171 FERC ¶ 61,123
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Neil Chatterjee, Chairman;
Richard Glick, Bernard L. McNamee,
and James P. Danly.

Tri-State Generation and Transmission Association, Inc. — Docket No. ER20-687-000

ORDER ON COMPLIANCE

(Issued May 21, 2020)

1. On December 27, 2019, Tri-State Generation and Transmission Association, Inc. (Tri-State) submitted proposed revisions to Attachment N of its Open Access Transmission Tariff (Tariff)[1] in compliance with the requirements of Order Nos. 845 and 845-A,[2] which amended the Commission's *pro forma* Large Generator Interconnection Agreement (LGIA) and *pro forma* Large Generator Interconnection Procedures (LGIP).[3] As discussed below, we find that Tri-State's filing partially complies with the requirements of Order Nos. 845 and 845-A. Accordingly, we accept Tri-State's

[1] On March 20, 2020, the Commission issued an order accepting Tri-State's Tariff for filing effective February 25, 2020, setting the Tariff for hearing and settlement judge procedures, and instituting a proceeding in Docket No. EL20-25-000 pursuant to section 206 of the Federal Power Act, 16 U.S.C. § 824e (2018), to determine the justness and reasonableness of Tri-State's proposed Tariff. *Tri-State Generation and Transmission Ass'n, Inc.*, 170 FERC ¶ 61,222 (2020).

[2] *Reform of Generator Interconnection Procedures and Agreements,* Order No. 845, 163 FERC ¶ 61,043 (2018), *errata notice*, 167 FERC ¶ 61,123, *order on reh'g*, Order No. 845-A, 166 FERC ¶ 61,137, *errata notice*, 167 FERC ¶ 61,124, *order on reh'g*, Order No. 845-B, 168 FERC ¶ 61,092 (2019).

[3] The *pro forma* LGIP and *pro forma* LGIA establish the terms and conditions under which public utilities that own, control, or operate facilities for transmitting energy in interstate commerce must provide interconnection service to large generating facilities. Order No. 845, 163 FERC ¶ 61,043 at P 6.

compliance filing, effective February 25, 2020, and direct Tri-State to submit a further compliance filing within 120 days of the date of this order.

I. Background

2. On April 19, 2018, the Commission issued Order No. 845, which revised the Commission's *pro forma* LGIA and the *pro forma* LGIP to improve certainty for interconnection customers, promote more informed interconnection decisions, and enhance the interconnection process. The Commission stated that it expects that these reforms will provide interconnection customers better information and more options for obtaining interconnection service, and as a result, there will be fewer overall interconnection requests and fewer interconnection requests failing to reach commercial operation. The Commission also stated that it expects that, as a result of these reforms, transmission providers will be able to focus resources on those interconnection requests most likely to reach commercial operation.[4] In Order No. 845-A, the Commission generally upheld the reforms it required in Order No. 845 but granted certain requests for rehearing and clarification.

3. In Order No. 845, the Commission adopted 10 different reforms in three categories to improve the interconnection process. First, in order to improve certainty for interconnection customers, the Commission: (1) removed the limitation that interconnection customers may exercise the option to build the transmission provider's interconnection facilities[5] and stand alone network upgrades[6] only in instances when the

[4] *Id.* P 2; Order No. 845-A, 166 FERC ¶ 61,137 at P 1.

[5] Transmission provider's interconnection facilities are "all facilities and equipment owned, controlled or operated by the Transmission Provider from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to the Standard Large Generator Interconnection Agreement, including any modifications, additions or upgrades to such facilities and equipment. Transmission Provider's Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades." *Pro forma* LGIA art. 1 (Definitions).

[6] Stand alone network upgrades are "Network Upgrades that an Interconnection Customer may construct without affecting day-to-day operations of the Transmission System during their construction. Both the Transmission Provider and the Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to the Standard Large Generator Interconnection Agreement." *Id.*

transmission provider cannot meet the dates proposed by the interconnection customer;[7] and (2) required that transmission providers establish interconnection dispute resolution procedures that allow a disputing party unilaterally to seek non-binding dispute resolution.[8]

4. Second, to promote more informed interconnection decisions, the Commission: (1) required transmission providers to outline and make public a method for determining contingent facilities;[9] (2) required transmission providers to list the specific study processes and assumptions for forming the network models used for interconnection studies; (3) revised the definition of "Generating Facility" to explicitly include electric storage resources; and (4) established reporting requirements for aggregate interconnection study performance.[10]

5. Third, the Commission adopted reforms to enhance the interconnection process by: (1) allowing interconnection customers to request a level of interconnection service that is lower than their generating facility capacity; (2) requiring transmission providers to allow for provisional interconnection agreements that provide for limited operation of a generating facility prior to completion of the full interconnection process; (3) requiring transmission providers to create a process for interconnection customers to use surplus interconnection service[11] at existing points of interconnection; and (4) requiring transmission providers to set forth a procedure to follow when assessing and, if

[7] Order No. 845, 163 FERC ¶ 61,043 at P 85.

[8] *Id.* P 3.

[9] Contingent facilities are "those unbuilt Interconnection Facilities and Network Upgrades upon which the Interconnection Request's costs, timing, and study findings are dependent, and if delayed or not built, could cause a need for Re-Studies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing." *Pro forma* LGIP § 1 (Definitions).

[10] Order No. 845, 163 FERC ¶ 61,043 at P 4.

[11] Order No. 845 added a definition for "Surplus Interconnection Service" to section 1 of the *pro forma* LGIP and article 1 of the *pro forma* LGIA, defining the term as "any unused portion of Interconnection Service established in a Large Generator Interconnection Agreement, such that if surplus interconnection service is utilized the Interconnection Service limit at the Point of Interconnection would remain the same." *Id.* P 459.

necessary, studying an interconnection customer's technology changes without affecting the interconnection customer's queue position.[12]

II. Tri-State's Compliance Filing

6. Tri-State proposes Tariff revisions in instances where the Commission requires modification to the *pro forma* LGIP and *pro forma* LGIA and afforded transmission providers the discretion to develop their own tariff language. Specifically, Tri-State proposes Tariff revisions for the following reforms: Identification of Contingent Facilities, Interconnection Study Deadlines, Surplus Interconnection Service, and Material Modifications and Incorporation of Advanced Technologies. Tri-State also proposes other modifications that it states are minor and should be permitted as consistent with or superior to the changes adopted in Order Nos. 845 and 845-A.

7. Finally, Tri-State requests that the Commission accept its compliance filing and revised Attachment N and grant waiver of the Commission's notice requirements to allow an effective date that corresponds with the effective date of Tri-State's Tariff, February 25, 2020.[13]

III. Notice and Responsive Pleadings

8. Notice of Tri-State's compliance filing was published in the *Federal Register*, 85 Fed. Reg. 305 (Jan. 3, 2020), with interventions and protests due on or before January 17, 2020. The Appendix to this order lists the entities that submitted interventions, protests, and answers. Many of the entities listed in the Appendix captioned their interventions and other pleadings in Docket No. ER20-687-000 as well as other dockets involving the filings that Tri-State made in anticipation of becoming subject to the Commission's jurisdiction.[14] However, only the protest filed by Gladstone New Energy, L.L.C. (Gladstone) on January 21, 2020 raised issues with Tri-State's Order No. 845 compliance, which Tri-State addressed in an answer on February 5, 2020.

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[12] *Id.* P 5.

[13] Transmittal at 24.

[14] *See Tri-State Generation and Transmission Ass'n, Inc.*, 170 FERC ¶ 61,222 at 1 n.3.

IV. Discussion

A. Procedural Matters

9. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2019), the notice of intervention and timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding. Pursuant to Rule 214(d) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214(d), we grant Alliance Power Incorporated and Colorado Highlands Wind, LLC, and Kit Carson Electric Cooperative, Inc.'s late-filed motions to intervene given their interest in the proceeding, the early stage of the proceeding, and the absence of undue prejudice or delay.

