

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

DOCKET NO. 08R-424E

IN THE MATTER OF PROPOSED AMENDMENTS TO THE RULES OF THE COLORADO
PUBLIC UTILITIES COMMISSION RELATING TO THE RENEWABLE ENERGY
STANDARD.

**RECOMMENDED DECISION OF
ADMINISTRATIVE LAW JUDGE
KEN F. KIRKPATRICK
ADOPTING RULES**

Mailed Date: April 20, 2009

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I. STATEMENT

1. This proceeding was instituted by a Notice of Proposed Rulemaking (NOPR) given in Decision No. C08-1001. The notice given by that Decision was published in the October 2008 *Colorado Register*.

2. In that NOPR, the Commission discussed some background of the Rules Relating to the Renewable Energy Standard (RES Rules or Rules). It noted that Commission Electric Rules 4 *Code of Colorado Regulations* (CCR) 723-3-3650 through 3665 cover the Renewable Electric Standard. These rules first went into effect in July 2006. In March 2007, Governor Ritter signed into law House Bill (HB) 07-1281, which made substantive changes to the RES. A limited rulemaking was undertaken in late 2007 to implement changes required by this legislation. In the 2008 legislative session, the Colorado General Assembly passed, and Governor Ritter signed, HB08-1160 concerning net metering requirements for cooperative electric utilities (CEAs). This legislation required that the Commission, by October 1, 2008, address the applicability of its interconnection rules to CEAs.

3. The Commission stated that the basis and purpose of the proposed rulemaking would be to:

- a) Re-evaluate the rules concerning the applicability of the Commission's small generator interconnection procedures to cooperative electric utilities as required by HB08-1160; and
- b) Modify and clarify the complete body of RES rules to address issues made evident by our experience with the RES to date.

4. The Commission noted that only some of the proposed rules were included with the NOPR, but that additional proposed rules would be noticed in advance of the hearings, which were scheduled for December 8 and 9, 2008. On October 31, 2008, in Decision No. R08-1148-I, the undersigned Administrative Law Judge (ALJ) made available the complete draft of proposed rules (Draft Rules or proposed rules). The Commission also posted these on its web site.

5. By Decision No. C08-1159-I, November 10, 2008, the Commission added two additional days of hearing, January 29 and 30, 2009.

6. Numerous interested persons filed written comments prior to and between the two sets of hearings, which were held as scheduled.¹ Many commenters attended and offered oral comments in addition to their written comments. Two exhibits, Exhibit 1 and Exhibit 2, were

¹ Timely comments were received from the City of Rifle; SunRun, Inc.; the Solar Alliance; Colorado Solar Energy Industries Association (CoSEIA); Public Service Company of Colorado (Public Service); Alan A. Dunwell; Intermountain Rural Electric Association (IREA); Denver International Airport (DIA); Western Renewable Energy Generation Information System (WREGIS); Paul Kunasz; Wal-Mart Stores, Inc., and Sam's West, Inc. (Wal-Mart); SunEdison, LLC (SunEdison); Applied Materials; Governor's Energy Office (GEO); Colorado Department of Corrections (CDOC); Colorado Trout Unlimited; Ron Broberg; Colorado Association of Municipal Utilities (CAMU); Southwest Windpower, Inc.; Colorado Office of Consumer Counsel (OCC); Western Resource Advocates (WRA); Colorado Rural Electric Association (CREA); Tri-State Generation and Transmission Association, Inc. (Tri-State); Black Hills/Colorado Electric Utility Company, LP, doing business as Black Hills Energy (Black Hills); Interwest Energy Alliance (Interwest); The Nature Conservancy; Audubon Colorado; Playa Lakes Joint Venture; Colorado Natural Heritage Program; Rocky Mountain Bird Observatory; City of Boulder; Interstate Renewable Energy Council (IREC); Holy Cross Electric Association (Holy Cross); CF&I Steel, L.P. (CF&I); Climax Molybdenum Company (Climax); Rocky Mountain Farmers Union and Colorado Harvesting Energy Network; Colorado Division of Wildlife (CDOW); Audubon Society of Greater Denver; Colorado Independent Energy Association; Sierra Club, Rocky Mountain Chapter; Liberty Media Corporation; Standard Renewable Energy, L.P.; and Upper Yampa Water Conservancy District.

offered at the hearings. At the end of the hearing on January 30, 2009, the ALJ extended the comment period through February 13, 2009. Additional comments were received during this extended period.

II. DISCUSSION

7. The Commission thanks all commenters for their time and thoughtful input. Consistent with the NOPR, the commenters have addressed a wide range of issues encompassing much of the RES Rules. Many of the comments have been accepted and incorporated into the Order that follows.

8. The tenor of this Decision is one of fine-tuning the existing program. Generally, the ALJ's interpretation of the record is that the Qualifying Retail Utilities (QRUs)² are doing a successful job of implementing the Renewable Energy Standard; the industry is still evolving; and certain areas can be tweaked to improve the Commission's Rules. In addition, the Rules need to be amended to comply with HB08-1160, regarding net metering requirements for CEAs.

III. DEFINITIONS—RULE 3652

A. Biomass

9. GEO, Public Service, and Black Hills proposed modifying the definition of biomass to include forest resources. Public Service would include any forestry product or byproduct; Black Hills suggests limiting the addition to forest products designated as waste materials. Both proposals seek to include pine-beetle damaged timber. Public Service's suggestion seems more inclusive, and it will be adopted.

² Section 40-2-124(1), C.R.S., defines a QRU as any provider of retail electric service, other than municipally owned utilities that serve forty thousand customers or less. That section and subsequent sections also contain more specific provisions concerning cooperative electric associations that have voted to exempt themselves from Commission jurisdiction.

B. Community-Based Project

10. Several commenters suggested that the Commission further define the term “community-based project” in order to further implement § 40-2-124(c)(VI), C.R.S. That provision states that:

Each kilowatt-hour of electricity generated from eligible energy resources at a community-based project shall be counted as one and one-half kilowatt hours. For purposes of this subparagraph (VI), “community-based project” means a project located in Colorado: (A) That is owned by individual residents of a community, nonprofit organization, cooperative, local government entity, or tribal council; (B) The generating capacity of which does not exceed thirty megawatts; and (C) For which there is a resolution of support adopted by the local governing body of each local jurisdiction in which the project is to be located.

11. The comments demonstrated the difficulty of defining ownership, but the record is insufficient to adopt further refinement. The ALJ agrees with one commenter who suggested that this needs to be the topic of a separate rulemaking proceeding. That rulemaking would be an appropriate forum to discuss all related issues, such as how to apply the multiplier in the case of jointly owned projects. As such, the changes proposed to Rule 3654(g) in this proceeding will not be adopted.

C. Eligible Energy, Renewable Energy, Renewable Energy Resources, and RECs

12. The Draft Rules contain modified definitions for “eligible energy,” “eligible energy resources,” and the “renewable energy credit.” “Eligible energy” is defined as recycled energy and renewable energy, and like the definition in the existing rules, eligible energy excludes fossil and nuclear fuels and their derivatives. Unlike the existing definition of “eligible energy,” the draft rules do not include RECs in the definition of “eligible energy.” The Draft Rules also contain a new definition for “renewable energy resources” based on the renewable energy components of the existing definition of “eligible energy.”

13. Public Service suggests that if the definition of “eligible energy” in the Draft Rules is adopted, all instances of that term in the entire set of RES Rules would need to be changed to “eligible energy and RECs.” Public Service suggests no change to the existing definition of “RECs.” Public Service explained at hearing that although the current definition of a REC lists non-energy benefits attributed to electricity generated from renewable energy resources, a REC is basically a currency used to meet the RES mandate.

14. The Solar Alliance and SunEdison suggest that the Commission not intermingle the definitions of “recycled energy” and “RECs,” since recycled energy does not generate any RECs.

15. GEO and WRA suggest that the Commission consider adopting within its definition of “REC” a WREGIS REC certificate.

16. The definition of “renewable energy credit” shall be modified in recognition of the inability for recycled energy to create RECs. While “recycled energy” is “eligible energy,” it is not “renewable energy.” “RECs” shall be defined only in terms of energy generated by “renewable energy resources,” which shall be defined by the renewable energy components of the existing definition of “eligible energy.” Consistent with the discussion herein regarding WREGIS, GEO’s and WRA’s suggested changes to the definition for “RECs” will not be adopted.

17. “Eligible energy” shall be defined to include “recycled energy” and “renewable energy.” As a result of this change, instances of the “eligible energy” in the existing rules shall be modified to “eligible energy and RECs,” as necessary.

D. QRU

18. Solar Alliance proposed a change to the definition of QRU to more explicitly provide that third-party developers that provide electricity directly to retail customers under power purchase agreements are not QRUs. Black Hills opposes the Solar Alliance suggestion, and requests the rule remain unchanged.

19. The Solar Alliance language appears to go too far by not requiring a physical nexus between the provider and the customer. Therefore no change will be made.

IV. RENEWABLE ENERGY STANDARD—RULE 3654**A. REC Shelf Life**

20. Sections 40-2-124(1)(c)(I) and (V), C.R.S., establish the minimum amounts of eligible energy that must be generated or caused to be generated by QRUs each year. Section 40-2-124(1)(d), C.R.S., requires the Commission to adopt rules to establish a system of tradable RECs that may be used by a QRU to comply with the RES.

21. Existing Rules 3654(a), (b), and (c) set basic standards for compliance with the RES in terms of eligible energy. Existing Rule 3652 defines eligible energy as renewable energy, recycled energy, and Renewable Energy Credits or RECs, each of which is also a defined term in Rule 3652.

22. Existing Rule 3654(i) defines the length of time that eligible energy (including RECs) may be used to comply with the RES for a given compliance year. The “shelf life” of eligible energy includes the full compliance year in which it was generated plus the six months preceding that compliance year and the five compliance years following that compliance year.

23. The Draft Rules shortened the shelf life of eligible energy and RECs to 21 months, again including the full compliance year in which it was generated but only including

the six months immediately preceding that compliance year and only the three months immediately following that compliance year.³

24. The filed and oral comments nearly unanimously oppose the shortened shelf life of eligible energy and RECs in the Draft Rules. Public Service argues that the shorter shelf life would cripple the development of new eligible energy resources in advance of a compliance year and would seriously reduce its ability to market RECs not needed for compliance with the RES. The OCC expresses concerns about the value of RECs resulting from excess supplies in combination with the shorter shelf life, and argues against shortening the current shelf life. The GEO asserts that a shorter shelf life would not be in the best interests of renewable development in Colorado and could force QRUs to acquire RECs when prices are high. Wal-Mart argues that RECs with longer life spans offer greater incentives to customers. The Solar Alliance and SunEdison point out that the existing rule was a result of long negotiations and compromises and should be maintained.

25. In light of the absence of comments in support of a shortened shelf life for eligible energy and RECs, existing Rule 3654(i) shall not be modified.

B. Borrow Forward

26. The existing Rule 3654(k) allows a QRU to borrow forward eligible energy generated during the following two compliance years. The rule applies only for the investor owned QRU's first four compliance years, 2007 through 2010, and therefore the 2010 RES

³ By Decision No. R09-0117 issued on February 5, 2009 in Docket No. 08A-260E, the Commission approved Public Service's voluntary green pricing program in which customers pay premiums to purchase eligible energy associated with increased levels of renewable energy resources. The eligible energy sold under this program will be certified by an independent third party, such as Green-e. Certified Green-e Energy presently includes only renewable energy that is generated in the calendar year in which it is sold, the first three months of the following calendar year, and the last six months of the prior calendar year.

compliance year is the last in which the investor owned QRUs may borrow forward. The existing Rule 3654(k) was part of the consensus rules filed in Docket No. 05R-112E in which the Commission originally promulgated its RES Rules following the passage of Amendment 37.

27. Existing Rule 3000(b) specifically excludes existing Rule 3654(k) from applying to CEAs. The Commission adopted existing Rule 3000(b) by Decision No. C07-0622 in Docket No. 07R-166E based upon its specific identification of the RES Rules that appeared applicable to CEAs based on its reading of HB07-1281. Existing Rule 3654(k) also does not apply to municipal utilities that are QRUs.

28. The Draft Rules eliminated the existing Rule 3654(k) because it was likely that the final rules emerging from this rulemaking would take effect after the investor owned QRUs had filed their 2010 RES compliance plans. The new RES Rules would apply to QRUs prospectively; therefore the removal of the rule was anticipated to be noncontroversial.

29. Public Service and the OCC suggested in their comments that the Commission retain the existing rule that allows for borrowing forward eligible energy and RECs.

30. Existing Rule 3654(k) shall not be modified and shall continue not to apply to CEAs and municipal utilities that are QRUs.

V. STANDARD REBATE OFFER—RULE 3658

A. Third-Party Administrator

31. The proposed rules suggested alternatives to the current model of QRU-administered renewable energy programs, including the administration of the Standard Rebate Offer (SRO). The record shows that the QRUs have done a successful job of implementing the programs. While there may be some potential conflict of interest where a QRU administers a program and also competes in one or more submarkets through a subsidiary, there is no evidence

in the record of any actual prejudice to non-QRU competitors. The conflict of interest seems to be only theoretical, not actual. This is an insufficient basis to remove the QRUs from their role as administrators. There are advantages to staying with a successful program, rather than taking the risk with an unknown, at a time of increased activity in the renewable energy field.

B. Third-Party Developers for Small Systems

32. Most commenters seek to have the Commission encourage the expansion of third-party ownership and operation of solar systems, particularly in the residential sector. These commenters suggest that as the industry has matured, additional financing options have become available that have the potential to expand the use of on-site solar systems. They point out that the high, initial costs of most solar systems are a deterrent to their broader penetration, and claim that any Commission Rules that effectively limit interconnection of third-party-owned systems operate to discriminate against lower income customers. They note that allowing the entry of third-party owners into the small residential market is consistent with and furthers the Legislative declaration of intent adopted with Amendment 37 which states in part that, "...it is in the best interests of the citizens of Colorado to develop and utilize renewable energy resources to the maximum practicable extent."

33. Public Service expressed concern in its comments that the current structure of the small programs favors wealthier customers due to high initial costs. It states that it now supports opening the 10 kW and under market to third-party developers. However, it is concerned about a sudden rush of financed systems receiving 20 years of up-front SO-REC payments and the effect on funds available under the retail rate impact limit. It supports a solution, contained in the

current form of Senate Bill 09-051⁴, which would require SO-RECs paid to owners of panels who are not the energy customers to be paid out as the energy is consumed.

34. A few commenters have gone further and argue that the Commission has already specifically found that third-party ownership is not inconsistent with the governing law when it approved the so-called Developer Model in Decision No. C07-0676. The ALJ agrees that while the Commission took some comfort in Public Service's acquiescence in the Developer Model for larger systems, the Commission's analysis was not based solely on that acquiescence. The analysis harmonized Amendment 37 and § 40-2-124, C.R.S., on the one hand, with the existing public utility law, on the other hand, in determining that third-party developers of on-site systems that owned appropriately-sized systems were not public utilities.⁵ The Commission's ultimate conclusion there remains valid today.

35. The commenters make a persuasive case to open up the smaller markets to the Developer Model as well. However, Public Service's concerns about the effect of a surge in the payment of up-front SO-REC payments appear valid. Therefore the rules as adopted extend the Developer Model to the smaller segments as well, but within the framework proposed by Public Service.

C. Leased Commercial Properties

36. Several commenters noted that the existing Rules contain requirements that are inhibiting the expansion of on-site solar to leased commercial properties. As the Solar Alliance notes, Public Service developed a standardized incentive for the under 100 kW segment that incorporates the \$2 per watt SRO rebate required by § 40-2-124(1)(e), C.R.S., as well as a

⁴ This was filed with Public Service's Reply Comments.

⁵ Decision No. C07-0676, pp. 28-33.

payment for SO-RECs. For small, 10 kW and under systems, presumed to be mostly residential, 20 years' worth of SO-RECs are paid up front. For the 10 kW to 100 kW systems, there is a performance-based incentive payment calculated on metered generation.

37. At least two subsections of Rule 3658 contain requirements that ensure that solar systems will not be moved from site to site, in order to prevent any potential to game the system and acquire full rebates at different sites. This makes sense applied to the 10 kW and under segment, where the SO-REC payments are all made up front, but it is not really necessary for the larger systems, where the SO-REC payments are based on production. Solar Alliance notes that this acts as a disincentive in the commercial arena. First, this could be read to prohibit a financing party from repossessing its collateral. Second, third-party developers rely on the credit worthiness of their customers to obtain financing, and these third-party developers would like to follow a tenant/customer who moves, rather than be forced to accept a less credit-worthy replacement. And third, a customer may hesitate to install a system if it knows it cannot take the system with it in the event of a move.

38. Solar Alliance suggests that to overcome these obstacles, the Commission should clarify that Rule 3658(c)(XII) (requiring the system to remain in place for its useful life) applies only to those systems receiving a one-time, up-front SO-REC payment. It wants the Commission to clarify that a commercial customer may substitute premises if it vacates the original premises. It offers some reasonable conditions, such as requiring the new premises to have comparable insolation, that the new premises be located in the same utility territory, and that the system be redeployed within 90 days.

39. Public Service also recognizes the limits the existing rules place on leased commercial premises. It proposes comparable changes to the rules that would allow a

commercial customer in a leased facility to enter into a 20-year agreement with a QRU that would allow relocation within the QRUs territory or allow the customer to cancel the agreement without penalty at the end of the customer's lease. However, a major difference appears to be that Public Service would amortize the \$2 per watt rebate over 20 years and pay only for the period the agreement remains in effect.

40. Public Service's proposal turns the rebate into a performance payment. A rebate is an immediate payment upon purchase that effectively reduces the purchase price. Therefore the rules as adopted contain a blend of the Solar Alliance proposal and Public Service's proposal, but they do not contain a provision to amortize the rebate.⁶ The rules as adopted should help to encourage the expansion of on-site solar systems into leased commercial premises.

D. Condominiums and Apartments

41. Several commenters suggested clarifying the Rules to make it easier for condominiums and apartments to participate in the SRO. The ALJ agrees that the Rules should be so modified. Public Service proposed specific language in its Reply Comments that would add Rules 3658(c)(XIII) and (XIV) to address the apartment and condominium situations explicitly. The proposed provisions appear to be a reasonable step, and they are contained in the adopted rules. However, the ALJ recognizes that other commenters have not had an opportunity to comment on this language, and he urges interested persons to carefully review these provisions and communicate their thoughts on them to the Commission.

⁶ The rules adopted do require repayment of the *pro rata* share of the rebate if the agreement is terminated early.

VI. RESOURCE ACQUISITION—RULE 3655**A. Acquisition Plans and Interplay with ERP Rules**

42. The Commission's initial RES Rules were crafted when the Commission's resource planning rules, 4 CCR 723-3-3500, *et seq.*, were based on a least-cost planning (LCP) paradigm. Since that time the Commission has significantly modified those rules in large part to reflect changes in Colorado's energy policies as expressed in new statutes passed by the Colorado General Assembly and signed into law. The Commission's new Electric Resource Planning (ERP) Rules were adopted on a permanent basis by Decision No. C07-1101 in Docket No. 07R-419E.

43. In Decision No. C06-0091 in Docket No. 05R-112E, the Commission explained that there are fundamental differences between the reasons for the acquisition of resources under the LCP process and the Amendment 37 process.⁷ The Commission stated that resources acquired for LCP purposes are to ensure that a utility is able to meet the electrical demands of its customers, focusing particularly on peak demand. By contrast, resources acquired for RES compliance are to ensure that electric energy produced by renewable energy resources is sufficient to meet the RES. Given these fundamental differences, the Commission denied Public Service's request to allow for an exemption from competitive acquisition new renewable energy resources of not more than 30 MW of capacity. The Commission therefore adopted Rule 3655(a) in its current form, requiring competitive acquisition in general and for solar systems greater than 100 kW in particular.

⁷ Interestingly the section on Rule 3655 in Commission Decision No. C05-1461 in Docket No. 05R-112E initially adopting the RES Rules primarily addresses the merits of a third-party administrator.

44. The Commission's ERP Rules are similar to their predecessor LCP Rules in that they are focused on an investor owned electric utility's abilities to meet peak demands in the future. However, the ERP Rules deviate from the LCP paradigm in their explicit recognition of a full range of non-energy costs and benefits associated with the production of electric energy. This change in the Commission resource planning rules for the acquisition of utility scale resources now prompts an examination of the interplay between the ERP Rules and these RES Rules in this proceeding.⁸

45. In its NOPR, the Commission cited the need to modify and clarify the complete body of RES Rules to address issues made evident by its experience with the RES to date. Such recent experience has involved the coordination between RES compliance plan dockets and ERP dockets. For instance, Commission Decision No. C08-0559 in Docket No. 07A-462E concerning Public Service's 2008 RES Compliance Plan describes the coordinated pre-hearing conferences and deliberations that were necessary to address the scope of that docket vis-à-vis the concurrent proceeding concerning Public Service's ERP. The Commission ultimately directed parties in the RES Compliance Plan proceeding to address the levels of eligible renewable energy resources to meet the RES beyond the specific 2008 compliance year that could be modeled to determine the optimum levels of various resources in Phase II of the ERP docket.

⁸ The Commission's RES Rules were also modified in 2007 in response to statutory changes. However, the rulemaking that modified the RES Rules, Docket No. 07R-166E, was handled expeditiously with a narrow focus on the provisions of HB07-1281. That rulemaking also preceded the emergency rulemakings in which the Commission enacted its ERP Rules.

46. The Commission reflected in Decision No. C09-0559 upon the controversies surrounding Public Service's plans outside of the ERP process to acquire up to 25 MW of central solar resources to procure RECs to meet the RES. However, it decided not to grant the acquisition a presumption of prudence as would normally be provided in accordance with an approved RES compliance plan. The decision made no mention of Public Service's plans to acquire any other types of utility-scale eligible energy resources; however, it did address Public Service's request to bank Renewable Energy Standard Adjustment (RESA) funds in order to afford the renewable resources that it planned to acquire pursuant to its ERP. The decision also addressed the calculation of the retail rate impact under Rule 3661, acknowledging that the Company's "High 123" resource plan proposed in the ERP docket was the basis for the determination of the calculations. However, the Commission deferred the method for calculating this retail rate impact to a future rulemaking such as the instant proceeding. Finally, Decision No. C09-0559 was notably silent on the levels of on-site solar resources.

47. The Draft Rules significantly modified existing Rule 3655 concerning the processes by which an investor owned QRU acquires eligible energy resources and RECs for compliance with the RES. The modified Rule 3655(a) specifically placed acquisitions of utility-scale eligible energy resources within the Commission's ERP process while retaining requirements for competitive bidding for all other eligible resources with the single exception of on-site solar facilities with nameplate ratings of 100 kW or less.

48. Public Service suggests two fundamental changes to Rule 3655. First, it proposes to increase the size limit requiring competitive bidding for eligible energy resources other than on-site solar to 30 MW consistent with the ERP Rules. Second, it proposes to exempt from competitive bidding for on-site solar resources all resources less than 500 kW. Public Service

explains that it is not cost effective for small projects and RECs to participate in competitive acquisition processes.

49. With respect to its RES Compliance Plan filings, Public Service stresses the importance of coordinating its ERP filings with its RES compliance plans due to the need to resolve common issues and to establish common resource modeling criteria and assumptions. Public Service notes, however, that since the Commission has yet to approve an annual RES compliance plan prior to the associated compliance year, it is unworkable to limit acquisitions to approved plans as envisioned in the Draft Rules.

50. The OCC commented on the relevance of a retail rate cap under Rule 3661 for eligible energy resources if the Commission is going to approve the acquisition of more than 20 percent (by 2020) of sales from renewable generation. OCC states that the Commission should determine, via a resource planning docket, how much renewable energy a utility should generate or acquire and the Commission's approval should be the end of the issue. Despite this comment, however, the OCC rejects many of the proposed changes in the Draft Rules and requests that certain provisions in existing Rule 3655 be reinstated.

51. WRA agrees with Public Service that resources of less than 30 MW need not be acquired through a competitive bidding process. WRA rejects several of the proposed changes in the Draft Rules and, like the OCC, suggests that several deleted provisions be retained. WRA also recommends changes regarding the independent auditor required under Rule 3655 when an investor owned QRU or an affiliate intends to compete in a competitive acquisition process for eligible energy resources.

52. The Solar Alliance proposes rule changes that would enhance the consistency of on-site solar acquisitions from year to year. The Solar Alliance argues that an independent

evaluator akin to the one required by the Commission's ERP Rules is needed, as opposed to an independent auditor as required under the existing RES Rules. The Solar Alliance advocates the retention of several of the existing rules eliminated in the Draft Rules.

53. Interwest proposes an addition to Rule 3655(g) in the Draft Rules that would require peer-reviewed and published reports to be used in determining the costs and benefits of wind and solar resources that are integrated into the investor owned QRU's system. Liberty Media Corporation states that competitive bidding for all systems greater than 100 kW acts as a barrier to the development of on-site solar.

54. Public Service's proposal to exempt the acquisition of all non-on-site-solar eligible energy resources from competitive bidding consistent with the Commission's ERP Rules is accepted. The Commission's review and approval of planned acquisitions of all new resources greater than 30 MW, including eligible energy resources, will fall under the ERP Rules.⁹ Since all utility scale projects greater than 30 MW will be addressed under the ERP Rules, and since it is such projects that involve system integration costs, Interwest's suggested changes to these RES Rules shall not be accepted.

55. Rule 3655 will also be modified to eliminate the strict requirement for competitive bidding for on-site solar resources. The QRU will instead be required to seek Commission approval of proposed acquisition processes to acquire SO-RECs in the most cost-effective manner subject to the retail rate impact under Rule 3661.

⁹ The retail rate impact under Rule 3661 shall apply to all new eligible energy resources regardless of the form of acquisition of these resources and regardless of whether the investor owned QRU's plans for the acquisition of these resources is assessed by the Commission under its RES Rules or its ERP Rules, with the exception of new eligible energy resources that are designated as "Section 123 resources."

