. Power and Supply Cost Implications in a Line Extension Policy -- We must also consider whether incremental revenues associated with power and supply costs should be used. Aquila includes incremental costs for energy and capacity associated with power generation in its proposed incremental revenue approach. In addition to Staff's concerns with an incremental approach as discussed previously, it also disagrees with the inclusion of incremental power and supply costs because a separate tariff rider covers capacity, fuel, and purchased energy costs. Staff argues that both new and existing customers impose increased demands on power supply resources, and it would not be fair to reduce the new customer's CA for the increased supply costs and then charge both the new and existing customers higher rates for the increased power and supply costs. In rebuttal testimony Aquila states that $21.54/MWH is included in base rates, and the ICA allows for recovery above this rate.

34. We agree with Staff that power and supply costs should not be considered in a CA calculation. Though a component of power and supply costs is included in base rates, the incremental costs that Aquila intends to include in its model are linked to the incremental costs that are recovered through the ICA. Cost adjustment mechanisms such as the ICA were implemented so that rates can react quickly to changes in fuel and power purchase costs. We agree with Staff's observation that existing customers have increased usage, and that it would be unfair to burden new customers with a reduced CA amount and then charge both new and existing customers a higher rate for power and supply costs. Further, we reject a policy that

would have the effect of insulating existing customers from energy price changes by imposing a "system development charge" on new customers. We find that Aquila's proposal to apply the incremental power and supply costs to the new customers' CA would have the effect of an improper system development charge.

C. Merits of Line Extension Policies Proposed by Staff and Aquila

35. Staff proposes a line extension methodology based on the method adopted in Docket No. 02S-574G. The Commission addressed the merits of that approach in Decision No. C03-899, and found that it produces overall CA levels that are equitable for new and existing customers. We find that the issues addressed in Docket No. 02S-574G are largely the same as the line extension considerations in the instant docket, and the Commission's discussion about the merits of that approach generally apply here. Consistent with the ruling in Docket No. 02S-574G, we find that Staff's proposed method would likely result in reasonable CA levels, and therefore adopt it in part.[2]

36. Aquila takes issue with Staff's proposal to exclude a tax gross-up in customer contributions in aid of construction. Because Staff's functionalized method does not capture the economies of scale likely created by adding customers to an existing system, we find that Staff's method will likely result in conservative CA levels. That is, Staff's approach would tend to produce CA levels that are lower than those produced by a theoretical approach where all aspects are considered to produce an optimum CA level. Staff's treatment of the tax gross-up would tend to offset the conservative bias in its method. Therefore, we find that it is reasonable to exclude tax gross-up under Staff's proposed method.

[2] We note that this does not preclude any utility or other party from advocating an incremental approach in a future docket, bearing in mind the deficiencies identified *infra* in the instant application.

37. Aquila also contests Staff's proposal to extend the forecast term beyond five years. Up front, we note that the parties provided no evidence as to how long an average customer would receive service. For residential service we find that houses will likely be occupied into the distant future, and connection requirements would generally be similar for new occupants if the house is sold. We agree with Staff's forecast term for residential service.

38. However, commercial and industrial customers may have a shorter service term. Even if a new business moves into a site and resumes electric service within the forecast term of a previous installation, the new business could have substantially different power needs. For example, if the new business has lower power requirements, then the initial CA payment would be underfunded. On the other hand, if the new business has higher power requirements, the existing facilities may need to be abandoned to install larger equipment, and again the initial CA would be underfunded. We agree with Aquila that Staff's proposed 20-year term is excessive. We also agree with Staff that the five-year term proposed by Aquila will likely be shorter than the average use of the service connection facilities. We find that a ten-year term for the CA calculation for commercial and industrial service would strike a reasonable balance between the two extremes.

39. We do have concerns with several aspects of Aquila's incremental revenue method. First we agree with Staff's contention that it is inappropriate to use a financial model to calculate individual CA amounts for customers rather than specifying a CA amount or formula in tariffs. We agree that a CA is a rate which must be specified in tariffs. The CA can be in the form of a simple formula, but in some way the level of CA applicable to a customer must be plainly represented in the tariff. A customer or Staff should be able to easily assimilate information in the tariff to verify that CA amounts calculated by Aquila match the level ordered

by the Commission. Under Aquila's financial model approach, the many details within the model not approved by the Commission could change the resulting level of the CA. The proposed financial model does not provide a proper method of presenting tariffed CA amounts for individual customers. While the model itself cannot be placed in tariffs, other options exist. For example, Aquila could use its financial model as a base to derive simple formulas to calculate CA levels, which in turn it could propose to place in its tariff. However, we find that we lack sufficient information in this case to verify that the financial model calculates the CA correctly, or to verify that the constants and factors in the model are appropriate.

40. Staff also takes issue with Aquila's "basic connection" policy for residential connections consisting of a pole, meter, transformer, and 100 feet of line free of charge. Staff maintains that the CA level should have a dollar amount specified in the tariffs. Aquila responds that the basic connection facilities roughly equate to the appropriate dollar amount. We agree with Staff that Aquila should specify a dollar amount in its tariff. Otherwise, the CA amount would change as the costs of the listed facilities change.

41. Staff opposes Aquila's inclusion of a tax gross-up factor on customer contributions, as it is inconsistent with the recent ruling in 02S-574G. Aquila responds that it proposes only a 20 percent tax gross-up factor, which is less then the full tax amount, to mitigate the tax burden without creating additional administration costs. We agree with Aquila that its approach will mitigate the tax gross-up inequity, but at a level less than the full amount it avoids the administrative difficulties that were the basis for the Commission's decision to exclude tax gross-up in Docket No. 02S-547G. By including a level of tax gross-up, an incremental revenue approach could achieve a more accurate CA level. However, we do agree with Staff that Aquila does not provide an adequate basis to establish the 20 percent level.

42. Last, we are concerned with Aquila's proposal to set customer service expenses, support services, and network investment costs at 10 percent of incremental revenues. Notwithstanding Aquila's general description of how it arrived at the 10 percent level, we are concerned that this level is not based on a rigorous evaluation of such costs. We find that a more robust analysis of such costs is necessary.

43. Therefore, while an incremental revenue approach could theoretically provide a better line extension policy than Staff's functionalized average approach, we find that the deficiencies in the method proposed by Aquila are prohibitive. As such, we will adopt Staff's proposed line extension methodology in its entirety with the exception that we will require a ten-year service term for the CA calculation for commercial and industrial service, as discussed above. We also agree with Staff that Aquila must have a full description of its line extension policy in tariffs, as well as provisions for rates and estimating as required by Rule 4 CCR 723-3-31. We will require Aquila to work with Staff to develop a proper description of its method in tariffs. We further agree with Staff that Aquila should be required to file such tariff changes on not less than 30 days' notice. Aquila is welcome to refile its incremental revenue approach to correct the shortcomings of its proposed method. This would presumably be a new filing where parties would have the opportunity anew to review the proposal and recommend changes or alternatives.