10. Rule 213(a)(2) of the Commission's Rule of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2019), prohibits an answer to a protest unless otherwise ordered by the decisional authority. We accept Tri-State's answer because it has provided information that assisted us in our decision-making process.

B. Substantive Matters

11. As discussed below, we find that Tri-State's filing partially complies with the requirements of Order Nos. 845 and 845-A. Accordingly, we accept Tri-State's compliance filing, effective February 25, 2020, the date Tri-State's Tariff became effective,[15] and direct Tri-State to submit a further compliance filing within 120 days of the date of this order.

1. Proposed Variations

12. As discussed further below, Tri-State has proposed certain variations from the Commission's requirements in Order Nos. 845 and 845-A. The Commission explained in Order No. 845 that such variations would be reviewed under the same standard allowed by Order No. 2003.[16] In Order No. 2003, when adopting the *pro forma* LGIA and LGIP, the Commission permitted transmission providers to seek variations from the *pro forma* LGIP and/or *pro forma* LGIA if they were "consistent with or superior to" the terms of

[15] *Id.*

[16] Order No. 845, 163 FERC ¶ 61,043 at P 43.

the *pro forma* LGIP and *pro forma* LGIA.[17] A transmission provider seeking a "consistent with or superior to" variation must demonstrate why its proposal is "consistent with or superior to" the *pro forma* LGIP and/or *pro forma* LGIA.[18] A transmission provider seeking a "consistent with or superior to" variation must demonstrate why its proposal is consistent with or superior to the *pro forma* LGIP and/or *pro forma* LGIA. The Commission also permitted transmission providers to justify a variation to the *pro forma* LGIA or LGIP based on regional reliability requirements and required transmission providers submitting such regional reliability variations to the Commission for approval to identify the proposed variations and explain why such variations are necessary.[19] We will evaluate Tri-State's proposed variations from the requirements of Order Nos. 845 and 845-A, accordingly.

2. Interconnection Customer's Option to Build

13. In Order No. 845, the Commission revised articles 5.1, 5.1.3, and 5.1.4 of the *pro forma* LGIA to allow interconnection customers to unilaterally exercise the option to build for stand alone network upgrades and the transmission provider's interconnection facilities, regardless of whether the transmission provider can complete construction of such facilities by the interconnection customer's proposed in-service date, initial synchronization date, or commercial operation date.[20] Prior to Order No. 845, this option to build was available to an interconnection customer only if the transmission provider did not agree to the interconnection customer's preferred construction timeline.[21] The Commission stated in Order No. 845 that this reform of the option to build will "benefit the interconnection process by providing interconnection customers more control and certainty during the design and construction phases of the interconnection process."[22]

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[17] *Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, 104 FERC ¶ 61,103, at P 825 (2003), *order on reh'g*, Order No. 2003-A, 106 FERC ¶ 61,220, *order on reh'g*, Order No. 2003-B, 109 FERC ¶ 61,287 (2004), *order on reh'g*, Order No. 2003-C, 111 FERC ¶ 61,401 (2005), *aff'd sub nom. Nat'l Ass'n of Regulatory Util. Comm'rs v. FERC*, 475 F.3d 1277 (D.C. Cir. 2007).

[18] *See, e.g.*, *Nev. Power Co.*, 167 FERC ¶ 61,086, at P 3 (2019).

[19] Order No. 2003, 104 FERC ¶ 61,103 at P 826; Order No. 2003-A, 106 FERC ¶ 61,220 at P 45.

[20] Order No. 845, 163 FERC ¶ 61,043 at PP 85-87.

[21] Order No. 2003, 104 FERC ¶ 61,103 at P 353; *see also pro forma* LGIP § 5.1.3.

[22] Order No. 845, 163 FERC ¶ 61,043 at P 85.

14. In Order No. 845-A, the Commission granted rehearing and clarification of certain aspects of the revised option to build. Specifically, the Commission revised the definition of stand alone network upgrade in the *pro forma* LGIP and *pro forma* LGIA to: (1) state that, when there is a disagreement, the transmission provider must provide the interconnection customer a written technical explanation outlining why the transmission provider does not consider a specific network upgrade to be a stand alone network upgrade;[23] and (2) clarify that the option to build does not apply to stand alone network upgrades on affected systems.[24] The Commission also made revisions to article 5.2 of the *pro forma* LGIA to allow transmission providers to recover oversight costs related to the interconnection customer's option to build.[25] In addition, the Commission clarified that the revised option to build provisions apply to all public utility transmission providers, including those that reimburse the interconnection customer for network upgrades.[26]

a. Tri-State's Compliance Filing

15. Tri-State proposes to revise the definition of stand alone network upgrade in its LGIP and *pro forma* LGIA to incorporate the revisions to the definition adopted by Order Nos. 845 and 845-A without modification.[27] Tri-State also proposes revisions to its *pro forma* LGIA to amend articles 5.1, 5.1.3, 5.1.4, and 5.2 to incorporate the *pro forma* LGIA revisions adopted by Order Nos. 845 and 845-A without modification.[28]

b. Commission Determination

16. We find that Tri-State's proposed revisions regarding the option to build comply with the requirements of Order Nos. 845 and 845-A, because Tri-State adopts the

[23] Order No. 845-A, 166 FERC ¶ 61,137 at P 68.

[24] *Id.* P 61.

[25] *Id.* P 75.

[26] *Id.* P 33.

[27] Tri-State OATT, Attach. N (3.0.0), app. 6, LGIA art. 1 (Definitions), and LGIP § 1 (Definitions).

[28] Tri-State OATT, Attach. N (3.0.0), app. 6, LGIA art. 5.1 (Options), art. 5.1.3 (Option to Build), art. 5.1.4 (Negotiated Option), and art. 5.2 (General Conditions Applicable to Option to Build).

language in the Commission's *pro forma* LGIA and *pro forma* LGIP revisions without modification.

3. Dispute Resolution

17. In Order No. 845, the Commission revised the *pro forma* LGIP by adding new section 13.5.5, which establishes generator interconnection dispute resolution procedures that allow a disputing party to unilaterally seek non-binding dispute resolution.[29] The Commission established these new procedures because dispute resolution was previously unavailable when the parties did not mutually agree to pursue a binding arbitration under section 13.5 of the pre-Order No. 845 *pro forma* LGIP. The Commission further explained that participation in the new non-binding dispute resolution process in *pro forma* LGIP section 13.5.5 does not preclude disputing parties from pursuing binding arbitration after the conclusion of the non-binding dispute resolution process if they seek a binding result.[30]

a. Tri-State's Compliance Filing

18. Tri-State proposes revisions to its LGIP in section 13.5.5 that adopt the language required by Order Nos. 845 and 845-A without modification.[31]

b. Commission Determination

19. We find that Tri-State's proposed LGIP revisions regarding dispute resolution comply with the requirements of Order Nos. 845 and 845-A, because Tri-State adopts the Commission's *pro forma* LGIP revisions without modification.

4. Identification and Definition of Contingent Facilities

20. In Order No. 845, the Commission added a new definition to section 1 of the *pro forma* LGIP, providing that contingent facilities shall mean those unbuilt interconnection facilities and network upgrades upon which the interconnection request's costs, timing, and study findings are dependent, and if delayed or not built, could cause a need for restudies of the interconnection request or a reassessment of the interconnection facilities and/or network upgrades and/or costs and timing.[32] The Commission also added new

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[29] Order No. 845, 163 FERC ¶ 61,043 at P 133; *see also pro forma* LGIP § 13.5.5.

[30] Order No. 845, 163 FERC ¶ 61,043 at P 139.

