MidAmerican Energy Company
4124 NW Urbandale Drive
Urbandale, Iowa 50322
(515) 252-6547 Telephone
(515) 242-4398 Fax
(515) 901-9491 Cell
Katelyn.Lynch-Butcher@midamerican.com

Katelyn Lynch-Butcher
Attorney

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Ms. Patricia Van Gerpen, Executive Director
South Dakota Public Utilities Commission
State Capitol Building, 1st Floor
500 East Capitol Avenue
Pierre, SD 57501-5070

RE: MidAmerican Energy Company's Response to 2022 Summer Readiness and Request from SDPUC's May 24, 2022 Commission Meeting

Dear Ms. Van Gerpen,

MidAmerican Energy Company ("MidAmerican" or "Company") submits this letter in response to the South Dakota Public Utilities Commission's ("Commission") request for information regarding the summer readiness of Midcontinent Independent System Operator, Inc. ("MISO") utilities in South Dakota. MidAmerican provides the following responses to each of the Commission's questions below.

1. **South Dakota's MISO Utilities' 2022 Summer Resource Readiness and Preseason Peak Plan**
   A. **Are South Dakota MISO utilities ready to reliably serve peak load for summer 2022? If so, please explain how.**

MidAmerican is ready to reliably serve peak load for summer 2022. The Company's coal, natural gas, nuclear, and renewable generation facilities are expected to be available to provide reliable service during the summer. Fuel for dispatchable electric generation is adequate for summer demand. Coal inventories are forecasted to be sufficient, and MidAmerican does not anticipate any issues with purchasing adequate supplies of natural gas during this summer.

MidAmerican's transmission system and local distribution system are expected to have sufficient capacity to serve expected peak load for summer 2022. No facilities are expected to load above their rating for normal system conditions or single contingency events. Operating procedures have been prepared for certain double contingency events. MISO congestion management tools are in place to provide transmission loading relief. Inventories of key transmission sparing equipment such as transmission structures, large power transformers, circuit breakers, and other substation equipment are adequate. Vegetation management has been completed in accordance with planned cycles for tree trimming.

In terms of emergency operations, MidAmerican is ready to deploy its state-of-the-art incident command center in Des Moines, Iowa as well as local and remote storm centers and its fleet of four mobile storm response trailers to improve access to materials for crews, no matter where impacts occur. MidAmerican is also expanding the use of drones to assess storm damage to facilities; expanding its monitoring and control of distribution systems to include remote capable distribution switches; and has expanded employee storm roles to groups outside of electric delivery to increase resiliency and coverage and hasten response.

Although MidAmerican expects to have more than enough generation to meet the Company's anticipated needs, load shedding in MidAmerican's service territory, as part of a broader plan of load shedding across the MISO footprint, is possible. MidAmerican is a part of MISO's generation reserve sharing pool, which shares the responsibility to serve all of MISO's load. MidAmerican gains significant reductions in the Company's Planning Reserve Margin Requirement by being a part of MISO's reserve sharing pool, which benefits MidAmerican's customers by reducing the cost of generation. However, the Company must share in this load shedding responsibility to share in the benefit. Please see the response to question C below for further details on the execution of MISO-directed load shedding.

B. Do South Dakota MISO utilities participate in MISO's emergency drills including the firm load shed drill?

MidAmerican participates in MISO emergency drills, including the MISO firm load shed drills performed weekly. MidAmerican is a Local Balancing Authority ("LBA") within MISO's Balancing Authority. These drills consist of a MISO message over the MISO Communication System ("MCS"), the secure system by which MISO communicates load shedding requirements to all MISO LBAs indicating the amount of load shed allocated to each area for the simulated drill. MidAmerican system operators acknowledge receipt of the MCS message and communicate back the amount of load shed that was implemented in the simulated drill. The drills ensure LBA system operators and MISO reliability coordinators are well trained on the communication and forms that would be utilized in an actual load shed event.

MidAmerican also participates in the MISO Capacity Emergency Drill, which is held annually in the spring. The drill involves a tabletop simulation of the MISO Capacity Emergency Plan ("MISO CEP"). At each stage of the MISO CEP, discussion is held between MISO and the participants regarding the corresponding steps in the participants' internal capacity emergency plans. The drill ensures awareness of any changes to the MISO plan and the requirements of the participants at each stage of the MISO plan.

C. Do South Dakota MISO utilities have a comprehensive plan for firm load shed?

MidAmerican has a comprehensive plan for managing and initiating a systemwide load shed if directed by MISO as needed to protect the bulk electric system in the event of an imbalance of electricity supply and demand.

The MidAmerican Generation Deficiency Plan provides the steps that MidAmerican would take at the various stages of the MISO CEP. There are multiple stages within the MISO CEP intended to enlist all available resources, external imports, load modifying resources, and emergency reserves before shedding firm load. If MISO directs load shedding in its role as the North American Electric Reliability Corporation ("NERC") Reliability Coordinator, MidAmerican is prepared to comply and has the tools to systematically implement a rolling load shed event across its service territory.

