

COLORADO DEPARTMENT OF REGULATORY AGENCIES

Public Utilities Commission

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PART 3 RULES REGULATING ELECTRIC UTILITIES

ELECTRIC RESOURCE PLANNING

3600. Applicability.

This rule shall apply to all jurisdictional electric utilities in the state of Colorado that are subject to the Commission's regulatory authority. Cooperative electric associations engaged in the distribution of electricity (i.e., rural electric associations) are exempt from these rules. Cooperative electric generation and transmission associations are subject to the requirements in rule 3605.

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[indicates omission of unaffected rules]

3605. Cooperative Electric Generation and Transmission Association Requirements

This rule shall apply to each utility that is a cooperative electric generation and transmission association.

The statutory authority for this rule can be found at § 40-2-134, C.R.S.

(a) Electric resource plan filing requirements.

- (I) Initial plan filing.** Each utility shall file an assessment of existing resources pursuant to paragraph 3605(c) no later than June 1, 2020. The utility shall file the assessment as a report and also may submit prefiled testimony. The Commission shall open an adjudicatory proceeding to accept the report and shall establish a notice and intervention period for the determination of the parties. Parties may conduct discovery on the report and on any prefiled testimony submitted with the report. No later than December 1, 2020, the utility shall file an application for approval of the plan with all remaining required components of the plan in accordance with subparagraph 3605(a)(IV). The complete plan will initiate Phase I as set forth in paragraph 3605(g).
- (II) Subsequent plan filings.** Each utility shall file an electric resource plan pursuant to these rules every four years beginning June 1, 2023. In addition to the required four-year cycle, a utility may file an interim plan, pursuant to subparagraph 3605(a)(IV). If a utility

chooses to file an interim plan more frequently than the required four-year cycle, its application must state the reasons and changed circumstances that justify the interim filing.

- (III) Highly confidential information. Each utility shall contemporaneously file with its resource plan submitted under subparagraphs 3605(a)(I) and 3605(a)(II), a motion or motions seeking extraordinary protection of information listed as highly confidential pursuant to subparagraph 3605(a)(III)(K) and consistent with rule 1101 of the Commission's Rules of Practice and Procedure. The utility shall specifically address appropriate confidentiality protections and nondisclosure requirements for modeling inputs and assumptions that may be used to evaluate a potential resource and that reasonably relate to that facility. The utility's motion or motions shall specify that response time shall run concurrently with the intervention deadline established in the plan proceeding. Finally, during the course of the resource plan proceeding, a utility may file additional motions seeking extraordinary protection of information for good cause shown.
- (IV) Plan components. The plan shall contain the information specified below. When required by the Commission, the utility shall provide work-papers to support the information contained in the plan. The plan shall include the following.
 - (A) The proposed resource acquisition period; however, the resource acquisition period for the initial plan filing submitted in accordance with subparagraph 3605(a)(I) shall extend through 2030. The utility shall consistently use the specified resource acquisition and planning periods throughout the entire electric resource plan and resource acquisition process. The utility shall include a detailed explanation as to why the specific period was chosen in light of the assessment of the needs of the utility system.
 - (B) An annual electric demand and energy forecast developed pursuant to paragraph 3605(b).
 - (C) An assessment of existing resources developed pursuant to paragraph 3605(c).
 - (D) An assessment of transmission resources pursuant to paragraph 3605(d).
 - (E) An assessment of planning reserve margins and contingency plans for the acquisition of additional resources developed pursuant to paragraph 3605(e).
 - (F) An assessment of the need for additional resources developed pursuant to paragraph 3605(f).
 - (G) A description of the projected emissions, in terms of pounds per MWH and short-tons per year, of sulfur dioxide, nitrogen oxides, particulate matter, mercury and carbon dioxide for any resources proposed to be owned by the utility and for any new generic resources included in the utility's modeling for its electric resource plan.

