UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Pat Wood, III, Chairman;
Nora Mead Brownell, Joseph T. Kelliher,
and Suedeen G. Kelly.

MidAmerican Energy Company — Docket Nos. ER04-497-000 and ER04-497-001

ORDER CONDITIONALLY ACCEPTING AND SUSPENDING IN PART AND REJECTING IN PART TARIFF SHEETS INCORPORATING AND MODIFYING PRO FORMA LARGE GENERATOR INTERCONNECTION PROCEDURES AND LARGE GENERATOR INTERCONNECTION AGREEMENT

(Issued March 30, 2004)

1. On January 20, 2004, MidAmerican Energy Company (MidAmerican) submitted, in compliance with Order No. 2003,[1] certain proposed variations from the pro forma Large Generator Interconnection Procedures (LGIP) and Large Generator Interconnection Agreement (LGIA). MidAmerican states that the proposed variations are based on existing regional reliability standards applicable to the Mid-Continent Area Power Pool (MAPP), of which MidAmerican is a member. In this order, the Commission conditionally accepts and suspends MidAmerican's filing in part and rejects MidAmerican's filing in part, to be effective January 20, 2004, subject to refund. The tariff sheets are accepted in part and rejected in part, effective January 20, 2004. This order benefits customers because it ensures that the terms, conditions, and rates for interconnection service are just and reasonable and thus encourages more competitive markets.

[1] Standardization of Generator Interconnection Agreements and Procedures, Order No. 2003, 68 Fed. Reg. 49,845 (Aug. 19, 2003), FERC Stats. & Regs., Regulations Preambles ¶ 31,146 (2003) (Order No. 2003), order on reh'g, Order No. 2003-A, 69 Fed. Reg. 15,932 (March 26, 2004), FERC Stats. & Regs., Regulations Preambles ¶ 31,160 (2004) (Order No. 2003-A); see also Notice Clarifying Compliance Procedures, 106 FERC ¶ 61,009 (2004).

I. Background

2. In Order No. 2003, pursuant to its responsibility under Sections 205 and 206 of the Federal Power Act (FPA)[2] to remedy undue discrimination, the Commission required all public utilities that own, control, or operate facilities for transmitting electric energy in interstate commerce to append to their open access transmission tariffs (OATT) a Final Rule LGIP and Final Rule LGIA. In order to achieve greater standardization of interconnection terms and conditions, Order No. 2003 required such public utilities to file revised OATTs containing the pro forma LGIP and LGIA by January 20, 2004.[3] The Commission left it to Transmission Providers[4] to justify any variation to the pro forma LGIP or LGIA based on regional reliability requirements.[5]

3. In its January 20, 2004 filing, MidAmerican proposed certain variations based on existing regional reliability standards applicable to MAPP members, which includes MidAmerican. MidAmerican justified the proposed variations by citing the regional reliability requirements on which they are based.

II. Proposed modifications to the LGIP

4. In its January 20, 2004 filing, MidAmerican proposes to add definitions of "Special Protection System (SPS)" and "Transmission Control Devices (TCD)" to the definitions in the pro forma LGIP. MidAmerican states that SPSs are generally applied where the system consequences or risk is too great for a particular operating condition. It further states that there are at least eight locations where SPSs are currently used in the MAPP region, and eight other locations where TCDs are used. MidAmerican states that these definitions are in the existing MAPP Reliability Handbook, section 3 (NERC/MAPP Planning Standards), at 118, 121; and sections IIIF (SPS) and IIIB (TCD).

5. Section 3.2.2.2 (The Study) of the Commission's LGIP requires that the Large Generating Facility's interconnection be studied with the Transmission Provider's

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[2] 16 U.S.C. § 824d, 824e (2000).

[3] See Notice Clarifying Compliance Procedures, supra note 1 (clarifying that Commission will deem OATTs of non-independent public utilities to be revised as of January 20, 2004).

[4] The "Transmission Provider" is the entity with which the Generating Facility is interconnecting. The term "Generating Facility" means the specific device (having a capacity of more than 20 megawatts) for which the Interconnection Customer has requested interconnection. The owner of the Generating Facility is referred to as the "Interconnection Customer."

[5] See Order No. 2003 at P 826.

transmission system at peak load, under a variety of severely stressed conditions, to determine whether, with the Generating Facility at full output, the aggregate of generation in the local area can be delivered to the aggregate of load on the Transmission Provider's transmission system, consistent with the Transmission Provider's reliability criteria and procedures. MidAmerican proposes that its section 3.2.2.2 state that the Interconnection Customer's Large Generating Facility's interconnection will be studied with the Transmission Provider's Transmission System at both off-peak and peak loads. MidAmerican states that the electrical system is more dynamically constrained in the off-peak and winter peak for many MAPP companies, and they use either off-peak or winter peak models to study worst case system dynamics. MidAmerican states that the MAPP regional requirement for off-peak studies is referenced in the existing MAPP Reliability Handbook, section 3, at section IA.M1.MAPP-h (System Adequacy and Security).