Approximately twenty-five percent (25%) of MidAmerican peak load is pre-programmed into a rolling load shed tool within MidAmerican's Energy Management System. Distribution circuits included in the program are selected to avoid interruption of critical infrastructure for public well-being, such as hospitals, water treatment, city pumping stations, critical facilities for natural gas transportation, etc. The tool allows MidAmerican system operators to designate the target load shed amount and the outage duration before transitioning to the next group of circuits. Once initiated, the rolling load shed tool will open distribution circuit breakers from the pre-programmed list until the target amount is reached. Those distribution circuits remain off for the duration specified by the operator. When the duration expires, the rolling load shed tool begins opening the next group of distribution circuits in the sequence until the targeted load shed amount is reached and then begins automatically restoring the circuits shed in the previous group. Distribution circuits available to the rolling load shed tool are arrayed to ensure that certain circuits are not repeatedly outaged while other available circuits are skipped.

In addition to the rolling load shed tool, which would be used to respond to a directive from MISO during a regional capacity emergency, an additional thirty percent (30%) of MidAmerican peak load is included in an Underfrequency Load Shed Plan. This plan is also implemented on individual distribution circuits and consists of protective relays that monitor system frequency and automatically respond to open distribution circuit breakers should the frequency decline below pre-set levels. The underfrequency load shed plan consists of three underfrequency load shed blocks (set at 59.3 Hz, 59.0 Hz, and 58.7 Hz), which would each open distribution circuit breakers on the MidAmerican system that total 10% or more of MidAmerican system peak load. Similar to the rolling load shed plan, the underfrequency load shed plan avoids opening distribution circuits serving critical infrastructure. Additionally, the two plans do not overlap distribution circuits, so between the two plans up to approximately fifty-five percent (55%) of MidAmerican peak load is included in a plan to respond to an imbalance of electricity supply and demand.

D. How often do South Dakota MISO utilities update their firm load shed plans?

MidAmerican reviews the Company's Generation Deficiency Plan and Underfrequency Load Shed Plan annually. The Company reviews and updates the Generation Deficiency Plan to reflect any changes in the MISO CEP that require a corresponding change to the MidAmerican plan, and then submits it annually to MISO for approval. The Company annually reviews the distribution circuit list included in the rolling load shed plan for new circuits or adjusted circuit boundaries to confirm that critical infrastructure is not included in the rolling load shed circuits. Any adjustments to the final circuit list are programmed within the Energy Management System load shed tool. MidAmerican reviews the Underfrequency Load Shed circuits annually to confirm that a minimum of 10% of MidAmerican system peak load is included in each of the three frequency stages. Additional relaying is implemented as needed to incorporate additional distribution circuits into the plan.

E. Do South Dakota MISO utilities have any concern with MISO's recent capacity auction result or are South Dakota MISO utilities taking any actions in response to the results?

Although MidAmerican expects to have more than enough generation to meet the Company's anticipated needs, MidAmerican is concerned that MISO as a whole has fallen below its planning reserve margin requirement in the MISO Central subregion, which

increases operational risks of supply to the load in the MISO West subregion as well as the MISO Central subregion. As noted above, MidAmerican is a part of MISO's generation reserve sharing pool, which shares the responsibility to serve all of MISO's load.

MidAmerican's actions in response to the recent capacity auction include its ongoing operational preparedness actions described above. In addition, MidAmerican has been and will continue to be actively involved in policy change discussions surrounding resource adequacy and reliability issues. MISO has identified a number of issues that will occur as the resource transition continues, including a shift in focus from summer peak resource adequacy to all-hours adequacy and an increased need for more transmission facilities to better connect the MISO sub-regions and regions to improve the ability to deliver generation resources to loads across the footprint. As an example of the steps MISO is taking in response to resource adequacy concerns associated with resource transition, MISO's most recent resource adequacy filing proposes a transition from a summer-focused to a seasonal capacity auction design.

MISO's Long Range Transmission Planning ("LRTP") initiative also facilitates the resource transition, without sacrificing reliability or affordability. The LRTP Tranche 1 projects bring numerous benefits to the MISO West and MISO Central subregions, including local reliability benefits, resource enablement, congestion relief and increased ability to import power in emergencies. They also resolve multiple known transmission reliability issues as well as issues which will occur with the continued resource transition. For example, the LRTP Tranche 1 projects:

- Facilitate energy adequacy, providing assurances that generation can be delivered to load throughout the year.
- Enable the clean energy future and higher levels of renewable energy throughout the upper Midwest.
- Minimize fuel costs by allowing exports of renewable energy to prevent uneconomic curtailments and costly redispatch; maintaining high outputs of these resources benefits customers as wholesale opportunities relieves rate pressures.
- Allow access to a more diverse set of generation resources during periods of low wind and solar and take advantage of broader regional markets and regional diversity that includes wind, solar and other resources across MISO's footprint.
- Provide resiliency during extreme weather events. Emergency energy exchange provides reliability assurances for extreme weather resiliency events like the February 2021 event.

MidAmerican apologizes for the delay in providing this requested information and thanks the Commission for its patience. If there are any additional questions regarding this matter, please contact me at (515) 252-6547 or katelyn.lynch-butcher@midamerican.com.

Sincerely,

Katelyn Lynch-Butcher
Attorney