56. If an investor owned QRU seeks a presumption of prudence at the time of cost recovery for a new eligible energy resource that is 30 MW or less, the Commission must approve the QRU's plans for acquiring such a resource. Such an approval will be available to the QRU through the RES Compliance Plan process under Rule 3657. In the event that this process entails competitive bidding, the investor owned QRU will be required to provide specific information about the solicitation as part of a RES Compliance Plan filing.

57. Any relaxing of competitive bidding requirements in this Rule 3655 will not change the competitive bidding requirements in Rule 3660(e) concerning utility owned eligible energy resources. In the event that an investor owned QRU or its affiliate intends to bid into a competitive acquisition process, an independent auditor shall be required as under existing Rule 3655(l).

58. Consistent with the discussion below concerning contracts for eligible energy resources and RECs, an investor owned QRU will continue to have an option to bring contracts to the Commission for review and approval. However, expedited approvals, including approvals made under specific provisions under Rule 3655, will only be afforded to resources and RECs acquired through a competitive bidding process as set forth in an approved RES compliance plan. Consistent with existing Rule 3660(g), expenditures of the investor owned QRU under approved contracts shall be deemed to be prudent expenditures.

B. Contract Terms

59. Several interested persons recommended changes to the provisions requiring 20-year minimum terms for purchases of SO-RECs. Public Service points out, however, that § 40-2-124(1)(f)(V), C.R.S., requires that all contracts for the acquisition of SO-RECs have a minimum term of 20 years.

60. Given the statutory requirements cited by Public Service, changes to Rule 3655 cannot be made that shorten the terms for purchases of SO-RECs.

C. Real Time Electronic Access

61. Public Service proposed that all customer facilities greater than 250 kW provide the QRU with real-time electronic access to the facility's operational data, as well as access to all meteorological data collected at the facility. It claims that as more and more of these types of facilities come onto the Public Service system, its operators have a greater need to know in real time the amount of generation being produced at distributed systems.

62. CoSEIA and the Solar Alliance oppose the proposal, primarily based on cost. The Solar Alliance suggests an alternative that would require the owner of any system to provide, upon the QRU's request, any system generation data being collected at the facility. The Solar Alliance proposal will be adopted.

D. Contract Approval Under Rule 3655(c)

63. Current Rule 3655(c) allows an investor owned QRU to apply to the Commission, at any time, for review and approval of renewable energy supply contracts and renewable energy credit contracts. The Rule requires the Commission to rule on these contracts within 60 days of their filing. The proposed rules would have eliminated this explicit provision, leaving in place the default provisions of the Rules of Practice and Procedure, which allow an applicant to seek expedited rulings. Public Service objected to the elimination of this provision, although it indicated that some time frame between the 60 days and the 210 days required for a decision in a standard application by § 40-6-109.5, C.R.S, might be appropriate.

64. The rule as adopted requires a Commission decision within 90 days of the date that the application for approval is deemed complete. In addition, to clarify the interplay with

the Commission's ERP Rules, Rule 3655(b) is limited to small resources (30 MW or less) and those procured pursuant to an approved RES compliance plan.

E. Referral of Disputes under Rule 3655(p)

65. Existing Rule 3655(p) provides in its entirety, "If there is a dispute between a bidder and the investor owned QRU, either party may refer the dispute to the Commission for resolution." The method to "refer" disputes to the Commission and the process the Commission would use are not set forth in the Rules. The Rule clouds the process for obtaining Commission resolution of a dispute. The Rule will be deleted, and any dispute between a bidder and an investor owned QRU can be resolved through the Commission's well-defined complaint procedure.

VII. ENVIRONMENTAL IMPACTS—RULE 3656

66. Several commenters from the environmental and conservation community proposed minor modifications to Rule 3656. The primary difference appears to be ensuring that developers of certain large projects share information on wildlife and habitat surveys with the CDOW prior to construction. Rule 3656(c) has been amended to accomplish this. A second recommendation that the Commission require the DOW to use this information in a certain fashion is not adopted. The Commission has no authority to mandate what the DOW does with the surveys.

VIII. QRU COMPLIANCE PLAN—RULE 3657

A. Filing Cycle

67. Existing Rule 3657 establishes annual filing requirements detailing how each investor owned QRU intends to comply with the Commission's RES rules during the next

compliance year. The Draft Rules collapse the QRU Compliance Plan into a single filing with the Annual Compliance Report under existing Rule 3662.

68. Public Service explains that it is not opposed to a single filing concept. However, it suggests that annual compliance plan filings may no longer be necessary. Public Service proposes instead that the Annual Compliance Reports would continue under the existing Rule 3662 but that the QRU Compliance Plan filings would be made every four years in sync with the QRU's ERP filings.¹⁰

69. In support of a four-year filing cycle, Public Service explains there is not much change in annual RES compliance plan filings; it is not having compliance problems; and implementation issues have been mostly resolved. In addition, Public Service points out that major acquisition decisions for renewable resources are made with respect to its ERP filings with implications on the RESA calculated out ten years. Public Service further asserts that the on-site solar industry would be better served by taking a longer-term look at budgets under a four-year filing cycle and argues that acquisitions made between plans can be reviewed when the investor owned QRU brings forward contracts for Commission approval.

70. Public Service continues that the preparation and Commission review of the annual filings is time consuming. As described above, Public Service additionally stresses the importance of coordinating its ERP filings with its RES compliance plans due to the need to resolve common issues and to establish common resource modeling criteria and assumptions.

71. The OCC opposes Public Service's proposed quadrennial filings and suggests that the Commission retain the annual filing requirement. The OCC asserts that the annual

¹⁰ Rule 3603 requires investor owned QRUs to file a resource plan on or before October 31 on a four-year cycle.

compliance plan filings have not reached the maturity of becoming routine filings, akin to utility Electric Commodity Adjustment (ECA) and Gas Cost Adjustment filings that are regularly made with the Commission. The OCC further argues that annual filings would facilitate the application of varying interest rates on RESA balances under its proposed rule changes as well as the “lock downs” of incremental costs and benefits as proposed by Public Service under Rule 3661.

72. While Public Service correctly describes the need for coordination between its quadrennial ERP filings and its RES compliance plans, it is likely premature to abandon the annual filings of RES compliance plans for investor owned QRUs. First, Colorado’s on-site solar market continues to evolve rapidly in response to numerous changes in state and federal legislation, to new participants in the market including QRUs, and to advances in the solar industry generally. Commission review of RES compliance plans more frequently than every four years remains warranted.

73. Second, the OCC is correct that annual RES compliance plan filings have not reached the point of being routine. The Commission will likely benefit from at least a few more years of annual filings, after which a proposal for lengthening the interval between filings should be revisited. In particular, the annual plan filings should assist the Commission in monitoring the retail rate impact and RESA budget balances while the development of renewable energy resources in Colorado progresses year to year. Third, it is unknown whether changes in the Commission’s RES Rules as a result of this rulemaking docket will raise new implementation issues that would be more quickly resolved with annual as opposed to quadrennial RES compliance plan filings.

74. Coordination between the investor owned QRU's annual RES compliance plans and its ERP filings is nevertheless essential. The existing RES Rules and the Draft Rules both require that, for purposes of calculating the retail rate impact (and therefore the RESA budgets), the QRU shall use the same methodologies and assumptions used in its most recently approved resource planning proceeding. Moreover, the existing RES Rules and the Draft Rules, in combination with the Commission's ERP Rules, envision a natural segmentation of Commission reviews of investor owned QRU's plans for the acquisition of eligible energy resources.¹¹ Large utility-scale resources are addressed principally in an ERP proceeding, while on-site solar and perhaps other distributed generation acquisitions fall mainly within the bounds of an annual RES compliance plan proceeding.

75. Public Service explained at hearing that, under the existing RES and ERP Rules, certain issues surrounding RES compliance have spilled into ERP proceedings. This situation will likely continue regardless of the frequency of RES compliance plan filings. The acquisition of utility-scale eligible energy resources will have substantial impacts on the retail rate impact and RESA budgets, and such budget impacts and the general context of utility resource needs will likely influence the QRU's plans to acquire the small and distributed eligible energy resources.

B. Contents of Plan Filing

76. As explained above, the Draft Rules collapsed the filing requirements of existing Rule 3657 within a single proposed annual filing that would address the elements of both an investor owned QRU's annual RES compliance plan (for the next compliance year) and a QRUs

¹¹ The discussion on Rule 3655 herein addresses the process for the Commission's review of investor owned QRU acquisitions of eligible energy resources that are larger than those that qualify for net metering but are smaller than or equal to 30 MW.

annual compliance report (for the most recently completed compliance year). The components of the plan filing in the Draft Rule include most of the same information that is outlined in existing Rule 3657(a).

77. The Draft Rules also required some new information about the investor owned QRU's plans for acquiring additional eligible energy and RECs as compared to existing Rule 3657(a). In particular, Rule 3662(i)(VIII) in the Draft Rules points to information on the QRU's plans to acquire an additional resource under Rule 3659 of the Draft Rules. Rule 3662(i)(X) in the Draft Rules similarly requires baseline information on the acquisition of new eligible energy resources since the enactment of HB07-1281 in order to facilitate the implementation of Rule 3660(e) concerning the QRU's ability to own certain levels of renewable energy resources without competitive bidding.

78. Public Service proposes no changes to the contents of a QRU Compliance Plan and recommends retaining the existing Rule 3657.

79. The Solar Alliance suggests that an investor owned QRU's plan specify its intentions to acquire specific types of RECs including SO-RECs by sub-category (*e.g.*, small on-site solar systems receiving a one-time payment for SO-RECs versus large on-site solar systems whose SO-RECs are purchased over time). The Solar Alliance further requests clarification of the information sought in QRU plan filings regarding net metering and interconnection.

80. Existing Rule 3657 will be retained with two relatively minor modifications. The phrase "rules, regulations and tariffs" shall be removed from the top of Rule 3657(a) and repeated before both existing Rules 3657(a)(VI) and (VII) in response to the Solar Alliance's request for clarification regarding the information sought in a QRU compliance plan concerning

net metering and interconnection. Existing Rule 3657(a)(II) is modified to conform to the changes adopted to Rule 3655 concerning resource acquisition.

81. A new rule requiring an inventory of the total new eligible energy resources that an investor owned QRU has acquired after March 27, 2007 will not be adopted because such information will be made available at the time the QRU seeks to implement the provisions of Rule 3660(e). Investor owned QRUs should take note, however, that such an inventory is necessary under Rule 3660(e) and should be prepared to provide it to Staff upon audit requests and to parties in proceedings in which the QRU seeks to acquire new eligible energy resources absent competitive bidding.

IX. RENEWABLE ENERGY CREDITS—RULE 3659

A. REC Sales

82. Public Service has proposed a change to Rule 3659 in order clarify that RECs not needed for RES compliance can be sold by the QRU, and, if sold, 80 percent of the margins earned on the sale would be returned to customers and 20 percent would be retained by the QRU as shareholder earnings. Public Service notes that this will provide an incentive to the QRU, and that the incentive is of the same magnitude that the Commission allows on energy trading. OCC supports the concept, but suggests that REC sales are not as complicated as energy sales, or will not be in the future. It supports a sharing mechanism where Public Service's share declines over time from 20 percent to 15 percent to 10 percent. Other commenters support the OCC position.

83. Trading of RECs is not yet commoditized, and it does not appear to be as simple as the OCC suggests. There may also be issues such as accounting treatment of RECs (*e.g.*, FIFO, LIFO, or other methods of valuing the cost of RECs sold) that will need to be established. Current Rule 3659(l)(iii) requires a QRU to apply for treatment of gains and losses from REC

sales through an appropriate adjustment clause mechanism. This provision is not being eliminated in this Order, and it appears to be an appropriate way to address these issues.

B. REC Ownership

84. The current SRO requires small generators to transfer to the QRU any claim to any RECs that will be generated from its equipment. Wal-Mart suggested in its comments that it thought a customer installing on-site solar should be able to keep the RECs. Public Service responded that it agreed that this could happen, provided that the customer does not receive any subsidy in the form of a rebate or SO-REC payment. The ALJ agrees with Public Service's interpretation, and no rule changes are needed.

C. Eligible Energy and RECs

85. Existing Rule 3659 states that RECs shall be used to comply with the RES. Consistent with the discussion above regarding the definitions of "Eligible Energy," "Renewable Energy," "Renewable Energy Resources," and "RECs," Rule 3659(a) shall be modified to state that RECs and recycled energy will be used to comply with the renewable energy standard.

D. RECs from Section 123 Resources

86. By Decision No. C08-0559, the Commission concluded that it has the authority to approve the acquisition of an eligible energy resource by an investor owned QRU even if its incremental costs would exceed the retail rate cap under Rule 3661 as long as that eligible resource is also a new clean energy, energy efficiency technology, or a demonstration project. However, the Commission deferred several issues related to this conclusion either to a Phase I decision in a QRU's ERP proceeding or a rulemaking such as the instant docket.¹²

¹² By Decision No. C08-1153 in Docket No. 07A-447E, the Commission states that the issue of whether the RECs associated with Section 123 resources can be used for compliance with the RES will be addressed in the instant docket.

87. The Draft Rules included a new rule that allows an investor owned QRU to own and use for compliance with the RES the RECs generated by resources that the Commission has designated as new energy technologies or demonstration projects under § 40-1-123(1), C.R.S. This new rule specified that while the RECs from such “Section 123 resources” could count against the RES, the costs and benefits of the resource would not be subject to the retail rate impact under Rule 3661.

88. Public Service supports the proposed new rule regarding RECs from Section 123 resources, explaining that it agrees that the new rule accurately states Commission rulings in other dockets. SunEdison similarly urges the Commission to segregate the costs of Section 123 resources from other renewable energy resources when calculating the retail rate impact under Rule 3661.

89. The OCC questions the rationale for distinguishing eligible energy from Section 123 resources from other eligible energy, since ratepayers are looked upon for funding of both types of eligible energy. The OCC therefore suggests that the proposed rule circumvents the retail rate impact.

90. The OCC argues that only those RECs acquired using RESA funds should be eligible for compliance with the RES. Therefore, according to the OCC, RECs generated by a Section 123 resource that is a renewable energy resource would not qualify for compliance with the RES. Further, the OCC suggests that the Commission find a difference between “Compliance RECs” that can be used for meeting the RES and “Merchant RECs” that would be in this case ineligible for compliance with the RES due to a Section 123 designation that excludes the resource from the retail rate impact.

91. The Commission has determined previously that an eligible energy resource that meets certain qualifications set forth in § 40-2-123(1), C.R.S., can be acquired by an investor owned QRU even if the incremental cost of that resource would cause the QRU to exceed its retail rate impact under § 40-2-124(1)(g)(I), C.R.S. Such an exception is necessary, the Commission concluded, in order to best effectuate the legislative intent of both statutes.

92. The new rule concerning RECs from Section 123 resource as set forth in the Draft Rules shall be adopted. A Commission finding that a Section 123 resource need not be considered in the calculation of the retail rate impact under § 40-2-124(1)(g)(I), C.R.S., does not stop the resource from generating RECs if it is a renewable eligible energy resource. A prohibition on using the RECs from a Section 123 resource for compliance with the RES could result in denial of the existence of RECs in the Colorado market that would in every way meet the definition of a REC in the Commission's RES Rules. Moreover, a prohibition on using RECs from Section 123 resources for RES compliance could also compromise the implementation of § 40-2-123(1), C.R.S., with respect to the development of new renewable energy resources in Colorado, since an investor owned QRU might be less likely to bring to the Commission for consideration new clean energy and demonstration technologies that met the definition of an eligible energy resource under § 40-2-123(1), C.R.S.

93. The OCC's discussion on there being a distinction between "Compliance RECs" and "Merchant RECs" complicates the attributes of a REC. Also, the definition of a REC should be maintained as explained above; thus, a REC shall remain a contractual right to the full set of non-energy benefits that are directly attributable to the production of electricity by the renewable energy resource.

X. COST RECOVERY AND INCENTIVES—RULE 3660**A. Banking**

94. Existing Rules 3660(a), (b), and (c) address the general recovery of costs incurred by investor owned QRUs to comply with the RES through retail rate mechanisms. Existing Rule 3660(b) provides the investor owned QRUs with an opportunity to propose forward-looking cost recovery mechanisms to provide funding for compliance with the RES. Application of this rule has resulted in the establishment of a forward looking cost recovery mechanism in the form of the RESA for both Public Service and Black Hills.

95. Public Service's RESA is presently set at 2 percent, and Black Hill's RESA is presently set at 1 percent. Total bills for electric service are thus increased by 2 percent for Public Service's customers and 1 percent for Black Hills' customers, and the collected funds are tracked in a segregated account designated to cover the net incremental costs incurred by the QRUs for meeting or exceeding the RES.

96. Public Service explains that the RESA is intended by design both to collect only the incremental costs of new eligible energy and RECs and to demonstrate the level of the retail rate impact contemplated by law. Section 40-2-124(1)(g), C.R.S., sets the maximum retail rate impact at 2 percent of the total electric bill annually for each customer. In addition, Public Service points out that § 40-2-124(1)(g)(I), C.R.S., permits a QRU to acquire more than the minimum amounts of eligible energy and RECs required by the RES as long as the retail rate impact does not exceed 2 percent. The collection of funds in advance of a compliance year in which they are spent to acquire eligible energy and RECs is generally called "banking."

97. Public Service proposes to change Rule 3660(b) to explicitly allow the investor owned QRUs to collect funds in advance of the years when they are intended to be spent in

acquiring eligible energy and RECs to comply with or to exceed the RES. With respect to the RESA, the new language that Public Service suggests reads: “So long as the funding mechanism does not exceed the retail rate impact test, the QRU shall be entitled to collect and bank funds for acquiring eligible energy in future periods in accord with the QRU’s compliance plan.”¹³

98. Public Service explains that a QRU needs to have sufficient money to pay for the incremental cost of eligible energy and RECs that will be acquired to meet higher future levels of the RES. Public Service further states that it will be unable to meet the RES within the 2 percent retail rate impact cap unless it collects and banks funds earlier than the compliance year these funds are spent. It adds that banking facilitates the accounting of funds received from its voluntary renewable programs and its sales of RECs.

99. Black Hills and the OCC support a new rule that allows for the banking of RESA funds.

100. The OCC posits further, however, that the RESA may only be needed for administration and on-site solar acquisitions in the future, since compliance with the future carbon reduction goals will obviate the retail rate cap that may presently necessitate banking.

101. CF&I and Climax argue that the Commission should not permit the banking or pre-funding of RESA funds. They assert that the use of a pre-collected “kitty” of banked funds to acquire eligible energy and RECs at some indeterminate point in time strips the retail rate impact of its purpose and transforms the RESA into a 2 percent levelized rate increase for the acquisition of resources that are neither known nor measurable. If the Commission decides to

¹³ Public Service recommends in its comments that a RES compliance plan be made every four years in sync with the investor owned QRU’s electric resource plan.

allow for banking, CF&I and Climax recommend that it be done only on a case-by-case, compliance-plan-by-compliance-plan basis and that the funds not be deemed “pre-approved.”

102. CF&I and Climax specifically oppose the phrase “shall be entitled to” in Public Service’s suggested rule change, recommending instead that this phrase be changed to “may seek Commission approval to” in the event that the Commission permits banking in accordance with a specific RES compliance plan.

103. In response to CF&I’s and Climax’s opposition to banking as explained at the January 29, 2009 hearing, Public Service recommends that the Commission clarify that funds can be collected in advance of the year that they are spent in order to develop and utilize eligible energy resources to the maximum extent practicable. Public Service reiterates that investments in eligible energy resources can be “lumpy” (*i.e.*, large and periodic) and that banking is needed to afford such investments using RESA funds capped at the 2 percent collection level.

104. The Commission has been asked to approve the banking of RESA funds on a number of occasions. The Commission deferred resolution of the banking issue in Docket No. 06A-478E concerning Public Service’s 2007 RES Compliance Plan to a future proceeding addressing Public Service’s 2008 Compliance Plan. The Commission cited in that instance the recent passage of HB07-1281 that raised the retail rate impact cap from 1 percent to 2 percent. The Commission then again deferred the question of whether banking was permissible from the 2008 RES Compliance Plan proceeding (Docket No. 07A-462E) to a future rulemaking such as the instant proceeding or a future RESA filing, citing in part the absence of banking of Public Service’s RESA funds.

105. Rule 3660(b) should be changed to allow for the banking of RESA funds along the lines suggested by Public Service and supported by the OCC and Black Hills. The modified

rule also includes language consistent with the suggestions of CF&I and Climax emphasizing that the banking of funds is permissible as long as the banked funds are used in accordance with specific Commission-approved plans for the acquisition of eligible energy and RECs.

106. Section 40-2-124(1)(g)(I), C.R.S., states in part: "...If the retail rate impact does not exceed the maximum impact permitted by this paragraph (g) [2%], the qualifying utility may acquire more than the minimum amount of eligible energy resources and renewable energy credits required by this section." Section 40-2-124(1)(d), C.R.S., states in part: "...The commission shall not restrict the qualifying retail utility's ownership of renewable energy credits if the qualifying retail utility complies with the electric resource standard of paragraph (c) of this subsection (1) [Rule 3654] and does not exceed the retail rate impact established by paragraph (g) of this subsection (1)."

107. These two statutory provisions allow for the acquisition of eligible energy and RECs by investor owned QRUs up to the point where the associated net incremental costs of these resources is no more than the 2 percent maximum retail rate impact, which is also the maximum value of the QRU's RESAs. These statutory provisions in no way diminish the Commission's broad authority to review and approve the investor owned QRUs' plans to acquire energy resources for providing safe and reasonable service at just and reasonable rates for customers.

108. The Commission's ERP Rules and Rule 3657 of the Commission's RES Rules together require the investor owned QRUs to file plans for the future acquisition of eligible energy, eligible energy resources, and RECs. Such plans—including details about the types of resources being acquired, their size, the timing of their acquisition, and their expected costs and benefits—are filed by the investor owned QRUs for approval by the Commission. It is upon

review of such resource acquisition plans that the Commission would consider the merits of the resources to be acquired, the expected impact of these new resources on the retail rate impact, and the need, if any, to collect and bank RESA funds to afford them. Any restrictions on the Commission's authority over an investor owned QRU's ownership of RECs that may be contained in § 40-2-124(1)(d), C.R.S., is linked to the Commission's retail rate impact rule. The retail rate impact rule is a function of the types of eligible energy resources being acquired, their size, the timing of their acquisition, and their expected costs and benefits, all of which are addressed in a QRU's ERP or RES compliance plan.

109. Banking of RESA funds will therefore be allowed by a modified Rule 3660(b). Banking will be allowed to the extent that it is found by the Commission to be appropriate for the investor owned QRU to implement in either an ERP approved under Rule 3613 or a RES compliance plan approved under Rule 3657.

B. Interest on RESA Balances

110. Since this Order adopts rules that explicitly allow for banking of RESA funds, the question of interest on the RESA balances arises. OCC suggests that interest on overcollections be calculated annually at the utility's after tax weighted cost of capital. It proposes interest on undercollections be paid at the customer deposit interest rate (CDIR). OCC claims this is a fair substitute for the respective parties, based on their relative cost of borrowing and lost opportunity costs.

111. Black Hills opposes this asymmetrical treatment and would like to see interest on over- or undercollections both paid at the CDIR. Public Service is not opposed to paying interest

on overcollections at the average weighted cost of capital, as long as any advancement of funds by it¹⁴ allow it to collect interest at the higher rate, symmetrically.

112. The ALJ views the matter differently. From the ratepayer's perspective, overpayment to RESA is loaning the utility money. The ratepayer should earn a return higher than the CDIR on its loan. Underpayment to RESA is a loan from RESA to the ratepayer, and the ratepayer should pay some rate where there is no risk of nonpayment. The CDIR is too low of an interest rate for either transaction, and the average cost of capital is too high. Therefore a symmetric interest rate that is the average of the two is a better approximation, at least from the ratepayer's perspective.¹⁵

C. ECA Cost Recovery

113. As explained in the attachments to Public Service's post-hearing comments from its filings in Docket No. 08A-532E, Public Service presently splits the recovery of its eligible energy costs between its RESA and its ECA. Public Service explains that it purposely designed its RESA to collect only the incremental costs of acquiring new eligible energy and thus it demonstrates the level of retail rate impact contemplated under § 40-2-124(1)(g), C.R.S. Such incremental costs are determined by the retail rate impact calculation under Rule 3661. Public Service recovers the balance of the non-incremental costs of eligible energy, represented as fossil-fuel equivalent costs, through the ECA.

114. The OCC recommends in its comments that the Commission formalize in a new rule the collection of the fossil-fuel equivalent costs of eligible energy through the QRU's energy

¹⁴ This occurred in 2008 when Public Service advanced funds due to increased subscriptions to the solar rewards program.

¹⁵ To quote Harry Trebing, Director Emeritus, Institute of Public Utilities, Michigan State University, "Life is one great big arithmetic mean."

cost adjustment clause, which is the ECA for Public Service.¹⁶ The OCC suggests that this new rule address the reconciliation between actual cost incurred and collections (*i.e.*, true ups) for both the RESA and ECA adjustment clauses, arguing that the RESA should not be charged the full costs of increases and decreases in renewable generation.

115. A new rule that explicitly designates the QRU's energy cost adjustment clause as the cost recovery mechanism for the fossil-fuel equivalent or non-incremental costs is not adopted, in large part because the record on this suggestion is incomplete. Neither Public Service nor Black Hills directly addresses the OCC's suggestion for a new rule regarding eligible energy cost recovery through the ECA. While Public Service does provide detailed comments regarding certain elements of the calculation of the retail rate impact, these comments generally assume the continuation of past Commission decisions regarding ECA cost recovery for eligible energy purchases.

116. Moreover, the Commission noted in Decision No. C07-0676 in Docket No. 06A-478E concerning Public Service's 2007 RES compliance plan that its ECA is designed to provide recovery of only energy costs and not capacity costs. Because the Commission found that the approved split in cost recovery between the ECA and RESA has the effect of allocating proxy capacity costs of substitute natural gas plants to the ECA, the Commission made a limited exception to its historical practice of allowing only energy costs to be recovered through the ECA extending from the 2007 to 2009 Compliance Plans only.