- (H) The cost of the projected carbon dioxide emissions using the carbon cost calculated by the Commission based on the most recent assessment of the social cost of carbon developed by the federal government.
- (I) The annual water consumption for each of the utility's existing generation resources and the water intensity (in gallons per MWH) of the existing generating system as a whole, as well as the projected water consumption for any resources proposed to be owned by the utility and for any new generic resources included in the utility's modeling for its electric resource plan.
- (J) The proposed Requests for Proposals (RFPs) the utility intends to use to solicit bids for energy and capacity resources to be acquired through a competitive acquisition process, including model contracts.
- (K) A list of the information related to the electric resource plan proceeding that the utility claims is confidential and a list of the information related to the resource plan proceeding that the utility claims is highly confidential. The protections sought by the utility for these items shall be specified in the motion(s) submitted under subparagraph 3605(a)(III). For good cause shown the utility may seek to protect additional information as confidential or highly confidential by filing the appropriate motion under rule 1101 of the Commission's Rules of Practice and Procedure in a timely manner.
- (L) An assessment of the costs and benefits of early retirements of utility-owned resources and the acquisition of new utility resources required to reduce the carbon dioxide emissions associated with the utility's sales by 80 percent from 2005 levels by 2030.
- (M) A proposed base case portfolio of resources and at least one proposed alternative portfolio of resources to calculate and to present the associated net present value of revenue requirements using the cost of carbon emissions established by the Commission. The utility also may propose different costs of carbon to be used with respect to the alternative portfolios of resources.
- (N) An assessment of the costs and benefits of the integration of intermittent renewable energy resources on the utility's system, consistent with the amounts of renewable energy resources the utility proposes to acquire.
- (O) Studies, including updates to studies relied upon by the utility in previous electric resource plans, commissioned or prepared by the utility to support the development of its electric resource plan.
- (P) Modeling assumptions and analytical methodology proposed to assess the costs and benefits of energy storage systems including, but not limited to: integration of intermittent resources; improvement of reliability; reduction in the need for increased generation facilities to meet periods of peak demand; and avoidance, reduction, or deferral of investments.

- (Q) A detailed listing and explanation of the information the utility will provide in its ERP Implementation Report regarding potential resources, proposed utility-owned resources, and the modeling of portfolio combinations of resources to support the development of cost-effective resource plans.
- (b) Electric energy and demand forecasts.
- (I) Forecast requirements. The utility shall prepare energy and demand forecasts for each year within the planning period.
 - (A) Annual sales of energy and coincident summer and winter peak demand in total and disaggregated by state jurisdiction and by member of the cooperative electric generation and transmission association.
 - (B) Annual energy and capacity sales to other utilities; and capacity sales to other utilities at the time of coincident summer and winter peak demand.
 - (C) Annual intra-utility energy and capacity use at the time of coincident summer and winter peak demand.
 - (D) Annual and coincident summer and winter peak system losses of the cooperative electric generation and transmission association.
 - (E) The electric demand placed on the utility's system for each hour of the day by state jurisdiction and by member of the cooperative electric generation and transmission association. This information shall be provided for peak-day, average-day, and representative off-peak days for each calendar month.
 - (II) Range of forecasts. The utility shall develop and justify a range of forecasts of coincident summer and winter peak demand and energy sales that its system may reasonably be required to serve during the planning period. The range shall include base case, high, and low forecast scenarios of coincident summer and winter peak demand and energy sales, based on alternative assumptions about the determinants of coincident summer and winter peak demand and energy sales during the planning period.
 - (III) Historical data. The utility shall compare the annual forecast of coincident summer and winter peak demand and energy sales made by the utility to the actual coincident peak demand and energy sales experienced by the utility for the five years preceding the year in which the electric resource plan under consideration is filed. In addition, the utility shall compare the annual forecasts in its most recently filed resource plan to the annual forecasts in the current resource plan.
 - (IV) Description and justification. The utility shall fully explain, justify, and document the data, assumptions, methodologies, models, determinants, and any other inputs upon which it relied to develop its coincident peak demand and energy sales forecasts pursuant to this rule, as well as the forecasts themselves.
 - (V) Format and graphical presentation of data. The utility shall include graphical presentation of the data to make the data more understandable to the public, and shall make the data

available to requesting parties in such electronic formats as the Commission shall reasonably require.

(c) Assessment of existing resources.