[31] Tri-State OATT, Attach. N (3.0.0), app. 6, LGIP § 13.5.5 (Non-binding dispute resolution procedures).

[32] Order No. 845, 163 FERC ¶ 61,043 at P 218; *see also pro forma* LGIP § 1

section 3.8 to the *pro forma* LGIP, which requires transmission providers to include, within section 3.8, a method for identifying the contingent facilities that they will provide to the interconnection customer at the conclusion of the system impact study and include in the interconnection customer's generator interconnection agreement.[33] The Commission specified that the method must be sufficiently transparent to determine why a specific contingent facility was identified and how it relates to the interconnection request.[34] The Commission stated that this transparency will ensure that the method is applied on a non-discriminatory basis.[35] The Commission further required that transmission providers provide, upon the interconnection customer's request, the estimated network upgrade costs and estimated in-service completion date associated with each identified contingent facility when this information is readily available and not commercially sensitive.[36]

a. Tri-State's Compliance Filing

21. Tri-State asserts that it adopts the Commission's *pro forma* LGIP definition for contingent facilities, but proposes a modification to account for planned upgrades not yet in service. Tri-State asserts that this change is intended to ensure that the transmission provider will identify and consider all future facilities that an interconnection customer's request for interconnection service could depend on, including facilities identified as part of a transmission provider's transmission planning process that are not yet in-service. Tri-State argues that this change is consistent with or superior to the definition in the *pro forma* LGIP, because it provides a more accurate and comprehensive accounting of future facilities where the interconnection customer's interconnection requests may depend on cost, timing, and study findings. According to Tri-State, this proposed change will also enhance transparency for the interconnection customer to evaluate whether to move forward with its interconnection request. Additionally, Tri-State adds a reference to the

(Definitions).

[33] Order No. 845, 163 FERC ¶ 61,043 at P 199.

[34] *Id.*; *see also pro forma* LGIP § 3.8.

[35] Order No. 845, 163 FERC ¶ 61,043 at P 200.

[36] *Id.* P 199; *see also pro forma* LGIP § 3.8.

definition of "Contingent Facilities" to clarify that it will identify the contingent facilities in Appendix A of the LGIA.[37]

22. Tri-State proposes to provide, at the conclusion of the interconnection system impact study, the contingent facilities to be included in the interconnection customer's LGIA. At the request of the interconnection customer, Tri-State will provide, when readily available, the estimated cost and the estimated in-service completion time of each identified contingent facility, along with any associated costs that are not commercially sensitive.[38]

23. Tri-State proposes a method for identifying contingent facilities that will examine the unbuilt interconnection facilities, network upgrades, and/or planned upgrades not yet in service based on the following criteria: (1) whether the unbuilt facility is necessary to make Tri-State or any affected system compliant with its planning criteria when the interconnection request's large generating facility commences trial operation; (2) whether the unbuilt facility has demonstrated a likelihood of construction with a planned in-service date prior to or that generally aligns with the generating facility's proposed in-service date; and (3) Tri-State will use engineering judgement based on good utility practice to determine which facilities should be contingent facilities.[39] Tri-State concludes that all facilities that satisfy the above criteria will be considered contingent facilities and will be identified as such in the interconnection customer's LGIA.[40]

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[37] Tri-State Filing at 7-8. Tri-State defines the term as:

> **Contingent Facilities** shall mean those unbuilt Interconnection Facilities and Network Upgrades, and/or planned upgrades not yet in service upon which the Interconnection Request's costs, timing, and study findings are dependent, and if delayed or not built, could cause a need for Re-Studies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing. Contingent Facilities are identified in Appendix A of the Standard Large Generator Interconnection Agreement. [additions to the *pro forma* LGIP underlined]

[38] Tri-State OATT, Attach. N (3.0.0), app. 6, LGIP §§ 3.8 (Identification of Contingent Facilities).

[39] *Id*.

[40] Tri-State OATT, Attach. N (3.0.0), app. 6, LGIP § 3.8.1 (Method for Identifying Contingent Facilities).

b. Protest and Answer

24. Gladstone argues that Tri-State's definition of contingent facilities, which would include "planned upgrades not yet in service," is vague and has not been shown to be consistent with, or superior to, the *pro forma* LGIP.[41] In response, Tri-State avers that the Commission should summarily reject these objections for lack of specificity. Tri-State adds that it provided sufficient support to show that its proposed deviation is consistent with or superior to the *pro forma* LGIP.[42]

c. Commission Determination

25. We find that the revised provisions that identify and describe Tri-State's method for determining contingent facilities, as Tri-State proposes in its LGIP, partially comply with the requirements of Order Nos. 845 and 845-A. In particular, we find that Tri-State complies with the requirements of Order Nos. 845 and 845-A related to providing estimated network upgrade costs and estimated in-service completion dates associated with contingent facilities to the interconnection customer.

26. Additionally, we accept Tri-State's proposed variation to the definition of contingent facilities, which would allow Tri-State to identify planned upgrades that are not yet in service as contingent facilities. We find that this variation is consistent with or superior to Order Nos. 845 and 845-A, because the proposed variation adds additional clarity regarding the type of facilities Tri-State will consider and the facilities on which an interconnection request's costs, timing, and study findings depend. We are not persuaded by Gladstone's argument that Tri-State's proposed variations to include planned upgrades not yet in service as contingent facilities is vague. As discussed below, we require, consistent with Order No. 845 and 845-A, Tri-State to explain the specific screens, thresholds, and criteria it will use in its analysis to identify contingent facilities. This will provide transparency and certainty to the interconnection customer with respect to the contingent facilities identified by Tri-State.

27. However, as specified in Order No. 845, transmission providers must include, in their LGIPs, a method for determining contingent facilities.[43] The Commission required that this method provide sufficient transparency to determine why a specific contingent facility was identified and how it relates to the interconnection request.[44] The

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[41] Gladstone Protest at 42 n.92.

[42] Tri-State February 5 Answer at 33 n.47.

[43] Order No. 845, 163 FERC ¶ 61,043 at P 199.

[44] *Id.* P 200.

Commission also required that a transmission provider's method to identify contingent facilities be transparent enough to ensure that it will be applied on a non-discriminatory basis.[45] Tri-State's proposed Tariff revisions lack the requisite transparency required by Order Nos. 845 and 845-A, because the proposed Tariff revisions do not detail the specific technical screens or analyses and the specific thresholds or criteria that Tri-State will use as part of its method to identify contingent facilities. Without this information, an interconnection customer will not understand how Tri-State will evaluate potential contingent facilities to determine their relationship to an individual interconnection request.[46] Further, including provisions regarding specific thresholds or criteria in Tri-State's LGIP will ensure Tri-State's technical screens or analyses will be applied to interconnection requests on a consistent, not unduly discriminatory or preferential basis.

28. We therefore direct Tri-State to describe in section 3.8 of its LGIP the specific technical screens and/or analyses that it will employ to determine which facilities are contingent facilities. Further, we also direct Tri-State to describe the specific triggering thresholds or criteria, including the quantitative triggers, that are applied to identify a facility as a contingent facility. In Order No. 845, the Commission declined to implement a standard threshold or criteria, such as a specific distribution factor threshold, because different thresholds may be more appropriate for different queue types and geographical footprints.[47] However, if, for instance, a transmission provider chooses to use a distribution factor analysis as a technical screen for determining how a new generating facility impacts the surrounding electrically-relevant facilities, its tariff must specify the triggering percentage impact that causes a facility to be considered contingent. Similarly, if a transmission provider relies on the system impact study to identify which facilities the new generating facility will impact, it must specify in its tariff which power system performance attributes (voltages, power flows, etc.) violated a specific threshold of a facility[48] such that the transmission provider would conclude that the facility is contingent for the new generating facility. A transmission provider may use multiple screens or analyses as part of its method, but it must include a corresponding, specific triggering threshold or criterion to indicate how it will apply each screen or analysis.