¹⁶ The OCC's suggestion for a new rule that allows for the splitting of cost recovery between the RESA and the ECA is made with respect to Rule 3661 that addresses the calculation of the retail rate impact.

117. A new rule that explicitly allows for the cost recovery of non-incremental costs through the ECA could also prove to be too prescriptive or too restrictive at this stage. For instance, Public Service's ECA in its present form may not be permanent, as the Commission has set an expiration date for it as the earlier of rates taking effect after the Comanche 3 power generating station goes into service or December 31, 2010. In addition, the record in this case reveals that Public Service intends to own customer-sited as well as utility-scale renewable energy resources; but exactly how Public Service will recover the non-incremental costs associated with these resources remains unclear. Public Service's ECA has historically not been used to recover the non-fuel costs of company-owned generation resources; however, the information provided by Public Service in its comments indicates that the Company seeks to recover the non-incremental costs of rate-based eligible energy resources through the ECA. Likewise, Black Hills' plans to acquire non-solar eligible energy resources, which the OCC mentions in its comments, and how Black Hills intends to recover the costs of resources remains unknown.

118. Due to these and other uncertainties, it is preferable not to adopt a new rule that prescribes the QRU's ECA for the recovery of the non-incremental costs of new eligible energy and eligible energy resources. The present structure of the RES Rules will be retained to define in detail how the retail rate impact will be calculated, leaving the issue of the recovery mechanisms for the non-incremental costs to future rate cases and compliance plan proceedings.

XI. RETAIL RATE IMPACT—RULE 3661

A. RES Planning Period

119. In Decision No. C07-0676 concerning Public Service's 2007 RES Compliance Plan, the Commission found that issues surrounding Rule 3661 should be addressed in a

comprehensive examination of the RES Rule, such as the “substitute resources” for determining the portion of costs that are collected through the RESA versus other rate components (like the ECA). Similarly, in Decision No.C08-0559 concerning Public Service’s 2008 RES Compliance Plan, the Commission reiterated that it expected the calculation of the retail rate impact to be one of the primary topics to be addressed in a future rulemaking.

120. The Draft Rules included several changes to Rule 3661 in response to the Commission’s directives, such as requiring additional details on the retail rate impact associated with the QRU’s plans to acquire eligible energy and RECs, addressing timing issues surrounding the eligible energy resources that were subject to the retail rate impact calculation, and generally simplifying the retail rate impact calculation.

121. The Solar Alliance comments that the retail rate impact is the most controversial portion of the Commission’s RES Rules and offers principles that the Commission should follow if it elects to modify Rule 3661. SunEdison summarizes the concept of the retail rate impact from the perspective of Amendment 37 supporters, which is simple in intent but very complicated in practice.

122. CoSEIA similarly describes the intent of the retail rate impact from the perspective of Amendment 37 supporters, but concludes that under the existing rules, there is no rate impact but only a RESA set at 2 percent or less.

123. Public Service suggests that the Commission only make surgical changes to Rule 3661 that primarily address interpretations and waivers that it had sought in its past RES compliance plan proceedings. While these changes are narrow and specific, Public Service states that it is very important that the Commission adopt them in this rulemaking. With respect to rules that address investor owned QRU spending on eligible energy and RECs under the net

retail rate impact of 2 percent, Public Service states that Colorado law prohibits the Commission's examination of or restrictions on the acquisition of RECs beyond what is necessary for RES compliance as long as the retail rate impact is not exceeded. Specifically, Public Service states that the Commission has no discretion under statute to set a budget that limits the utility to spending less than the 2 percent cap.

124. The OCC questions the purpose of the retail rate impact in light of the Governor's Climate Action Plan and decisions the Commission will make in ERP proceedings concerning the acquisition of renewable resources and of Section 123 resources that are renewable resources but that are not subject to the retail rate impact.

125. Rule 3661(h), describing the general framework by which an investor owned QRU calculates the retail rate impact, shall be modified as explained below. In addition, Rule 3661(f) shall be modified to define the "RES planning period" over which the retail rate impact shall be calculated and reported in the QRU's annual compliance plan for review by the Commission. The annually updated calculations of the retail rate impact will serve to inform the Commission of the QRU's budget to acquire eligible energy and RECs in the next compliance year as well as to acquire resources in accordance with the QRU's resource acquisition plans using collected and banked funds. The retail rate impact calculations over the RES planning period will also demonstrate that the QRU has not planned to acquire eligible energy resources and RECs in amounts that would cause the retail rate impact to exceed the maximum percent level.

B. Calculation of Retail Rate Impact

126. Public Service states that the existing Rule 3661(h) need not be modified except for provisions that address: (1) a "time fence" that defines the *new* eligible energy resources that

feed into the retail rate impact calculation; and (2) the concept of “locking down” the net incremental costs of these new eligible energy resources for inclusion in future calculations of the retail rate impact. The time fence and lock down concepts are discussed separately below.

127. Public Service opposes the simplified Rule 3661(h) in the Draft Rules. Public Service states that the Draft Rules virtually ignore the benefits from the displacement of marginal energy costs by renewables and would thus cause the incremental costs of new renewables to be overstated. Public Service proposes to continue to use the STRATEGIST model for evaluating the incremental costs and benefits of adding renewable resources, particularly since STRATEGIST can account for avoided fossil energy costs from existing resources.

128. Black Hills states that a rule requiring it to calculate the retail rate impact using sophisticated computer modeling may be too expensive or impractical for its circumstances. Black Hills further opposes any interpretation or modification of Rule 3661 that results in a compounding of the retail rate impact year over year.

129. CoSEIA asserts that Rule 3661(h) in the Draft Rules is still too complicated and would require more litigation to sort out its implementation. CoSEIA offers an alternative method for calculating the retail rate impact based on a calculation of the QRU’s blended fuel costs. SunEdison proposes an even simpler approach by which that the funds collected from a RESA set at the 2 percent maximum level for the retail rate impact be used exclusively for solar resources. SunEdison suspects that wind resources produce net savings as compared to non-renewable energy resources because they have been acquired through competitive bidding in past solicitations and therefore need not factor into the allocation of RESA funds. CoSEIA states that it could support SunEdison’s proposal, but it disagrees with the allocation of RESA funds based on the funding source as advocated by SunEdison.

130. The OCC notes that Rule 3661(h) was very contentious in the original RES rulemaking. However, the OCC opposes the adoption of Rule 3661(h) in the Draft Rules, arguing that computer-based resource modeling should be retained for Public Service. The OCC also points out that because Black Hills has announced plans to acquire wind resources in the future, this rulemaking should anticipate changed circumstances for that QRU.

131. WRA complains that the STRATEGIST model used by Public Service is neither transparent nor simple and that STRATEGIST may not provide any more head room to afford eligible energy resources under the retail rate impact than a simpler analysis that looks at marginal costs of new resources.

132. The excerpts from Public Service's 2009 RES Compliance Plan filing that were submitted with its post-hearing comments provide a useful explanation of the modeling that is presently done by that QRU to calculate the net retail rate impact. In particular, the two tables on the top of page 7 of Section 6 in Volume 1 of the filing summarize the essence of the RES and No RES plans constructed pursuant to existing Rule 3661(h). Details of the development of the RES and No RES plans are provided elsewhere in that Volume 1 as well as in the Direct Testimony of Arthur R. Warren that was submitted in Docket No. 08A-532E and provided with Public Service's comments in this docket.

133. The RES plan is largely based on STRATEGIST modeling of the Commission's Phase I decision in Docket No. 07A-447E, or Public Service's ongoing ERP proceeding, which envisions the acquisition of central solar resources, wind resources, a small biomass facility, and

a small land fill project in addition to on-site solar resources.¹⁷ The output of STRATEGIST is a representation of the costs of this system configuration, including fuel costs, fixed and variable operations and maintenance costs, capital costs, purchased power costs, and other quantifiable costs.

134. The No RES plan is another STRATEGIST model run that eliminates the new eligible energy resources shown in the RES plan and then selects new non-eligible energy resources to replace these resources if additional generation capacity is needed as a result of the removal of the eligible energy resources.¹⁸ The difference between these plans in each year define for Public Service the incremental costs of the new eligible energy resources in the RES plan over the new nonrenewable resources in the No RES plan.

135. As explained by Public Service and the OCC, an important benefit of using a sophisticated resource planning model such as STRATEGIST is the model's ability to quantify the fuel and other savings that is achieved when renewable energy resources are available for dispatch instead of fossil-fueled resources. Close examination of the two tables on the top of page 7 of Section 6 in Volume 1 of Public Service's 2009 RES Compliance Plan also illustrates, however, another feature of the STRATEGIST model. This feature is likely key to answering the question of whether Public Service's preferred model has indeed calculated net incremental costs derived by replacing the *new* eligible energy resources with *new* non-eligible energy resources as required by § 40-2-124(1)(g)(I), C.R.S.

¹⁷ The new eligible energy resources shown for 2008 in the tables represent resources whose net incremental costs Public Service seeks to "lock down" and eligible energy resources acquired pursuant to the 2005 All-Source Solicitation that have been deemed "sunk" for purposes of calculating the retail rate impact in the 2007 through 2009 RES compliance years.

¹⁸ The 200 MW solar thermal resource shown in 2013 is in both the RES and No RES plans because the Commission has deemed such technology as a Section 123 resource that is not subject to the retail rate impact under Rule 3661.

136. As shown in the two tables on the top of page 7 of Section 6 in Volume 1 of Public Service's 2009 RES Compliance Plan, the STRATEGIST model identifies the addition of a "CC" in 2013, another "CC" in 2014, and a "CT" in each year 2017 and 2018. The No RES plan similarly identifies the addition of a "CC" in 2013 and a "CT" in each year 2017 and 2018. Instead of a "CC" in 2014, however, the No RES plan identifies a "CT" in each year 2014, 2015, and 2016. It is assumed under existing Rule 3661(e) that the "CCs" represent generic standard-sized natural gas combined cycle generation facilities and that the "CTs" represent standard-sized natural gas combustion turbine generation facilities. These tables may reveal that the absence of the eligible energy resources from the RES plan in the No RES plan results only in a shift from one combination of new fossil fueled plants to another combination of new fossil fueled plants rather than in the replacement of the new eligible energy resources in the RES plan with new non-eligible energy resources.

137. This particular outcome is likely a manifestation of STRATEGIST's resource optimization process in developing the RES and No RES plans; that is, STRATEGIST primarily fills future generation *capacity* needs with least-cost resources in developing the No RES plan absent the hard-wired eligible energy resources in the RES plan. If it is again assumed under existing Rule 3661(e) that one of the model assumptions in play in the development of the RES and No RES plan is the "capacity credit" assigned to intermittent renewables such as solar and wind, then STRATEGIST only recognizes a small fraction of the nameplate capacity of the new eligible resources added to the system in the RES plan in terms of a contribution to meeting future peak loads. Put another way, STRATEGIST's focus on future capacity shortfalls causes it to redispatch existing resources when the new eligible energy resources in the RES plan are removed from Public Service's system rather than automatically replacing those RES resources

with new non-eligible energy alternatives. Under the existing Rule 3661(h), which states that the No RES plan “should reflect the QRU’s resource plan that meets the QRU’s capacity and energy requirements over the RES planning period,” it is possible that STRATEGIST could derive a No RES plan that shows no additions of new non-eligible energy resources in future years despite the removal of eligible energy resources in the RES plan from the No RES plan. This situation appears to be the case through 2013 as shown in the tables on page 7 of Section 6 in Volume 1 of the 2009 RES Compliance Plan.

138. Public Service’s and the OCC’s interest in retaining the benefits of displaced fuel and other costs associated with *existing* conventional resources in the determination of the retail rate impact using sophisticated modeling has been supported by the Commission in past RES compliance plan proceedings. Given the emphasis Public Service has placed on the need to retain in the rules a prescriptive modeling approach to calculating the retail rate impact, the benefits of redispatching existing resources may be the most significant benefits Public Service has quantified under existing Rule 3661(h) for mitigating the incremental costs of the new eligible energy resources being added to its system. However the consideration of the benefits of changing the dispatch of existing resources is not explicitly required by § 40-2-124(1)(g)(I), C.R.S. What that statute requires is expressed in existing Rule 3661(i) that will be retained, namely, that the retail rate impact is to be calculated net of *new* alternative non-eligible energy resources.¹⁹

139. The Draft Rule contains a simplified method for calculating the retail rate impact; but these proposed rule changes will not be adopted. Public Service and the OCC point out that

¹⁹ Existing Rule 3661(h) also makes no mention of the savings resulting from the dispatch of *existing* non-eligible energy resources as a result of the presence of *new* eligible energy resources.

the proposed form of Rule 3661(h) in the Draft Rules may prevent the recognition of fuel savings and other savings in the dispatch of existing resources in the RES plan. However, the existing Rule 3661(h) will also not be retained. Existing Rule 3661(h) will instead be pared to explain that the investor owned QRU shall determine the net retail rate impact based on a comparison of a RES scenario to a No RES scenario. The simplified rule will not prescribe that modeling must be used to do this comparison, so both Black Hills and Public Service will be expected to present retail rate impacts using the same basic approach while affording them the flexibility to propose specific methods for describing the costs and benefits of the RES and No RES scenarios in future RES Compliance Plan filings. Existing Rule 3661(i) will be eliminated.

140. The simplified Rule 3661(h) will not prohibit Public Service from using a model like STRATEGIST to complete its RES versus No RES analysis as it has in its past RES Compliance Plan filings. The option for Public Service to factor in the savings from redispatching existing non-eligible resources in the presence of the new eligible energy resources by using sophisticated modeling is therefore preserved. However, the new Rule 3661(h) will now afford Public Service an option to come forward in its RES Compliance Plans with simpler ways to determine the net retail rate impact in the future. The simplified rule is also intended to place more emphasis on Rule 3661(g) that expresses the statutory foundation for the calculation of the net impact on retail rates under Rule 3661(h). The new simplified rule should prevent situations where specific modeling requirements might cause the investor owned QRU to stray from § 40-2-124(1)(g)(I), C.R.S.

141. Consistent with the discussion above, the simplified approaches proposed by CoSEIA and SunEdison will not be adopted. While these approaches are appealing in their simplicity, it is premature to conclude that the retail rate impact should concern only on-site solar

installations. Furthermore, new methods for comparing RES to No RES scenarios may be developed by the investor owned QRUs to implement the new Rule 3661(h), such that there becomes a distinction between a retail rate impact and RESA collections.

142. In response to Black Hills' concern regarding compounding, a new rule shall be adopted to prevent interpretations of Rule 3661 that result in year over year increases in the retail rate impact cap.

143. Finally, a new rule shall be added to Rule 3661 that clarifies the exclusion of eligible energy resources that the Commission has deemed to be "Section 123 resources" from the retail rate impact calculation consistent with the discussion above concerning Rule 3659 Renewable Energy Credits.

144. It is unlikely that this rulemaking will bring the controversies surrounding the calculation of the retail rate impact to an end. Issues will continue to arise in future proceedings regarding Rules 3661(g) and (h) since calculating a net impact is a complex exercise.

C. Time Fence and Lock Down

145. Existing Rule 3661(h)(I) requires that the retail rate impact calculation consider the costs and benefits of "new" eligible energy resources at the time of the RES versus No RES analysis. Once the resource is commercially operational, the rule requires that the resource appear in both the RES and No RES scenarios. Existing Rule 3661(h)(II) further requires that retail rate impact calculation consider the "on-going annual costs" of all eligible energy that the QRU has contracted to acquire or has generated after the initial effective date of the RES Rules.

146. The interplay between existing Rules 3661(h)(I) and (II) has been a matter addressed extensively in Public Service's first two compliance plan proceedings. One key component of these controversies involves the concept of a "time fence," or the date after which

an eligible energy resource is considered “new.” Another element of the controversies involves a date-driven mismatch between the determination of net incremental costs under Rule 3661(h)(I) in the RES versus No RES scenario analysis, on the one hand, and, on the other hand, the determination of the annual ongoing costs of eligible energy resources under Rule 3661(h)(II) that go into the calculation of the net retail rate impact for a specific compliance year. By Decision Nos. C07-0676 and C08-0559, the Commission set to a future rulemaking such as the instant docket the resolution of the “time fence” issue and the mechanics of the calculation of the net retail rate impact, generally.

147. The Draft Rules proposed a single hard date for the time fence, March 27, 2007, which corresponds to HB07-1281. Eligible energy resources acquired prior to that date would normally be considered “sunk” (*i.e.*, they would appear in both the RES and No RES scenarios), while eligible energy resources acquired after that date would normally be considered “new” and would appear in ongoing representations of the RES scenario. The proposed method for completing the RES versus No RES analysis in the Draft Rules was further intended to address date-driven mismatches in the existing RES rules.

148. Public Service objects to the March 27, 2007 date for the time fence, arguing that it is inconsistent with Commission decisions regarding its past RES compliance plans. Public Service states that the appropriate date for a “time fence” is the effective date of Amendment 37. Public Service also presumes that the waiver that the Commission granted to exclude from the retail rate impact calculation the four eligible energy resources it acquired pursuant to the 2005 All-Source RFP would continue.

149. Public Service also proposes an alternative in its redlined rule changes to existing Rule 3661(h)(I) that essentially defines “new” eligible resources in the RES plan scenario as

those that “have not yet been acquired” or “for which a CPCN has not yet been granted.” Public Service further proposed redlined changes to Rule 3661(h)(II) in which the on-going annual net “incremental costs over benefits” of all eligible energy resources acquired after the effective date of the RES Rules could be “locked down” based on the QRU’s projections as approved by the Commission pursuant to compliance plan filings. These “locked down” net incremental costs would burden RESA through the life of the underlying contract or facility. Public Service adds that at no point would it charge its ratepayers more than the actual costs of renewable resources.

150. Public Service asserts that under the existing Rule 3661(h), the calculation of incremental costs is subject to ever changing assumptions which could result in unintended consequences. If incremental costs were instead “locked down,” there would be certainty in future calculations of the retail rate impact and certainty in the split for cost recovery between the RESA and the ECA. Through the testimony of Dan Ahrens in Docket No 08A-532E, which was included with Public Service’s post-hearing comments, Public Service seeks to achieve the “lock down” pursuant to annual compliance report filings or at the time of signing power purchase contracts or contracts associated with self-build projects. It appears that smaller projects would be aggregated for the purpose of calculating the net incremental costs, while large projects would have individually determined net incremental costs.

151. The OCC observes that the absence of an established time fence could result in a compounding effect in the calculation of the retail rate impact and could fail to capture the benefits of eligible energy resources that become “sunk.” The OCC suggests that the “time fence” be the effective date of Amendment 37 and that there be a single exception: the 775 MW of wind resources whose acquisition commenced prior to that date would be considered “behind the fence.” With respect to the locking down of net benefits or costs, the OCC suggests that the

Commission adopt a rule that establishes the concept of locking down the incremental costs of new eligible energy resources, but the Commission should address the details of the necessary calculations pursuant to the QRU's compliance plan filings.

152. WRA opposes the hard date of March 27, 2007 because it would ignore the benefits of resources acquired before that time. CoSEIA argues that if a REC from the resource is used for compliance with the RES, the associated renewable resource should be considered in the retail rate impact calculation. SunEdison agrees with CoSEIA that there is a double standard concerning the benefits of pre-Amendment 37 eligible energy resources in the calculation of the retail rate impact, while the Solar Alliance suggests that the time fence be set to include the Lamar wind facility.

153. The date the Commission's initial RES rules took effect, July 2, 2006, shall define the time fence for the determination of the retail rate impact. While this date is not the effective date of Amendment 37 *per se*, it corresponds to the date described as "the effective date of these rules" in existing Rule 3661(h) and in Public Service's redline Rule 3661(h). With respect to eligible energy resources whose acquisition process began prior to that date, such as the wind resources that Public Service acquired pursuant to its 2005 All-Source RFP, the new rule will define them as "sunk" resources, appearing in both the RES and No RES plans.

154. The determination of net incremental costs of eligible energy resources under § 40-2-124(1)(g)(I), C.R.S., unavoidably involves projections of future costs which are notoriously difficult to predict with any accuracy over long periods of time. The Commission's experience with its RES Rules to date indicates that assumptions concerning tax policies, natural gas prices, and carbon regulation costs strongly influence the calculation of the net incremental costs of renewable energy resources as compared with their alternatives. While RES and

No RES plans may reflect the best available information at the time of their development, the concept of “locking down” the incremental costs that flow from the RES versus No RES analysis over the entire life of an eligible energy resource brings into play a series of judgment calls concerning highly interrelated factors. Many of these judgment calls are initially formed by the Commission when approving an investor owned QRU’s resource plan by a Phase I decision. These assumptions then inform resource selection in Phase II, a process in which the QRU and the Commission are expected to make further judgment calls.

155. Public Service’s request for the certainty that would flow from “locked down” net incremental costs of eligible energy resources parallels the resource planning framework concerning the cost effectiveness of any resource that is yet to be acquired. The decision to move forward with the acquisition of a new resource involves expectations of future costs and benefits that will likely not materialize exactly as envisioned but are nevertheless hoped to be accurate enough to support a presumption of prudence or a finding of prudence at the time the decision is made. However, locking down net incremental costs at a single point in time could also result in unintended consequences, since the relative cost effectiveness of renewables is a function of volatile fuel costs and largely unknown tax and climate policies in the future. The acquisition of new eligible energy resources are uniquely subject to a net retail rate cap based on their relative cost effectiveness under § 40-2-124(1)(g)(I), C.R.S. Moreover, a forecast of the relative cost effectiveness of an eligible energy resource during an upcoming compliance year is likely to be closer to the ratepayer’s reality than a forecast of its relative cost effectiveness five or more years into the future.

156. A modified Rule 3661(h) will provide the investor owned QRU an option to seek Commission approval of “locked down” incremental costs of new eligible energy resources

within RES compliance plan proceedings. However the Commission will make the decision to approve “locked down” costs and benefits on a case-by-case basis for periods that may or may not extend through the useful lives of the resources (*e.g.*, the lock down might extend over four compliance years before it needs to be updated based on new resource planning assumptions approved by the Commission under Rule 3661(e)).

157. Investor owned QRU compliance plan filings will be used for Commission review and approval of “locked down” net incremental costs instead of compliance report filings, since it is within RES compliance plans that the QRU calculates the retail rate impact and because the compliance report review process is intended to be a relatively fast and narrowly focused review of eligible energy generated or caused to be generated to meet the RES under Rule 3654. This framework mirrors Public Service’s filing in Docket No. 08A-532E concerning Public Service’s 2009 RES compliance plan in which it seeks to “lock down” the net incremental costs of the eligible energy resources acquired through December 31, 2008. On-site solar and other net metered resources actually acquired during a compliance year may be aggregated for the purpose of “locking down” their collective net incremental costs as suggested by Public Service. The net incremental costs of all other resources acquired during a compliance year would need to be determined on a resource-by-resource basis. The calculation methods for the “locked down” net incremental costs would be addressed in the annual RES compliance plan proceedings as suggested by the OCC.

158. The investor owned QRU will collect no more than the actual costs of eligible energy resources whose net incremental costs are “locked down.” If the QRU does not seek to lock down the net incremental costs of an eligible energy resource or if the Commission declines to approve locked down costs as proposed by the QRU, the QRU shall continue to use the

updated RES versus No RES modeling results to determine the impact on the RESA associated with the resource's incremental annual costs.

159. This new “lock down” paradigm for the retail rate impact will need to be tested in future RES compliance plan proceedings to assess the administrative burdens it may place on the QRUs, the Commission, and the parties. Based on future experiences regarding locked down net incremental costs, the Commission may find it to be overly complicated, time consuming, and controversial to review specific net incremental costs of each eligible energy resource and the corresponding allocation of RESA dollars. It may also prove to be necessary in the future to examine alternative methods for dealing with the RESA funds becoming inadequate to pay for the incremental costs of new resource acquisitions as a result of fluctuating avoided costs, such as natural gas costs and carbon costs.

XII. ANNUAL COMPLIANCE REPORT—RULE 3662

160. The Draft Rules contains several new reporting requirements related to the QRU's performance in a completed compliance year.

161. The OCC suggests that RECs from QRU-owned facilities should be separately reported in the QRU's annual compliance report. The OCC further suggests that profit and losses from the sale of RECs should be reported in the Annual Compliance Plan.

162. The Solar Alliance complains that the existing Rule 3662 does not require fine enough detail and that reporting should be done by sub-category for on-site solar systems (Small, Medium, and Large SRO Programs) and should include information about budgets and expenditures.

163. WRA suggests that RECs retired for voluntary green pricing programs be separately identified in the QRU's report. The WRA also suggests that, with respect to

confidential information, the QRU should seek a protective order if it wants to claim confidentiality of material in the report.

164. Both Public Service and Black Hills express concern that the proposed changes in the Draft Rules would impose a data-intensive burden on the reporting process. Public Service proposes only a single change to existing Rule 3662(a)(XI) that reflects Commission interpretations of the existing rule.

165. Rule 3662 shall be modified to focus on RECs and recycled energy as opposed to eligible energy, since Rule 3659 states that RECs and recycled energy will be used to comply with the RES.

166. Two new subcomponents shall be added to existing Rule 3662(a): one to require the reporting of RECs retired for voluntary green pricing programs as suggested by WRA and the other to report RECs generated by QRU-owned renewable energy facilities. Rule 3659(a) shall further be modified to require reporting by type of RECs (non-solar RECs, S-RECs and SO-RECs) and by category of SO-REC, as applicable. Rule 3659(a)(XI) shall also be modified to provide more detail about expenditures by type of resource. However, no change will be made to existing Rule 3662(a)(XI).

167. Finally, a new rule shall require the QRU report on the RECs traded and sold during the compliance year, including the margins gained and the method for calculating such margins.