- (l) Existing resource assessment. The utility shall describe its existing generation facilities and energy storage systems at the time the plan is filed, and existing or future purchases from other utilities or non-utilities pursuant to agreements effective at the time the plan is filed. The description shall include, when applicable, the following.
 - (A) Name(s) and location(s) of utility-owned and contracted generation and energy storage facilities.
 - (B) Rated capacity and net dependable capacity of utility-owned and contracted generation and energy storage facilities.
 - (C) Fuel type, average and marginal heat rates, quick start capability, minimum operating requirements, annual capacity factors and availability factors projected for utility-owned and contracted generation and energy storage facilities over the resource acquisition period.
 - (D) Estimated in-service dates for utility-owned generation and energy storage facilities not in service at the time the electric resource plan under consideration is filed.
 - (E) Estimated remaining useful lives of existing generation and energy storage facilities and any significant new investment or maintenance expense relating to the existing generation facilities.
 - (F) The amount of capacity, energy, and demand-side resources purchased from utilities and non-utilities, the duration of such purchase contracts and a description of any contract provisions that allow for modification of the amount of capacity and energy purchased pursuant to such contracts.
 - (G) The amount of capacity and energy provided pursuant to wheeling or coordination agreements, the duration of such wheeling or coordination agreements, and a description of any contract provisions that allow for modification of the amount of capacity and energy provided pursuant to such wheeling or coordination agreements.
 - (H) The projected emissions, in terms of pounds per MWH and short-tons per year, of sulfur dioxide, nitrogen oxides, particulate matter, mercury and carbon dioxide for the resources identified under this subparagraph 3605(c)(l).
 - (I) The expected demand-side resources during the resource planning period from existing measures installed through the demand-side management programs implemented by the members of the cooperative electric generation and transmission association; and, from measures expected to be installed in the

future through the demand-side management programs implemented by the members of the cooperative electric generation and transmission association.

- (J) Unit-level revenue requirements of utility-owned and contracted generation facilities, including the following components: capital costs, operations and maintenance costs (fixed and variable), fuel costs, emissions and associated costs, integration and coal cycling costs, and energy and capacity payments (for contracted facilities).
 - (K) The performance characteristics of utility-owned energy storage systems including but not limited to: discharge rates and durations; charging rates; response time; and cycling losses and limitations.
 - (L) The physical and performance characteristics of energy storage systems purchased from utilities and non-utilities including but not limited to: storage technology; discharge rates and durations; charging rates; response time; and cycling losses and limitations.
- (II) Benchmarking. For the purpose of identifying existing resources that potentially are not performing cost-effectively as compared to other resources available in the market, the utility shall compare the costs and performance of each of its existing resources (utility-owned and contracted) to the costs and performance of the generic resources.
- (III) Ancillary services assessment. The utility shall identify its existing resources that provide various ancillary services necessary to support its transmission systems, including load following, reactive power-voltage regulation, system protective services, loss compensation service, system control, load dispatch services, and energy imbalance services.
- (d) Assessment of transmission resources.
- (I) The utility shall report its existing transmission capabilities, and future needs during the planning period, for facilities of 115 kilovolts and above, including associated substations and terminal facilities. The utility shall generally identify the location and extent of transfer capability limitations on its transmission network that may affect the future siting of resources.
 - (II) With respect to future needs, the utility shall submit a description of all transmission lines and facilities appearing in its most recent report filed with the Commission pursuant to rule 3627 that, as identified in that report, could reasonably be placed into service during the resource acquisition period.
 - (III) For each transmission line or facility identified in subparagraph (d)(II), the utility shall include the following information detailing assumptions to be used for resource planning and bid evaluation purposes:
 - (A) length and location;
 - (B) estimated in-service date;