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[45] *Id.*

[46] *See pro forma* LGIP § 3.8 ("The method shall be sufficiently transparent to determine why a specific Contingent Facility was identified.").

[47] Order No. 845, 163 FERC ¶ 61,043 at P 220.

[48] For example, a range for facility per unit voltage may constitute a specific triggering threshold, beyond which the transmission provider will identify the facility as contingent.

29. Because Tri-State has not provided the specificity outlined above, and, thus, does not fully comply with the contingent facility requirements of Order Nos. 845 and 845-A, we direct Tri-State to submit a further compliance filing, within 120 days of the date of this order, which adds in section 3.8 of Tri-State's LGIP: (1) the method Tri-State will use to determine contingent facilities, including technical screens or analyses it proposes to use to identify these facilities, and (2) the specific thresholds or criteria it will use in its technical screens or analysis to achieve the level of transparency required by Order No. 845, as discussed above.

5. Transparency Regarding Study Models and Assumptions

30. In Order No. 845, the Commission revised section 2.3 of the *pro forma* LGIP to require transmission providers to maintain network models and underlying assumptions on either an Open Access Same-Time Information System (OASIS) site or a password-protected website. If the transmission provider posts this information on a password-protected website, a link to the information must be provided on its OASIS site. Revised *pro forma* LGIP section 2.3 also requires that "network models and underlying assumptions reasonably represent those used during the most recent interconnection study and be representative of current system conditions."[49] In addition, the Commission revised *pro forma* LGIP section 2.3 to allow transmission providers to require interconnection customers, OASIS site users, and password-protected website users to sign a confidentiality agreement before the release of commercially sensitive information or critical energy infrastructure information (CEII).[50]

31. In Order No. 845-A, the Commission reiterated that neither the Commission's CEII regulations nor Order No. 845 precludes a transmission provider from taking necessary steps to protect information within its custody or control to ensure the safety and security of the electric grid.[51] The Commission also clarified that, to the extent any party would like to use the Commission's CEII regulations as a model for evaluating entities that request network model information and assumptions (prior to signing a non-disclosure agreement), it may do so.[52] The Commission further clarified that the phrase "current system conditions" does not require transmission providers to maintain network models that reflect current real-time operating conditions of the transmission provider's

[49] Order No. 845, 163 FERC ¶ 61,043 at P 236.

[50] *Id.*; *see also pro forma* LGIP § 2.3.

[51] Order No. 845-A, 166 FERC ¶ 61,137 at P 84 (citing Order No. 845, 163 FERC ¶ 61,043 at P 241).

[52] *Id.* P 85 (citing 18 C.F.R. § 388.113(g)(5)(i) (2019)).

system. Instead, the network model information should reflect the system conditions currently used in interconnection studies.[53]

a. Tri-State's Compliance Filing

32. Tri-State proposes revisions to its LGIP to add a new section 2.3 that incorporates the language adopted by Order Nos. 845 and 845-A without modification.[54]

b. Commission Determination

33. We find that Tri-State's proposed LGIP revisions regarding study models and assumptions comply with the requirements of Order Nos. 845 and 845-A, because Tri-State adopts the *pro forma* LGIP provisions without modification.

6. Definition of Generating Facility

34. In Order No. 845, the Commission revised the definition of "Generating Facility" to include electric storage resources and to allow electric storage resources to interconnect pursuant to the Commission-jurisdictional large generator interconnection processes. Specifically, the Commission revised the definition of "Generating Facility" in the *pro forma* LGIP and *pro forma* LGIA as follows:

> **Generating Facility** shall mean Interconnection Customer's device for the production *and/or storage for later injection* of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.[55]

The Commission found that this definitional change will reduce a potential barrier to large electric storage resources with a generating facility capacity above 20 MW that wish to interconnect pursuant to the terms in the *pro forma* LGIP and *pro forma* LGIA.[56]

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[53] *Id.* P 88.

[54] Tri-State OATT, Attach. N (3.0.0), LGIP § 2.3 (Base Case Data).

[55] Order No. 845, 163 FERC ¶ 61,043 at P 275 (additions italicized); *see also pro forma* LGIP § 1 (Definitions).

[56] Order No. 845, 163 FERC ¶ 61,043 at P 275.

a. Tri-State's Compliance Filing

35. Tri-State proposes revisions to section 1 of its LGIP and its *pro forma* LGIA to incorporate the definition of "Generating Facility" adopted by Orders No. 845 and 845-A without modification.[57]

b. Commission Determination

36. We find that Tri-State's revisions regarding the definition of a "Generating Facility" comply with the requirements of Order Nos. 845 and 845-A, because Tri-State adopts the Commission's *pro forma* LGIP and *pro forma* LGIA provisions without modification.

7. Interconnection Study Deadlines

37. In Order No. 845, the Commission modified the *pro forma* LGIP to add sections 3.5.2 and 3.5.3, which require transmission providers to calculate and maintain on their OASIS sites or public websites summary statistics related to the timing of the transmission provider's processing of interconnection studies and to update those statistics on a quarterly basis.[58] In these sections, the Commission included bracketed Tariff language to be completed by the transmission provider in accordance with the timelines established for the various studies in their LGIPs.[59] The Commission also revised the *pro forma* LGIP to add section 3.5.4 to require transmission providers to file informational reports with the Commission if a transmission provider exceeds its interconnection study deadlines for more than 25% of any study type for two consecutive calendar quarters.[60] In adopting these reporting requirements, the Commission found that the reporting requirements strike a reasonable balance between providing increased transparency and information to interconnection customers and not unduly burdening transmission providers.[61] In Order No. 845-A, the Commission revised *pro forma* LGIP

[57] Tri-State OATT, Attach. N (3.0.0), app. 6, § 1 (Definitions).

[58] Order No. 845, 163 FERC ¶ 61,043 at P 305; *see also pro forma* LGIP §§ 3.5.2, 3.5.3.

[59] Order No. 845, 163 FERC ¶ 61,043 at P 305; *see also pro forma* LGIP §§ 3.5.2, 3.5.3.

[60] Order No. 845, 163 FERC ¶ 61,043 at P 305; *see also pro forma* LGIP § 3.5.4.

[61] Order No. 845, 163 FERC ¶ 61,043 at P 307.

section 3.5.3 to clarify that the data reporting and retention requirements begin in the first calendar quarter of 2020.[62]

a. Tri-State's Compliance Filing

38. Tri-State proposes revisions to its LGIP to add a new section 3.5.2 that incorporates the *pro forma* language of Order Nos. 845 and 845-A without modification.[63] Additionally, Tri-State proposes Tariff revisions to LGIP Section 3.5.2.1 with a feasibility study completion deadline of 45 days, to LGIP section 3.5.2.2 with a system impact study completion deadline of 90 days, and to LGIP section 3.5.2.3 with a facilities study completion deadline of 90 or 180 days, as applicable.

b. Commission Determination

39. We find that the revised provisions that address Tri-State's study deadline statistics and informational reporting requirements, as proposed in Tri-State's LGIP, comply with the requirements of Order Nos. 845 and 845-A, because Tri-State proposes to include *pro forma* LGIP sections 3.5.2, 3.5.3, and 3.5.4 without modification, except to replace the bracketed placeholders with the existing timelines already in its Tariff.

8. Requesting Interconnection Service below Generating Facility Capacity

40. In Order No. 845, the Commission modified sections 3.1, 6.3, 7.3, 8.2, and Appendix 1 of the *pro forma* LGIP to allow interconnection customers to request interconnection service that is lower than the proposed generating facility's capacity,[64] recognizing the need for proper control technologies and flexibility for transmission providers to propose penalties to ensure that the generating facility does not inject energy above the requested level of service.[65]

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[62] Order No. 845-A, 166 FERC ¶ 61,137 at P 107.