XIII. NET METERING—RULE 3664

168. Existing Rule 3664 currently requires investor owned QRUs to allow a customer's retail electricity consumption to be offset by the electricity generated from eligible energy resources on the customer's side of the meter that are interconnected with the QRU,

subject to certain limits. If a customer generates renewable energy in excess of the customer's electricity consumption, the excess kilowatt-hours may be carried forward from month to month and credited at a ratio of 1:1 against the customer's retail electricity consumption in subsequent months, with a true-up taking place annually. There were numerous comments concerning net metering.

169. Rule 3664(a)(I) currently limits the capacity of a net metering customer's generation to 2,000 kW, or 2 MW. Most commenters proposed raising this limit to at least 4 to 6 MW. Other commenters suggest placing a limit based on the customer's anticipated or actual annual electricity consumption, typically 120 percent or 125 percent of the customer's annual electricity consumption. Other states have taken this latter approach.

170. The OCC opposes the raising of the net metering limit above 2 MW. It claims that there is an inherent subsidy that flows from the non-net metered customers to those that are net metered without a production meter. Public Service also suggests that since some transmission and distribution costs are recovered in the energy or per-kWh rate, those customers on a net meter do not pay their share of these transmission and distribution costs, which end up being paid by the non-net metered customers.

171. Other commenters, such as the Solar Alliance, suggest that OCC and Public Service ignore the benefits of net metering. As an example, they note that net-metered customers generally receive benefits based on avoided average fuel costs, rather than benefits based on the higher fuel costs of resources that have been most likely displaced. They also point to lower system losses, transmission sizing benefits, and the value of increased generation capacity. Absent detailed analysis, these commenters are unwilling to concede that there is any subsidy at all flowing to net-metered customers.

172. Public Service states in its Reply Comments that it supports a limit of the lesser of 2 MW or 120 percent of the customer's average annual electricity consumption. This proposal would be more restrictive than the existing limit.

173. The limit is somewhat arbitrary. As the on-site solar industry has advanced, systems are getting larger and larger. Some current systems, such as those owned by the City of Rifle and DIA, are close to the cap. In addition, it appears there will be growth in the number of third-party providers and installations on leased premises, which will exert upward pressure on the cap. There is no strong evidence of record supporting the notion that there is an overall subsidy flowing to net-metered customers. Therefore a larger cap is warranted. The record supports an increase on the limit to a system sized to supply no more than 120 percent of the customer's average annual electricity consumption.

174. Public Service has raised legitimate concerns about customer-owned, intermittent systems much larger than the existing 2 MW cap. From a system perspective, sudden weather changes and rapid loss of voltage produce engineering issues that will have to be addressed. However, these are engineering and operational issues that are best dealt with explicitly as interconnection issues. The net metering cap is primarily an economic issue.

175. Some municipal commenters sought an exemption from the cap for municipal customers. Given that the size limit is being changed as set forth above, no exemption will be written into the rules. Some commenters went further and sought to have the different locations of a municipal load aggregated together for net metering purposes. However, this goes beyond the ALJ's understanding of what net metering means. This proposal seems to be little different from allowing a common owner of multiple facilities, such as a real estate trust owning many

buildings, to net all generation and usage across all of the facilities without regard to contiguity of the facilities. Therefore no municipal exemption for different locations is adopted.

176. CoSEIA suggested that all new and replacement meters be net meters. It argued that this would speed the deployment of on site solar systems. Public Service opposes this. It notes that when a net meter is installed, it loses the ability, unless informed by the customer, to track what is connected to the grid from the customer's side of the net meter. This creates a threat to the reliability of the system, in its eyes.

177. Installing net meters exclusively on a going forward basis presents practical problems for the management of the system. There may be ways to implement such a program, but the cost and difficulty of the implementation are simply unknown. Therefore it will not be mandated at this time.

178. One commenter urged the Commission to allow residential customers who net meter to select whatever 12-month period they want for the true-up period. However, the standard rebate offer (which covers most residential customers) is governed by § 40-2-124(e), C.R.S., and it requires that the true-up take place on a calendar year basis. Therefore the suggestion will not be adopted.

179. There were comments made suggesting that the Commission consider demand credits for net metered customers. Another demand-related issue was the proposal by WRA to cap net metering with a demand limit of 200 percent of a customer's demand (for demand metered customers). These topics were insufficiently fleshed out at the hearing, but they are worthy of future consideration.

180. A conforming amendment to the definition of "on-site solar system" found in Rule 3652(i) has been made by removing the last sentence, which had limited their size to 2 MW.

181. For REAs, the net metering size limits are set forth in § 40-9.5-118(2)(e), C.R.S. They will not be repeated in the rules.

XIV. INTERCONNECTION PROCEDURES—RULE 3665

A. Applicability

182. CoSEIA and CDOC have taken the position that all interconnection agreements for small (less than 10 kW) systems should be either streamlined or abolished. They think the agreements are unnecessarily complicated and add significant transaction costs to the purchase of small systems. The agreements are somewhat complicated and should be simplified. However, this seems to be occurring as part of the natural evolution of the marketplace. Therefore the requirement for an agreement for a small system will not be abolished.

B. Insurance—Rule 3665(e)(XI)

183. The current insurance requirement for systems less than or equal to 10 kW is a combined single limit (for bodily injury and property damage) of at least \$300,000 for each occurrence. The current insurance requirement for systems greater than 10 kW and less than or equal to 2 MW is a combined single limit (for bodily injury and property damage) of at least \$2,000,000 for each occurrence. For systems larger than 2 MW, the insurance limit is determined on a case-by-case basis, with the limit reflecting the size of the installation and the potential for system damage.

184. CoSEIA and IREC would like to abolish all proof of insurance requirements for small systems. They suggest that the risk to the grid is small, and that there has never been damage to the grid from a small system. They claim that 25 states do not require proof of insurance for small systems. Public Service, CREA, and Tri-State oppose any change to the small system requirement. They note that such insurance is readily available at a reasonable

cost, and argue that there is still some risk to the system. For these latter reasons, the requirement for systems of 10 kW or less will not be changed.

185. Public Service has proposed reducing the limit for projects sized 10 kW to 500 kW to \$1,000,000;²⁰ maintaining a \$2,000,000 amount for systems sized over 500 kW to 2 MW; and keeping a case-by-case basis for systems over 2 MW. IREC proposes a limit of \$1,000,000 for systems sized 250 kW to 2 MW; and \$2,000,000 for systems over 2 MW. Public Service's proposal to add a fourth category to the existing three seems more tailored to the amount of insurance that should be needed. Therefore, the Public Service proposal will be adopted.

186. Rule 3665(e)(XI)(B) requires that for all systems, except solar systems located on residential premises that are 10 kW or less, the utility shall be named as an additional insured by endorsement to the insurance policy, and the policy shall provide that written notice be given to the utility at least 30 days prior to any cancellation or reduction in coverage. IREC claims that such insurance is either unavailable or prohibitively expensive, and suggests that the endorsement requirement be done away with. Public Service has recommended that the endorsement requirement remain only for systems sized larger than 500 kW.

187. There may be some legitimacy to the IREC claim, as noted by another commenter.²¹ However, the record is sparse on the issue. A prudent course at this time would be to adopt the Public Service recommendation for now, and revisit the issue in the future. Therefore the Public Service proposal will be adopted.

²⁰ Public Service made this recommendation concurrent with its recommendation that standard offers for SO-RECs be made to systems up to 500 kW in size.

²¹ Richard Wilson, CEO of Southeast Colorado Power, testifying on behalf of CREA.

C. REC Transfers

188. As noted above, REC transfers from an interconnection customer to the QRU shall not be a mandatory condition for interconnection. Such a requirement will be removed from the model application in Rule 3665(g). While REC transfers from the customer to the QRU shall not be a mandatory condition for interconnection, there shall be no prohibition on the purchase of RECs by the QRU through an interconnection agreement.

D. Rural Systems

189. As noted above, HB08-1160, now codified at § 40-9.5-118, C.R.S., addressed net metering, interconnection, and related matters for CEAs and their customers. Section 40-9.5-118(2)(d), C.R.S., requires CEAs and customer-generators to comply with the interconnection standards and insurance requirements of the Commission. In addition, the Commission was required to address CEA issues in its small generator interconnection procedures. This proceeding does that.

190. CREA and Tri-State have raised issues concerning interconnection that apply more specifically to rural systems. For example, many rural systems have highly seasonal circuits, perhaps due to irrigation or snow-making customers. They have therefore suggested additional screens for both the Level 1²² and Level 2²³ interconnection requests. They have proposed amendments to Rule 3665 which define a highly seasonal circuit as one whose ratio of annual peak load to off-season peak load is greater than six. For those circuits, aggregate

²² Level 1 interconnection requests apply to inverter-based generating facilities no larger than 10 kW.

²³ Level 2 interconnection requests apply to facilities no larger than 2 MW that are not Level 1.

generation, including a small generation facility, may not exceed 15 percent of twice the minimum daytime loading.²⁴

191. CREA and Tri-State also propose to add language to Rule 3665 that would create a standard for Level 2 requiring a proposed generation facility not cause a voltage dip greater than 5 percent and meet the flicker requirements of IEEE standard 519.

192. These proposals are warranted given the unique operating conditions of many of the rural CEAs. The proposals will be adopted.

E. One-line Diagrams

193. The existing Rule 3665 makes no mention of one-line diagrams. The Draft Rules included no changes to Rule 3665 either explicitly allowing QRUs to request one-line diagrams as part of the interconnection process or explicitly prohibiting QRUs from requiring one-line diagrams from the interconnection process.

194. CoSEIA broadly seeks to eliminate or at least to reduce significantly the interconnection agreement for Level 1 installations that involve inverter-based systems of 10 kW or less. The requirement for customer-site-specific, one-line diagrams is an example of the paperwork that CoSEIA seeks to remove. It would like the Commission to prohibit utilities from requiring a one-line diagram of the design of a proposed system for small systems. It suggests that the diagrams offer little information to the utility and are a paperwork headache for installers. While the individual cost is small, CoSEIA notes that it is multiplied by the thousands of interconnection agreements that its members must provide.

²⁴ “Minimum daytime loading” is defined as well, namely, the lowest daily peak in the year on the line section.

195. Public Service, CREA, and Tri-State all strongly oppose the Commission precluding the requirement. They see the one-line diagram as a useful tool showing at a glance the point of interconnection, the electrical configuration, and certification of the inverter. It also is used for meter set orders, and Public Service states that its meter technicians are instructed to connect the net meter in conformance with the one-line diagram.

196. There appear to be safety benefits as well as system management benefits associated with one-line diagrams, and the cost is minimal. Therefore the Commission will not preclude their use.

197. The streamlining of the interconnection process should benefit installers and reduce program administration costs. Therefore on-site system installers and the QRUs are encouraged to simplify the development and provision of the one-line diagrams.²⁵ Progress by investor owned QRUs toward streamlining their interconnection application processes for small systems can be examined in the context of the annual RES compliance filings, which, by Rule 3657(a)(VII), are required to address such interconnection matters.

F. External Disconnect Switches

198. Currently, most utilities require external disconnect switches between the on-site facility and the grid. CoSEIA and other commenters would have the Commission preclude a utility from requiring an external disconnect switch on the grounds that they are not needed, at least for small systems. They suggest that most inverter-based systems have internal protections that are sufficient to protect against back-feeding into the grid when the grid is down. CoSEIA

²⁵ For example, it doesn't seem necessary to amend a one-line diagram if only the brand of inverter is changed.

estimates the cost of parts and installation of an external disconnect switch to be \$160 per facility.

199. The utilities are somewhat split on this issue. Public Service is amenable to small (10 kW and under) facilities without external disconnects, provided the systems use a UL 1741 certified inverter. It feels that these have internal disconnects that offer sufficient protection. CREA and Tri-State would accept such an installation in a small system, but only if the installation were performed by a licensed electrician and inspected by a local, qualified inspector. Black Hills opposes these types of installations, claiming that inverters and other encapsulated switches are an insufficient substitute. It states these types of switches are subject to damage from lightning surges.²⁶

200. Given the lack of unanimity on this important safety issue, as well as a thin record on the actual performance of internal protections, an appropriate resolution is to allow the utilities to waive this requirement, at their discretion.

G. Government Interconnectors

201. Governmental entities that would like to interconnect with a QRU face problems peculiar to them. GEO identified several provisions of the standard interconnection agreement that have impacted two projects, namely, a 10 kW PV system for the Capitol and a 100 kW PV system for the Department of Revenue building at 1881 Pierce Street. These provisions relate to insurance and indemnification. For example, the State is self-insured and cannot provide third-party insurance. Other examples relate to requirements for indemnification, forfeiture of governmental immunity, and financial obligations beyond the current fiscal year. GEO proposes

²⁶ Black Hills also claims that the National Electric Code (NEC) requires external disconnect switches. However, the ALJ's understanding is that the NEC requires only a circuit breaker, which the inverter-based systems have internally.

specific language that would prohibit certain provisions in contracts between QRUs and governmental entities. The language proposed by the GEO is incorporated into the adopted changes to Rule 3658.

XV. CHANGES NOT ADOPTED

A. Municipal Utilities under Rule 3653(d)

202. The proposed rules contained a requirement that municipally owned utilities serving 5,000 customers or more adopt and post small generation interconnection standards and insurance requirements that were functionally similar to those in Rule 3665. CAMU opposes this provision, suggesting that it is beyond the jurisdiction of the Commission. CAMU notes both Colorado Constitutional²⁷ and statutory²⁸ provisions in support of its claim. It also describes the differing treatment of municipal utilities and CEAs in HB08-1160, now codified at §§ 40-2-124(7) and 40-9.5-118, C.R.S.

203. CAMU makes a compelling case, and the proposed rule is not adopted.

B. Co-Firing

204. Co-firing describes a situation where a generator uses a combination of fossil fuel and eligible renewable energy resources to generate electricity. The proposed rules suggested methods for determining the proportion of eligible renewable energy generated, as well as a minimum percentage of output that must be generated by the eligible renewable energy resources. No consensus appeared among the commenters, and the record is sparse. No changes to the existing rule will be adopted.

²⁷ Colorado Constitution, Art. XXV.

²⁸ §§ 40-3.5-101-107, C.R.S.

C. Mandatory Registration with Western Renewable Energy Generation Information System (WREGIS)

205. The proposed rules set forth questions related to WREGIS, specifically, whether all Colorado QRUs should register with WREGIS and whether all eligible energy facilities within Colorado of a certain size should maintain a generator account with WREGIS. Most of the benefit of WREGIS in tracking RECs is mooted by the retention of the QRUs as administrators of their respective renewable programs.²⁹ Therefore the rules adopted in this Decision do not mandate registration with WREGIS.

D. Registration of Third-Party Developers

206. A separate portion of this Decision makes it explicit that the third-party developer model of on-site solar installations has previously been accepted and approved by the Commission. However, there has been no demonstration of a need to register the developers. In addition, it is unlikely that the Commission would be able to effectively monitor any type of registration program without additional resources, and thus the program would be of little use.

E. Definitions of Hydropower

207. The proposed rules offered two options to better define the types of hydropower that would qualify as eligible energy resources. Most commenters opposed both versions as overly restrictive and inapplicable in large part to Colorado conditions. The ALJ agrees, and no changes will be adopted.

F. Increased Set-Asides

208. Some commenters suggested that there be increased set asides for certain types of renewables, such as for small wind resources. The OCC argued that this could lead to the

²⁹ Rules 3659(l) and (m) concerning QRU tracking of RECs are being retained unchanged.

acquisition of higher-cost resources. There is insufficient basis to adopt further set-asides of this type.

209. CDOC suggested that State agencies be given some sort of preference. The proposal will not be adopted.

G. Greenhouse Gas Emissions

210. The proposed rules contained some suggestions as to how RECs and greenhouse gas (GHG) reductions would interrelate. The comments made clear that while federal GHG limitations appear imminent, there is not agreement as to the types of limitations there will be. Most commenters argued, and the ALJ agrees, that it is premature to attempt to define this relationship. It is likely the Commission will need to revisit these Rules once federal GHG limitations are in place.

H. Colorado Minimum Percentage

211. Proposed Rule 3654(j) would have required that 80 percent of nonsolar RECs and 80 percent of SRECs used for compliance in a given year be either generated in Colorado or delivered into Colorado. Most commenters opposed this as unnecessary and unduly limiting of any developing REC market. OCC suggested this could increase costs if cheaper RECs are available outside of Colorado. Holy Cross noted that it had already procured RECs for compliance from an out-of-state provider. The ALJ finds that the record does not support any minimum percentage, and the proposal will not be adopted.

I. Other Suggested Changes

212. Any other suggested changes to the rules that have not been discussed above are found to be not warranted, based on the record in this proceeding.

213. In accordance with § 40-6-109, C.R.S., it is recommended that the Commission enter the following Order.

XVI. ORDER

A. The Commission Orders That:

1. The Rules contained in Appendix A are hereby adopted.
2. This Recommended Decision shall be effective on the day it becomes the Decision of the Commission, if that is the case, and is entered as of the date above.
3. As provided by § 40-6-109, C.R.S., copies of this Recommended Decision shall be served upon the parties, who may file exceptions to it.
 - a) If no exceptions are filed within 20 days after service or within any extended period of time authorized, or unless the decision is stayed by the Commission upon its own motion, the recommended decision shall become the decision of the Commission and subject to the provisions of § 40-6-114, C.R.S.
 - b) If a party seeks to amend, modify, annul, or reverse basic findings of fact in its exceptions, that party must request and pay for a transcript to be filed, or the parties may stipulate to portions of the transcript according to the procedure stated in § 40-6-113, C.R.S. If no transcript or stipulation is filed, the Commission is bound by the facts set out by the administrative law judge and the parties cannot challenge these facts. This will limit what the Commission can review if exceptions are filed.

4. If exceptions to this Decision are filed, they shall not exceed 30 pages in length, unless the Commission for good cause shown permits this limit to be exceeded.

(S E A L)



ATTEST: A TRUE COPY

A handwritten signature in black ink that reads "Doug Dean".

Doug Dean,
Director

THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

KEN F. KIRKPATRICK

Administrative Law Judge

COLORADO DEPARTMENT OF REGULATORY AGENCIES

Public Utilities Commission

4 CODE OF COLORADO REGULATIONS (CCR) 723-3

PART 3 RULES REGULATING ELECTRIC UTILITIES

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BASIS, PURPOSE, AND STATUTORY AUTHORITY.

The basis and purpose of these rules is to describe the electric service to be provided by jurisdictional utilities and master meter operators to their customers; to designate the manner of regulation over such utilities and master meter operators; and to describe the services these utilities and master meter operators shall provide. In addition, these rules identify the specific provisions applicable to public utilities or other persons over which the Commission has limited jurisdiction. These rules address a wide variety of subject areas including, but not limited to, service interruption, meter testing and accuracy, safety, customer information, customer deposits, rate schedules and tariffs, discontinuance of service, master meter operations, flexible regulation, procedures for administering the Low-Income Energy Assistance Act, cost allocation between regulated and unregulated operations, recovery of costs, the acquisition of renewable energy, small power producers and cogeneration facilities, and appeals regarding local government land use decisions. The statutory authority for these rules can be found at §§ 29-20-108, 40-1-103.5, 40-2-108, 40-2-124(2), 40-3-102, 40-3-103, 40-3-104.3, 40-3-111, 40-3-114, 40-4-101, 40-4-106, 40-4-108, 40-4-109, 40-5-103, 40-8.7-105(5), ~~and~~ 40-9.5-107(5), and 40-9.5-118, C.R.S.

GENERAL PROVISIONS

3000. Scope and Applicability.

- (a) Absent a specific statute, rule, or Commission Order which provides otherwise, all rules in this Part 3 (the 3000 series) shall apply to all jurisdictional electric utilities and electric master meter operators and to Commission proceedings concerning electric utilities or electric master meter operators providing electric service.
- (b) The following rules in this Part 3 shall apply to cooperative electric associations which have elected to exempt themselves from the Public Utilities Law pursuant to § 40-9.5-103, C.R.S.:
 - (I) Rules 3002 (a)(I), (a)(II), (a)(IV), (a)(V), (a)(XVI), (b), and (c) concerning the filing of applications for certificate of public convenience and necessity for franchise or service territory, for certificate amendments, to merge or transfer, or for appeals of local land use decisions.
 - (II) Rules 3005 (a)(III) (IV), (d), (e), (g), and (h) concerning records under RUS accounting system and preservation of records.
 - (III) Rule 3006 (a) (b) (c) (d) and (e) concerning the filing of annual reports, designation for service of process, and election of applicability of Title 40, Article 8.5.
 - (IV) Rules 3008 (b) and (d) concerning incorporation by reference.
 - (V) Rules 3100 and 3103 concerning application for and amendment of a certificate of public convenience and necessity relating to a franchise.
 - (VI) Rules 3101 and 3103 concerning application for and amendment of a certificate of public convenience and necessity relating to service territory.
 - (VII) Rule 3104 concerning application to transfer assets, to obtain a controlling interest, or to merge with another entity.

- (VIII) Rule 3204 concerning incidents occurring in connection with the operation of facilities.
 - (IX) Rule 3207 (a) and (b), concerning construction and expansion of distribution facilities.
 - (X) Rules 3250 through 3253 concerning major event reporting.
 - (XI) Rule 3411 concerning the Low-Income Energy Assistance Act unless the cooperative electric association has exempted themselves pursuant to rule 3411(c).
 - (XII) Rules 3650(b), 3651, 3652, 3654(b), (e) through (j) and (m); 3659(a)(I) through (a)(V), (b) through (k), 3660(i), 3661(b), (c), (g), and (j), 3662(a)(I), a(II), a(IV) through (a)(X), (a)(XII), a(XV), (b), (d) and (e), 3665.
 - (XIII) Rules 3700 through 3707 concerning appeals of local governmental land use decisions actions.
- (c) The following rules in this Part 3 shall apply to **cooperative electric generation and transmission associations**:
- (I) Rules 3002 (a)(III), (a)(XVI), (b), and (c) concerning the filing of applications for certificates of public convenience and necessity for facilities or for appeals of local land use decisions.
 - (II) Rule 3006(h) concerning the filing of least-cost planning reports.
 - (III) Rule 3102 concerning applications for certificates of public convenience and necessity for facilities.
 - (IV) Rule 3103 concerning amendments to certificates of public convenience and necessity for facilities.
 - (V) Rule 3104 concerning application to transfer, to obtain a controlling interest, or to merger with another entity.
 - (VI) Rule 3200 concerning construction, installation, maintenance, and operation of facilities.
 - (VII) Rule 3204 concerning incidents occurring in connection with the operation of facilities.
 - (VIII) Rule 3205 concerning construction or expansion of generating capacity.
 - (IX) Rule 3206 concerning construction or extension of transmission facilities.
 - (X) Rule 3253(a) concerning major event reporting.
 - (XI) Rules 3602, 3605, and 3614(a) concerning least-cost resource planning.
 - (XII) Rules 3700 through 3707 concerning appeals of local governmental land use decisions actions.

- (d) The following rules in this Part 3 shall apply to municipally owned utilities, which are qualifying retail utilities:
 - (l) Rules 3650(c), 3651, 3652, 3653, 3654(b), (c), (e) through (j) and (m); 3659(a)(l) through (a)(V), (b) through (k).
- (e) The following rules in this Part 3 shall apply to municipally owned utilities which are not qualifying retail utilities:
 - (l) Rules 3650(d).

RENEWABLE ENERGY STANDARD

3650. Applicability.

- (a) Rules 3650 to 3665 shall apply to all investor owned jurisdictional electric utilities in the state of Colorado that are subject to the Commission's regulatory authority.
- (b) Rules 3651, 3652, 3654(b), (e) through (j), and (m), 3659(a)(I) through (a)(V), (b) through (k), 3660(i), 3661(b), (c), (g), and (j), 3662(a)(I), (a)(II), (a)(IV) through (a)(X), (a)(XII), (a)(XV), (b), (d) and (e), 3665 shall apply to cooperative electric associations in the state of Colorado.
- (c) Rules 3651, 3652, 3653, 3654(b), (c), (e) through (j) and (m), 3659(a)(I) through (a)(V), (b) through (k) shall apply to municipally owned electric utilities in the state of Colorado, which are QRUs.
- (d) The board of directors of each municipally owned electric utility not subject to these rules may, at its option, submit the question of whether to be subject to these rules to its consumers on a one meter equals one vote basis. Approval by a majority of those voting in the election shall be required for such inclusion, providing that a minimum of 25 percent of eligible consumers participates in the election.
 - (I) Within 45 days of the conclusion of any vote to be subject to these rules, the municipally owned electric utility shall provide written notification of the outcome of the vote to the Director of the Commission.
- (e) Nothing in these rules is intended to expand the Commission's regulatory oversight and powers over municipally owned electric utilities or cooperative electric associations.

3651. Overview and Purpose.

The purpose of these rules is to establish a process to implement the renewable energy standard for qualifying retail utilities in Colorado, pursuant to § 40-2-124, C.R.S.

Section 40-2-124, C.R.S., was enacted by the voters of the State of Colorado as 2004 Ballot Amendment 37 and was amended by the 2005 Colorado General Assembly by Senate Bill 05-143. Section 40-2-124 was further amended by the 2007 Colorado General Assembly by House Bill 07-1281. The 2008 Colorado General Assembly amended, by House bill 08-1160, provisions of § 40-2-124, C.R.S., and added § 40-9.5-118, C.R.S., to cause cooperative electric associations to come under the Commission's interconnection rules.

Energy is critically important to Colorado's welfare and development, and its use has a profound impact on the economy and environment. Growth of the state's population and economic base will continue to create a need for new energy resources, and Colorado's renewable energy resources are currently underutilized.

Therefore, in order to save consumers and businesses money, attract new businesses and jobs, promote development of rural economies, minimize water use for electricity generation, diversify Colorado's energy resources, reduce the impact of volatile fuel prices, and improve the natural environment of the

state, it is in the best interests of the citizens of Colorado to develop and utilize renewable energy resources to the maximum practicable extent.

It is the policy of this State to encourage local ownership of renewable energy generation facilities to improve the financial stability of rural communities.

3652. Definitions.

The following definitions apply only to rules 3650 – 3665. In the event of a conflict between these definitions and a statutory definition, the statutory definition shall apply.