- (C) injection capacity;
 - (D) estimated costs;
 - (E) terminal points; and
 - (F) voltage and megawatt rating.
- (IV) In order to equitably compare possible resource alternatives, the utility shall consider the transmission costs required by, or imposed on the system by, and the transmission benefits provided by a particular resource as part of the bid evaluation criteria.
- (V) The electric resource plan shall describe and shall estimate the cost of all new transmission facilities associated with any specific resources proposed for acquisition other than through a competitive acquisition process.
- (e) Planning reserve margins and contingency plans.
- (I) The utility shall provide a description of, and justification for, the means by which it assesses the desired level of reliability on its system throughout the planning period (e.g., probabilistic or deterministic reliability indices).
 - (II) The utility shall develop and justify planning reserve margins for the resource acquisition period for the base case, high, and low forecast scenarios established under paragraph 3605(b), to include risks associated with: the development of generation; losses of generation capacity purchase of power; losses of transmission capability; risks due to known or reasonably expected changes in environmental regulatory requirements; and, other risks. The utility shall develop planning reserve margins for its system over the planning period beyond the resource acquisition period for the base case forecast scenario. The utility shall also quantify the recommended or required reliability performance criteria for reserve groups and power pools to which the utility is a party.
 - (III) Since actual circumstances may differ from the most likely estimate of future resource needs, the utility shall develop contingency plans for the resource acquisition period. As a part of its plan, the utility shall provide, under seal, a description of its proposed contingency plans for the acquisition of additional resources if actual circumstances deviate from the most likely estimate of future resource needs developed pursuant to paragraph 3605(f); or, replacement resources in the event that resources are not developed in accordance with a Commission-approved plan under subparagraph 3605(h)(II).
- (f) Assessment of need for additional resources.
- (I) The utility shall assess the need to acquire additional resources during the resource acquisition period based on the electric energy and demand forecasts developed pursuant to paragraph 3605(b), the assessment of existing resources developed pursuant to paragraph 3606(c), planning reserve margins developed pursuant to paragraph 3605(e), and other factors including, but not limited to, the factors listed in subparagraph 3605(f)(II).

- (II) In assessing its need to acquire resources, the utility shall also:
 - (A) determine the additional eligible energy resources, if any, the utility will need to acquire to allow each member of the cooperative electric generation and transmission association in Colorado to comply with the Commission's RES rules;
 - (B) consider the benefits of energy storage system may provide to increase integration of intermittent resources; improve reliability; reduce the need for increased generation facilities to meet period of peak demand; and avoid, reduce, or defer investments; and
 - (C) address statewide goals to reduce greenhouse gas emissions in accordance with rules promulgated and implemented by Colorado Air Quality Control Commission.
 - (III) The Commission may give consideration of the likelihood of new environmental regulations and the risk of higher future costs associated with the emission of greenhouse gases such as carbon dioxide when it considers utility proposals to acquire additional resources during the resource acquisition period.
- (g) Phase I.
- (I) Review on the merits.
 - (A) The utility's electric resource plan shall be filed as an application; shall meet the requirements of paragraphs 3002(b) and 3002(c); and shall be administered pursuant to the Commission's Rules of Practice and Procedure.
 - (B) The Commission may hold a hearing for the purpose of reviewing and rendering a decision regarding the contents of the utility's filed electric resource plan.
 - (II) Utility plan for meeting the resource need.
 - (A) The utility shall specify the portion of the resource need that it intends to meet through a competitive acquisition process and the portion that it intends to meet through an alternative method of resource acquisition.
 - (B) If the utility proposes that a portion of the resource need be met through an alternative method of resource acquisition, the utility shall identify the specific resource(s) that it wishes to acquire and the reason the specific resource(s) should not be acquired through a competitive acquisition process. The utility shall specify whether it agrees to use a project labor agreement for the construction or expansion of a generation facility.
 - (C) Although the utility may propose a method for acquiring new utility resources other than competitive bidding, as a prerequisite, the utility shall nonetheless include in its electric resource plan filed under paragraph 3605(a) the necessary

bid policies, RFPs, and model contracts necessary to satisfy the resource need identified under paragraph 3605(f) exclusively through competitive bidding.