44. Staff also recommends that Aquila's Electric Extension Standards be submitted for Commission approval as they contain rate provisions. Aquila responds that the Electric Extension Standards Handbook provides technical designs and standards, and should not be included in the Rules and Regulations portion of its tariffs. We find that technical designs and standards do not need to be submitted for Commission approval, though the Electric Extension

Standards Handbook should not contain rate provisions. We direct Aquila to work with Staff to remove any rate-related provisions from the handbook.

IV. COST OF SERVICE

A. Cost of Service Models and Studies

45. Aquila used the TACOS model to prepare its cost of service study. Staff characterizes the TACOS model as a "black-box" that prohibits verification and validation of the calculations performed to arrive at the results. The OCC asserts that the TACOS model is not sufficiently transparent for an intervenor, or the Commission, to determine any source of error. Aquila, however, points out that TACOS is only one of several tools the Commission should use to set just and reasonable rates.

46. Staff, the OCC, and CGHT each used unique cost of service models to produce the cost of service studies presented in their respective answer testimonies. Each of the parties argue that the Commission should rely on their respective cost of service models and studies to make a decision in this matter. In its Statement of Position, the Public Intervenors assert that each of the cost of service studies proposed by parties to this proceeding has certain drawbacks.

47. We take this opportunity to clarify that we never intended to select a cost of service model as an outcome to this proceeding. We required parties to provide electronic copies of their respective cost of service models for the limited purpose of allowing our Advisory Staff to perform studies that would assist us in making decisions in this matter.

B. Adjustment for Losses

48. Staff and CGHT disagree as to which loss factor should be used for transmission voltage level peak demand. Staff argues that CGHT's loss factors are not consistent with peak and average conditions because CGHT used the same loss factor for the transmission voltage

level to determine both average and peak demands. Staff contends that the power flow over Aquila's transmission system is such that losses are lower during peak load periods due to the proximity of Aquila's load to Public Service's Comanche generating plant. Staff asserts that a loss factor of 1.81 percent should be used to determine the transmission voltage level peak demand rather than the 2.21 percent loss factor used by CGHT.

49. Staff witness Wendling's exhibits reflect that Staff used peak loss factors that were supplied by Aquila in response to CGHT discovery requests. CGHT witness Baron's exhibits reflect that CGHT used peak loss factors that were updated by Aquila in response to Staff discovery requests. Aquila's workpapers, Hearing Exhibit 26,[3] indicate that Aquila used in its rebuttal case the loss factors that were provided in response to Staff's data and discovery requests.

50. We agree with the parties that losses should be accounted for in cost of service studies. It is important to use accurate loss data for the test year. We adopt the use of the loss factors provided by Aquila in response to data requests including the 2.21 percent loss factor for the transmission voltage level. It appears that these loss factors are a result of an updated and accurate loss factor study performed by Aquila during this proceeding.

C. Adjustment to True-up Load Research Data and Census Data to Match the Actual System Peak Demand

51. CGHT argues that an adjustment must be made to correct the coincident peak (CP) demands so that, when combined, they match the system peak. CGHT explains that load data for a rate class in which all customers are demand metered (census data) can be grouped together to estimate the rate class CP demands. CGHT goes on to argue that usage information

[3] Including Excel Spreadsheet CoLRStats_Losses_Included_Corrected.xls.

(sample load research data) must be collected in order to determine the class CP demand load data for rate classes in which none or only some of the customers are demand metered. CGHT concludes that when the CP demands are combined for all of the rate classes the end result will not match the actual system peak. According to CGHT, it is standard for electric utilities to adjust the CP demands to match the system peak. However, Aquila did not make such an adjustment. CGHT proposes to adjust the Aquila load data by applying a correction factor on a *pro-rata* basis to each of the class CP demands that are derived from sample load research data. Staff states that it used information provided by Aquila as the source for Staff's exhibits.

52. On cross-examination, Aquila witness Tracy indicated that he reviewed, considered, and rejected the bulk of CGHT's suggested data changes, as he felt the changes were unnecessary. Mr. Tracy contends that adjusting load research and census data to match actual system peak on a *pro-rata* basis creates different confidence in the estimates for each class because these values are all estimates to start with. According to Mr. Tracy, trying to make the data add up to a known value is unnecessary and, by applying a correction factor, bias may be introduced.

53. We agree with Aquila that the adjustments to load research and census data to match actual system peak lends itself to certain biases. We therefore adopt the CP demand amounts derived by Aquila for use in the cost of service studies.

D. Adjustment of Holcim's Coincident Peak Demand

54. In Docket No. 02S-594E, Aquila's Phase I electric rate case, parties agreed that the Holcim load should be *pro forma* adjusted to a 36-megawatt (MW) maximum for the test year. CGHT argues that, in order to properly estimate the CP demand of the *pro forma* adjusted Holcim load, it is necessary to apply a coincidence factor (the ratio of CP demand to non-

coincident peak (NCP) demand) to the 36-MW demand. CGHT proposes to use the Large Power Service (LPS) rate class coincidence factor of 0.87 to determine the Holcim CP demand because the Holcim and LPS class load factors are very close. Applying 0.87 to Holcim's *pro forma* adjusted maximum demand of 36.8 MWs (with losses) results in a CP demand for Holcim of 32.01 MWs.

55. Staff disagrees with CGHT's proposed adjustment because in the Phase I rate case Aquila's purchase power expenses were adjusted to equate to a Holcim load of 36 MWs at a 75 percent load factor. According to Staff, if the Holcim load is adjusted, the revenue requirement set in Phase I would not match.

56. We do not agree with the adjustment proposed by CGHT for the Holcim CP demand. The parties agreed in the Phase I Stipulation that the Holcim load should be adjusted to 36 MWs to reflect load that would be present on a going forward basis. We agree with Staff that CGHT's proposal here to further adjust the Holcim load would result in a mismatch with the agreed upon adjustment to the Phase I revenue requirement.

E. Adjustment for Revenues Associated with Large General Service and Large Power Service Changes

57. According to CGHT, although Aquila properly identified the customers and the billed revenues when it shifted customers into the proposed Large General Service (LGS) and LPS rate classes, it nonetheless failed to shift corresponding ICA revenues. CGHT contends that this results in overstating LGS class revenues and understating LPS class revenues.

58. We agree with CGHT that shifts in customers to new rate classes should reflect all associated revenues, including ICA revenues. We note that Aquila did not dispute this adjustment in its rebuttal testimony.