6. Section 3.3.4 (Scoping Meeting) of the Commission's LGIP requires the Transmission Provider and Interconnection Customer to bring to the scoping meeting certain technical data in order to discuss alternative interconnection options. MidAmerican proposes that section 3.3.4 require the Transmission Provider and Interconnection Customer to bring the following additional information to the Scoping Meeting: technical data regarding general voltage issues, including voltage and frequency ride-through capabilities for the Generating Facility, its neighboring facilities, and the plant's influence on other nearby plants; and technical data regarding general power quality issues, including voltage flicker, harmonics, and excessive neutral currents. MidAmerican states that the MAPP regional requirements provide for power quality studies in the existing MAPP Reliability Handbook, section 3, at Sections IC.M1.10 (Facility Connection Requirements) and IC.M1.14 (abnormal voltages and frequencies).

7. Section 7.3 (Scope of Interconnection System Impact Study) of the Commission's LGIP requires that the Interconnection System Impact Study consist of a short circuit analysis, a stability analysis, and a power flow analysis. The Interconnection System Impact Study will provide a list of facilities that are required as a result of the Interconnection Request, as well as non-binding good faith estimates of the cost responsibility and time to construct. MidAmerican proposes to modify section 7.3 to expand the stability analyses to include the following studies: (1) stability analysis, including, as the Transmission Provider determines to be necessary, transient stability (both large and small signal), subsynchronous stability, dynamic voltage stability, and/or mid- and long-term stability; (2) voltage flicker analyses; and (3) excessive neutral current studies, as necessary. MidAmerican states that the MAPP regional requirements for stability are provided in the existing MAPP Reliability Handbook, section 3, at Sections IA.S2-S4 (stability requirements); IA.M1-M4 (measurements); IA.G1-G10 (guides); and Table 1. See also id. at Sections IIIB.S1.MAPP-G1 (small signal analyses); IA.S4-MAPP-3 (subsynchronous analysis); ID.MAPP-G3 and G6 (voltage stability).

8. MidAmerican proposes to add language to Appendix 1, Attachment A, and to Appendix 3, section 5.0. To Appendix 1, Attachment A, MidAmerican proposes to add language to "Interconnection Request," under "Curves," which reads:

> If available, provide Power Quality curves specifying percent total harmonic distortion vertically and percent power output horizontally from 25-100% power output for both current and voltages or specify that the unit is IEEE 519 compliant.

MidAmerican states that the MAPP requires power quality studies in the existing MAPP Reliability Handbook, section 3, at section IC.M1.10 (Facility Connection Requirements).

9. Under a new heading, "Other Special Equipment," MidAmerican also proposes to add the following language to "Interconnection Request," in Appendix 1, Attachment A:

> Identify any appropriate special equipment and/or diagrams required for this installation, including any Flexible AC Transmission (FACT) devices such as static VAR compensators and/or Special Protection Systems (SPS).

MidAmerican states that the MAPP regional requirements for addressing Transmission Control Devices and FACTs devices are referenced in the existing MAPP Reliability Handbook, section 3, at section IIIB (Transmission Control Devices).

10. Lastly, MidAmerican proposes to add language to Appendix 1, Attachment A, "Interconnection Request," under "List of adjustable setpoints…," which reads, in part:

> Provide voltage flicker data if available for the wind generator model to be installed specified in percent of total voltage output….
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> **….**
>
> Completed Power Systems Simulator/Engineering (PSS/E) generator, exciter, and governor data sheets or alternative standard formats requested by the Transmission Provider must be supplied with the Interconnection Request….

MidAmerican states that the MAPP regional requirements provide for power quality studies in the existing MAPP Reliability Handbook, section 3, at IC.M1.10 (Facility Connection Requirements); MAPP Model Building Procedural Manual, Section IV.L (Power Flow Model Development), at 16-23; id., section VII (Dynamic Model Development), at 26.

11. MidAmerican also proposes to add language to Appendix 1, Attachment A, "Interconnection Request," under "List of adjustable setpoints…," requiring a description

of the type of wind generator and the wind generator voltage ride, but offers no regional reliability standard to support this variation from the pro forma LGIP.

12. MidAmerican proposes to add language to Appendix 3, section 5.0, "Interconnection System Impact Study Agreement." This proposed language is exactly the same as that MidAmerican proposes to add to section 7.3 (Scope of Interconnection System Impact Study), and is based on the same regional reliability requirements.