[63] Tri-State OATT, Attach. N (3.0.0), app. 6, LGIP § 3.5.2 (Requirement to Post Interconnection Study Metrics).

[64] The term generating facility capacity is defined as "the net capacity of the Generating Facility and the aggregate net capacity of the Generating Facility where it includes multiple energy production devices." *Pro forma* LGIA art. 1 (Definitions).

[65] Order No. 845, 163 FERC ¶ 61,043 at P 367; *see also pro forma* LGIP §§ 3.1, 6.3, 7.3, 8.2; *pro forma* LGIP app. 1.

41. The Commission required, in *pro forma* LGIP revised section 3.1, that transmission providers have a process in place to consider requests for interconnection service below the generating facility capacity. The Commission stipulated that such requests should be studied at the level of interconnection service requested for purposes of determining interconnection facilities, network upgrades, and associated costs, but that such requests may be subject to other studies at the full generating facility capacity to ensure safety and reliability of the system.[66] In addition, *pro forma* LGIP revised section 3.1 states that the interconnection customer is responsible for all study costs and interconnection facility and/or network upgrade costs required for safety and reliability. The Commission also required in *pro forma* LGIP revised section 3.1 that any necessary control technologies and/or protection systems be memorialized in the LGIA.

42. The Commission required, in *pro forma* LGIP revised sections 6.3, 7.3, and 8.2, that the feasibility, system impact, and facilities studies be performed at the level of interconnection service that the interconnection customer requests, unless the transmission provider is otherwise required to study the full generating facility capacity due to safety and reliability concerns. The Commission stated that, if the transmission provider determines that additional network upgrades are necessary based on these studies, it must specify which additional network upgrade costs are based on which studies and provide a detailed explanation of why the additional network upgrades are necessary.[67]

43. Finally, the Commission revised sections 4.4.1 and 4.4.2 of the *pro forma* LGIP to allow an interconnection customer to reduce the size of its interconnection request either prior to returning to the transmission provider an executed system impact study agreement or an executed facilities study agreement.[68]

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[66] Order No. 845, 163 FERC ¶ 61,043 at PP 383-84.

[67] *Id.* P 384. The Commission clarified that, if the transmission provider determines, based on good utility practice and related engineering considerations and after accounting for the proposed control technology, that studies at the full generating facility capacity are necessary to ensure safety and reliability of the transmission system when an interconnection customer requests interconnection service that is lower than full generating facility capacity, then it must provide a detailed explanation for such a determination in writing to the interconnection customer. *Id.*

[68] *Id.* P 406; *see also pro forma* LGIP §§ 4.4.1, 4.4.2.

a. Tri-State's Compliance Filing

44. Tri-State proposes revisions to its LGIP to adopt the Commission's *pro forma* LGIP sections 3.1, 4.4.1, 4.4.2, 6.3, 7.3, 8.2, and Appendix 1 to incorporate the language set forth in Order Nos. 845 and 845-A without modification.[69]

b. Commission Determination

45. We find that Tri-State's proposed LGIP revisions that allow an interconnection customer to request interconnection service below its full generating facility capacity comply with the requirements of Order Nos. 845 and 845-A, because Tri-State adopts the *pro forma* LGIP provisions without modification.

9. Provisional Interconnection Service

46. In Order No. 845, the Commission required transmission providers to allow all interconnection customers to request provisional interconnection service.[70] The Commission explained that interconnection customers may seek provisional interconnection service when available studies or additional studies, as necessary, indicate that there is a level of interconnection service that can occur to accommodate an interconnection request without the construction of any additional interconnection facilities and/or network upgrades, and the interconnection customer wishes to make use of that level of interconnection service while the facilities required for its full interconnection request are completed.[71] To implement this service, the Commission revised the *pro forma* LGIP and *pro forma* LGIA to add a definition for "Provisional Interconnection Service"[72] and for a "Provisional Large Generator Interconnection Agreement."[73]

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[69] Tri-State OATT, Attach. M (1.0.0), LGIP §§ 3.1 (General), 4.4.1, 4.4.2, 6.3 (Interconnection Feasibility Study Procedures), 7.3 (Scope of Interconnection System Impact Study), 8.2 (Scope of Interconnection Facilities Study), and app. 1 (Interconnection Request for a Large Generating Facility).

[70] Order No. 845, 163 FERC ¶ 61,043 at P 438.

[71] *Id.* P 441.

[72] *Pro forma* LGIP § 1 (Definitions); *pro forma* LGIA art. 1 (Definitions).

[73] *Pro forma* LGIP § 1 (Definitions); *pro forma* LGIA art. 1 (Definitions). The Commission declined, however, to adopt a separate *pro forma* provisional large generator interconnection agreement. Order No. 845, 163 FERC ¶ 61,043 at P 444.

47. In addition, the Commission added *pro forma* LGIA article 5.9.2, which details the terms for provisional interconnection service.[74] The Commission also explained that transmission providers have the discretion to determine the frequency for updating provisional interconnection studies to account for changes to the transmission system to reassess system capacity available for provisional interconnection service, and included bracketed tariff language to be completed by the transmission provider, to specify the frequency at which they perform such studies in their *pro forma* LGIA.[75] The Commission stated that interconnection customers are responsible for the costs for performing these provisional interconnection studies.[76]

a. Tri-State's Compliance Filing

48. Tri-State proposes revisions to adopt the Commission's *pro forma* definitions related to provisional interconnection service, and proposes to fill in the bracketed placeholder in article 5.9.2 to state that it will study and update the maximum permissible output of the generating facility subject to a provisional LGIA on an annual basis, unless no changes to the system occurred during the annual period.[77] Tri-State also proposes to modify the *pro forma* language in LGIA article 5.9.2 that allows an interconnection customer to request provisional interconnection service prior to the completion of the requisite interconnection facilities, network upgrades, distribution upgrades, or system protection facilities by adding contingent facilities to this list. Tri-State asserts that this proposed change is consistent with or superior to the *pro forma* LGIA because, by definition, the interconnection requests and the construction of facilities necessary for the interconnection service are dependent on contingent facilities. Tri-State states that it added a reference to contingent facilities because it logically follows that an interconnection customer's interconnection request can be subject to delays in receiving interconnection service that are caused by, not only interconnection facilities or network upgrades, but also by contingent facilities that may not be completed prior to the commercial operation date of a large generating facility and that can trigger the option for provisional interconnection service.[78]

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[74] *Id.* P 438; *see also pro forma* LGIP § 5.9.2.

[75] Order No. 845, 163 FERC ¶ 61,043 at P 448.

[76] *Id.*

[77] Tri-State OATT, Attach. M (1.0.0), app. 6, LGIP § 5.9.2 (Provisional Interconnection Service).

[78] Transmittal at 11.

49. Similarly, Tri-State proposes to modify the limited operation provision in article 5.9.1 of the *pro-forma* LGIA, which allows an interconnection customer, with approval of the transmission provider, to operate prior to the completion of transmission provider interconnection facilities and network upgrades, in the event that these facilities are not reasonably expected to be completed prior to the commercial operation date of the large generating facility.[79] Specifically, Tri-State proposes revisions to provide that an interconnection customer may also operate prior to the completion of contingent facilities, if approved by the transmission provider. According to Tri-State, like interconnection facilities or network upgrades that may not be completed prior to the commercial operation date of a large generating facility, contingent facilities may also trigger a request by an interconnection customer to perform operating studies to evaluate whether limited operations might be available.[80]

b. Commission Determination

50. We find that Tri-State's proposed LGIP and *pro forma* LGIA revisions regarding provisional interconnection service comply with the requirements of Order Nos. 845 and 845-A because Tri-State proposes to adopt the Commission's *pro forma* LGIP and *pro forma* LGIA definition of provisional interconnection service without modification. In addition, Tri-State incorporates article 5.9.2 of the Commission's *pro forma* LGIA into its LGIA and has filled in the bracketed placeholder to state that it will study and update the maximum permissible output of the generating facility subject to a provisional LGIA on an annual basis, unless no changes to the system occurred during the annual period. We also find Tri-State's proposed revisions to revise section 5.9.1 (Limited Operation) to include contingent facilities to be consistent with or superior to the language adopted by Order No. 845. Like interconnection facilities and network upgrades, contingent facilities can delay interconnection service and prompt an interconnection customer to request an evaluation of whether limited operations might be available to them.