- (a) "Annual compliance report" means the report a QRU is required to file annually with the Commission pursuant to rule 3662 to demonstrate compliance with the Renewable Energy Standard.
- (b) "Biomass" means nontoxic plant matter consisting of agricultural crops or their byproducts, forestry products and their byproducts, urban wood waste, mill residue, slash, or brush; animal wastes and products of animal wastes; or methane produced at landfills or as a by-product of the treatment of wastewater residuals.
- (c) "Community-based project" means a project located in Colorado and: (a) that is owned by individual residents of a community, a local nonprofit organization, a cooperative, a local government entity, or a tribal council; (b) whose generating capacity does not exceed thirty megawatts; and (c) for which there is a resolution of support adopted by the local governing body of each local jurisdiction in which the project is to be located.
- (d) "Compliance plan" means the annual plan a QRU is required to file with the Commission pursuant to rule 3657.
- (e) "Compliance year" means a calendar year for which the renewable energy standard is applicable.
- (f) "Eligible energy" means renewable energy, and recycled energy ~~or RECs~~.
- (g) "Eligible energy resources" are renewable energy resources or facilities that generate recycled energy ~~or facilities that generate electricity by means of the following energy sources: solar radiation, wind, geothermal, biomass, hydropower, and fuel cells using hydrogen derived from eligible energy resources. Fossil and nuclear fuels and their derivatives are not eligible energy resources. Hydropower resources in existence on January 1, 2005 must have a nameplate rating of thirty megawatts or less. Hydropower resources not in existence on January 1, 2005 must have a nameplate rating of ten megawatts or less.~~
- (h) "Off-grid on-site solar system" means an on-site solar system located on the premises of an end-use electric consumer located within the service territory of a QRU or an electric utility that is eligible to become a QRU pursuant to § 40-2-124(5)(b), C.R.S., that is not connected to, and operates completely independently from, the distribution system or transmission system facilities of any electric utility.
- (i) "On-site solar system" means a solar renewable energy system located on the premises of an end-use electric consumer located within the service territory of a QRU or an electric utility that is

eligible to become a QRU pursuant to § 40-2-124(5)(b), C.R.S. For the purposes of this definition, the non-residential end-use electric customer, prior to the installation of the solar renewable energy system, shall not have its primary business being the generation of electricity for retail or wholesale sale from the same facility. In addition, at the time of the installation of the solar renewable energy system, the non-residential end-use electric customer must use its existing facility for a legitimate commercial, industrial, governmental, or educational purpose other than the generation of electricity. ~~An On-site solar system is limited to a maximum size of two MW.~~

- (j) "Person" means Commission staff or any individual, firm, partnership, corporation, company, association, cooperative association, joint stock association, joint venture, governmental entity, or other legal entity.
- (k) "Qualifying retail utility" or "QRU" means any provider of retail electric service in the state of Colorado other than municipally owned electric utilities that serve 40,000 customers or fewer.
- (l) "Recycled energy" means energy produced by a generation unit with a nameplate capacity of not more than fifteen megawatts that converts the otherwise lost energy from the heat from exhaust stacks or pipes to electricity and that does not combust additional fossil fuel. Recycled energy does not include energy produced by any system that uses energy, lost or otherwise, from a process whose primary purpose is the generation of electricity, including, without limitation, any process involving engine-driven generation or pumped hydroelectricity generation.
- (m) "Renewable energy" means energy generated from ~~eligible-renewable~~ energy resources.
- (n) "Renewable energy credit" or "REC" means a contractual right to the full set of non-energy attributes, including any and all credits, benefits, emissions reductions, offsets, and allowances, howsoever entitled, directly attributable to a specific amount of electric energy generated from ~~an~~ a eligible-renewable energy resource. One REC results from one megawatt-hour of electric energy generated from an eligible energy resource. For the purposes of these rules, RECs include, but are not limited to, S-RECs and SO-RECs.
- (o) "Renewable energy credit contract" means a contract for the sale of renewable energy credits without the associated energy.
- (p) "Renewable energy resources" means facilities that generate electricity by means of the following energy sources: solar radiation, wind, geothermal, biomass, hydropower, and fuel cells using hydrogen derived from eligible energy resources. Fossil and nuclear fuels and their derivatives are not renewable energy resources. Hydropower resources in existence on January 1, 2005 must have a nameplate rating of thirty megawatts or less. Hydropower resources not in existence on January 1, 2005 must have a nameplate rating of ten megawatts or less.
- (q) "Renewable energy standard" means the electric resource standard for eligible renewable energy resources specified in § 40-2-124, C.R.S.
- ~~(q)~~ "Renewable energy supply contract" means a contract for the sale of renewable energy and the RECs associated with such renewable energy. If the contract is silent as to renewable energy credits, the renewable energy credits will be deemed to be combined with the energy transferred under the contract.

- (fs) "Solar electric generation technologies" means any technology that uses solar radiation energy to generate electricity.
- (st) "Solar on-site renewable energy credit" or "SO-REC" means a REC created by an on-site solar system.
- (tu) "Solar renewable energy credit" or "S-REC" means a REC created by a solar renewable energy system. For the purposes of these rules, S-RECs include, but are not limited to, SO-RECs.
- (uy) "Solar renewable energy system" means a system that uses a solar electric generation technology to generate electricity.
- (vw) "Standard rebate offer" or "SRO" means a standardized incentive program offered by a QRU to its retail electric service customers for on-site solar systems that do not exceed 100 kW per installation.
- ~~(w) "Watt" means a unit of measure of alternating current electric power at a point in time, as capacity or demand. For the purposes of measurement of output from solar renewable energy systems used in the solar program, the watts referenced herein mean those determined by a nationally accepted testing organization.~~

3653. Municipal Utilities.

- (a) Each municipally owned QRU implementing a renewable energy standard substantially similar to the provisions of § 40-2-124, C.R.S., shall submit a statement to the Commission that demonstrates its renewable energy standard program, at a minimum, meets the following criteria:
 - (I) The eligible energy resources shall be limited to those identified in subsection § 40-2-124(1)(a);
 - (II) The percentage requirements shall be equal to or greater in the same years than those identified in subsection § 40-2-124(1)(c)(V) and counted in the manner allowed by rule 3654; and
 - (III) The utility must have an optional pricing program in effect that allows retail customers the option to support through utility rates emerging renewable energy technologies.
- (b) The statement to be submitted by a municipally owned QRU is for information purposes only and is not subject to approval by the Commission. Upon filing of the certification statement, the municipally owned QRU shall have no further obligations under these rules.
- (c) Nothing in this section prohibits a municipally owned electric utility from buying and selling RECs.

3654. Renewable Energy Standard.

- (a) Each investor owned QRU shall generate or cause to be generated (through purchase or by providing rebates or other form of incentive) eligible energy in the following minimum amounts:
 - (I) Three percent of its retail electricity sales in Colorado for the compliance year 2007;

- (II) Five percent of its retail electricity sales in Colorado for each of the compliance years 2008 through 2010;
 - (III) Ten percent of its retail electricity sales in Colorado for each of the compliance years 2011 through 2014;
 - (IV) Fifteen percent of its retail electricity sales in Colorado for each of the compliance years 2015 through 2019; and
 - (V) Twenty percent of its retail electricity sales in Colorado for each of the compliance years beginning in 2020 and continuing thereafter.
- (b) Each cooperative electric association QRU and municipally owned QRU shall generate or cause to be generated eligible energy in the following minimum amounts:
- (I) One percent of its retail electricity sales in Colorado for each of the compliance years 2008 through 2010;
 - (II) Three percent of its retail electricity sales in Colorado for each of the compliance years 2011 through 2014;
 - (III) Six percent of its retail electricity sales in Colorado for each of the compliance years 2015 through 2019; and
 - (IV) Ten percent of its retail electricity sales in Colorado for each of the compliance years beginning in 2020 and continuing thereafter.
- (c) For municipal utilities that become a municipally owned QRUs after December 31, 2006, the minimum percentage requirements of eligible energy shall begin in the first calendar year following qualification as follows:
- (I) Years one through three: One percent of retail electricity sales;
 - (II) Years four through seven: Three percent of retail electricity sales;
 - (III) Years eight through twelve: Six percent of retail electricity sales; and
 - (IV) Years thirteen and thereafter: Ten percent of retail electricity sales.
- (d) Of the eligible ~~renewable~~ energy amounts specified in rule 3654(a), each investor owned QRU shall derive at least four percent from solar electric generation technologies. At least one-half of this four percent shall be derived from on-site solar systems located at customers' facilities
- (e) For purposes of compliance with the renewable energy standard specified in rules 3654(b) and (c), for cooperative electric association QRUs and municipal QRUs, each kilowatt-hour of eligible energy generated from solar electric generation technology shall be counted as 3.0 kilowatt-hours of eligible energy, provided that the solar electric generation technology commenced producing electricity prior to July 1, 2015. For solar electric generation technology that commenced producing electricity on or after July 1, 2015, each kilowatt-hour of eligible energy generated from

solar electric generation technology shall be counted as 1.0 kilowatt-hours of eligible energy for compliance purposes.

- (f) For purposes of compliance with the renewable energy standard, each kilowatt-hour of eligible energy generated in Colorado shall be counted as 1.25 kilowatt-hours of eligible energy.
- (g) For purposes of compliance with the renewable energy standard, each kilowatt-hour of eligible energy generated from a community-based project shall be counted as 1.5 kilowatt-hours of eligible energy.
- (h) For purposes of compliance with the renewable energy standard, each kilowatt-hour of eligible energy may take advantage of only one of the compliance multipliers in rules 3654(e), (f) or (g).
- (i) For purposes of compliance with the renewable energy standard, a QRU may generate, or cause to be generated, and count eligible energy or RECs for compliance:
 - (I) For the compliance year immediately preceding the compliance year during which ~~it~~ was they were generated, provided that such eligible ~~renewable~~ energy and RECs are ~~is~~ generated no later than July 1 of the calendar year immediately following the end of the compliance year for which ~~it is~~ they are being counted;
 - (II) For the compliance year during which ~~it was~~ they were generated; or
 - (III) For the five compliance years immediately following the compliance year during which ~~it~~ was they were generated.
 - (IV) Eligible energy or RECs generated on or after January 1, 2004 may be counted for compliance with this renewable energy standard. Eligible energy or RECs generated on or before December 31, 2003 shall not be eligible for, and shall not be counted for, compliance with this renewable energy standard. The eligibility for compliance of all eligible energy and RECs shall expire at the end of the fifth calendar year following the calendar year during which ~~it was~~ they were generated.
- (j) For purposes of compliance with this renewable energy standard, a QRU may substitute the equivalent RECs, S-RECs, or SO-RECs for eligible energy.
- (k) For the first four compliance years the QRU may borrow forward eligible energy and RECs generated during the following two compliance years. Any borrowed eligible energy and RECs generated during a compliance year must be made up by actual eligible energy and RECs generated during that compliance year or borrowed from subsequent compliance years, provided that the fourth compliance year is the last compliance year that borrowing forward may occur pursuant to this rule. For purposes of this rule, the term "borrow forward" means that a QRU may count eligible energy and RECs that it has not yet generated or caused to be generated to satisfy its current year obligations toward compliance with the renewable energy standard and the term "made up" means that any counting of eligible energy ~~resources~~ and RECs by a QRU in a compliance year that it had not actually generated nor caused to be generated shall be actually generated or caused to be generated in a subsequent year.

- (l) For the first four compliance years, 2007 through 2010, no administrative penalties shall be assessed against an investor owned QRU if the failure to meet the renewable energy standard results from events beyond the reasonable control of the QRU which could not have reasonably been mitigated by the QRU.
- (m) For purposes of compliance with this renewable energy standard, there shall be no "double counting" of ~~renewable-eligible~~ energy or RECs. Notwithstanding the foregoing, eligible ~~renewable-energy~~ and RECs generated or acquired by a QRU and counted toward compliance with a federal renewable energy standard may also be counted by the QRU toward compliance with the renewable energy standard.
- (n) A QRU may apply to the Commission for a determination as to whether eligible energy or RECs sold by the QRU under an optional renewable energy pricing program may be counted by the QRU toward compliance with the renewable energy standard. Such eligible energy shall not be counted toward compliance with the renewable energy standard until the Commission grants approval of the utility's application following an evidentiary hearing.
- (o) For purposes of compliance with this renewable energy standard, if a generation system uses a combination of fossil fuel and ~~eligible-renewable~~ energy resources to generate electricity, a QRU may count only as ~~eligible-renewable~~ energy the proportion of the total electric output of the generation system that results from the use of ~~eligible-renewable~~ energy resources. The QRU shall include in its annual compliance plan the method of calculation used to determine the proportion of ~~eligible-renewable~~ energy.
- (p) The QRU may generate, or cause to be generated, eligible ~~renewable~~ energy without regard to economic dispatch procedures.

3655. Resource Acquisition.

- (a) It is the Commission's policy that utilities should meet the renewable energy standard in the most cost-effective manner. To this end, the competitive acquisition provisions and exemptions of the Commission's Resource Planning Rules shall apply to the acquisition of investor-owned QRU ~~shall use competitive bidding for acquiring renewable energy from~~ eligible energy resources by investor owned QRUs using solar electric generation technologies with nameplate rating greater than 100 kW. Notwithstanding the exemptions in the Resource Planning Rules, investor owned QRUs shall acquire SO-RECs from on-site solar systems in accordance with a process set forth in a Commission-approved compliance plan.
- ~~(b) Competitive solicitations shall be conducted by each investor-owned QRU to achieve the statutory policies contained in the legislative declaration of intent. Whenever a QRU acquires renewable energy and/or RECs by competitive acquisition, to the extent possible, the solicitations and evaluations of proposals should be coordinated to avoid redundancy and to minimize the cost of acquiring such renewable energy and/or RECs. A QRU may conduct, in its discretion, separate solicitations or combined solicitations, for any of the following:~~
 - ~~(I) Renewable energy from on-site solar systems;~~
 - ~~(II) Renewable energy from solar energy systems that are not on-site solar systems;~~

- ~~(III) Renewable energy from non-solar resources such as wind, geothermal, biomass, hydropower, fuel cells;~~
- ~~(IV) Renewable energy credits (RECs);~~
- ~~(V) Solar renewable energy credits (S-RECs); and~~
- ~~(VI) Solar on-site renewable energy credits (SO-RECs).~~
- (~~e~~b) The investor owned QRU may apply to the Commission, at any time, for review and approval of ~~renewable energy supply contracts and~~ (1) renewable energy credit contracts of any size, and (2) renewable energy supply contracts with facilities no greater than 30 MW. The Commission will review and rule on these contracts within ~~sixty-ninety~~ sixty days of the date that the application is deemed complete~~their filing~~. The Commission may set the contract for expedited hearing, if appropriate, under the Commission's Rules of Practice and Procedure. If the QRU enters into a renewable energy supply contract or a renewable energy credit contract in a form substantially similar to the form of contract approved by the Commission as part of the investor owned QRU's compliance plan, that contract shall be deemed approved by the Commission under this rule.
- (~~e~~c) Renewable energy supply contracts entered into after July 2, 2006:
 - (I) Shall be for the acquisition of both renewable energy and the associated RECs;
 - (II) May reflect a fixed price, or a price that varies by year;
 - (III) Shall have a minimum term of 20 years (or shorter at the sole discretion of the seller); and
 - (IV) Shall require the seller to relinquish all REC ownership associated with contracted renewable energy to the buyer.
- (~~e~~d) Renewable energy credit contracts entered into after July 2, 2006:
 - (I) Shall be for the acquisition of RECs only;
 - (II) May reflect a fixed price, or a price that varies by time period; and
 - (III) Shall have a minimum term of 20 years if the REC is from an on-site solar system.
- ~~(f) Competitive solicitations for eligible energy from on-site solar systems that provide SO-RECs shall be conducted at least two times per year by each investor owned QRU in 2006 and 2007 and thereafter as necessary to comply with the renewable energy standard.~~
- ~~(i) The treatment of any solar-generated electricity generated on-site in excess of the consumption of the host facility will be governed by the net metering provisions pursuant to rule 3664.~~
- ~~(g) Competitive solicitations for the acquisition of S-RECs may be conducted by each investor owned QRU as needed to comply with the renewable energy standard.~~

- ~~(h) Competitive solicitations for renewable energy or RECs from eligible energy resources other than on-site solar systems shall be conducted by each investor owned QRU in a timeframe that takes into account the projected needs of the QRU.~~
- ~~(i) Each competitive solicitation pursuant to these rules shall be targeted toward acquiring the amount of eligible energy required for compliance with each component of the renewable energy standard, and taking into account:
 - ~~(I) The retail rate impact, and~~
 - ~~(II) The estimated number of SO RECs procured under and expected to be procured under the standing standard rebate offer.~~~~
- ~~(j) Each investor owned QRU shall provide all parties to the bid process timely notice of bidding procedure.~~
- ~~(k) Each investor owned QRU shall disclose, at the Commission's request, all information that will be used in the acquisition process, including but not limited to, interconnection and transmission studies, and methods for modeling or otherwise analyzing bids. Confidential information may be protected in accordance with rules 1100 through 1102 of the Commission's Rules of Practice and Procedure.~~
- (le) If the investor owned QRU intends to accept proposals as part of a competitive solicitation for eligible energy resources from the QRU or from an affiliate of the QRU, it shall include a written separation policy and name an independent auditor whom the utility proposes to hire to review and report to the Commission on the fairness of the competitive acquisition process. The independent auditor shall have at least five years' experience conducting and/or reviewing the conduct of competitive electric utility resource acquisition, including computerized portfolio costing analysis. The independent auditor shall be unaffiliated with the utility; and shall not, directly or indirectly, have benefited from employment or contracts with the utility in the preceding five years, except as an independent auditor under these rules. The independent auditor shall not participate in, or advise the utility with respect to, any decisions in the bid-solicitation or bid-evaluation process. The independent auditor shall conduct an audit of the utility's bid solicitation and evaluation process to determine whether it was conducted fairly. For purposes of such audit, the utility shall provide the independent auditor immediate and continuing access to all documents and data reviewed, used or produced by the utility in its bid solicitation and evaluation process. The utility shall make all its personnel, agents and contractors involved in the bid solicitation and evaluation available for interview by the auditor. The utility shall conduct any additional modeling requested by the independent auditor to test the assumptions and results of the bid evaluation analyses. Within 60 days of the utility's selection of final resources, the independent auditor shall file a report with the Commission containing the auditor's views on whether the utility conducted a fair bid solicitation and bid evaluation process, with any deficiencies specifically reported. After the filing of the independent auditor's report, the utility, other bidders in the resource acquisition process and other interested parties shall be given the opportunity to review and comment on the independent auditor's report.
- (mf) Responses to competitive solicitations shall be evaluated and ranked by the investor owned QRU.

- (I) In addition to the cost of the ~~renewable-eligible~~ energy and RECs, the QRU may take into consideration the characteristics of the underlying eligible energy resource that may impact the ability of the bidder to fulfill the terms of the bid including, but not limited to project in-service date, resource reliability, viability, economic development benefits, energy security benefits, amount of water used, fuel cost savings, environmental impacts including tradable emissions allowances savings, load reduction during higher cost hours, transmission capacity and scheduling, and any other factor the QRU determines is relevant to the QRU's needs.
- (II) Bids with prices that vary by year will be evaluated by discounting the yearly prices at the utility discount rate.
- (III) A QRU is not required to accept any bid and may reject any and all bids offered. However, each solicitation shall culminate in a report detailing the outcome of the solicitation and identifying which bids were selected, which were rejected, and why.
- (IV) For purposes of comparing bids for RECs only with bids for electricity and RECs, the QRU shall assign a value for the electricity and subtract this value from the electricity and RECs bid, and evaluate bids on the basis of RECs only. The QRU shall include, as part of its ~~Compliance-compliance Planplan~~, a description of its methodology and price(s) it intends to use for this evaluation.
- (~~ng~~) Within 15 days of the receipt of bids to a competitive solicitation, the investor owned QRU shall notify respondents as to whether their bid has met the bid submission criteria.
- (~~eh~~) Upon ranking of eligible bids to a competitive solicitation, each investor owned QRU shall within 15 days indicate to all respondents with which proposals it intends to pursue a contract
- ~~(p) If there is a dispute between a bidder and the investor owned QRU, either party may refer the dispute to the Commission for resolution.~~
- (i) For eligible energy resources greater than 250 kW, the owner shall provide, at the QRU's request, access to the QRU of system operation data.

3656. Environmental Impacts.

- (a) Eligible energy resources must meet all applicable federal, state, and local environmental permitting requirements
- (b) For eligible energy resources larger than two MW ~~with-or~~ any wind turbine structures extending over 50 feet in height, the QRU shall require project developers to include in the bid package written documentation that consultation occurred with appropriate governmental agencies (for example, the Colorado Division of Wildlife or the U.S. Fish and Wildlife Service) responsible for reviewing potential project development impacts to state and federally listed wildlife species, as well as species and habitats of concern.
- (c) For eligible energy resources larger than two MW ~~with-or~~ any wind turbine structures extending over 50 feet in height, the QRU renewable energy supply contract shall require project developers to certify, as a condition precedent to achieving commercial operation~~;~~

(I) ~~that the~~ The developer has performed and made publicly available site specific avian and other wildlife surveys conducted on the facility's site prior to construction.

~~The developer shall further certify that (II) ~~the~~ The developer used the results of these surveys in the design, placement, and management of the facilities to ensure that the environmental impacts of facility development are minimized to state and federally listed species and species of special concern, sites shown to be local bird migration pathways, critical habitat and areas where birds or other wildlife are highly concentrated and are considered at risk; and.~~

(III) The results of these surveys shall be shared with the Colorado Division of Wildlife prior to construction.

3657. QRU Compliance Plan.

(a) Every year on or before July 1, each investor owned QRU shall file with the Commission, by application, its proposed plan detailing how the QRU intends to comply with these rules during the next compliance year. Each annual QRU plan shall include ~~rules, regulations and tariffs, if applicable, and the following:~~

(I) The QRU's:

- (A) Determination of the retail rate impact pursuant to rule 3661;
- (B) Estimate of its retail electricity sales;
- (C) Estimate of the eligible energy and RECs that the QRU already has acquired and the QRU's estimate of the additional eligible energy that will be needed to meet the renewable energy standards;
- (D) Estimate of the funds that the QRU will have available to generate, or cause to be generated, additional eligible energy and RECs under the retail rate impact rule;
- (E) Plan to acquire additional eligible energy and RECs given the constraints of the retail rate impact rule, including the allocation of the funds available under the retail rate impact rule to acquire eligible energy or RECs from each of the following: on-site solar systems; solar renewable energy systems that are not on-site solar systems; and non-solar eligible energy;
- (F) Standard rebate offer and the QRU's estimate of the eligible energy that will be acquired under the standard rebate offer;
- (G) Plan to track how the QRU is responding to customers participating in the standard rebate offer program. The QRU shall track from the start of the application process to when the photovoltaic system commences generation.

- (H) Plan to acquire the additional eligible energy and RECs, including the QRU's use of competitive acquisitions to obtain the additional ~~solar eligible renewable energy~~ SO-RECs it needs to meet the renewable energy standard;
 - (I) The proposed request for proposals including any standard contracts ~~to be included with the acquisition for all eligible energy that~~ the QRU plans to ~~acquire by use as part of a~~ competitive acquisition process; and
 - (J) Proposed ownership investment, if any, in eligible energy resources and estimate of whether its investment will provide net economic benefits to the QRU's customers, entitling the QRU to extra profit on its investment, pursuant to rule 3660.
- (II) The ~~competitive~~ acquisition process for eligible energy resources, pursuant to rule 3655;
 - (III) The establishment of the initial level and adjustments to the standard rebate offer for solar electric generation resources, pursuant to rule 3658;
 - (IV) The treatment, tracking, counting and trading of RECs, pursuant to rule 3659;
 - (V) The establishment of a cost recovery mechanism, pursuant to rule 3660;
 - (VI) Rules, regulations and tariffs, for the ~~The~~ net metering for renewable energy resources, pursuant to rule 3664; and
 - (VII) Rules, regulations and tariffs, for the ~~The~~ interconnection of renewable energy resources, pursuant to rule 3665.
- (b) The Commission shall either approve the investor owned QRU's compliance plan or order modifications to the compliance plan. Investor owned QRU actions consistent with an approved compliance plan will be presumed prudent.
 - (c) The investor owned QRU may apply to the Commission at any time for approval of amendments to an approved compliance plan.