F. Distribution Plant Classification

59. The issue to be resolved here is whether Federal Energy Regulatory Commission (FERC) Accounts 364 through 368001 should be classified as: 1) customer-related and demand-related; or 2) demand-related only. These FERC accounts track costs as follows:

FERC Account	Description
364	Electrical Distribution – Pole/Tower/Fixture
365	Electrical Distribution – Overhead Conductors
366	Electrical Distribution – Underground Conduit
367	Electrical Distribution – Underground Conductors
368001	Electrical Distribution Line Transformer – Other Equipment

60. Aquila contends that these distribution costs should be classified as customer-related and demand-related. According to Aquila, many primary and secondary distribution components are designed to meet National Electric Safety Code (NESC) requirements. However, in many cases customer demand is far below the capacity required to meet the NESC standards. Aquila asserts that the secondary system includes a certain minimal investment which is necessary to provide service to the customer, yet has nothing to do with the customer's demand. Consequently, Aquila proposes use of the minimum intercept method to determine the split between customer-related and demand-related costs.

61. CGHT and the Public Intervenors endorse classification of these distribution costs as customer-related and demand-related. CGHT and the Public Intervenors further support the use of the minimum intercept method to determine the customer/demand split.

62. Staff and OCC, on the other hand, assert that the costs in FERC Accounts 364 through 368001 should be classified as demand-related. According to Staff, there is no such thing as customer-related primary or secondary distribution plant because both serve multiple customers, except for service laterals which serve single customers (service laterals should be

classified as customer-related). OCC contends that Aquila installs facilities that are capable of serving load.

63. Staff asserts that the National Association of Regulatory Utility Commissioners Electric Utility Cost Allocation Manual (NARUC manual) does not endorse the use of minimum intercept-method. Staff witness Fischhaber agreed with OCC witness Schechter that the NARUC manual dictates that a threshold decision be made by the analyst on whether these costs are demand-related, customer-related, or a combination of both. If an analyst decides that the costs are a combination of both, then the NARUC manual presents two approaches on how to split the costs between demand-related and customer-related.

64. Aquila responds that the NARUC manual does not endorse any particular method of cost allocation described in the manual. Rather, Aquila maintains that the NARUC manual merely describes the techniques because they are acceptable and valid techniques.

65. We find that the costs in FERC Accounts 364 through 368001 should be classified as customer-related and demand-related for Aquila. Aquila's argument regarding the design of its distribution system convinces us that some of these distribution costs result from providing service to customers. We also find that these costs are not incurred solely to meet the individual peak demands of customers.

G. Aquila's Minimum-intercept Method Versus NARUC's Minimum-intercept Method

66. Staff contends that Aquila deviated from the minimum-intercept method discussed in the NARUC manual. Specifically, Staff raises issue with: 1) the use of replacement costs instead of average installed book cost; 2) the use of all classes of poles instead of Class 7 poles to determine the minimum-intercept for FERC Account 364; 3) the determination not to multiply

the minimum-intercept by two for FERC Account 365; and 4) the use of transformers above 50 kVA rather than single-phase transformers up to and including 50 kVA for FERC Account 368.

67. OCC takes the position that it is not proper for Aquila to extrapolate the curve-fit lines to find the minimum-intercept points. OCC finds such an extrapolation is unreliable in determining the minimum intercept point.

68. Aquila takes issue with Staff's contention and argues that the use of replacement costs rather than embedded (average installed) costs has no bearing on the final percentage of plant determined by the minimum-intercept method. Aquila applied the minimum intercept percentage (classification factors) to the embedded cost of plant in FERC Accounts 364 through 368.

69. CGHT asserts that Staff presented no evidence that demonstrates the impact of Aquila's method compared to NARUC's method. Even if NARUC's method had been used, according to CGHT, it would not result in 100 percent of these distribution costs being classified as demand-related. Rather, CGHT asserts that use of replacement costs eliminates distortions in the statistical analysis because the test year cost data reflects distribution plant additions that have occurred over many years. The Public Intervenors contend that if Aquila had not used costs measured in constant dollars (replacement costs) another source of variation would have been introduced into the analysis.

70. Staff argues that, if the Commission accepts Aquila's proposed minimum-intercept method, there may need to be an adjustment to FERC Account 367 (underground conductors) to remove all customer contributions in aid to construction.

71. We accept the minimum-intercept method proposed by Aquila for use in determining the customer-related and demand-related amounts for FERC Accounts 364000 through 368001. We understand that it does not follow the minimum-intercept method described in the NARUC manual. However, the NARUC manual does not provide an explanation for the use of Class 7 poles to determine the minimum-intercept for FERC Account 364 or the use of only single-phase transformers up to and including 50 kVA for FERC Account 368.

72. We conclude that Aquila's use of replacement costs to determine allocation factors that are then applied to actual costs is reasonable. According to Aquila witness Stowe, replacement costs were calculated by using: 1) property accounting records to determine the quantities of material for each account; 2) price information provided by Aquila's purchasing department; and 3) labor costs that represented the installed costs. Referring to Hearing Exhibit 16, Mr. Stowe explained, during cross-examination, that allocation factors were determined by applying linear regression techniques to the replacement cost data points.

73. To the extent that customer contributions in aid to construction have not been deducted from FERC Account 367, we order Aquila to deduct all of those contributions.

H. Allocation Method for Demand-related Distribution Plant and Associated Expenses

74. In its direct case, Aquila used a customer-weighted allocator to allocate demand-related distribution costs. Staff, OCC, and CGHT point out that Aquila erred because demand-related costs are not allocated on a customer basis. Staff, OCC, and CGHT instead utilize the NCP method to allocate the demand-related costs. In its rebuttal case, Aquila confirms that it did err and represents that it corrected the allocator. Aquila's workpapers and Hearing Exhibit 26 reveal that Aquila used average and excess (A&E) demand allocation factors with three

coincident peak (3CP) to calculate the excess portion (A&3CPE method), to allocate the demand-related distribution costs.

75. In its Statement of Position, Staff contends that use of the A&3CPE method is improper because the customer classes that have the greatest demand during the three coincident peak periods may be different than the customer classes that have the greatest demand during non-peak periods. Staff asserts that the NCP method more fairly allocates demand-related distribution costs to customer classes

76. We agree with Staff's position and adopt the NCP method for allocating demand-related distribution costs. In this instance, Aquila offers no justification for the method it uses. We agree with Staff that the NCP method more fairly allocates these costs because they are incurred to serve the local area peak demands that may not occur during the system coincident peaks.

I. Allocation Method for Production and Transmission Plant and Associated Expenses

77. Aquila used the A&3CPE method to allocate production and transmission costs. CGHT states that, traditionally, NCP, instead of 3CP, is used to determine the excess portion of the A&E method. However, CGHT takes the position that Aquila's proposed variation is "satisfactory" for assigning costs.