10. Surplus Interconnection Service

51. In Order No. 845, the Commission adopted *pro forma* LGIP sections 1, 3.3, and 3.3.1 and *pro forma* LGIA article 1 to establish surplus interconnection service, which the Commission defined as any unneeded portion of interconnection service established in an LGIA such that if the surplus interconnection service is utilized the total amount of interconnection service at the point of interconnection would remain the same.[81] Surplus

[79] Tri-State OATT, Attach. N, app. 6, LGIP § 5.9.1 (Limited Operation).

[80] Transmittal at 9.

[81] Order No. 845, 163 FERC ¶ 61,043 at P 467; *see also pro forma* LGIP § 1 (Definitions); *pro forma* LGIA art. 1 (Definitions).

interconnection service enables a new interconnection customer to utilize the unused portion of an existing interconnection customer's interconnection service within specific parameters.[82] The Commission required transmission providers to revise their tariffs to include the new definition of surplus interconnection service in their *pro forma* LGIP and *pro forma* LGIA, and provide in the *pro forma* LGIP an expedited interconnection process outside of the interconnection queue for surplus interconnection service.[83] That expedited process must allow affiliates of the existing interconnection customer to use surplus interconnection service for another interconnecting generating facility and allow for the transfer of surplus interconnection service that the existing interconnection customer or one of its affiliates does not intend to use.[84] The transmission provider must perform reactive power, short circuit/fault duty, and stability analyses studies as well as steady-state (thermal/voltage) analyses as necessary to ensure evaluation of all required reliability conditions to provide surplus interconnection service and ensure the reliable use of surplus interconnection service.[85] The original interconnection customer must be able to stipulate the amount of surplus interconnection service that is available, designate when that service is available, and describe any other conditions under which surplus interconnection service at the point of interconnection may be used.[86] When the original interconnection customer, the surplus interconnection service customer, and the transmission provider enter into agreements for surplus interconnection service, they must be filed by the transmission provider with the Commission, because any surplus interconnection service agreement will be an agreement under the transmission provider's open access transmission tariff.[87]

a. Tri-State's Compliance Filing

52. Tri-State adopts the revisions to sections 1, 3.3 and 3.3.1 to its LGIP, and article 1 to its *pro forma* LGIA, to comply with the Commission's directives in Order Nos. 845 and 845-A. Tri-State provides definitions for "Surplus Generating Facility," "Surplus Interconnection Customer," "Surplus Interconnection Service," "Surplus Interconnection

[82] Order No. 845, 163 FERC ¶ 61,043 at P 467; Order No. 845-A, 166 FERC ¶ 61,137 at P 119.

[83] Order No. 845, 163 FERC ¶ 61,043 at P 467; *see also pro forma* LGIP §§ 3.3, 3.3.1.

[84] Order No. 845, 163 FERC ¶ 61,043 at P 483; *see also pro forma* LGIP § 3.3.

[85] Order No. 845, 163 FERC ¶ 61,043 at PP 455 and 467.

[86] *Id.* P 481.

[87] *Id.* P 499.

Impact Study," and "Surplus Interconnection Service Impact Study Agreement."[88] section 3.3 provides that the interconnection customer or one of its affiliates shall have priority to utilize the surplus interconnection service. Tri-State's proposed section 3.3.1 lays out the process for initiating a request for surplus interconnection service. First, proposed section 3.3.1 requires that an interconnection customer give notice to the transmission provider that surplus interconnection service is available. Next, the surplus interconnection customer must submit a "Surplus Interconnection Service Request" and pay a refundable deposit of $10,000 to the transmission provider. To aid in the processing of requests for surplus interconnection service, Tri-State proposes to add to the LGIP as Appendix 1A a "Notice of Available Surplus Interconnection Service" and Appendix 1B a "Surplus Interconnection Service Request" form.

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[88] Tri-State OATT, Attach. N (3.0.0), app. 6, § 1(Definitions). Tri-State provides the following definitions:

> **Surplus Generating Facility** shall mean Surplus Interconnection Customer's device for the production and/or storage for later injection of electricity identified in a Surplus Interconnection Service Request, but shall not include Surplus Interconnection Customer's Interconnection Facilities.
>
> **Surplus Interconnection Customer** shall mean an entity that proposes to interconnect its Generating Facility to utilize any unneeded portion of Interconnection Service, such that if Surplus Interconnection Service is utilized, the total amount of Interconnection Service at the Point of Interconnection would remain the same.
>
> **Surplus Interconnection Service** shall mean any unneeded portion of Interconnection Service established in a Large Generator Interconnection Agreement, such that if Surplus Interconnection Service is utilized the total amount of Interconnection Service at the Point of Interconnection would remain the same.
>
> **Surplus Interconnection Service Impact Study** shall mean an engineering study that evaluates the impact of the proposed Surplus Interconnection Service and Surplus Generating Facility on the safety and reliability of the Transmission System and, if applicable, any Affected Systems.
>
> **Surplus Interconnection Service Impact Study Agreement** shall mean the form of agreement contained in Appendix 3A of the Standard Large Generator Interconnection Procedures for conducting the Surplus Interconnection Service Impact Study.

53. Under proposed section 3.3.3, the transmission provider will evaluate the surplus interconnection service request to determine if the surplus interconnection customer has met all the application requirements. If the surplus interconnection customer does not comply with the requirements for service, then the surplus interconnection customer has ten days to cure any deficiency or the surplus interconnection service request is withdrawn.[89] If the surplus interconnection customer has met all the application requirements, the surplus interconnection service request is put into a separate surplus interconnection service queue and assigned a surplus interconnection service queue position. In recognition of this, Tri-State proposes to modify the *pro forma* definition of queue position in its LGIP and *pro forma* LGIA to recognize that surplus interconnection service requests will also receive a queue position.

54. Proposed section 3.3.4 of the LGIP describes the surplus interconnection service queue. Specifically, Tri-State's proposed language in section provides that Tri-State assign a surplus interconnection service queue position based upon the date and time of aid surplus interconnection service request. The surplus interconnection service queue position will be used to determine the order of performing the surplus interconnection service impact study. A higher queued surplus interconnection service request is one that has been placed "earlier" in the queue in relation to another surplus interconnection service request that is lower queued.[90] this

55. Proposed section 3.3.5 of the LGIP describes the study process that the transmission provider will undertake to evaluate the impact that the surplus interconnection service will have on the system. Specifically, Tri-State's proposed language in section 3.3.5.2.2 specifies the reliability-related studies and approvals that are necessary to provide surplus interconnection service. Tri-State represents that this language closely tracks the *pro forma* language in section 3.3.1. Tri-State also proposes to add a "Surplus Interconnection Service Impact Study Agreement" as Appendix 3A to the LGIP to help identify the information required to perform the necessary reliability-related studies to process such service requests.[91]

56. Proposed section 3.3.6 describes the process of tendering, negotiating, and executing a surplus interconnection service generator interconnection agreement. Tri-

[89] Transmittal at 17; Tri-State OATT, Attach. N (3.0.0), app. 6, § 3.3.3.

[90] Tri-State OATT, Attach. N (3.0.0), app. 6, § 3.3.4.