- (D) The utility shall specify the competitive acquisition procedures that it intends to use to obtain resources including a schedule of bid fees graduated by the size of the proposed resources.
- (E) The utility shall also propose, and other interested parties may provide input as part of the electric resource plan proceeding, criteria for evaluating the costs and benefits of resources such as the valuation of emissions and non-energy benefits, including, for example, benefits associated with best value employment metrics.
- (F) The utility shall propose a written bidding policy as part of its filing under paragraph 3605(a), including the assumptions, criteria, and models that will be used to solicit and evaluate bids in a fair and reasonable manner.
- (G) Request for Proposals (RFPs).
 - (i) The proposed RFP(s) filed by the utility shall be designed to solicit competitive bids to acquire resources pursuant to subparagraph 3605(g)(II). To minimize bidder exceptions and to enhance bid comparability, the utility shall include in its proposed RFP(s) a model contract.
 - (ii) The proposed RFP(s) shall include the bid evaluation criteria the utility will use in ranking the bids received. The utility shall also include in its proposed RFP(s): details concerning its resource needs; reasonable estimates of transmission costs for resources located in different areas and connecting to the utility's transmission system pursuant to paragraph 3605(d), including a detailed description of how the costs of future transmission will apply to bid resources; the extent and degree to which resources must be dispatchable, including the requirement, if any, that resources be able to operate under automatic dispatch control; any physical and performance requirements for energy storage systems or instructions for bidders to explain characteristics of energy storage systems, including but not limited to discharge rates and durations, charging rates, response time, and cycling losses and limitations; methodologies or credit mechanisms to value energy storage services provided to the utility system; the utility's proposed model contract(s) for the acquisition of resources; proposed contract term lengths; discount rate; general planning assumptions; and, any other information necessary to implement a fair and reasonable bidding program.
 - (iii) The utility shall request from bidders the best value employment metrics for each bid resource and shall set forth criteria for the review of such metrics, based on objective performance standards, to be applied in the evaluation and selection of bids in accordance with § 40-2-129, C.R.S.

- (iv) When issuing its RFP, the utility shall provide potential bidders with the Commission's order or orders specifying the form of nondisclosure agreement necessary to obtain access to confidential and highly confidential modeling inputs and assumptions provided by the utility.
- (III) Phase I decision.
 - (A) Based upon the evidence of record, the Commission shall issue a written decision approving, disapproving, or ordering modifications, in whole or in part, to the utility's electric resource plan.
 - (B) The Phase I decision approving or denying the electric resource plan shall address the contents of the utility's plan filed in accordance with paragraph 3605(a). If the record contains sufficient evidence, the Commission shall specifically approve or modify: the utility's assessment of need for additional resources in the resource acquisition period; the utility's plans for acquiring additional resources through an all-source competitive acquisition process or through an alternative acquisition process; and components of the utility's proposed RFP, such as the model contracts and the proposed evaluation criteria.
 - (C) The Phase I decision will set forth the information the utility shall provide in the ERP Implementation Report regarding potential resources, proposed utility-owned resources, and the modeling of portfolio combinations of resources to support the development of cost-effective resource plans.
 - (i) The Commission shall determine the cost of carbon dioxide emissions to assess the cost, benefit, and net present value of revenue requirements to be presented in the ERP Implementation Report.
 - (ii) In consideration of the base case portfolio of resources and alternative portfolios proposed by the utility, the Commission shall define the base case portfolio and alternative portfolios for modeling in Phase II.
 - (iii) The Commission may require the utility to provide information regarding alternative portfolios in addition to the base case portfolio and information regarding the cost, benefit, and net present value of revenue requirements of the alternative portfolios using different levels of costs for carbon dioxide.
 - (iv) In accordance with § 40-3.2-106(3), C.R.S., the Commission shall establish the relevant factors other than the cost of carbon dioxide emissions for consideration of the approval of the utility's electric resource plan.
 - (D) The Phase I decision will establish the deadline for the utility to submit its ERP Implementation Report.
 - (E) If the Commission declines to approve a utility's electric resource plan, either in whole or in part, the utility shall make changes to the plan in response to the

Commission's decision. Within 90 days of the Commission's rejection of a plan, the utility shall file an amended plan with the Commission and shall provide the amended plan to all parties who participated in the application proceeding concerning the utility's plan. All such parties may participate in any hearings regarding the amended plan.

(h) Phase II.

(I) ERP Implementation Report.