78. Staff and OCC argue that NCP should be used for the excess portion of the A&E method (A&NCPE). According to Staff witness Wendling, use of NCP to calculate the excess portion of the A&E method avoids putting all of the cost responsibility on one class without other classes sharing the cost responsibilities. Mr. Wendling argues that if one class' load pattern changes or shifts, a different class may actually be responsible for causing costs

related to peak. Mr. Wendling contends that the A&NCPE method allocates fairly among the classes regardless of when the respective class places demand on the system.

79. We find Staff and OCC's argument compelling and therefore adopt the use of the A&E method using NCP to calculate the excess portion for allocation of production and transmission plant and associated expenses. Aquila offers no justification for deviating from the traditional use of NCP for the A&E method. Based on the evidence presented in this case, we are not persuaded by CGHT that the A&3CPE method proposed by Aquila is satisfactory.

80. Aquila's load pattern suggests that use of the 3CP method (not Aquila's proposed A&3CPE method) might be appropriate for allocation of production and transmission plant and associated expenses. However, the record in this case does not provide sufficient evidence to adopt a 3CP method for these costs. We encourage Aquila to consider use of a 3CP method for allocation of production and transmission plant and associated expenses for its next Phase II electric rate case proceeding, if Aquila's load pattern continues to indicate coincident peaks within the same range for the summer months.

J. Adjustment for Missing Data for the Large Power System Class

81. CGHT contends that the adjustment Aquila made to derive four months of missing data for one of its LPS class customers overstates the LPS class demand. According to CGHT, Aquila used the average of nine other LPS customer hourly demands as a proxy for the four months of data missing for the one LPS customer. Aquila also adjusted the hourly loads for the LPS class to match the actual energy by applying a scaling factor to the hourly demand. CGHT contends that the load of the customer with the missing data was only half of the average load of the other nine customers used to compute the proxy. CGHT also points out that July and August 2001 were two of the four missing months of data. CGHT contends that use of Aquila's

adjusted peak demand data results in an overstated 3CP demand for the LPS class. Further, CGHT finds that Aquila's application of a scaling factor does not mitigate the overstatement.

82. CGHT argues that the proper method is to scale the average LPS load for the nine LPS customers first, and then estimate the annual energy for the customer with the missing data.

83. Staff witness Wendling, on cross examination, stated that he did not consider making the adjustment for missing data because it did not affect the demand data that he relied on to determine the allocation factors in his cost of service study.

84. On cross-examination, Aquila witness Tracy contended that his method of adjusting for the missing data, while different than Baron's proposal, results in an appropriate estimation of the load. Aquila maintains that its adjustment was proper and urges the Commission to approve its use for cost of service purposes.

85. We accept Aquila's proposed adjustment. Our decision to require use of NCP to calculate the excess portion of the A&E demand allocators eliminates any concern we had regarding the missing data. However, we encourage Aquila to be diligent in verifying that its load research recorders are working properly in order to minimize the possibility of missing data in future test periods.

K. Allocation Method for Transmission of Electricity By Others (Wheeling) Expense

86. CGHT disagrees with Aquila that expenses associated with transmission of electricity by others should be classified as energy-related, and allocated based on sales of energy for each customer class. CGHT points out that $4.9 million of transmission expense was paid to Public Service for Aquila's purchased power contracts. These charges for transmission service are based on a $1,890 per megawatt-month rate applied to the contract transmission capacity.

CGHT contends that these expenses should be classified as demand-related and allocated with an A&E allocation factor (specifically A&3CPE).

87. Staff, in its answer testimony, classified these expenses as energy-related and allocated the expenses based on sales of energy for each customer class. Staff explains in its cross-answer testimony that the Commission has previously accepted classification of transmission wheeling expenses as energy-related, as the expenses were primarily associated with transactions for economy energy purchases. Staff included the results of a study that classified these expenses as demand-related and allocated them with an A&E allocation factor (specifically A&NCPE). On cross examination, Staff witness Wendling indicated that Staff changed its position and now recommends that these transmission expenses be classified as demand-related and allocated with an A&NCPE allocation factor.

88. We adopt the use of the A&NCPE for allocation of expenses associated with transmission of electricity by others. The record is clear that this expense is incurred to pay for transmission capacity associated with firm power purchases. Therefore, it is reasonable that this expense be classified as demand-related and allocated accordingly.

L. Allocation of Income Tax Expense

89. CGHT disagrees with Aquila's method of allocating income tax expense on the basis of the total operation and maintenance expense of each customer class. CGHT contends operation and maintenance expenses are unrelated to income taxes. CGHT maintains that income taxes are related to the total return on investment on rate base. As a result, CGHT proposes to allocate income tax expense on the basis of rate base for each customer class.

90. Staff utilizes a "taxable income" formula to derive the income tax expenses. The formula subtracts operating expenses, depreciation and amortization expenses, taxes other than

income, interest expense, and some miscellaneous additions and deductions from the revenue to determine the taxable income for each customer class. Staff then multiplies this amount by the state (4.63 percent) and federal (35 percent) tax rates to determine the income tax expense. OCC allocates income tax expenses based on a revenue allocator.

91. We adopt the "taxable income" approach proposed by Staff. We find this approach to be most representative of how these costs were incurred for the test period.

M. Allocation of Distribution Costs to the Lighting Rate Class

92. Staff agrees with Aquila that the costs in FERC Account 373 should only be allocated to the lighting rate class. However, Staff disagrees with Aquila's position that FERC Account 373 captures all of the distribution costs associated with serving the lighting rate class. Staff witness Fischhaber testified that FERC Account 373 is specifically for facilities that are wholly used for the purpose of providing electricity for lights. Staff witness Wendling confirmed that this is his understanding of FERC Account 373, as well. According to Staff, distribution costs in FERC Accounts 364 through 368 should also be allocated to the lighting rate class because these costs represent the facilities required to get electricity from generation to the facilities dedicated to providing service to the lighting rate class.

93. We agree with Staff that Account 373 tracks only the costs for facilities wholly dedicated to providing service to lighting customers and not all the distribution costs associated with serving those customers. We therefore require costs from FERC Accounts 364 through 368 be allocated to the lighting rate class.

V. RATE DESIGN

A. Rate Class Changes

94. Aquila proposes: 1) consolidating the residential and small general service rate classes; 2) creating large power service secondary and large power service primary rate classes; 3) modifying eligibility requirements for large general service secondary, and large general service primary rate classes; and 4) embedding the large power service transmission rate class in the tariff for the large power service primary rate class. Aquila proposes maintaining the irrigation pumping, private area lighting, street lighting, and traffic signal lighting rate classes. However, Staff argues that separate tariff sheets and rates should be established for the transmission voltage level service customers.

95. CGHT contends that the rates proposed by Aquila for large power service transmission customers, derived by applying a 1 percent credit to the rates for large power service primary, do not reflect the lower costs associated with transmission voltage level service. As such, CGHT asserts that the credit should be 2.3 percent.