3658. Standard Rebate Offer.

- (a) Each investor owned QRU shall make available to its retail electricity customers a standard rebate offer of \$2.00 per watt for on-site solar systems, up to a maximum of 100 kW per system, that become operational on or after December 1, 2004. At the QRU's option, the standard rebate offer may be paid based upon the direct current (DC) watts produced by the on-site solar systems. Any SO-RECs acquired by the QRU pursuant to such SRO program, regardless of whether the associated renewable energy is specifically metered or contractually specified without specific metering, may be counted by the QRU for purposes of compliance with the renewable energy standard.
- ~~(b) On or before June 1, 2006, each QRU shall make a one-time offer to purchase, under a renewable energy credit contract, the SO-RECs associated with on-site solar systems, up to a maximum of ten kW per system existing prior to December 1, 2004, and off-grid on-site solar~~

~~systems, up to a maximum of ten kW per system. The purchase price offered by the QRU for such SO-RECs shall be no less than the QRU's then current standard offer payment rate for SO-RECs, exclusive of the standard rebate payment, associated with the QRU's standard rebate offer and established pursuant to rule 3658. Subsequent offers shall be made at the discretion of the QRU. SO-RECs purchased by a QRU pursuant to this rule may be counted for purposes of compliance with the renewable energy standard.~~

- (~~eb~~) The standard rebate offer of the investor owned QRUs shall be set forth at least annually and shall meet the following requirements:
- (I) The QRU need not offer a rebate for an on-site solar system smaller than 500 watts.
 - (II) The rebate must be made available to all retail utility customers of the QRU on a non-discriminatory, first-come, first-served basis, based upon the date of contract execution.
 - (III) Applicants who are accepted for SRO rebates shall have one year from the date of contract execution to demonstrate substantial completion of their proposed on-site solar system. Substantial completion means the purchase and installation on the customer's premises of all major system components of the on-site solar system. Customers who do not achieve substantial completion within one year will not receive a rebate, unless the substantial completion date is extended. When substantial completion of an on-site solar system has been achieved by an applicant pursuant to this rule the SO-RECs may be counted for purposes of compliance with the renewable energy standard. Within 30 days of substantial completion, the SRO rebate, pursuant to rule 3658(a), and SO-REC payment, pursuant to rule 3658(~~eb~~)(VIII), shall be paid to the applicant.
 - (IV) With the exception of batteries, all on-site solar systems eligible for SRO rebates shall be covered by a minimum five-year warranty. Contracts will require customers to maintain the on-site solar system so that it remains operational for the term of the contract.
 - (V) On-site solar systems must consist of equipment that is commercially available and factory new when installed on the original customer's premises to be eligible for the SRO rebate. Rebuilt, used, or refurbished equipment is not eligible to receive the rebate unless the equipment is transferred by a commercial tenant from another premise as permitted by Rule 3658(b)(VII)(ii).
 - (VI) Customers may contract to expand their on-site solar systems within program parameters and obtain a rebate for the expanded capacity.
 - (VII) In order to receive the SRO rebate payment:
 - ~~(i),~~ the A residential customer must enter into an agreement with the QRU, with a minimum term of 20 years, that transfers the SO-RECs generated by the on-site solar system during the term of the agreement from the customer to the QRU.
 - (ii) A commercial customer may enter into an agreement with the QRU, with a minimum term of 20 years, that transfers the SO-RECs generated by the on-site solar system during the term of the agreement from the customer to the QRU. If the customer is in a leased facility, the customer must obtain the approval of the

QRU, which shall not be unreasonably conditioned, delayed or withheld, and either (i) permission from the customer's landlord or (ii) other documentation evidencing the tenant's unequivocal right to install an on-site solar system. The customer may relocate the on-site solar system to a substitute premise reasonably acceptable to the QRU at any time during the term of the agreement, provided that (i) the on-site solar system is not out of operation for more than 90 days due to such relocation and (ii) the agreement is extended for the period of time the on-site solar system is out of operation. If the on-site solar system is out of operation for more than 90 days, the QRU may terminate the agreement and upon such termination the customer must repay the pro rata share of the rebate based on the number of years remaining in the term of the agreement.

- (VIII) Except for on-site solar systems of commercial tenants who opt for an agreement under Rule 3658(b)(VII)(ii), and except for solar facilities that are owned by entities other than the on-site consumer of the solar energy. ~~For~~ on-site solar systems, up to and including ten kW, that become operational on or after December 1, 2004, the QRU shall offer to make a one-time payment, in addition to the standard rebate payment, for the SO-RECs contracted to be transferred from the customer to the QRU. Any customer that receives the rebate payment and one-time SO-REC payment under this program shall not be entitled to any other compensation for the SO-RECs contracted to be transferred to the QRU. To facilitate installation of these small systems, all procedures, forms, and requirements shall be clear, simple, and straightforward to minimize the time and effort of homeowners and small businesses.
- (IX) For on-site solar systems greater than ten kW that become operational on or after December 1, 2004, and for all on-site solar systems of whatever size that are owned by an entity other than the on-site consumer of the solar energy. the QRU, in addition to the standard rebate payment, shall offer to pay for the SO-RECs contracted to be transferred from the customer to the QRU. Such SO-RECs and the associated payments shall be determined by the specifically metered renewable energy output from the on-site solar system.
- (X) The customer or its representative shall provide a calculation of the annual expected kilowatt-hour production from the customer's on-site solar system. The customer or its representative shall provide the following documentation to back up the customer's calculation:
- (A) Tilt of the system in degrees (horizontal = 0 degrees);
 - (B) Orientation of the system in degrees (south = 180 degrees);
 - (C) A representation that the orientation of the system is free of trees, buildings and or other obstructions that might shade the system measured from the center point of the solar array through a horizontal angle plus or minus 60 degrees and a through vertical angle between 15 degrees and 90 degrees above the horizontal plane.
 - (D) A calculation of the annual expected kWh of electricity produced by the system. For PV systems, the calculation of annual expected kWh of electricity will be

based on the public domain solar calculator PVWatts Version 1 (or equivalent upgrade).

- (i) The weather station that is either nearest to or most similar in weather to the installation site;
 - (ii) The system output rating which equals the module rating times the inverter efficiency times the number of modules;
 - (iii) Array type: fixed tilt, single axis tracking, or 2 axis tracking; For variable tilt systems, the PVWatts calculations can be run multiple times corresponding to the number of times per year that the system tilt is expected to be changed using those months corresponding to the specific tilt angle used;
 - (iv) Array tilt (degrees); and
 - (v) Array azimuth (degrees).
- (E) In the event PVWatts is no longer available, an equivalent tool shall be established.
- (F) For on-site solar systems up to and including ten kW, the REC payment may be adjusted, either up or down, based on the calculation of expected kWh of electric output derived from rule 3658(b)(X)(D) as compared with an optimally oriented fixed, i.e. non-tracking, system at the customer's location, but only if the calculated system output differs from the optimally oriented system output by more than ten percent.
- (XI) The level of SO-REC payments for systems of ten kW and smaller offered in connection with a QRU's SRO program may be adjusted from time to time as needed to achieve compliance with the renewable energy standard.
- (XII) The on-site solar system installed must remain in place on the customer's premises for the duration of its ~~useful~~contract life. The customer's equipment must have electrical connections in accordance with industry practice for permanently installed equipment, and it must be secured to a permanent surface (e.g., foundation, roof, etc.). Any indication of portability, including, but not limited to, wheels, carrying handles, dolly, trailer or platform, will render the system ineligible for participation and payments under the SRO program.
- (XIII) The SRO program shall be available to all retail electricity consumers.
- (XIV) On-site solar systems installed on an apartment building must either be owned and operated by the owner of the building or the owner of the facility must provide documentation of the right to install and maintain the solar panels on the apartment building premises for 20 years. Each on-site solar system must be dedicated to a specific meter and the load at the meter must meet the size limits for net metering of on-site solar systems.

(XV) On-site solar systems installed on condominiums must be owned by the condominium owner and metered to that owner's unit. The owner must provide documentation that the owner has the legal right to install and maintain the solar panels at the site for the term of the 20 year agreement. If the on-site solar system serves a common area, the contract will be with the developer or the condominium association. If the condominium unit is sold, the on-site solar system shall become the property of the new owner who is responsible for the net metered electric bill.

(c) No agreement between a QRU and a governmental entity shall require the governmental entity to violate the state constitution nor any state statute, rule, or regulation to participate in the SRO program or to interconnect under rule 3665. Such disallowed contract requirements include requiring mutual or unilateral indemnification, financial obligations beyond the then-current fiscal year unless subject to annual appropriation, forfeiture of governmental immunity, third-party insurance, and performance penalties beyond avoided costs accumulated in any current fiscal year.

3659. Renewable Energy Credits.

- (a) Renewable energy credits and recycled energy will be used to comply with the renewable energy standard. Eligible RECs acquired by contracts or through a system of tradable renewable energy credits, exchanges, or brokers may also be used by QRUs to comply with this standard. In calculating compliance, the total RECs acquired from eligible energy resources during a compliance year may include:
- (I) RECs generated by ~~eligible~~ renewable energy resources owned by the QRU or by a QRU affiliate;
 - (II) RECs acquired by the QRU pursuant to renewable energy supply contracts;
 - (III) RECs acquired by the QRU pursuant to renewable energy credit contracts;
 - (IV) RECs acquired by the QRU pursuant to a standard offer program;
 - (V) RECs acquired through a system of tradable renewable energy credits, from exchanges or from brokers
 - (VI) RECs carried forward from previous compliance years, pursuant to rule 3654(i);
 - (VII) RECs borrowed forward from future compliance years, pursuant to rule 3654(k).
- (b) RECs representing electricity generated at ~~eligible~~ renewable energy resources shall be counted for compliance purposes consistent with the compliance multipliers in rule 3654(e), (f), and (g).
- (c) The Commission shall not restrict the QRU's ownership of RECs if the QRU complies with the renewable energy standard established in rule 3654 and does not exceed the retail rate impact established in rule 3661.

- (d) Subject to the maximum retail rate impact in rule 3661, the QRU shall have the discretion to determine, in a nondiscriminatory manner, the price it will pay for SO-RECs ~~from on-site customer facilities that are no larger than one hundred kilowatts~~ under § 40-2-124(1)(e), C.R.S.
- (e) All contracts between QRUs and the owners of ~~eligible~~ renewable energy resources entered into after the effective day of these rules shall clearly specify the entity who shall own the RECs associated with the energy generated by the facility.
- (f) A renewable energy credit shall expire at the end of the fifth calendar year following the calendar year during which it was generated.
- (g) Renewable energy credits that are generated on or after January 1, 2004 may be counted for compliance with this renewable energy standard.
- (h) RECs shall be used for a single purpose only, and shall expire or be retired upon use for that purpose. All RECs utilized by the QRU to comply with the renewable energy standard:
 - (I) May not be sold or otherwise exchanged with any other party, or in any other state or jurisdiction;
 - (II) May not be included within a blended energy product certified to include a fixed percentage of renewable energy in any other state or jurisdiction;
 - (III) May be counted simultaneously toward compliance with a federal renewable portfolio standard and with the renewable energy standard.
- (i) RECs that are generated with fuel cell energy using hydrogen derived from an eligible energy resource are eligible for compliance purposes only to the extent that the energy used to generate the hydrogen did not create renewable energy credits.
- (j) If a renewable energy system uses ~~an eligible~~ a renewable energy resource in combination with a nonrenewable energy source to generate electricity, only the RECs associated with the proportion of the total electric output of the renewable energy system that results from the use of ~~eligible~~ renewable energy resources shall be eligible to count toward compliance with the renewable energy standard.
- (k) If an on-site solar systems of ten kW or below has received a one-time REC payment from a QRU under rule 3658, the QRU shall be entitled to count the anticipated SO-RECs purchased by the one-time REC payment for compliance with the renewable energy standard even if the on-site solar systems is removed or becomes inoperable.
- (l) An investor owned QRU:
 - (I) Shall develop an auditable process to account for RECs using a central database. In the absence of a central third-party database, the QRU shall maintain its own REC internal database and shall make an extract of the REC information available on the utility's website.

- (II) Shall designate within its database any REC sold to a wholesaler if the REC has been assigned to that wholesaler.
 - (III) Shall apply for the inclusion of any losses or gains from the purchase or sale of RECs through an appropriate adjustment clause mechanism.
 - (IV) Shall hire an independent auditor to verify the accuracy of the QRU internal database which tracks REC. The independent verification shall occur after two years then every three years thereafter.
- (m) The investor owned QRU shall record REC information from eligible energy resources in a central database. The database shall include, but not be limited to, a list of all eligible energy resources the QRU intends to use for compliance with the renewable energy standard, including their type, location, owner, operator, start of operation, actual REC generation, ownership, transfer and retirement. A summary database shall be provided to the Commission Staff and be publicly viewable via the Commission's website. Owners of eligible energy resources with nameplate ratings of 100 kW or below and larger eligible energy resources, at their option, shall have their name and address encoded for privacy. Systems that are encoded for privacy shall have a unique identifying number assigned, and will continue to have the zip code reported.
- (n) In conjunction with the QRU compliance plans specified in rule 3657, a QRU may make a request that the Commission allow the use of a central third-party database to account for RECs. If a QRU proposes to use a central third-party database for the accounting of RECs, the QRU must show that the central third-party database can be readily audited by the Commission Staff to verify that the renewable energy standard is met and that the alternative system is cost effective.
- (o) An investor owned QRU may own and use for compliance with the renewable energy standard RECs generated by renewable energy resources that the Commission has designated as new energy technologies or demonstration projects under § 40-2-123(1), C.R.S., and that are therefore not subject to the retail rate impact established in rule 3661.

3660. Cost Recovery and Incentives.

- (a) The investor owned QRU shall be entitled to timely cost recovery through retail rate mechanisms for all funds prudently expended to comply with these rules, including the costs the QRU incurs to administer the standard rebate offer and the acquisitions of eligible energy ~~resources~~ and RECs. The QRU shall be entitled to recover its investment and expenses associated with these rules through appropriate adjustment clauses that allow recovery of expenditures without the full resetting of electric rates.
- (b) ~~In advance of the approval of the first compliance plan, a~~ An investor owned QRU may ~~propose, by application, to implement~~ use a forward-looking cost recovery mechanism to provide funding for implementing the renewable energy standard. In its ~~application~~ compliance plans and reports, the QRU must demonstrate that the funding mechanism proposed will not exceed the retail rate impact test. So long as the funding mechanism does not exceed the retail rate impact test, the QRU shall be entitled to collect and bank funds for acquiring eligible energy in future periods in accordance with either an approved resource plan under rule 3613 or an approved compliance plan under rule 3657. ~~If approved, the forward-looking funding mechanism may be implemented~~

~~prior to the first compliance year.~~ Each QRU with a forward-looking cost recovery mechanism shall separately identify the forward-looking cost recovery mechanism on its customers' bills.

- (I) Interest shall accrue on the ~~unexpended~~ deferred balance of funds collected from a forward-looking rider. The interest rate shall be at the average of the Commission's customer deposit interest rate and the Commission-approved weighted average cost of capital at the time of the rider. ~~A QRU may request interest on any funds it expends in excess of those collected through the forward-looking rider. The request for interest on excess expenditures shall include the reason(s) for the excess expenditures. The request for interest shall be included as part of the annual compliance report, pursuant to rule 3662.~~
- (c) If the investor owned QRU incurs costs in acquiring eligible energy to meet the renewable energy standard that exceed the maximum retail rate impact, the QRU shall be entitled to carry forward these costs to a future year for cost recovery. These carried forward amounts shall not increase the amounts that a QRU may charge customers under the retail rate impact rule.
- (d) The investor owned QRU shall be entitled to earn an extra profit on the QRU's ownership investment in a specific eligible energy resource if that eligible energy resource provides net economic benefits to customers. For these investments, the QRU shall be entitled to a return equal to the QRU's most recent authorized rate of return on rate base plus a bonus limited to 50 percent of the of the net economic benefit as long as the QRU is in compliance with these rules implementing the renewable energy standard. If the QRU's investment in a specific eligible renewable energy resource does not provide a net economic benefit to customers, the QRU shall be entitled to a return equal to the QRU's most recent authorized rate of return on rate base.
 - (I) For the purposes of this rule 3660, net economic benefit shall mean that the specific eligible energy resource in which the QRU has made an ownership investment results in an average retail rate impact less than the rate impact that would have resulted from the acquisition of the alternative eligible energy resource meeting the same component of the renewable energy standard that would have been selected absent the QRU's investment. The QRU shall set forth its calculation of the proposed net economic benefit either at the time of a compliance plan filing, an annual compliance report filing, a QRU rate filing or by application. The Commission shall determine the level of the net economic benefit and the level of the bonus after review of the utility's filing. The Commission may set the matter for hearing if appropriate under the Commission's Rules of Practice and Procedure.
 - (II) To the extent that a QRU uses computer modeling in its analysis of net economic benefit, the QRU shall use the same methodologies and assumptions it used in its most recently approved least-cost planning case, except as otherwise approved by the Commission. Confidential information may be protected in accordance with rules 1100 through 1102 of the Commission's Rules of Practice and Procedure.
 - (III) Any net economic benefit for which the QRU qualifies to receive a bonus shall be included in the calculation of the retail rate impact rule pursuant to rule 3661.
- (e) An investor-owned QRU may propose to develop and own, in whole or in part, a new eligible energy resource by filing an application with the Commission. The Commission may set the

matter for hearing, if appropriate, under the Commission's Rules of Practice and Procedure. For the purpose of this rule 3660(e):

- (I) A QRU shall be allowed to develop and own as utility rate-based property, without being required to comply with the competitive bidding requirements in rule 3655, up to twenty-five percent of the total new eligible energy resources that the QRU acquires from entering into power purchase agreements and from developing and owning resources after March 27, 2007 if the Commission determines that the QRU-owned new eligible energy resource can be constructed at a reasonable cost compared to the cost of similar eligible energy resources available in the market.
- (II) A QRU shall be allowed to develop and own as utility rate-based property, without being required to comply with the competitive bidding requirements in rule 3655, up to fifty percent of the total new eligible energy resources that the QRU acquires from entering into power purchase agreements and from developing and owning resources after March 27, 2007 if the Commission determines that the QRU-owned new eligible energy resource can be constructed at a reasonable cost compared to the cost of similar eligible energy resources available in the market and that the proposed new eligible energy resource would provide significant economic development, employment, energy security, or other benefits to the state of Colorado.
- (III) The QRU shall be allowed to develop and own as utility rate-based property more than the percentages of total new eligible energy resources set forth in rules 3660(e)(I) and (e)(II), if the QRU bids to own the new eligible energy resources in a competitive solicitation and is selected as a winning bidder in that competitive solicitation.
- (IV) The QRU may develop and own new eligible energy resources either solely or jointly with other owners. If the QRU owns the new eligible energy resource jointly, the entire jointly owned resource shall count toward the percentage limitations set forth in rule 3660(e). For purposes of this rule, participation by any parent, affiliate or subsidiary of a QRU in a QRU's owned new eligible energy resource shall count towards the percentage limitations. The QRU's rate base portion of any new eligible energy resource is limited to only the QRU's ownership percentage in the new eligible energy resource.
- (V) If the QRU intends to develop and own new eligible energy resources as provided for under rule 3660(e)(I) or (e)(II), it shall propose for Commission approval, in advance of filing its application under this rule, the name of the independent evaluator whom the utility intends to hire to conduct an assessment of whether the proposed new eligible energy resources can be constructed at a reasonable cost compared to the cost of similar eligible energy resources available in the market. The independent evaluator will develop a report to the Commission on its assessment of whether the proposed new eligible energy resources can be constructed at a reasonable cost compared to the cost of similar eligible energy resources available in the market. The independent evaluator shall have at least five years' experience conducting and/or reviewing the conduct of competitive electric utility resource acquisition, including computerized portfolio costing analysis. The independent evaluator shall be unaffiliated with the utility; and shall not, directly or indirectly, have benefited from employment or contracts with the utility in the preceding five years, except as an independent evaluator under these rules. The independent evaluator shall not participate in, or advise the utility with respect to, any

decisions relating to the proposed new eligible energy resource. The utility shall conduct any additional modeling requested by the independent evaluator to test the assumptions and results of the cost analyses. The independent evaluator's report shall be filed with the utility's application for approval of the proposed new eligible energy resource. The evaluator's report shall contain the evaluator's views on whether the proposed new eligible energy project can be constructed at a reasonable cost compared to the cost of similar eligible energy resources available in the market.

- (VI) Nothing in rule 3660(e) shall prevent the Commission from waiving, repealing, or revising any Commission rule in a manner otherwise consistent with applicable law.
- (f) When an investor owned QRU applies for a certificate of public convenience and necessity, the Commission shall consider rate recovery mechanisms that provide for earlier and timely recovery of costs prudently and reasonably incurred by the QRU in developing, constructing, and operating the eligible energy resource, including: (a) rate adjustment clauses until the costs of the eligible energy resource can be included in the utility's base rates; and (b) a current return on the utility's capital expenditures during construction at the utility's weighted average cost of capital, including its cost of debt and its most recently authorized rate of return on equity, during the construction, startup, and operation phases of the eligible energy resource.
- (g) The utility is entitled to recover through rates, its prudently incurred expenditures. While not the exclusive method for establishing prudence, if the Commission approves a renewable energy supply contract or a renewable energy credit contract, the expenditures of the investor owned QRU under the contract shall be deemed to be prudent expenditures.
- (h) If the investor owned QRU recovers fuel and purchased energy expense through an incentive adjustment clause, the QRU shall not receive a benefit from the incentive adjustment clause for the energy generated from QRU-owned eligible renewable energy resources, but the QRU shall be entitled to recover all the fuel and purchased energy costs associated with the eligible energy resource.
- (i) Each wholesale energy provider shall offer to its wholesale customers that are cooperative electric associations the opportunity to purchase their load ratio share of the wholesale energy provider's electricity from eligible energy resources. If a wholesale customer agrees to pay the full costs associated with the acquisition of eligible energy resources and associated renewable energy credits by its wholesale provider by providing notice of its intent to pay the full costs within sixty days after the wholesale provider extends the offer, the wholesale customer shall be entitled to receive the appropriate credit toward the renewable energy standard as well as any associated renewable energy credits. To the extent that the full costs are not recovered from wholesale customers, a qualifying retail utility shall be entitled to recover those costs from retail customers.

3661. Retail Rate Impact.

- (a) The net [retail](#) rate impact of actions taken by an investor owned QRU to comply with the renewable energy standard shall not exceed two percent of the total electric bill annually for each customer of that QRU.

- (b) The net retail rate impact of actions taken by a cooperative electric association QRU to comply with the renewable energy standard shall not exceed one percent of the total electric bill annually for each customer of that QRU.
- (c) The net retail rate impact shall include the prudently incurred direct and indirect costs of all actions by a QRU to meet the renewable energy standard, including, but not limited to, program administration, rebates and performance-based incentives, payments under renewable energy supply contracts, payments under renewable energy credit contracts, payments made for RECs purchased through brokers or exchanges, computer modeling and analysis time, and QRU investment in and return on investment for eligible energy resources.
- (d) The administrative costs of a QRU to implement these rules is capped at ten percent per year of the total annual collection. A QRU may include in its compliance plan a waiver request of this rule during the initial ramp-up stage of the QRU's program.
- (e) For purposes of calculating the retail rate impact, the investor owned QRU shall use the same methodologies and assumptions it used in its most recently approved ~~least-cost planning case~~ electric resource plan under Rule 3613, unless otherwise approved by the Commission. Confidential information may be protected in accordance with rules 1100 through 1102 of the Commission's Rules of Practice and Procedure.
- (f) In its compliance plan filed under rule 3657, the investor owned QRU shall estimate the retail rate impact of its plan to comply with the renewable energy standard at the time of the beginning of the compliance period year and for a minimum of the ten years thereafter (the "RES planning period") ~~over the upcoming compliance year~~ and shall submit a report detailing the development of the retail rate impact estimate. The compliance plan shall identify the funds that need to be made available to the QRU to comply with the renewable energy standard and the retail rate impact rule. ~~By approving the compliance plan of an investor owned QRU, the Commission will be approving the investor owned QRU's budget for acquiring eligible energy over the compliance year. Once approved by the Commission, the investor owned QRU shall implement its compliance plan. Actions taken by an investor owned QRU in compliance with the filed and approved compliance plan shall be deemed prudent.~~
- (g) The retail rate impact shall be determined net of new alternative sources of electricity supply from non-eligible energy resources that are reasonably available at the time of the determination.
- (h) The basic method for investor owned QRUs for performing the estimate of the retail rate impact limit is as follows:
 - (I) The QRU shall determine all commercially available resources to the QRU, either through ownership or by contract, ~~at the time of the beginning of the compliance year and for a minimum of the ten years thereafter (the "RES planning period")~~. The projected costs of these available resources shall be reflected in both of the scenarios analyzed ~~by the QRU's computer planning models~~ under this paragraph.
 - (II) The QRU shall determine the QRU's capacity and energy requirements over the RES planning period. The QRU shall develop two scenarios to estimate the resource composition of the QRU's future electric system and the cost and benefits of that system over the RES ~~Planning planning Periodperiod~~. The first scenario, a renewable energy

standard plan or "RES plan" should reflect the QRU's plans and actions to acquire new eligible energy resources necessary to meet the renewable energy standard ~~reflecting a gradual ramp-up to the twenty percent level.~~ The second scenario, a "No RES plan" should reflect the QRU's resource plan that ~~meets the QRU's capacity and energy requirements over the RES planning period by replacing~~ replaces the new eligible energy resources in the RES plan with new nonrenewable resources reasonably available. ~~For purposes of this rule, new eligible renewable energy means eligible energy from resources which are not commercially operational at the time these two modeling scenarios are performed.~~

(III) Eligible energy resources whose acquisition commenced prior to July 2, 2006 shall be included in both the RES and No RES plans. Eligible energy resources acquired pursuant to a Commission-approved electric resource plan as new energy technologies or demonstration projects under § 40-2-123, C.R.S., shall be included in both the RES and No RES plans.

(IV) The QRU shall ~~use the comparison of~~ compare the costs and benefits of the two plans ~~model runs of the RES planning period along with any additional analysis needed to~~ project ~~calculate~~ the estimated annual net retail rate impact for ~~the first compliance year of~~ the RES planning period. The maximum retail rate impact shall not exceed two percent of the total retail bill annually for each customer. To the extent the RES plan exceeds this maximum retail rate impact, the QRU shall modify the RES plan to limit the acquisition of eligible energy resources so that the QRU compliance plan does not exceed the maximum retail rate impact for ~~the first compliance year of~~ the RES planning period. In calculating the ~~annual~~ net retail rate impact ~~in each compliance plan for the first compliance year of the RES planning period,~~ the QRU shall take into account the projected net retail impact of the new eligible energy resources and the sum of the on-going annual net incremental costs of all eligible energy resources that the QRU has contracted to acquire under the standard rebate offer under rule 3658 and all eligible energy from resources that were constructed by the QRU or contracted for by the QRU after ~~the effective date of these rules~~ July 2, 2006, as approved by the Commission.