- (A) On or before the deadline established by the Commission, the utility shall file a report with the Commission presenting cost-effective resource plans in accordance with the Commission's Phase I decision. The utility shall identify its preferred cost-effective resource plan.
 - (i) The utility shall apply the cost of carbon dioxide emissions to all existing and new utility resources in its modeling of the costs and benefits of all resource plans as required by the Commission's Phase I decision.
 - (ii) The utility shall present a calculation of the net present value of revenue requirement for each portfolio required by the Phase I decision, including the defined base case portfolio. The utility shall present the net present value of revenue requirement for each existing and new utility resource included in the portfolio, as well as the total cost of carbon dioxide emissions of the total portfolio, calculated using the cost of carbon set forth in the Phase I decision and calculated without using the cost of carbon dioxide emissions. The utility also shall present, for each portfolio, the net present value calculation of the total cost of carbon dioxide emissions calculated by multiplying the total emissions of that portfolio by the cost of carbon dioxide.
 - (iii) The utility shall provide the Commission with the best value employment metrics information provided by bidders.
- (B) Within 45 days after the filing of the utility's ERP Implementation Report, the parties in the electric resource plan proceeding may file comments on the utility's report.
- (C) Within 60 days after the filing of the utility's ERP Implementation Report, the utility may file comments responding to the parties' comments.

(II) Phase II decision.

- (A) Within 90 days after the receipt of the utility's ERP Implementation Report under subparagraph 3605(h)(I), the Commission shall issue a written decision approving, conditioning, modifying, or rejecting the utility's preferred cost-effective resource plan, which decision shall establish the final cost-effective resource plan.

- (B) In accordance with §§ 40-2-123 and 40-2-124, C.R.S., the Commission shall consider renewable energy resources, resources that produce minimal emissions or minimal environmental impact, energy-efficient technologies, and resources that affect employment and long-term economic viability of Colorado communities. The Commission shall further consider resources that provide beneficial contributions to Colorado's energy security, economic prosperity, environmental protection, and insulation from fuel price increases.
 - (C) In accordance with § 40-2-129, C.R.S., the Commission shall determine: whether the utility has provided best value employment metrics; whether the utility has certified compliance with the objective standards for the review of such best value employment metrics as set forth in the RFP approved in the Phase I decision; and whether the utility has agreed to use a project labor agreement for the construction or expansion of a generating facility.
 - (D) In accordance with § 40-2-134, C.R.S., the Commission shall determine whether the final cost-effective resource plan meets the energy policy goals of Colorado.
 - (E) In accordance with § 40-3.2-106(3), C.R.S., the Commission shall consider the net present value of the cost of carbon dioxide emissions, the net present value of revenue requirements of the cost-effective resource plan, and other relevant factors as determined by the Commission in its Phase I decision.
- (III) Upon completion of Phase II, the utility shall file a proposal that addresses the public release of all confidential and highly confidential information related to bids for potential resources and resources the utility proposed to build and own. At a minimum the utility shall address the public release of highly confidential and confidential information in its ERP Implementation Report and all documents related to that report filed by the utility and the parties. The utility shall file its proposal in the plan proceeding within 14 months after the receipt of bids to its RFP(s). Parties will have 30 calendar days after the utility files its proposal to file responses. The utility then may reply to any responses filed within ten calendar days. The Commission shall issue an order specifying to the utility and other parties the documents that shall be refiled as public information.
 - (IV) Upon completion of Phase II, the utility shall post on its website the following information from all bids and utility proposals: bidder name; bid price and utility cost, stated in terms that allow reasonable comparison of the bids with utility proposals; generation technology type; size of facility; contract duration or expected useful life of facility for utility proposals; and whether the proposed power purchase contract includes an option for the utility to purchase the facility during or at the end of the contract term.
- (i) Resource acquisitions not requiring interim or amended plans. The following resources need not be addressed by an interim or amended electric resource plan subsequent to Commission approval of a plan filed pursuant to paragraph 3605(a):
 - (I) emergency maintenance or repairs made to utility-owned generation and energy storage facilities;

- (II) capacity and/or energy from newly-constructed, utility-owned, supply-side resources with a nameplate rating of not more than 20 MW;
- (III) capacity and/or energy from the generation facilities of other utilities or from non-utility generators pursuant to agreements for not more than a two-year term (including renewal terms) or for not more than 20 MW of capacity;
- (IV) improvements or modifications to existing utility generation and energy storage facilities that change the production capability of the generation facility site in question, by not more than 20 MW, based on the utility's share of the total power generation at the facility site and that have an estimated cost of not more than \$30 million; and
- (V) modification to, or amendment of, existing power purchase agreements provided the modification or amendment does not extend the agreement more than four years, does not add more than 20 MW of capacity to the utility's system, and is cost effective in comparison to other supply-side alternatives available to the utility.