[91] Transmittal at 17; Tri-State OATT, Attach. N (3.0.0), app. 6, § 3.3.5.

State explains that it will file such agreements with the Commission, and that the Commission can then evaluate those agreements on case-by-case basis. [92]

57. Finally, proposed section 3.3.7 establishes parameters for approving and terminating surplus interconnection service. Specifically, Tri-State explains that proposed section 3.3.7.1 recognizes that surplus interconnection service is tied to the original interconnection service and, therefore, when the original interconnection service terminates, the surplus interconnection service must also terminate, subject to certain limited exceptions. Further, proposed section 3.3.7.2 states that surplus interconnection service cannot provide for a greater level of service than provided under the original interconnection service. Tri-State represents that both limitations to surplus interconnection service are consistent with Order No. 845.[93]

b. Commission Determination

58. We find that Tri-State's proposed Tariff revisions regarding surplus interconnection service partially comply with the requirements of Order Nos. 845 and 845-A. We find that Tri-State complies in part because Tri-State adopts the *pro forma* definition of surplus interconnection service and *pro forma* provisions in LGIP sections 3.3 and 3.3.1 without modification. We also find that Tri-State's proposed process for evaluating surplus interconnection service complies with the requirements of Order Nos. 845 and 845-A. The process provides that Tri-State will evaluate surplus interconnection service requests outside of its non-surplus interconnection queue. Additionally, as required by Order Nos. 845 and 845-A, Tri-State's proposed process requires that the transmission provider, original interconnection customer, and surplus interconnection service customer file a surplus interconnection service agreement with the Commission that includes the terms and conditions of surplus interconnection service.

59. However, Tri-State has omitted the sentence "Surplus Interconnection Service requests also may be made by another Interconnection Customer" from its proposed section 3.3.1, and has not demonstrated why such omission is consistent with or superior to *pro forma* LGIP section 3.3.1. Accordingly, we direct Tri-State to submit a further compliance filing, within 120 days of the date of this order that revises section 3.3.1 of its LGIP.

[92] Transmittal at 17-18; Tri-State OATT, Attach. N (3.0.0), app. 6, § 3.3.6.

[93] Transmittal at 18; Tri-State OATT, Attach. N (3.0.0), app. 6, § 3.3.7.

11. Material Modifications and Incorporation of Advanced Technologies

60. In Order No. 845, the Commission modified section 4.4.2(c) of the *pro forma* LGIP to allow an interconnection customer to incorporate certain technological advancements to its interconnection request, prior to the execution of the interconnection facilities study agreement,[94] without risking the loss of its queue position. The Commission required transmission providers to develop and include in their LGIPs a definition of permissible technological advancements that will create a category of technological changes that, by definition, do not constitute a material modification and, therefore, will not result in the loss of queue position.[95] In addition, the Commission modified section 4.4.6 of the *pro forma* LGIP to require transmission providers to insert a technological change procedure that includes the requisite information and process that the transmission provider will follow to assess whether an interconnection customer's proposed technological advancement is a material modification.[96]

61. The Commission required that the technological change procedure specify what technological advancements can be incorporated at various stages of the interconnection process and clearly identify which requirements apply to the interconnection customer and which apply to the transmission provider.[97] Additionally, the technological change procedure must state that, if the interconnection customer seeks to incorporate technological advancements into its proposed generating facility, it should submit a technological advancement request, and the procedure must specify the information that the interconnection customer must submit as part of that request.[98]

62. The Commission also required that the technological change procedure specify the conditions under which a study will or will not be necessary to determine whether a

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[94] While the Commission clarified that interconnection customers may submit a technological advancement request up until execution of the facilities study agreement, the Commission stated that it will permit transmission providers to propose rules limiting the submission of technological advancement requests to a single point in the study process (prior to the execution of a facilities study agreement), to the extent the transmission provider believes it appropriate. Order No. 845, 163 FERC ¶ 61,043 at P 536.

[95] *Id.* P 518.

[96] *Id.*; *see also pro forma* LGIP § 4.4.6.

[97] Order No. 845, 163 FERC ¶ 61,043 at P 519.

[98] *Id.*

proposed technological advancement is a material modification.[99] The Commission explained that the technological change procedure must also state that, if a study is necessary to evaluate whether a particular technological advancement is a material modification, the transmission provider shall clearly indicate to the interconnection customer the types of information and/or study inputs that the interconnection customer must provide to the transmission provider, including, for example, study scenarios, modeling data, and any other assumptions.[100] In addition, the Commission required that the technological change procedure explain how the transmission provider will evaluate the technological advancement request to determine whether it is a material modification.[101]

63. Further, the Commission required that the technological change procedure outline a time frame of no more than 30 days after the interconnection customer submits a formal technological advancement request for the transmission provider to perform and complete any necessary additional studies.[102] The Commission also found that, if the transmission provider determines that additional studies are needed to evaluate whether a technological advancement is a material modification, the interconnection customer must tender a deposit, and the transmission provider must specify the amount of the deposit in the transmission provider's technological change procedure.[103] In addition, the Commission explained that, if the transmission provider cannot accommodate a proposed technological advancement without triggering the material modification provision of the pro forma LGIP, the transmission provider must provide an explanation to the interconnection customer regarding why the technological advancement is a material modification.

64. In Order No. 845-A, the Commission clarified that: (1) when studies are necessary, the interconnection customer's technological change request must demonstrate that the proposed incorporation of the technological change will result in electrical performance that is equal to or better than the electrical performance expected prior to the technological change and will not cause any reliability concerns; (2) if the interconnection customer cannot demonstrate in its technological change request that the

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[99] *Id.*; Order No. 845-A, 166 FERC ¶ 61,137 at P 155.

[100] Order No. 845, 163 FERC ¶ 61,043 at P 521.

[101] *Id.* P 521.

[102] *Id.* P 535.

[103] *Id.* P 534. The Commission set the default deposit amount at $10,000 but stated that a transmission provider may propose a reasonable alternative deposit amount in its compliance filing and include justification supporting this alternative amount. *Id.*

proposed technological change would result in equal or better electrical performance, the change will be assessed pursuant to the existing material modification provisions in the pro forma LGIP; (3) information regarding electrical performance submitted by the interconnection customer is an input into the technological change study, and this factor alone is not determinative of whether a proposed technological change is a material modification; and (4) the determination of whether a proposed technological change (that the transmission provider does not otherwise include in its definition of permissible technological advancements) is a material modification should include an analysis of whether the proposed technological change materially impacts the timing and costs of lower-queued interconnection customers.[104]

a. Tri-State's Compliance Filing

65. Tri-State proposes revisions to section 1 of its LGIP to incorporate the following definition of permissible technological advancement:

> **Permissible Technological Advancement** shall mean a technological advancement to the proposed Generating Facility that does not increase the Interconnection Customer's requested Interconnection Service level, materially impact the Transmission System's short circuit capability limits, steady-state thermal and voltage limits, or dynamic system stability and response, or trigger the Material Modification provisions in the LGIP. A Permissible Technological Advancement cannot degrade the electrical characteristics of the generating equipment (e.g., the ratings, impedances efficiencies, capabilities, and performance of the equipment under steady-state and dynamic conditions). A Permissible Technological Advancement may include a technological advancement to turbines, inverters, plant supervisory controls, or other technological advancement that may affect the Generating Facility's ability to provide ancillary services. A Permissible Technological Advancement does not include changes in generation project size or fuel type.[105]

66. In addition, Tri-State proposes a new section 4.4.6 that describes the procedures that it will use to evaluate requests for a permissible technological advancement. Tri-State represents that this new proposed section 4.4.6 is consistent with the directives in Order No. 845. The procedures require an interconnection customer to first submit a technological advancement request form, added as Attachment B to Appendix 1 of the

[104] Order No. 845-A, 166 FERC ¶ 61,137 at P 155.