~~(i) Any investor owned QRU with annual retail sales of less than five million megawatt-hours can use an alternate method to determine the estimate of the retail rate impact. The alternative method can be used for those RES planning period years when the only remaining portion of the renewable energy standard with which the QRU needs to comply is the eligible energy that must be acquired from solar electric generating technologies. The projections of the retail rate impact calculated under paragraph 3661(g) shall not result in the compounding of the net retail rate impact.~~

~~(i) The retail rate impact will be determined by using the estimated costs of the proposed solar electric generating technologies less the estimated annual average costs of energy of existing resources that would be replaced with energy generated by the proposed solar electric generating technologies. The QRU shall also incorporate into this retail rate impact analysis other cost savings created by the deployment of the solar electric generating technologies and any other cost savings from the deployment of other non-solar eligible energy resources used to meet the standard. These cost savings include, but are not limited to, the avoided or deferred costs of generation, transmission and distribution facilities.~~

~~(II) The QRU will then convert this net cost figure into a percent of total electric bill annually for each customer. In no event shall the percent of total electric bill annually exceed one percent for each customer. To the extent that the net cost figure results in the QRU exceeding the two percent for each customer threshold, the QRU shall modify its acquisition of solar electric generating technologies in order to not exceed the maximum retail rate impact.~~

- (j) If the retail rate impact does not exceed the maximum percent level, a QRU may acquire more than the minimum amount of eligible energy resources and RECs required under the renewable energy standard.

3662. Annual Compliance Report.

- (a) Each investor owned and cooperative electric association QRU shall file an annual compliance report no later than June 1 to report on the status of the QRU's compliance with the renewable energy standard for the most recently completed compliance year. The annual compliance report shall provide the following information for the most recently completed compliance year:

(I) The total megawatt-hours sold by the QRU to its retail customers in Colorado and the associated eligible energy required for compliance with each component of the renewable energy standard;

(II) The total amount and source of eligible energy and RECs acquired by the QRU during the compliance year for each component of the renewable energy standard. The QRU shall separately identify amounts of eligible energy and RECs by each type of resource;

(III) The total amount of non-solar RECs, S-RECs, and SO-RECs by category acquired by the QRU during the compliance year and the total amount and source of eligible energy generated by QRU-owned eligible energy resources;

~~(IV)~~ (IV) The total amount of eligible energy and RECs borrowed forward, pursuant to rule 3654(~~f~~k), in previous compliance years that was made up during the compliance year to achieve compliance with each component of the renewable energy standard;

~~(V)~~ (V) The total amount of eligible energy and RECs borrowed forward, pursuant to rule 3654(~~f~~k), from future compliance years to achieve compliance with each component of the renewable energy standard in the compliance year;

~~(VI)~~ (VI) The total amount and source of eligible energy and RECs the QRU is carrying back from the year following the compliance year under rule 3654(~~d~~i)(I) to achieve compliance with each component of the renewable energy standard in the compliance year;

~~(VII)~~ (VII) The total amount of eligible energy and RECs the QRU has carried forward from prior calendar years under rule 3654(~~d~~i)(III) to apply in the compliance year for each component of the renewable energy standard.

~~(VII)~~ (VII) The total amount of eligible energy and RECs the QRU has acquired in the compliance year that the QRU proposes to carry forward under rule 3654(~~d~~i)(III) to future years for each component of the renewable energy standard;

- (~~VIII~~VIX) The total amount of eligible energy and RECs the QRU has counted toward compliance with each component of the renewable energy standard in the compliance year. The QRU shall separately identify amounts of ~~eligible~~ renewable energy by each type of resource;
- (~~IX~~) The total amount of renewable energy or RECs acquired by the QRU during the compliance year pursuant to the standard rebate offer program;
- (XI) The total amount of RECs retired by the QRU during the compliance year pursuant to a voluntary green pricing program;
- (XII) The total amount of RECs sold or traded by the QRU during the compliance year along with the profit and losses of such transactions and the method for calculating these margins;
- (XIII) Whether the QRU has invested in any eligible energy resource and whether that resource is under construction or in operation; and
- (XIV) The funds expended and the retail rate impact of the eligible energy and RECs acquired. The retail rate impact cap shall be recalculated based on the actual compliance year values if the QRU developed the retail rate impact cap pursuant to rule 3661(h) ~~and (i)~~. To the extent the recalculation of the retail rate impact cap demonstrates that additional funds are available based on actual compliance year values, the QRU shall use those additional funds to acquire RECs, to the extent necessary, to achieve the compliance levels set forth in rules 3654(a) and (d) or until the additional funds have been spent if the QRU intends to claim that the retail rate impact cap prevented it from achieving compliance with the standard.
- (~~XIV~~XV) A description of the method used to develop the retail rate impact calculation.
- (b) In the annual compliance report, the QRU must explain whether it achieved compliance with each component of the renewable energy standard during the most recently completed compliance year, or explain why the QRU had difficulty meeting the renewable energy standard.
- (c) If, in its annual compliance report, the QRU did not comply with its renewable energy standard for each of the RES components as a direct result of absolute limitations within a requirements contract from a wholesale electric supplier, then the QRU must explain whether it acquired a sufficient amount of either eligible RECs or documented and verified energy savings through energy efficiency and/or conservation programs, or both to rectify the noncompliance so as to excuse the investor owned QRU from any administrative fine or other administrative action.
- (d) On the same date that the QRU files its annual compliance report, the QRU shall post an electronic copy of its annual compliance report excluding confidential material on its website to facilitate public access and review.
- (e) On the same date that the QRU files its annual compliance report, it shall provide the Commission with an electronic copy of its annual compliance report excluding confidential material. The Commission may place the non-confidential portion of each QRU's annual compliance report on the Commission's website in order to facilitate public review.

3663. Compliance Report Review.

- (a) Compliance reporting for investor owned QRUs.
 - (I) In the annual compliance report, the QRU must explain whether it complied with its renewable energy standard for the solar, on-site solar and non-solar components during the most recently completed compliance year.
 - (II) Upon receipt of the QRU annual compliance report, the Commission will provide notice to interested persons. Interested persons will have 30 days within which to provide comment to the Commission on the content of the annual compliance report. The QRU shall have the opportunity to reply to all comments on or before 45 days following the filing of the annual compliance report.
 - (III) The Staff of the Commission shall review the annual compliance report and any comments received and within 60 days of the filing of the annual compliance report make a recommendation to the Commission as to whether the QRU has met the renewable energy standard and no action should be taken by the Commission, whether any changes are needed to the compliance report, or whether a hearing is necessary.
 - (IV) Upon review of the QRU's annual compliance report, the Staff recommendation and all comments filed, the Commission will issue an order stating whether the QRU complied with the components of its renewable energy standard during the most recently completed compliance year and state whether a hearing is necessary.
 - (V) If the Commission determines that the total number of RECs which the QRU generated or acquired from renewable energy systems during the most recently completed compliance year exceeded the total number of RECs which the QRU needed to comply with each component of its renewable energy standard for the recently completed compliance year:
 - (A) The Commission will state in its order the number of excess solar, on-site solar and/or non-solar RECs which the QRU has available to carry forward from that compliance year or use for any other legal purpose.
 - (B) The QRU may use those excess solar, on-site solar and/or non-solar RECs to comply with its renewable energy standard for the five compliance years immediately following that compliance year.
- (b) Compliance report hearing for investor owned QRUs.
 - (I) If the Commission determines that the QRU did not comply with the solar, on-site solar or non-solar components of its renewable energy standard during the most recently completed compliance year, the Commission will determine whether the QRU failed to meet the renewable energy standard because of the retail rate impact limit. The Commission will:

- (A) State in its order the number of RECs by which the QRU failed to comply with each of the solar, on-site solar and non-solar components of its renewable energy standard; and
 - (B) State whether the Commission is satisfied that the failure to meet the renewable energy standard was due to the retail rate impact limit. If the Commission is not satisfied on this issue, the Commission will issue a notice of possible noncompliance and schedule an evidentiary hearing on the matter.
 - (II) At the evidentiary hearing, if the QRU asserts that the renewable energy standard was not met due to the retail rate impact, it will have the burden of proof that it failed to comply with the solar, on-site solar and non-solar components of its renewable energy standard during the most recently completed compliance year because of the retail rate impact.
 - (III) At the evidentiary hearing, any party that advocates that the QRU failed to comply with the components of the QRU's renewable energy standard during the most recently completed compliance year is the proponent of a Commission order finding non-compliance, and that party shall have the burden of proof that the QRU failed to comply with the solar, on-site solar and non-solar components of its renewable energy standard during the most recently completed compliance year. The QRU may assert that the renewable energy standard was not met due to events beyond the reasonable control of the QRU that could not have been reasonably mitigated.
- (c) Compliance penalties for investor owned QRUs.
- (I) After notice and hearing, if the Commission determines that the QRU did not fully comply with any of the solar, on-site solar and non-solar components of its renewable energy standard during the most recently completed compliance year, the Commission shall determine what, if any, administrative penalties should be assessed against the QRU for its failure to meet the renewable energy standard. In assessing penalties, the Commission may take one or more of the following actions:
 - (A) Determine for each component for which there was noncompliance the cost that would have been incurred by the QRU to fully comply with such component standard through the acquisition of RECs and assess all or part of this amount as part of an administrative penalty.
 - (B) No administrative penalties shall be assessed against a QRU if the amount of the shortfall is attributable to the retail rate impact limit.
 - (C) Assess no administrative penalties against a QRU if the failure to meet the renewable energy standard results from events beyond the reasonable control of the QRU that could not have been reasonably mitigated including, but not limited to, failures to perform by counterparties to renewable energy supply contracts and renewable energy credit contracts, events that delay the construction or commercial operation of QRU-owned eligible renewable energy resources, and lack of customer interest in the standard rebate offer.

- (II) The cost of such administrative penalties shall not be recovered from retail customers through the QRU's rates.

3664. Net Metering.

- (a) All investor owned QRUs shall allow the customer's retail electricity consumption to be offset by the electricity generated from eligible energy resources on the customer's side of the meter that are interconnected with the QRU, provided that the generating capacity of the customer's facility meets the following two criteria:
 - (I) The ~~rated capacity of the~~ generator shall be sized to supply no more than 120% of the customer's average annual electricity consumption~~does not exceed 2000 kW~~; and
 - (II) The rated capacity of the generator does not exceed the customer's service entrance capacity.
- (b) If a customer with an eligible energy resource generates renewable energy pursuant to subsection (a) of rule 3664 in excess of the customer's consumption, the excess kilowatt-hours shall be carried forward from month to month and credited at a ratio of 1:1 against the customer's retail kilowatt-hour consumption in subsequent months. Within 60 days of the end of each calendar year, or within 60 days of when the customer terminates its retail service, the QRU shall compensate the customer for any accrued excess kilowatt-hour credits, at the QRU's average hourly incremental cost of electricity supply over the most recent calendar year.
- (c) The QRU shall file tariffs that comply with these rules within 30 days of the effective date of these rules.
- (d) A customer's facility that generates renewable energy from an eligible energy resource shall be equipped with metering equipment that can measure the flow of electric energy in both directions. The QRU shall utilize a single bi-directional electric revenue meter.
- (e) If the customer's existing electric revenue meter does not meet the requirements of these rules, the QRU shall install and maintain a new revenue meter for the customer, at the company's expense. Any subsequent revenue meter change necessitated by the customer shall be paid for by the customer.
- (f) The QRU shall not require more than one meter per customer to comply with this rule 3664. Nothing in this rule 3664 shall preclude the QRU from placing a second meter to measure the output of a solar renewable energy system for the counting of RECs subject to the following conditions:
 - (I) For customer facilities over ten kW, a second meter shall be required to measure the solar renewable energy system output for the counting of RECs.
 - (II) For systems ten kW and smaller, an additional meter may be installed under either of the following circumstances:
 - (A) The QRU may install an additional production meter on the solar renewable energy system output at its own expense if the customer consents; or

- (B) The customer may request that the QRU install a production meter on the solar renewable energy system output in addition to the revenue meter at the customer's expense.
- (g) A QRU shall provide net metering service at non-discriminatory rates to customers with eligible energy resources. A customer shall not be required to change the rate under which the customer received retail service in order for the customer to install an eligible energy resource. Nothing in this rule shall prohibit a QRU from requesting changes in rates at any time.

3665. Small Generation Interconnection Procedures.

The following small generator interconnection procedures (SGIP) shall apply to all small generation resources including eligible renewable energy resources connected to the utility. Each utility shall also provide, on their web site, interconnection standards not included in these procedures. This rule largely tracks FERC Order 2006.

- (a) Definitions. The following definitions apply only to rule 3665.
 - (I) "Business day" means Monday through Friday, excluding Federal Holidays.
 - (II) "Distribution system" means the utility's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which distribution systems operate differ among areas.
 - ~~(III)~~ (III) "Distribution upgrades" means the additions, modifications, and upgrades to the utility's distribution system at or beyond the point of interconnection to facilitate interconnection of the small generating facility and render the service necessary to effect the interconnection customer's operation of on-site generation. Distribution upgrades do not include interconnection facilities.
 - (IV) "Highly seasonal circuit" means a circuit with a ratio of annual peak load to off-season peak load greater than six (6).
 - ~~(V)~~ (V) "Interconnection customer" means any entity, including the utility, any affiliates or subsidiaries of either, that proposes to interconnect its small generating facility with the utility's system.
 - ~~(VI)~~ (VI) "Interconnection facilities" means the utility's interconnection facilities and the interconnection customer's interconnection facilities. Collectively, interconnection facilities include all facilities and equipment between the small generating facility and the point of interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the small generating facility to the utility's system. Interconnection facilities are sole use facilities and shall not include distribution upgrades.
 - ~~(VII)~~ (VII) "Interconnection request" means the interconnection customer's request, in accordance with any applicable utility tariff, to interconnect a new small generating facility, or to

increase the capacity of, or make a material modification to the operating characteristics of, an existing small generating facility that is interconnected with the utility's system.

(VIII) "Minimum daytime loading" means the lowest daily peak in the year on the line section.

~~(VII)~~(X) "Party" or "Parties" means the utility, interconnection customer, or any combination of the above.

~~(VIII)~~(X) "Point of interconnection" means the point where the Interconnection facilities connect with the utility's system.

~~(IX)~~(XI) "Small generating facility" means the interconnection customer's device for the production of electricity identified in the interconnection request, but shall not include the interconnection facilities not owned by the interconnection customer.

~~(X)~~(XII) "Study process" means the procedure for evaluating an interconnection request that includes the Level 3 scoping meeting, feasibility study, system impact study, and facilities study.

~~(XI)~~(XIII) "System" means the facilities owned, controlled, or operated by the utility that are used to provide electric service under the tariff.

~~(XII)~~(XIV) "Upgrades" means the required additions and modifications to the utility's system at or beyond the point of interconnection. Upgrades do not include interconnection facilities.

(b) General overview.

(I) Applicability.

- (A) A request to interconnect a certified small generating facility no larger than two MW shall be evaluated under the Level 2 Process. A request to interconnect a certified inverter-based small generating facility no larger than ten kW shall be evaluated under the Level 1 Process. A request to interconnect a small generating facility larger than two MW but no larger than ten MW or a small generating facility that does not pass the Level 1 or Level 2 Process, shall be evaluated under the Level 3 Process.
- (B) Defined terms used herein shall have the meanings specified in the paragraph (a) of this rule.
- (C) Prior to submitting its interconnection request, the interconnection customer may ask the utility interconnection contact employee or office whether the proposed interconnection is subject to these procedures. The utility shall respond within 15 business days.
- (D) Infrastructure security of electric system equipment and operations and control hardware and software is essential to ensure day-to-day reliability and operational security. The Commission expects all utilities, market participants, and Interconnection Customers interconnected with electric systems to comply

with the recommendations offered by the President's Critical Infrastructure Protection Board and best practice recommendations from the electric reliability authority. All public utilities are expected to meet basic standards for electric system infrastructure and operational security, including physical, operational, and cyber-security practices.

- (E) References in these procedures to interconnection agreement are to the Small Generator Interconnection Agreement (SGIA).
- (II) Pre-application. The utility shall designate an employee or office from which information on the application process and on an affected system can be obtained through informal requests from the interconnection customer presenting a proposed project for a specific site. The name, telephone number, and e-mail address of such contact employee or office shall be made available on the utility's Internet web site. Electric system information for specific locations, feeders, or small areas shall be provided to the interconnection customer upon request and may include relevant system studies, interconnection studies, and other materials useful to an understanding of an interconnection at a particular point on the utility's system, to the extent such provision does not violate confidentiality provisions of prior agreements or critical infrastructure requirements. The utility shall comply with reasonable requests for such information unless such information is proprietary or confidential and cannot be provided pursuant to a confidentiality agreement.
- (III) Interconnection request. The interconnection customer (IC) shall submit its interconnection request to the utility, together with the processing fee or deposit specified in the interconnection request. The interconnection request shall be date- and time-stamped upon receipt. The original date- and time-stamp applied to the interconnection request at the time of its original submission shall be accepted as the qualifying date- and time-stamp for the purposes of any timetable in these procedures. The interconnection customer shall be notified of receipt by the utility within three business days of receiving the interconnection request which notification may be to an e-mail address or fax number provided by IC. The utility shall notify the interconnection customer within ten business days of the receipt of the interconnection request as to whether the interconnection request is complete or incomplete. If the interconnection request is incomplete, the utility shall provide, along with the notice that the interconnection request is incomplete, a written list detailing all information that must be provided to complete the interconnection request. The interconnection customer will have ten business days after receipt of the notice to submit the listed information or to request an extension of time to provide such information. If the IC does not provide the listed information or a request for an extension of time within the deadline, the interconnection request will be deemed withdrawn. An interconnection request will be deemed complete upon submission of the listed information to the utility.
- (IV) Modification of the interconnection request. Any modification to machine data or equipment configuration or to the interconnection site of the small generating facility not agreed to in writing by the utility and the IC may be deemed a withdrawal of the interconnection request and may require submission of a new interconnection request, unless proper notification of each party by the other and a reasonable time to cure the problems created by the changes are undertaken.

- (V) Site control. Documentation of site control must be submitted with the interconnection request. Site control may be demonstrated through:
 - (A) Ownership of, a leasehold interest in, or a right to develop a site for the purpose of constructing the small generating facility;
 - (B) An option to purchase or acquire a leasehold site for such purpose; or
 - (C) An exclusivity or other business relationship between the IC and the entity having the right to sell, lease, or grant the IC the right to possess or occupy a site for such purpose.
 - (VI) Queue position. The utility shall place interconnection requests in a first come, first served order per feeder and per substation based upon the date- and time-stamp of the interconnection request. The order of each interconnection request will be used to determine the cost responsibility for the upgrades necessary to accommodate the interconnection. At the utility's option, interconnection requests may be studied serially or in clusters for the purpose of the system impact study.
- (c) Level 2 - fast track process.
- (I) Applicability. The fast track process is available to an IC proposing to interconnect its small generating facility with the utility's system if the small generating facility is no larger than two MW and if the IC's proposed small generating facility meets the codes, standards, and certification requirements of Attachments 3 and 4 of these procedures.
 - (II) Initial review. Within 15 business days after the utility notifies the interconnection customer it has received a complete interconnection request, the utility shall perform an initial review using the screens set forth below, shall notify the interconnection customer of the results, and include with the notification copies of the analysis and data underlying the utility's determinations under the screens.
 - (A) Screens.
 - (i) The proposed small generating facility's point of interconnection must be on a portion of the utility's distribution system that is subject to the tariff.
 - (ii) For interconnection of a proposed small generating facility to a radial distribution circuit, the aggregated generation, including the proposed small generating facility, on the circuit shall not exceed 15 percent of the line section's annual peak load as most recently measured at the substation or calculated for the line segment. For highly seasonal circuits only, the aggregate generation, including the proposed small generation facility, on the circuit shall not exceed 15 percent of two times the minimum daytime loading. A line section is that portion of a utility's electric system connected to a customer bounded by automatic sectionalizing devices or the end of the distribution line.

- (iii) The proposed small generating facility, in aggregation with other generation on the distribution circuit, shall not contribute more than ten percent to the distribution circuit's maximum fault current at the point on the distribution feeder voltage (primary) level nearest the proposed point of change of ownership.
- (iv) The proposed small generating facility, in aggregate with other generation on the distribution circuit, shall not cause any distribution protective devices and equipment (including, but not limited to, substation breakers, fuse cutouts, and line reclosers), or Interconnection Customer equipment on the system to exceed 87.5 percent of the short circuit interrupting capability; nor shall the interconnection be proposed for a circuit that already exceeds 87.5 percent of the short circuit interrupting capability.
- (v) The proposed small generating facility shall have a starting voltage dip less than 5 percent and meet the flicker requirements of IEEE 519, 1992 version. To meet this screen, the proposed generating facility must conform to the following two tests:
 - (1) For starting voltage dip, the utility has two options for determining whether starting voltage dip is acceptable. The option to be used is at the utility's discretion.
 - (a) Option 1: The utility may determine that the proposed generating facility's starting in-rush current is equal to or less than the continuous ampere rating of the Interconnection Customer's service equipment.
 - (b) Option 2: The utility may determine the impedances of the service distribution transformer (if present) and the secondary conductors to the Interconnection Customer's service equipment and perform a voltage dip calculation. Alternatively, the utility may use tables or nomographs to determine the voltage dip. Voltage dips caused by starting the proposed generation facility must be less than 5 percent when measured at the primary side (high side) of a dedicated distribution transformer serving the proposed generating facility, for primary interconnections. The 5 percent voltage dip limit applies to the distribution transformer low side if the low side is shared with other customers and to the high side if the transformer is dedicated to the Interconnection Customer.
 - (2) The second test is conformance with the relationship between voltage fluctuation and starting frequency presented in the table for flicker requirements in IEEE 519, 1992 version.

- (v) Using the table below, determine the type of interconnection to a primary distribution line. This screen includes a review of the type of electrical service provided to the IC, including line configuration and the transformer connection to limit the potential for creating over-voltages on the utility's electric power system due to a loss of ground during the operating time of any anti-islanding function.

Primary Distribution Line Type	Type of Interconnection to Primary Distribution Line	Result/Criteria
Three-phase, three wire	3-phase or single phase, phase-to-phase	Pass screen
Three-phase, four wire	Effectively-grounded 3 phase or Single-phase, line-to-neutral	Pass screen

- (vi) If the proposed small generating facility is to be interconnected on single-phase shared secondary, the aggregate generation capacity on the shared secondary, including the proposed small generating facility, shall not exceed 20 kW.
- (vii) If the proposed small generating facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition shall not create an imbalance between the two sides of the 240 volt service of more than 20 percent of the nameplate rating of the service transformer.
- (viii) No construction of facilities by the utility on its own system shall be required to accommodate the small generating facility.
- (ix) Interconnections to distribution networks.
- (1) For interconnection of a proposed small generating facility to the load side of spot network protectors serving more than a single customer, the proposed small generating facility must utilize an inverter-based equipment package and, together with the aggregated other inverter-based generation, shall not exceed the smaller of five percent of a spot network's maximum load or 300 kW. For spot networks serving a single customer, the small generator facility must use inverter-based equipment package and either meet the requirements above or shall use a protection

scheme or operate the generator so as not to exceed on-site load or otherwise prevent nuisance operation of the spot network protectors.

- (2) For interconnection of a proposed small generating facility to the load side of area network protectors, the proposed small generating facility must utilize an inverter-based equipment package and, together with the aggregated other inverter-based generation, shall not exceed the smaller of ten percent of an area network's minimum load or 500 kW.
 - (3) Notwithstanding sub-sections (1) or (2) above, each utility may incorporate into its interconnection standards, any change in interconnection guidelines related to networks pursuant to standards developed under IEEE 1547 for interconnections to networks. To the extent the new IEEE standards conflict with these existing guidelines, the new standards shall apply. In addition, and with the consent of the utility, a small generator facility may be interconnected to a spot or area network provided the facility uses a protection scheme that will prevent any power export from the customer's site including inadvertent export under fault conditions or otherwise prevent nuisance operation of the network protectors.
- (B) If the proposed interconnection passes the screens, the interconnection request shall be approved and the utility will provide the IC an executable interconnection agreement within five business days after the determination.
- (C) If the proposed interconnection fails the screens, but the utility determines that the small generating facility may nevertheless be interconnected consistent with safety, reliability, and power quality standards, the utility shall provide the IC an executable interconnection agreement within five business days after the determination.
- (D) If the proposed interconnection fails the screens, but the utility does not or cannot determine from the initial review that the small generating facility may nevertheless be interconnected consistent with safety, reliability, and power quality standards unless the IC is willing to consider minor modifications or further study, the utility shall provide the IC with the opportunity to attend a customer options meeting.
- (E) Customer options meeting. If the utility determines the interconnection request cannot be approved without minor modifications at minimal cost; or a supplemental study or other additional studies or actions; or at significant cost to address safety, reliability, or power quality problems, within the five business day period after the determination, the utility shall notify the IC and provide copies of the data and analyses underlying its conclusion. Within ten business days of the utility's determination, the utility shall offer to convene a customer options meeting with the utility to review possible IC facility modifications or the screen

analysis and related results, to determine what further steps are needed to permit the small generating facility to be connected safely and reliably. At the time of notification of the utility's determination, or at the customer options meeting, the utility shall:

- (i) Offer to perform facility modifications or minor modifications to the utility's electric system (e.g., changing meters, fuses, relay settings) and provide a non-binding good faith estimate of the limited cost to make such modifications to the utility's electric system; or
 - (ii) Offer to perform a supplemental review if the utility concludes that the supplemental review might determine that the small generating facility could continue to qualify for interconnection pursuant to the fast track process, and provide a non-binding good faith estimate of the costs and time of such review; or
 - (iii) Obtain the interconnection customer's agreement to continue evaluating the interconnection request under the Level 3 Study Process.
- (III) Supplemental Review. If the interconnection customer agrees to a supplemental review, the interconnection customer shall agree in writing within 15 business days of the offer, and submit a deposit for the estimated costs provided in subsection (c)(III)(A)(ii) of this rule. The IC shall be responsible for the utility's actual costs for conducting the supplemental review. The IC must pay any review costs that exceed the deposit within 20 business days of receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced costs, the utility will return such excess within 20 business days of the invoice without interest.
 - (A) Within ten business days following receipt of the deposit for a supplemental review, the utility will determine if the Small Generating Facility can be interconnected safely and reliably.
 - (i) If so, the utility shall forward an executable interconnection agreement to the IC within five business days.
 - (ii) If so, and IC facility modifications are required to allow the small generating facility to be interconnected consistent with safety, reliability, and power quality standards under these procedures, the utility shall forward an executable interconnection agreement to the IC within five business days after confirmation that the interconnection customer has agreed to make the necessary changes at the interconnection customer's cost.
 - (iii) If so, and minor modifications to the utility's electric system are required to allow the small generating facility to be interconnected consistent with safety, reliability, and power quality standards under the Level 2 Fast Track Process, the utility shall forward an executable interconnection agreement to the IC within ten business days that requires the IC to pay the costs of such system modifications prior to interconnection.