III. Proposed modification to the LGIA

13. Article 9.6.1 (Power Factor Design Criteria) of the pro forma LGIA requires that the Interconnection Customer design the Generating Facility to maintain a composite power delivery at continuous rated power output measured at the Point of Interconnection at a power factor within the range of 0.95 leading to 0.95 lagging, unless the Transmission Provider has established different requirements that apply to all generators in the Control Area on a comparable basis. MidAmerican proposes to modify the Power Factor Design Criteria to read: "…measured at the generator terminals at a power factor within the range of 0.90 leading to 0.95 lagging…." MidAmerican states that the North American Energy Reliability Council (NERC) Standards recommend that generator power factor range from 0.90 lead to 0.95 lag at the generator terminals. It also states that the MAPP regional requirements for addressing power factor is referenced in the existing MAPP Reliability Handbook, section 3, at section ID.G3 (Voltage Support and Reactive Power).

14. On February 11, 2004, MidAmerican filed the actual tariff sheets incorporating the proposed revisions.

IV. Notice and Responsive Pleadings

15. Notice of the January 20, 2004 filing was published in the Federal Register, 69 Fed. Reg. 5971 (2004), with interventions and protests due on or before February 10, 2004. MAPP filed a motion to intervene out-of-time and comments in support of MidAmerican's filing.

16. Notice of the February 11, 2004 filing of the tariff sheets was published in the Federal Register, 69 Fed. Reg. 8637 (2004), with interventions and protests due on or before March 3, 2004. None were filed.

V. Discussion

17. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2003), we will grant the unopposed motion to intervene out-of-time

and comments in support filed by MAPP given its interest, the early stage of this proceeding, and the absence of undue prejudice or delay.

18. The Commission conditionally accepts and suspends MidAmerican's filing in part and rejects MidAmerican's filing in part, to be effective January 20, 2004, subject to refund, as discussed below.

19. The Commission intends to supplement rather than supplant the work that regional reliability groups have already undertaken regarding interconnection. Accordingly, a Transmission Provider, on compliance, may offer variations based on existing regional reliability requirements. The Transmission Provider must show that each proposed variation is in response to established (i.e., approved by the Applicable Reliability Council) reliability requirements.[6]

20. In Order No. 2003, the Commission further specified that changes to section 3.2.2.2 of the pro forma LGIP (requiring a study of a Network Resource Interconnection Service request to be "at peak load, under a variety of severely stressed conditions") must be shown to be consistent with or superior to the pro forma LGIP, not based solely on a regional reliability requirement.[7] Likewise in Order No. 2003, the Commission explained that the study requirement in the pro forma LGIP ("at peak load, under a variety of severely stressed conditions") ensures reliability and deters the Transmission Provider from delaying an interconnection by subjecting competing Interconnection Customers, in the name of reliability, to more stringent study requirements than it would require for its own or its affiliates' interconnections. Thus, as explained in Order No. 2003, for variations from this particular provision, the Commission requires more than an established reliability standard.

21. All but one of MidAmerican's proposed variations are responses to established MAPP regional reliability standards. Therefore, the Commission will accept MidAmerican's proposed variations from the pro forma LGIP and LGIA as filed, except for the proposed variation to LGIP, Appendix 1, Attachment A, described above in paragraph 11.[8] With respect to MidAmerican's proposed modification to section 3.2.2.2 of the LGIP, the Commission will direct MidAmerican to make the showing required by

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[6] See Order No. 2003 at P 823-24, 826.

[7] Order No. 2003 at P 785.

[8] See Order No. 2003-A at Appendix G to Appendix 6 (LGIA). The requirements of generators relying on newer technologies, e.g., wind generators, would be located in Appendix G to the LGIA, provided that such proposed additions are demonstrated to be consistent with or superior to the pro forma LGIP, or that an existing regional reliability standard is cited in support. See id. at LGIP, Appendix 1, Attachment A (Wind Generators).

Order No. 2003 with regard to this particular variation.[9] The Commission reminds Transmission Providers that they may not apply such reliability requirements in an unduly discriminatory manner; they must apply the requirements to their own and their affiliates' generating facilities, not just to those of rival generators.

The Commission orders:

(A) The Commission hereby conditionally accepts and suspends MidAmerican's filing in part and rejects MidAmerican's filing in part, to be effective January 20, 2004, subject to refund, as discussed in the body of this order.

(B) MidAmerican is hereby directed to make a compliance filing to be submitted within 30 days of the date of this order, as discussed in the body of this order.

(C) To the extent MidAmerican has not filed tariff sheets to incorporate the pro forma LGIP and LGIA in its OATT, it is hereby directed to do so in the compliance filing ordered in ordering paragraph (B).

By the Commission.

(S E A L)

Magalie R. Salas,
Secretary.

[9] See Order No. 2003 at P 785.