96. In its rebuttal testimony, Aquila agreed with Staff that a separate and distinct tariff should be established for the transmission voltage level service customers. Aquila contends that this can be accomplished in the compliance filing of its tariff sheets.

97. In its Statement of Position, the Public Intervenors contend that the eligibility requirements in the tariffs for the large power service secondary and primary rate classes should be clarified to reflect that customers will be moved into the large power service class only when the customer monthly load in the most recent 12-month period exceeds 1400 kW. The Public Intervenors assert that this is consistent with Aquila's representations during the hearings.

98. We adopt Aquila's proposed rate class changes including the proposal to establish a separate tariff for transmission voltage level service customers. We note that there are no longer any objections to the proposed rate class changes. In the separate tariff Aquila shall reflect the lower cost associated with transmission voltage level service customers. We also require Aquila to clarify the eligibility requirements for the large power service tariffs.

B. Elimination of Time of Use and Interruptible Tariffs

99. Aquila proposes eliminating the time of use and interruptible rates. According to Aquila, elimination of time of use rates is reasonable because its marginal cost of supply is relatively flat regardless of the season or time of day. Instead, Aquila proposes an "hours of use" rate structure that offers a lower energy charge if energy use is 200 kWh or greater for every kW of demand placed on the system by the customer. Aquila maintains that this provides customers with an incentive to manage load factor. No party raised issue with Aquila's proposal to eliminate the time of use rates or with Aquila's proposal to set the threshold for a reduced rate at 200 kWh for every kW of demand.

100. With regard to eliminating the interruptible rates, Aquila argues that it is not eliminating the concept of load reduction because it will still offer its voluntary load curtailment (VLC-1) tariff. Under the VLC-1 tariff, customers can opt to reduce load upon request by Aquila.

101. CGHT opposes elimination of interruptible tariffs arguing that Aquila continues to have a need for additional summer peaking capacity that could be met with interruptible load. CGHT urges that interruptible credits should be paid to customers for interruptions during the four summer months. CGHT also argues that credits should be offered if there is additional value in customer interruptions during the other eight months of the year. CGHT proposes to:

1) adjust the test year loads to add back any load that was actually interrupted at the time of the three monthly CPs to each rate class containing the interruptible load and the total system peak load; 2) add back interruptible credit revenues to the corresponding customer classes; and 3) allocate the interruptible credit amount as a capacity expense to all customer classes. CGHT contends that demand for the LGS and LPS classes should be adjusted to reflect the amount that would have actually been on the system during the test year absent any interruptions. CGHT also recommends an interruptible service credit of $8.19 per kW-month for secondary, $7.98 per kW-month for primary, and $7.77 per kW-month for transmission for the four summer months. CGHT further recommends that the revenues that would have been collected from the interruptible customers due to the interruptible service credit be collected from all of Aquila's customers by increasing the rates for each customer class.

102. Staff supports elimination of the current interruptible tariffs, citing few interruptions during the test period. However, Staff does recommend reconsideration of interruptible tariffs after a reevaluation is completed on the design of interruptible rates.

103. Aquila states that only three customers are currently taking interruptible service, therefore, these customers would be able to utilize the VLC-1 tariff. Aquila maintains it will not object if the Commission decides it is reasonable to require interruptible tariffs to be offered. Aquila asserts that its existing interruptible tariff could be used with rates based on the interruptible credits proposed by CGHT witness Baron. Staff takes the position that, if an interruptible credit is adopted, it should result in a net benefit to all customers, not just Aquila's largest customers, by reducing Aquila's operating costs.

104. We approve elimination of time of use tariffs. We require Aquila to offer interruptible tariffs. We agree with Staff that the interruptible rate should result in a net benefit

to all customers. It is not clear to us that CGHT's proposal would result in a net benefit to all customers. Therefore, we will require a follow-on proceeding before an Administrative Law Judge for purposes of determining the rate design for an interruptible tariff and a reallocation of costs to all rate classes. The rate design should take into account Aquila's interruption history, load curtailment needs, and the amount paid by Aquila for generation capacity. The follow-on proceeding shall be completed so interruptible tariffs can be put into effect at the same time as the other tariffs that result from this proceeding.

105. We encourage Aquila to continue to offer its VLC-1 tariff. Because we are requiring Aquila to offer an interruptible tariff, Aquila shall clarify in the VLC-1 tariff that load served under an interruptible tariff is not eligible for voluntary curtailment under the VLC-1 tariff.

C. Maintenance, Backup, and Supplemental Tariffs

106. Holcim states that it is considering self-generation. However, Aquila's Cogeneration and Small Power Producer Electric tariff does not contain cost-based rates and does not provide adequate information for Holcim to determine the feasibility of self-generation. Consequently, Holcim requests that the Commission require Aquila to develop appropriate cost-of-service based rates for the provision of maintenance, backup, and supplemental power services.

107. Aquila asserts that Holcim could use the Auxiliary Service rider tariff to examine the feasibility of self-generation. Aquila contends that Holcim can use this rate and the rate from the appropriate rate schedule to determine an estimate for standby service costs. Aquila further contends that it can respond to Holcim's specific needs if additional data (*i.e.*, size and location of generating unit; maintenance schedule for generating unit) is provided by Holcim.

108. We encourage Aquila to provide appropriate information, if requested, to Holcim for use in analyzing the feasibility of self-generation. We find it inappropriate to require Aquila to offer a tariff unless customers will actually take service under the tariff. It is not clear from this proceeding that Holcim might take service under maintenance, backup, or supplemental tariffs if they were offered.

D. Uniform Rate of Return Versus Revenue Apportionment

109. Staff insists that for rates to be fair and reasonable they must be based on a cost of service study that applies a uniform rate of return, in this case 9.07 percent, to each customer class. The OCC supports a uniform rate of return for each customer class as long as it is tempered by some form of gradualism to address rate shock.

110. Aquila witness Keith asserted that Aquila did not propose rates that achieve a uniform rate of return from all customer classes because it felt the rate change would not have been reasonable for several of the classes.

111. CGHT argues that the revenue apportionment among rate classes that follows the results of its cost of service study is reasonable because in this case it does not create rate shock. CGHT recommends that if the Commission determines that it is appropriate to set rates based on a uniform rate of return criteria, then it should do so based on a corrected cost of service study. CGHT contends the Commission should rely on CGHT's cost of service study because CGHT has made the appropriate corrections.

112. We direct Aquila to design rates to provide a uniform rate of return. Generally we agree that rates designed to achieve a uniform rate of return is an appropriate policy. However, we agree with OCC that, in this case, a uniform rate of return for each customer class should be tempered by gradualism to address rate shock, if necessary. We also reserve the option of

deviating from a uniform rate of return as part of a gradualism or phase-in approach if it appears that a rate increase for a particular rate class is so severe as to likely induce load-changing behavior.