- (iv) If not, the interconnection request will continue to be evaluated under the Level 3 Study Process.

(d) Level 3 - Study Process.

- (I) Applicability. The study process shall be used by an interconnection customer proposing to interconnect its small generating facility with the utility's system if the small generating facility (1) is larger than two MW but no larger than ten MW, (2) is not certified, or (3) is certified but did not pass the Fast Track Process or the ten kW Inverter Process.
- (II) Scoping meeting.
 - (A) A scoping meeting will be held within ten business days after the interconnection request is deemed complete, or as otherwise mutually agreed to by the parties. The utility and the interconnection customer will bring to the meeting personnel, including system engineers and other resources as may be reasonably required to accomplish the purpose of the meeting.
 - (B) The purpose of the scoping meeting is to discuss the interconnection request. The parties shall further discuss whether the utility should perform a feasibility study or proceed directly to a system impact study, or a facilities study, or an interconnection agreement. If the parties agree that a feasibility study should be performed, the utility shall provide the IC, as soon as possible, but not later than five business days after the scoping meeting, a feasibility study agreement including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study.
 - (C) The scoping meeting may be omitted by mutual agreement. In order to remain in consideration for interconnection, an IC who has requested a feasibility study must return the executed feasibility study agreement within 15 business days. If the parties agree not to perform a feasibility study, the utility shall provide the IC, no later than five business days after the scoping meeting, a system impact study agreement including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study.
 - (D) Feasibility studies, scoping studies, and facility studies may be combined for simpler projects by mutual agreement of the utility and the parties.
- (III) Feasibility study.
 - (A) The feasibility study shall identify any potential adverse system impacts that would result from the interconnection of the small generating facility.
 - (B) A deposit of the lesser of 50 percent of the good faith estimated feasibility study costs or earnest money of \$1,000 may be required from the interconnection customer.
 - (C) The scope of and cost responsibilities for the feasibility study are described in the attached feasibility study agreement.

- (D) If the feasibility study shows no potential for adverse system impacts, the utility shall send the Interconnection Customer a facilities study agreement, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study.
 - (E) If the feasibility study shows the potential for adverse system impacts, the review process shall proceed to the appropriate system impact study(s).
- (IV) System impact study.
- (A) A system impact study shall identify and detail the electric system impacts that would result if the proposed small generating facility were interconnected without project modifications or electric system modifications, focusing on the adverse system impacts identified in the feasibility study, or to study potential impacts, including but not limited to those identified in the scoping meeting. A system impact study shall evaluate the impact of the proposed interconnection on the reliability of the electric system.
 - (B) If no transmission system impact study is required, but potential electric power distribution system adverse system impacts are identified in the scoping meeting or shown in the feasibility study, a distribution system impact study must be performed. The utility shall send the IC a distribution system impact study agreement within 15 business days of transmittal of the feasibility study report, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study, or following the scoping meeting if no feasibility study is to be performed.
 - (C) In instances where the feasibility study or the distribution system impact study shows potential for transmission system adverse system impacts, within five business days following transmittal of the feasibility study report, the utility shall send the IC a transmission system impact study agreement, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study, if such a study is required.
 - (D) If a transmission system impact study is not required, but electric power distribution system adverse system impacts are shown by the feasibility study to be possible and no distribution system impact study has been conducted, the utility shall send the IC a distribution system impact study agreement.
 - (E) If the feasibility study shows no potential for transmission system or distribution system adverse system impacts, the utility shall send the IC either a facilities study agreement, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study, or an executable interconnection agreement, as applicable.
 - (F) In order to remain under consideration for interconnection, the IC must return executed system impact study agreements, if applicable, within 30 business days.

- (G) A deposit of the good faith estimated costs for each system impact study may be required from the IC.
 - (H) The scope of and cost responsibilities for a system impact study are described in the system impact study agreement.
 - (I) Where transmission systems and distribution systems have separate owners, such as is the case with transmission-dependent utilities (TDUs) – whether investor-owned or not – the IC may apply to the nearest utility (Transmission Owner, Regional Transmission Operator, or Independent utility) providing transmission service to the TDU to request project coordination. Affected systems shall participate in the study and provide all information necessary to prepare the study.
- (V) Facilities study.
- (A) Once the required system impact study(s) is completed, a system impact study report shall be prepared and transmitted to the IC along with a facilities study agreement within five business days, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the facilities study. In the case where one or both impact studies are determined to be unnecessary, a notice of the fact shall be transmitted to the IC within the same timeframe.
 - (B) In order to remain under consideration for interconnection, or, as appropriate, in the utility's interconnection queue, the IC must return the executed facilities study agreement or a request for an extension of time within 30 business days.
 - (C) The facilities study shall specify and estimate the cost of the equipment, engineering, procurement, and construction work (including overheads) needed to implement the conclusions of the system impact study(s).
 - (D) Design for any required interconnection facilities and/or upgrades shall be performed under the facilities study agreement. The utility may contract with consultants to perform activities required under the facilities study agreement. The IC and the utility may agree to allow the IC to separately arrange for the design of some of the interconnection facilities. In such cases, facilities design will be reviewed and/or modified prior to acceptance by the utility, under the provisions of the facilities study agreement. If the parties agree to separately arrange for design and construction, and provided security and confidentiality requirements can be met, the utility shall make sufficient information available to the IC in accordance with confidentiality and critical infrastructure requirements to permit the IC to obtain an independent design and cost estimate for any necessary facilities.
 - (E) A deposit of the good faith estimated costs for the facilities study may be required from the IC.

- (F) The scope of and cost responsibilities for the facilities study are described in a facilities study agreement.
 - (G) Upon completion of the facilities study, and with the agreement of the IC to pay for interconnection facilities and upgrades identified in the facilities study, the utility shall provide the IC an executable interconnection agreement within five business days.
- (e) Provisions that apply to all interconnection requests.
 - (I) Reasonable efforts. The utility shall make reasonable efforts to meet all time frames provided in these procedures unless the utility and the IC agree to a different schedule. If the utility cannot meet a deadline provided herein, it shall notify the IC explain the reason for the failure to meet the deadline, and provide an estimated time by which it will complete the applicable interconnection procedure in the process.
 - (II) Disputes.
 - (A) The parties agree to attempt to resolve all disputes arising out of the interconnection process according to the provisions of this article.
 - (B) In the event of a dispute, either party shall provide the other party with a written notice of dispute. Such notice shall describe in detail the nature of the dispute. If the dispute has not been resolved within five business days after receipt of the notice, either party may contact a mutually agreed upon third party dispute resolution service for assistance in resolving the dispute.
 - (C) The dispute resolution service will assist the parties in either resolving their dispute or in selecting an appropriate dispute resolution venue (e.g., mediation, settlement judge, early neutral evaluation, or technical expert) to assist the parties in resolving their dispute.
 - (D) Each party agrees to conduct all negotiations in good faith and will be responsible for one-half of any costs paid to neutral third-parties.
 - (E) If neither party elects to seek assistance from the dispute resolution service, or if the attempted dispute resolution fails, then either party may exercise whatever rights and remedies it may have in equity or law consistent with the terms of the agreements between the parties or it may seek resolution at the Commission.
 - (III) Interconnection metering. Except as otherwise required by rule 3664, any metering necessitated by the use of the small generating facility shall be installed at the IC's expense in accordance with Commission requirements or the utility's specifications.

- (IV) Commissioning tests. Commissioning tests of the IC's installed equipment shall be performed pursuant to applicable codes and standards, including IEEE1547.1 2005 "IEEE Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems". The utility must be given at least five business days written notice, or as otherwise mutually agreed to by the parties, of the tests and may be present to witness the commissioning tests. The utility shall be compensated by the IC for its expense in witnessing level 2 and Level 3 commissioning tests.
- (V) Confidentiality.
 - (A) Confidential information shall mean any confidential and/or proprietary information provided by one party to the other party that is clearly marked or otherwise designated "Confidential." All design, operating specifications, and metering data provided by the IC shall be deemed confidential information regardless of whether it is clearly marked or otherwise designated as such.
 - (B) Confidential information does not include information previously in the public domain, required to be publicly submitted or divulged by governmental authorities (after notice to the other party and after exhausting any opportunity to oppose such publication or release), or necessary to be divulged in an action to enforce an agreement between the parties. Each party receiving confidential information shall hold such information in confidence and shall not disclose it to any third party nor to the public without the prior written authorization from the party providing that information, except to fulfill obligations under agreements between the parties, or to fulfill legal or regulatory requirements.
 - (i) Each party shall employ at least the same standard of care to protect confidential information obtained from the other party as it employs to protect its own confidential information.
 - (ii) Each party is entitled to equitable relief, by injunction or otherwise, to enforce its rights under this provision to prevent the release of confidential information without bond or proof of damages, and may seek other remedies available at law or in equity for breach of this provision.
 - (C) Notwithstanding anything in this article to the contrary, if the Commission, during the course of an investigation or otherwise, requests information from one of the parties that is otherwise required to be maintained in confidence, the party shall provide the requested information to the Commission, within the time provided for in the request for information. In providing the information to the Commission, the party may request that the information be treated as confidential and non-public by the Commission and that the information be withheld from public disclosure. Parties are prohibited from notifying the other party prior to the release of the confidential information to the Commission. The party shall notify the other party when it is notified by the Commission that a request to release confidential information has been received by the Commission, at which time either of the parties may respond before such information would be made public.

- (VI) Comparability. The utility shall receive, process, and analyze all interconnection requests in a timely manner as set forth in this document. The utility shall use the same reasonable efforts in processing and analyzing interconnection requests from all interconnection customers, whether the small generating facility is owned or operated by the utility, its subsidiaries or affiliates, or others.
- (VII) Record retention. The utility shall maintain for three years records, subject to audit, of all interconnection requests received under these procedures, the times required to complete Interconnection Request approvals and disapprovals, and justification for the actions taken on the interconnection requests.
- (VIII) Interconnection agreement. After receiving an interconnection agreement from the utility, the IC shall have 30 business days or another mutually agreeable time-frame to sign and return the interconnection agreement, or request that the utility file an unexecuted interconnection agreement with the Commission. If the IC does not sign the interconnection agreement, or ask that it be filed unexecuted by the utility within 30 business days, the interconnection request shall be deemed withdrawn. After the interconnection agreement is signed by the parties, the interconnection of the small generating facility shall proceed under the provisions of the interconnection agreement.
- (IX) Coordination with affected systems. The utility shall coordinate the conduct of any studies required to determine the impact of the interconnection request on affected systems with affected system operators and, if possible, include those results (if available) in its applicable interconnection study within the time frame specified in these procedures. The utility will include such affected system operators in all meetings held with the IC as required by these procedures. The IC will cooperate with the utility in all matters related to the conduct of studies and the determination of modifications to affected systems. A utility which may be an affected system shall cooperate with the utility with whom interconnection has been requested in all matters related to the conduct of studies and the determination of modifications to affected systems.
- (X) Capacity of the small generating facility.
 - (A) If the interconnection request is for an increase in capacity for an existing small generating facility, the interconnection request shall be evaluated on the basis of the new total capacity of the small generating facility.
 - (B) If the interconnection request is for a small generating facility that includes multiple energy production devices at a site for which the interconnection customer seeks a single point of interconnection, the interconnection request shall be evaluated on the basis of the aggregate capacity of the multiple devices.
 - (C) The interconnection request shall be evaluated using the maximum rated capacity of the small generating facility.
- (XI) Insurance.
 - (A) For systems of ten kW or less, the customer, at its own expense, shall secure and maintain in effect during the term of the agreement liability insurance with a

combined single limit for bodily injury and property damage of not less than \$300,000 for each occurrence. For systems above ten kW and up to ~~two~~ 500 kW, customer, at its own expense, shall secure and maintain in effect during the term of the agreement liability insurance with a combined single limit for bodily injury and property damage of not less than ~~\$21,000,000~~ \$2,000,000 for each occurrence. For systems above 500 kW and up to two (2) MW, customer, at its own expense, shall secure and maintain in effect during the term of the agreement liability insurance with a combined single limit for bodily injury and property damage of not less than \$2,000,000 for each occurrence. Insurance coverage for systems greater than two MW shall be determined on a case-by-case basis by the utility and shall reflect the size of the installation and the potential for system damage.

- (B) Except for those solar systems installed on a residential premise which have a design capacity of ten kW or less, the utility shall be named as an additional insured by endorsement to the insurance policy and the policy shall provide that written notice be given to the utility at least 30 days prior to any cancellation or reduction of any coverage. Such liability insurance shall provide, by endorsement to the policy, that the utility shall not by reason of its inclusion as an additional insured incur liability to the insurance carrier for the payment of premium of such insurance. For all solar systems, the liability insurance shall not exclude coverage for any incident related to the subject generator or its operation.
 - (C) Certificates of Insurance evidencing the requisite coverage and provision(s) shall be furnished to utility prior to the date of interconnection of the generation system. Utilities shall be permitted to periodically obtain proof of current insurance coverage from the generating customer in order to verify proper liability insurance coverage. Customer will not be allowed to commence or continue interconnected operations unless evidence is provided that satisfactory insurance coverage is in effect at all times.
- (f) Level 1 ten kW inverter process. The procedure for evaluating an interconnection request for a certified inverter-based small generating facility no larger than ten kW. The application process uses an all-in-one document that includes a simplified Interconnection Request, simplified procedures, and a brief set of terms and conditions.
- (I) The interconnection customer (customer) completes the interconnection request (Application) and submits it to the utility.
 - (II) The utility acknowledges to the customer receipt of the application within three business days of receipt.
 - (III) The utility evaluates the application for completeness and notifies the customer within ten business days of receipt that the application is or is not complete and, if not, advises what material is missing.
 - (IV) Within 15 days the utility shall conduct an initial review, which shall include the following screening criteria:

- (A) For interconnection of a proposed small generating facility to a radial distribution circuit, the aggregated generation, including the proposed small generating facility, on the circuit shall not exceed 15 percent of the line section annual peak load as most recently measured at the substation or calculated for the line section. For highly seasonal circuits only, the aggregate generation, including the proposed small generation facility, on the circuit shall not exceed 15 percent of two times the minimum daytime loading. A line section is that portion of a utility's electric system connected to a customer bounded by automatic sectionalizing devices or the end of the distribution line.
- (B) If the proposed small generating facility is to be interconnected on single-phase shared secondary, the aggregate generation capacity on the shared secondary, including the proposed small generating facility, shall not exceed 20 kW.
- (C) If the proposed small generating facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition shall not create an imbalance between the two sides of the 240 volt service of more than 20 percent of the nameplate rating of the service transformer.
- (D) No construction of facilities by the utility on its own system shall be required to accommodate the small generating facility.
- (E) Provided all the criteria in paragraph (g) of this rule are met, unless the utility determines and demonstrates that the small generating facility cannot be interconnected safely and reliably, the utility approves and executes the application and returns it to the customer.
- (F) After installation, the customer returns the certificate of completion to the utility. Prior to parallel operation, the utility may inspect the small generating facility for compliance with standards, which may include a witness test, and may schedule appropriate metering replacement, if necessary.
- (G) The utility notifies the customer in writing or by fax or e-mail that interconnection of the small generating facility is authorized within five business days. If the witness test is not satisfactory, the utility has the right to disconnect the small generating facility. The customer has no right to operate in parallel until a witness test has been performed, or previously waived on the application. The utility is obligated to complete this witness test within ten business days of the receipt of the certificate of completion.
- (H) Contact information. The customer must provide the contact information for the legal applicant (i.e., the interconnection customer). If another entity is responsible for interfacing with the utility, that contact information must be provided on the application.

(g) Level 1 10 kW Inverter Process. The following constitutes an application for interconnecting a certified inverter-based small generating facility no larger than ten KW. Application for Interconnecting a Certified Inverter-Based Small Generating Facility No Larger than 10kW

This Application is considered complete when it provides all applicable and correct information required below. Additional information to evaluate the application may be required.

Processing fee:

A fee of _____ must accompany this application.

Interconnection customer

Name:

Contact Person:

Address:

City: State: Zip:

Telephone (Day): (Evening):

Fax: E-Mail Address:

Engineering firm (If applicable):

Contact Person:

Address:

City: State: Zip:

Telephone:

Fax: E-Mail Address:

Contact (if different from Interconnection customer):

Name:

Address:

City: State: Zip:

Telephone (Day): (Evening):

Fax: E-Mail Address:

Owner of the facility (include percent ownership by any electric utility):

Small generating facility information:

Location (if different from above):

Electric service company:

Account number:

Small generator ten kW inverter process:

Inverter manufacturer: _____ Model

Nameplate rating: (kW) (kVA) (AC Volts)

Single phase _____ Three phase _____

System design capacity: _____ (kW) _____ (kVA)

Prime mover: Photovoltaic Reciprocating Engine Fuel Cell Turbine Other

Energy source: Solar Wind Hydro Diesel Natural Gas Fuel Oil Other (describe)

Is the equipment UL1741 Listed? Yes _____ No _____

If Yes, attach manufacturer's cut-sheet showing UL1741 listing.

Estimated installation date: _____ Estimated in-service date: _____

The ten kW inverter process is available only for inverter-based small generating facilities no larger than ten kW that meet the codes, standards, and certification requirements of paragraphs (h) and (i) of this rule, or the QRU has reviewed the design or tested the proposed small generating facility and is satisfied that it is safe to operate.

List components of the small generating facility equipment package that are currently certified:

Equipment type certifying entity:

- 1.
- 2.
- 3.
- 4.
- 5.

Interconnection customer signature: _____

I hereby certify that, to the best of my knowledge, the information provided in this Application is true. I agree to abide by the Terms and Conditions for Interconnecting an Inverter-Based Small Generating

Facility No Larger than 10kW and return the Certificate of Completion when the Small Generating Facility has been installed. ~~I further agree to relinquish my claims to any REC that will be generated with my equipment as part of this agreement.~~

Signed: _____

Title:

Date:

Contingent approval to interconnect the small generating facility.

(For company use only)

Interconnection of the small generating facility is approved contingent upon the terms and conditions for interconnecting an inverter-based small generating facility no larger than ten kW and return of the certificate of completion.

Company signature: _____

Title: Date:

Application ID number: _____

Company waives inspection/witness test? Yes ____ No ____

(h) Certification codes and standards.

IEEE1547 Standard for Interconnecting Distributed Resources with Electric Power Systems
(including use of IEEE 1547.1 testing protocols to establish conformity)

UL 1741 Inverters, Converters, and Controllers for Use in Independent Power Systems

IEEE Std 929-2000 IEEE Recommended Practice for Utility Interface of Photovoltaic (PV)
Systems

NFPA 70 (2005), National Electrical Code

IEEE Std C37.90.1-1989 (R1994), IEEE Standard Surge Withstand Capability (SWC) Tests for
Protective Relays and Relay Systems

IEEE Std C37.90.2 (1995), IEEE Standard Withstand Capability of Relay Systems to Radiated
Electromagnetic Interference from Transceivers

IEEE Std C37.108-1989 (R2002), IEEE Guide for the Protection of Network Transformers

IEEE Std C57.12.44-2000, IEEE Standard Requirements for Secondary Network Protectors

IEEE Std C62.41.2-2002, IEEE Recommended Practice on Characterization of Surges in Low Voltage (1000V and Less) AC Power Circuits

IEEE Std C62.45-1992 (R2002), IEEE Recommended Practice on Surge Testing for Equipment Connected to Low-Voltage (1000V and Less) AC Power Circuits

ANSI C84.1-1995 Electric Power Systems and Equipment – Voltage Ratings (60 Hertz)

IEEE Std 100-2000, IEEE Standard Dictionary of Electrical and Electronic Terms

NEMA MG 1-1998, Motors and Small Resources, Revision 3

IEEE Std 519-1992, IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems

NEMA MG 1-2003 (Rev 2004), Motors and Generators, Revision 1

- (i) Certification of small generator equipment packages.
 - (I) Small generating facility equipment proposed for use separately or packaged with other equipment in an interconnection system shall be considered certified for interconnected operation if (1) it has been tested in accordance with industry standards for continuous utility interactive operation in compliance with the appropriate codes and standards referenced below by any Nationally Recognized Testing Laboratory (NRTL) recognized by the United States Occupational Safety and Health Administration to test and certify interconnection equipment pursuant to the relevant codes and standards listed in paragraph (h), (2) it has been labeled and is publicly listed by such NRTL at the time of the interconnection application, and (3) such NRTL makes readily available for verification all test standards and procedures it utilized in performing such equipment certification, and, with consumer approval, the test data itself. The NRTL may make such information available on its website and by encouraging such information to be included in the manufacturer's literature accompanying the equipment.
 - (II) The interconnection customer must verify that the intended use of the equipment falls within the use or uses for which the equipment was tested, labeled, and listed by the NRTL.
 - (III) Certified equipment shall not require further type-test review, testing, or additional equipment to meet the requirements of this interconnection procedure; however, nothing herein shall preclude the need for an on-site commissioning test by the parties to the interconnection nor follow-up production testing by the NRTL.
 - (IV) If the certified equipment package includes only interface components (switchgear, inverters, or other interface devices), then an Interconnection Customer must show that the generator or other electric source being utilized with the equipment package is compatible with the equipment package and is consistent with the testing and listing specified for this type of interconnection equipment.

- (V) Provided the generator or electric source, when combined with the equipment package, is within the range of capabilities for which it was tested by the NRTL, and does not violate the interface components' labeling and listing performed by the NRTL, no further design review, testing or additional equipment on the customer side of the point of common coupling shall be required to meet the requirements of this interconnection procedure.
- (VI) An equipment package does not include equipment provided by the utility.
- (j) Terms and conditions for Level 1 interconnections -- small generating facility no larger than ten kW.
 - (I) Construction of the facility. The interconnection customer may proceed to construct the small generating facility when the utility approves the interconnection request (the application) and returns it to the IC.
 - (II) Interconnection and operation. The IC may operate small generating facility and interconnect with the utility's electric system once all of the following have occurred:
 - (A) Upon completing construction, the interconnection customer will cause the small generating facility to be inspected or otherwise certified by the appropriate local electrical wiring inspector with jurisdiction, and
 - (B) The customer returns the certificate of completion to the utility, and
 - (C) The utility has completed its inspection of the small generating facility. All inspections must be conducted by the utility, at its own expense, within ten business days after receipt of the certificate of completion and shall take place at a time agreeable to the parties. The utility shall provide a written statement that the small generating facility has passed inspection or shall notify the customer of what steps it must take to pass inspection as soon as practicable after the inspection takes place.
 - (D) The utility has the right to disconnect the small generating facility in the event of improper installation or failure to return the certificate of completion.
 - (III) Safe operations and maintenance. The interconnection customer shall be fully responsible to operate, maintain, and repair the small generating facility as required to ensure that it complies at all times with the interconnection standards to which it has been certified.
 - (IV) Access. The utility shall have access to the disconnect switch and metering equipment of the small generating facility at all times. The utility shall provide reasonable notice to the customer when possible prior to using its right of access.
 - (V) Disconnection. The utility may temporarily disconnect the small generating facility upon the following conditions:

- (A) For scheduled outages per notice requirements in the utility's tariff or Commission rules.
 - (B) For unscheduled outages or emergency conditions pursuant to the utility's tariff or Commission rules.
 - (C) If the small generating facility does not operate in the manner consistent with these terms and conditions.
 - (D) The utility shall inform the interconnection customer in advance of any scheduled disconnection, or as is reasonable after an unscheduled disconnection.
- (VI) Indemnification. The parties shall at all times indemnify, defend, and save the other party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other party's action or inactions of its obligations under this agreement on behalf of the indemnifying party, except in cases of gross negligence or intentional wrongdoing by the indemnified party.
- (VII) Insurance. The interconnection customer, at its own expense, shall secure and maintain in effect during the term of this agreement, liability insurance with a combined single limit for bodily injury and property damage of not less than \$300,000 each occurrence. Such liability insurance shall not exclude coverage for any incident related to the subject generator or its operation. The utility shall be named as an additional insured under the liability policy unless the system is a solar system installed on a premise using the residential tariff and has a design capacity of ten kW or less. The policy shall include that written notice be given to the utility at least 30 days prior to any cancellation or reduction of any coverage. A copy of the liability insurance certificate must be received by the utility prior to plant operation. Certificates of insurance evidencing the requisite coverage and provision(s) shall be furnished to utility prior to date of interconnection of the generation system. Utilities shall be permitted to periodically obtain proof of current insurance coverage from the generating customer in order to verify proper liability insurance coverage. The interconnection customer will not be allowed to commence or continue interconnected operations unless evidence is provided that satisfactory insurance coverage is in effect at all times.
- (VIII) Limitation of liability. Each party's liability to the other party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either party be liable to the other party for any indirect, incidental, special, consequential, or punitive damages of any kind whatsoever, except as allowed under subparagraph (i)(VI) of this rule.
- (IX) Termination. The agreement to operate in parallel may be terminated under the following conditions:
- (A) By the Customer by providing written notice to the utility.

- (B) By the utility if the small generating facility fails to operate for any consecutive 12 month period or the customer fails to remedy a violation of these terms and conditions.
- (C) Permanent disconnection. In the event this agreement is terminated, the utility shall have the right to disconnect its facilities or direct the customer to disconnect its small generating facility.
- (D) Survival rights. This agreement shall continue in effect after termination to the extent necessary to allow or require either party to fulfill rights or obligations that arose under the agreement.
- (X) Assignment/Transfer of ownership of the facility. This agreement shall survive the transfer of ownership of the small generating facility to a new owner when the new owner agrees in writing to comply with the terms of this agreement and so notifies the utility.

3666. – 3699. [Reserved]