[105] Tri-State OATT, Attach. N (3.0.0), § 1.

LGIP. Tri-State states that the request form provides Tri-State with the information it needs to evaluate whether the requested modification meets the definition of a permissible technological advancement and to demonstrate that the proposed technological advancement would result in electrical performance that is equal to or better than the electrical performance expected prior to the technological change and not cause any reliability concerns. If the information provided in the request form is sufficient, then Tri-State will incorporate the modification into the interconnection request.[106]

67. However, Tri-State represents that, if the information provided by the interconnection customer is not sufficient for Tri-State to complete the necessary assessment of the proposed technological advancement, Tri-State will identify additional information the transmission customer must provide to complete a study to make the necessary evaluation. Tri-State explains that the interconnection customer is responsible for the costs related to any additional study. Tri-State proposes to use "Reasonable Efforts" to complete the study within 45 days of receiving the technological advancement request. Once completed, Tri-State will provide a study report to the requesting interconnection customer that will state if the proposed change meets the definition of permissible technological advancement, and if not, why not.[107]

b. Commission Determination

68. We find that Tri-State's proposed LGIP revisions to incorporate a definition of a permissible technological advancement and its technological change procedure partially comply with the requirements of Order Nos. 845 and 845-A. Specifically, we find that Tri-State's proposed definition of a permissible technological advancement meets the Commission's requirement to provide a category of technological change that does not constitute a material modification. However, we find that Tri-State's proposal to incorporate a technological change procedure in its LGIP only partially complies with the requirements of Order Nos. 845 and 845-A.

69. With regard to a deadline for the completion of a technological advancement request, Order No. 845 provides that the determination of whether a change is a material modification must be made within 30 days of the initial request.[108] However, Tri-State's proposed revisions to LGIP section 4.4.6 provide that, for a request to change the technology of a generating facility submitted after return of the executed system impact

[106] Tri-State OATT, Attach. N (3.0.0), § 4.4.6; app. 1, attach. B.

[107] Tri-State OATT, Attach. N (3.0.0), § 4.4.6.

[108] Order No. 845, 163 FERC ¶ 61,043 at P 535; Order No. 845-A, 166 FERC ¶ 61,137 at P 155.

study agreement but before return of the executed interconnection facility study agreement, Tri-State will use "Reasonable Efforts" to complete the assessment of a technological change request within 45 days.[109] Order No. 845 establishes a 30-day requirement to determine whether the proposed technological change is a material modification and does not allow for the use of reasonable efforts to excuse compliance with this timeline.[110]

70. Further, Order No. 845 requires an interconnection customer to tender a deposit if the transmission provider determines that additional studies are needed to evaluate whether a technological change is a material modification. Order No. 845 states that the transmission provider should specify the amount of the deposit in its technological change procedure.[111] While Order No. 845 sets the default deposit amount at $10,000, it allows the transmission provider to propose, with justification, a reasonable alternative amount. However, Tri-State fails to specify a deposit amount in its proposed revisions.

71. Finally, Order No. 845 requires that the technological change procedure explain how the transmission provider will evaluate the technological advancement request to determine whether it is a material modification.[112] Tri-State's proposed LGIP revisions do not explain how it will conduct the evaluation, such as the studies it will perform, to determine whether the technological advancement request is a material modification.

72. Accordingly, we direct Tri-State to submit, within 120 days of the date of this order, a further compliance filing with proposed revisions that remove the "Reasonable Efforts" language and establish a 30-day requirement to determine whether the proposed technological change is a material modification, specify a deposit amount, and provide an explanation of the studies that Tri-State will conduct to determine whether the technological advancement request will result in a material modification.

The Commission orders:

(A) Tri-State's compliance filing is hereby accepted, effective February 25, 2020, subject to a further compliance filing, as discussed in the body of this order.

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[109] Tri-State proposed LGIP § 4.4.6.

[110] *Avista Corporation*, 169 FERC ¶ 61,217, at P 62(2019) (December 2019 Order) (citing Order No. 845, 163 FERC ¶ 61,043 at P 535).

[111] *Id*. P 534.

[112] *Id.* P 521.

(B) Tri-State is hereby directed to submit a compliance filing within 120 days of the date of this order, as discussed in the body of this order.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.

Appendix

Entity	Filings
Alliance Power Incorporated and Colorado Highlands Wind, LLC	Motion to Intervene Out-of-Time and Comments (Jan. 22, 2020); Motion to Accept Out-of-Time Motion to Intervene and Comments (Jan. 29, 2020)
Arkansas River Power Authority	Motion to Intervene (Jan. 21, 2020)
Basin Electric Power Cooperative	Motion to Intervene (Jan. 13, 2020)
Colorado Independent Energy Association	Motion to Intervene (Jan. 17, 2020)
Colorado Public Utilities Commission	Notice of Intervention and Comments in Support of Extension of Time (Jan. 8, 2020); Protest (Jan. 21, 2020)
Colorado Springs Utilities	Motion to Intervene (Jan. 17, 2020)
Delta-Montrose Electric Association	Motion to Intervene (Jan. 13, 2020)
Empire Electric Association, Inc.	Comments in Support (Jan. 21, 2020)
Gladstone New Energy, LLC	Motion to Intervene, Motion for Extension of Time and Request for Shortened Response Period (Jan. 6, 2020); Protest (Jan. 21, 2020); Reply to Tri-State Answer (Feb. 10, 2020)
Guzman Energy, LLC	Motion to Intervene (Jan. 21, 2020)
Highline Electric Association	Motion to Intervene (Jan. 21, 2020)
Jemez Mountains Electric Cooperative, Inc.	Motion to Intervene Out-of-Time (Feb. 5, 2020)
K.C. Electric Association	Comments in Support (Jan. 21, 2020); Motion to Intervene Out-of-Time and Comments (Jan. 22, 2020)
Kit Carson Electric Cooperative, Inc.	Motion to Intervene Out-of-Time and Protest (Feb. 3, 2020); Motion for Leave to Reply and Reply (Mar. 3, 2020)

La Plata Electric Association, Inc.	Motion to Intervene (Jan. 10, 2020); Protest (Jan, 21, 2020); Motion to Lodge (Mar. 16, 2020)
Midwest Electric Cooperative Association	Out-of-Time Comments in Support (Jan. 22, 2020)
National Rural Electric Cooperative Association	Motion to Intervene (Jan. 17, 2020); Comments (Jan. 21, 2020)
Nebraska Public Power District	Motion to Intervene (Jan. 3, 2020)
Northwest Rural Public Power District	Motion to Intervene and Comments in Support of Motion for Extension of Time (Jan. 8, 2020); Protest (Jan. 21, 2020)
Old Dominion Electric Cooperative	Motion to Intervene (Jan. 13, 2020)
San Miguel Power Association	Motion to Intervene (Jan. 13, 2020)
Tri-State Generation and Transmission Association, Inc.	Answer to Motions for Extension of Time (Jan. 9, 2020); Answer to protests of various parties (Feb. 5, 2020); Answer to Motion to Intervene Out-of-Time and Protest of Kit Carson (Feb. 18, 2020); Answer to Reply of Gladstone New Energy (Feb. 25, 2020); Answer to Motion to Lodge (Mar. 17, 2020)
United Power, Inc.	Motion to Intervene (Jan. 9, 2020); Protest (Jan. 21, 2020); Answer to Tri-State Feb. 5 Answer (Feb. 12, 2020); Motion to Lodge (Mar. 16, 2020); Answer (Mar. 18, 2020)
Upper Missouri Power Cooperative	Motion to Intervene (Jan. 7, 2020)
Western Area Power Administration	Motion to Intervene (Jan 15, 2020)
Xcel Energy Services, Inc.	Motion to Intervene (Jan. 6, 2020)