E. Proposed Rate Designs

113. Aquila witness Gray sponsored the Company's rate design. According to Aquila, it used its cost of service study as a guide to determine how much total cost should be collected from each rate class. Aquila represented that it used its best judgment to determine what the customer, energy, and demand charges should be. For each rate class, Aquila performed a proof of revenue analysis to demonstrate that its rate design would collect the appropriate amount of revenue from each rate class.

114. CGHT witness Baron adopted the rate design proposed by Aquila in its direct case. CGHT agreed that the rate design proposed by Aquila in its direct case reflects the costs determined for each rate class by CGHT's cost of service study.

115. Staff witness Wendling sponsored Staff's rate design. According to Mr. Wendling, Staff's proposed rates recover the customer-related costs through the customer charge; the demand-related costs through the demand charge or the energy charge for non-demand metered customers; and the energy-related costs through the energy charge. Staff performed a proof of revenue analysis to demonstrate that its rate design would collect the appropriate amount of revenues from each rate class. Staff accounted for unbilled revenues and other revenue adjustments in its proof of revenue analysis. Staff asserts that Aquila did not account for unbilled revenues and certain other revenue adjustments in its proof of revenue analysis.

116. The OCC argues that the Commission should not raise the customer charge for the residential and small general service customer classes. According to the OCC, taking into account the direct costs that increase with each additional customer in this case results in a lower amount than the current monthly customer charge for the residential customer class. The OCC contends that, from a policy perspective, low fixed customer charges should be adopted to minimize the portion of the bill not affected by usage, because low-income or fixed-income customers can only attempt to control the amount of their bills by controlling their usage.

117. We will not adopt a rate design until Aquila has filed a rate design based on a cost of service study that incorporates the Commission's directives in this Order. We order Aquila to design rates that collect customer-related costs through the customer charge; collect demand-related costs through the demand charge or energy charge for non-demand metered customers; and collect energy-related costs through the energy charge as determined by the updated cost of service study. We also order Aquila to perform a proof of revenue analysis that accounts for unbilled revenues and other revenue adjustments.

F. Residential Winter and Summer Rate Differentiation

118. Staff asserts that the kWh rate should be the same year round for the residential rate class because there is no seasonal variation in Aquila's costs for capacity. Staff argues that Aquila's proposal to charge higher summer rates than winter rates is not just and reasonable.

119. Aquila responds that it is proposing a lower winter residential rate because it is proposing to consolidate its current residential rate classes. The lower rate proposed for the winter energy charge of $0.0555 per kWh for usage in excess of 1000 kWh (all other energy including summer energy charged at $0.0770 per kWh) is patterned after the current residential electrotechnology conservation rate class that has a winter energy charge of $0.03842 per kWh

for usage in excess of 650 kWh (all other energy including summer energy charged at $0.06592 per kWh). Aquila argues that this declining tail block rate should continue to be offered to eliminate rate shock.

120. We approve Aquila's proposal of a higher summer/lower winter kWh charge for the residential customer class. We agree with Aquila that, through the proposed rate consolidation for the residential customer classes, some residential customers would be harmed absent continuing some sort of rate differentiation. The 1000 kWh threshold during winter months (October through May billing periods) appears reasonable considering that Aquila's average residential usage is 595 kWh per month. While we find this to be a reasonable outcome for this proceeding, we expect Aquila to consider eliminating this rate differentiation in a future Phase II filing.

G. Incentives for Bias

121. Staff determines that Aquila has an incentive to bias its cost allocation in favor of larger customers as those customers have the option to leave Aquila's system, which is not available to smaller customers. Staff witness Winger described the concept of providing lower rates to customers who can respond by seeking an alternative, and to provide higher rates to customers who cannot respond to price signals, is known as Ramsey Pricing. Based only on this supposition, Mr. Winger urges the Commission to consider whether such bias affected Aquila's cost allocation.

122. Aquila argues that it has no incentive to push costs from one rate class to another. It maintains that it is economically indifferent to sales to one class of customer versus another, or in whether one class of customer grows faster or slower than another. Aquila takes the position

that Staff has presented no evidence implying that Aquila has proposed Ramsey Pricing. According to Aquila, Ramsey Pricing cannot be achieved in a regulated environment.

123. CGHT argues that Staff has not conducted a study or analysis in this case to determine if Aquila's largest customers could relocate. In cross-examination of Mr. Winger, CGHT established that it would not be reasonable or practical for Cripple Creek & Victor Gold Mining Company and Holcim, Aquila's largest customers to relocate their operations because they process raw Colorado materials. According to CGHT, Trane and Goodrich could not easily relocate their facilities and operations due to the associated expense and time commitments of such a relocation.

124. We find no evidence that Aquila biased its proposed rate design to harm captive customers. Although we believe it reasonable for Staff to review a Phase II rate case to determine if the utility is proposing unreasonable rates for captive customers, in this case Staff neither undertook such an analysis nor presented any specific evidence that such is the case here.

H. Rate Shock and Mitigation

125. Aquila and CGHT contend that Staff's rate design would create rate shock for the large power service rate classes because it proposes raising rates by 40.94 percent for large power service secondary customers and by 28.40 percent for large power service primary customers, compared to the rates that were in effect during the test year (but prior to the Phase I GRSA going into effect). Aquila urges that the Commission should avoid rate shock in setting rates in this docket.

126. On cross-examination, Aquila witness Tracy stated that it would be acceptable to mitigate rate shock for customer classes by phasing rates in over multiple years as long as specific rates were established that would become effective on a date certain.

127. We find it appropriate to address rate shock, if necessary, after reviewing the results of the cost of service study and rate design that incorporate the Commission directives contained in this decision.

VI. OTHER

A. Rules and Regulations

128. Staff argues that the rules and regulations proposed by Aquila for its tariff violate Commission rules, and are confusing and difficult to understand. Staff identified several modifications that should be made to Aquila's proposed tariff sheets. In its rebuttal testimony, Aquila agreed to revise its proposed rules and regulations tariff sheets to incorporate the modifications which address Staff's concerns.

129. However, Staff points out that Aquila has not presented it with revised versions containing the agreed-to modifications. Staff requests that the Commission require Aquila to circulate to all parties in this case its proposed tariff sheets as soon as practical. Staff further requests that adequate time be allowed to review these tariff sheets.

130. We direct Aquila to work with Staff to incorporate Staff's proposed modifications to the rules and regulations portion of the tariff.

B. Contract Requirement for Large Customers

131. Public Intervenors and CGHT take issue with the requirement in Aquila's proposed tariffs that members of the new LPS customer class would be required to sign a contract that stipulates a certain level of demand for that customer. Public Intervenors point out that they fail to see what risks from which Aquila is trying to protect itself. As public entities, Public Intervenors point out they are not moving anywhere, nor do they have a choice of electric

supplier. Public Intervenors characterize Aquila's contract proposal as an attempt to impose a back door minimum purchase obligation through a contract requirement.

132. Public Intervenors also argue that the terms of the proposed contract (Section 6.1) violates the protective rights of a customer facing termination of service pursuant to 4 CCR 723-3-13. Further, they argue, Section 4.1 of the proposed contract violates 4 CCR 723-3-27 because it requires a customer to be responsible for meter errors and make a claim for adjustment within 30 days of receipt of a bill. CGHT also points out that the proposed contract at Section 5.1 provides no recourse for customers against Aquila for interruptions of service. According to CGHT, such a result undermines the justness and reasonableness of electric utility rates in a utility's tariff as required by the Commission's rules and regulations, and is antithetical to the Commission's obligation to ensure that the rates and charges proposed by utilities are just and reasonable. Both Public Intervenors and CGHT maintain that the contract provisions also violate Aquila's duty as a utility monopoly to plan for and reliably serve all customer loads located in its service territory.

133. We agree with Public Intervenors and CGHT that the terms of the proposed contract violate Commission rules regarding the rights accorded consumers regarding termination of service and responsibility for meter errors. We also find that the contract as proposed violates Aquila's duty to provide electric service to all customers in its service territory. The terms of the proposed contract are within the scope of our rules.

134. We therefore require Aquila to resubmit a revised contract that complies with Commission rules and comports with its duty to provide electric service to all who request such service within its territory. Such a filing shall be made in conjunction with the other filings required in this Order. We point out that, should Aquila wish to waive certain Commission rules

regarding this matter, it may request that in an appropriate filing. We also advise Aquila that it should consider providing a blanket contract (such as it presented as part of its proposed tariffs here) or enter into individual contracts with its large power users.[4] We leave that option to Aquila.

C. Loss, Load Research, Lighting, and Depreciation Studies

135. Staff finds Aquila's loss study to be incomplete and simplistic, and disagrees with the assumptions Aquila used in estimating the distribution system losses. As a result, Staff recommends that the Commission require Aquila to complete a comprehensive system loss study prior to filing its next Phase II electric rate case.

136. In rebuttal testimony, Aquila did not object to Staff's future loss study recommendation.

137. Staff contends that Aquila should be required to design and implement load research for the customer classes approved in this docket because load research is the fundamental input to a cost of service study. According to Staff, the correct allocation of costs and the determination of reasonable rates are dependent on accurate load research.

138. Aquila states that it plans to design and implement a load research sample in Colorado for the rate classes approved in this docket. Aquila contends that it would take at least two years to design, implement, and collect load research data that could be used for cost of service study purposes.

139. Staff argues that it is forced to recommend that all lighting rates be increased by a uniform percent because Aquila has not performed a disaggregated cost study for the lighting

[4] We encourage such negotiations with large power users so that Aquila and its ratepayers are protected from such users' unanticipated exit from Aquila's system.

rate classes. Staff contends that a disaggregated cost study is required to assure that each type of light is assigned an appropriate cost.

140. Staff points out that Aquila has not conducted a depreciation study since 1981. Staff recommends that the Commission require Aquila to file a depreciation study by the end of 2004.

141. Aquila agrees to file a depreciation study by the end of 2004 consistent with Staff's recommendation. Aquila also did not object to Staff's disaggregated cost study recommendation.

142. We direct Aquila to prepare a system loss study and further direct Aquila to coordinate with Staff regarding the adequacy of the loss study prior to the filing of its next Phase II rate case. The Commission encourages Aquila to follow through with plans to conduct load research in Colorado based on the rate classes approved in this docket and to use appropriate load research in its next Phase II rate case. We further direct Aquila to file design rates for each lighting rate class based on the results of a cost of service study that further allocates lighting-related costs to each lighting rate class. Aquila has identified four separate lighting rate classes: private area lighting; street and highway lighting; traffic signal lighting; and street/security lighting. It is likely that the cost relationships have changed since rates were designed for these lighting rate classes. Aquila shall complete this disaggregated cost of service study so that rates for the lighting rate classes can be put into effect in conjunction with all other rates from this proceeding. We also direct Aquila to file a depreciation study by the end of 2004.

D. General Rate Schedule Adjustment Versus New Rates

143. OCC recommends that the Commission not approve new rates as a result of this proceeding. Rather, the OCC urges the existing GRSA remain in effect until the cost allocation

decisions made in this docket can be used to determine customer-class specific rate increases following Aquila's current Phase I electric rate case, Docket No. 04S-035E.

144. Staff disagrees with OCC's recommendation to delay implementation of new rates because it would harm customer classes that should receive rate decreases, compared to the rates paid under the GRSA, as a result of this proceeding.

145. We agree with Staff on this issue. As a result, we reject the OCC recommendation.

E. Future Phase II Electric Rate Case

146. Staff recommends that the Commission require Aquila to file another Phase II electric rate case following the conclusion of Aquila's current Phase I electric rate case, Docket No. 04S-035E. Staff finds this a reasonable recommendation because this Phase II case lacks a competent loss study and uses questionable load research data.

147. We reject the Staff recommendation. Aquila will not have completed load research for the new rate classes and other pertinent studies in a time frame that makes it reasonable to conduct a Phase II rate case for the test period used in Docket No. 04S-035E. However, the Commission expects and encourages Aquila to file an electric rate case including a Phase II well before 20 years transpires again.

F. Timeline for Compliance Filing

148. In its Statement of Position, Aquila states that it will be able to file compliance tariffs to implement the rate classes and rates adopted by the Commission within five days after a decision is issued in this matter. Additionally, Aquila indicates that it will file compliance tariffs for rules and regulations within 30 days of the issuance of a decision. According to Aquila, for

the rules and regulations portion of its tariff, it will circulate draft tariff language to the parties in this case for comment as soon as possible after the decision is issued.

149. Aquila requests that all of the compliance tariffs be allowed to go into effect on the same date. According to Aquila, it will take approximately 60 days for it to set up the billing system to issue a bill for the new rate classes and rates. Therefore, Aquila requests that the effective date of its new tariffs be set for 60 days after the Commission's decision becomes effective in this matter.

150. Staff requests that parties be allowed an adequate opportunity to review all of the compliance tariffs filed by Aquila in this matter. Staff specifically requests that the Commission require Aquila to file, under a new advice letter, compliance tariffs on not less than 30 days' notice to the Commission and the public.

151. With regard to these matters, we order the following. Within ten calendar days after this Order goes into effect, Aquila shall provide all parties to this case its proposed rules and regulations tariffs, including the Commission approved line extension policy; its proposed Electric Extension Standards Handbook; and its proposed contract language. Parties shall provide comments to Aquila on the rules and regulations tariffs; the Electric Extension Standards Handbook; and contract language within ten calendar days of receipt of the proposed tariffs and handbook.

152. Within 30 calendar days after this Order goes into effect, Aquila shall file with the Commission a cost of service study that incorporates all of the Commission's directives in this decision; a rate design as prescribed herein; proposed tariffs including modified contract language and modified rules and regulations tariffs. Aquila should also comment on whether the rates will create rate shock for any of the customer classes.

153. Within 15 calendar days after Aquila files its cost of service study with the Commission, parties shall file comments informing the Commission whether they agree with Aquila's cost of service study; with the rate design as prescribed herein; and, whether tariffs comply with the Commission's decision. If a party disagrees with any portion of Aquila's filings, it should state with particularity what the disagreement is. Parties should also comment on whether the rates will create rate shock for any of the customer classes

154. Within 15 calendar days of receipt of comments, the Commission will issue a decision on compliance. The Commission shall also decide at that time whether rate shock should be addressed. If the Commission finds that Aquila's cost of service study, rate design, and tariffs comply with the Commission's directives, then after the decision on compliance becomes effective Aquila shall file on not less than 30 days' notice an advice letter with attached tariff sheets which reflect all the directives set forth in this Commission's decision.

VII. ORDER

A. The Commission Orders That:

1. Staff of the Commission's functionalized average methodology regarding Line Extension Policy shall be utilized by Aquila, Inc., except that a ten-year term of forecast incremental revenue shall be utilized for commercial and industrial service as discussed above.

2. Aquila, Inc., shall work with Staff of the Commission to develop appropriate tariff language regarding its Construction Allowance calculations to ensure such language is consistent with the provisions of 4 *Code of Colorado Regulations* 723-3-31 as discussed above.

3. Aquila, Inc., shall work with Staff of the Commission to remove any rate-related provisions that may appear in Aquila, Inc.'s Rules and Regulations Standards Handbook as discussed above.

4. Aquila, Inc.'s updated loss factors shall be adopted including the 2.21 percent loss factor for the transmission voltage level. Losses shall also be accounted for in any cost of service studies as discussed above.

5. We adopt the coincident peak data provided by Aquila, Inc., that is not adjusted to true-up load research data to match the actual system peak demand as discussed above.

6. We adopt Aquila, Inc.'s adjustment methodology for missing data for its large power system class as discussed above.

7. We adopt Cripple Creek & Victor Gold Mining Company, Goodrich Corporation, Holcim (U.S.), Inc., and The Trane Company's proposed adjustment to shift incentive cost adjustment related revenues from Aquila, Inc.'s Large General Service class to its Large Power Service class as discussed above.

8. We adopt Aquila, Inc.'s distribution system classification of costs in Federal Regulatory Energy Commission Accounts 364 through 368001 as customer-related and demand-related as discussed above.

9. We adopt Aquila, Inc.'s minimum intercept method as discussed above for use in allocating costs in Federal Energy Regulatory Commission Accounts 364 through 368001.

10. We adopt the non-coincident peak allocation method for demand-related distribution plant and associated expenses as discussed above.

11. We adopt the average and non-coincident peak allocation method for generation and transmission plant and associated expenses as discussed above.

12. We adopt the classification of wheeling expense as demand-related utilizing an average and non-coincident peak allocation method as discussed above.

13. We adopt the revenue less expenses times income tax rate method proposed by Staff of the Commission for the allocation of income tax expense as discussed above.

14. We adopt Staff of the Commission's allocation of distribution costs from Federal Energy Regulatory Commission Accounts 364 through 368 to the lighting rate class as discussed above.

15. We adopt Aquila, Inc.'s rate class changes, including the proposal to establish a separate tariff for transmission voltage level service customers as discussed above. However, we direct Aquila, Inc., to clarify the eligibility requirements for large power service tariffs.

16. We require Aquila, Inc., to offer interruptible tariffs. We also require a follow-on proceeding within 90 days, to be heard by an Administrative Law Judge to determine the appropriate rates and allocation of "keep whole" revenues regarding adjustments for interruptible loads and credits.

17. We direct Aquila, Inc., to design rates to provide a uniform rate of return consistent with the discussion above.

18. We direct Aquila, Inc., to design rates consistent with the discussion above at paragraph 122. We also direct Aquila, Inc., to perform a proof of revenue analysis that accounts for unbilled revenues and other revenue adjustments.

19. We adopt Aquila, Inc.'s method for a higher summer/lower winter kWh charge for the residential customer class as discussed above.

20. We direct Aquila, Inc., to work with Staff of the Commission to incorporate Staff of the Commission's proposed modifications into Aquila, Inc.'s rules and regulations portion of its tariff.

21. Aquila, Inc.'s proposed contract for its Large Power Service class customers is rejected as discussed above.

22. We direct Aquila, Inc., to prepare a system loss study and further direct Aquila, Inc., to coordinate with Staff of the Commission regarding the adequacy of the loss study prior to filing its next Phase II rate case, as discussed above.

23. We direct Aquila, Inc., to file design rates for each lighting rate class based on the results of a cost of service study that further allocates lighting-related costs to each lighting class as discussed above. Aquila, Inc., shall complete such a study to coordinate the implementation of rates for the lighting rate classes with all other rates from this proceeding.

24. We direct Aquila, Inc., to file a depreciation study by the end of 2004.

25. We direct Aquila, Inc., to provide all parties to this case with its proposed rules and regulations tariff, including the Commission approved line extension policy, its proposed Electric Extension Standards Handbook, and its proposed Large Power Service contract language within ten calendar days after the effective date of this Order.

26. The Parties to this matter are directed to provide comments to Aquila, Inc., regarding the rules and regulations tariffs, the Electric Extension Standards Handbook, and the proposed Large Power Service contract language within ten calendar days of receipt of the proposed tariffs, handbook, and contract language.

27. We direct Aquila, Inc., to file a cost of service study including a disaggregated lighting cost of service study that incorporates all the Commission directives contained in this Order within 30 calendar days after the effective date of this Order. We also direct Aquila, Inc., to file a rate design as prescribed herein, proposed tariffs including modified Large Power Service contract language, and modified rules and regulations tariffs within 30 calendar days

after the effective date of this Order. We further direct Aquila, Inc., to provide comment whether the resulting rates will create rate shock for any of the customer classes.

28. The tariff sheets filed by Aquila, Inc., pursuant to Advice Letter No. 586 as amended are permanently suspended.

29. The 20-day period provided for in § 40-6-114, C.R.S., within which to file applications for rehearing, reargument, or reconsideration begins on the first day following the effective date of this Order.

30. This Order is effective on its Mailed Date.

B. ADOPTED IN COMMISSIONERS' DELIBERATION MEETING August 3, 2004.

THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

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Commissioners

COMMISSIONER CARL MILLER
NOT PARTICIPATING.

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