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STATE OF MISSOURI

MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. EA-2025-0087

DIRECT TESTIMONY

OF

JEREMIAH DONER

Submitted on Behalf

of

MIDCONTINENT INDEPENDENT SYSTEM OPERATOR, INC. (MISO)

December 12, 2024

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6 **OF**

7 **MIDCONTINENT INDEPENDENT SYSTEM OPERATOR, INC. (“MISO”)**

8

9 **I. INTRODUCTION AND WITNESS QUALIFICATIONS**

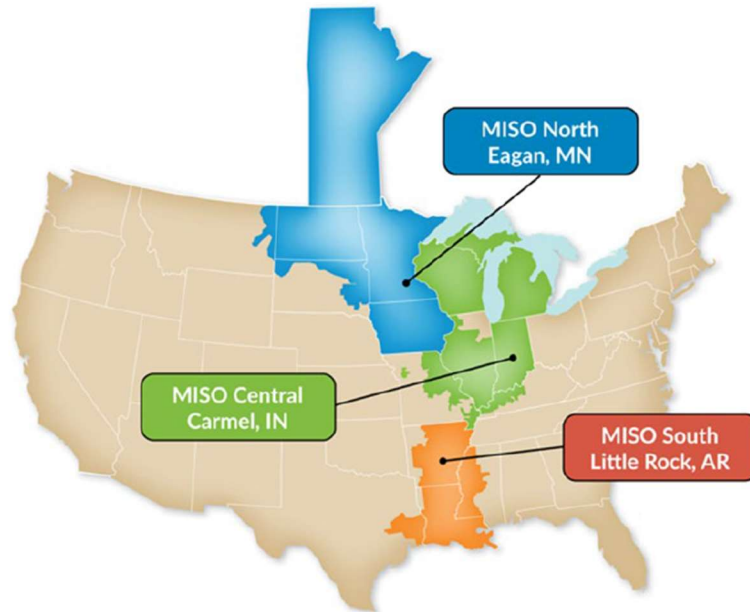
10 **Q. Please state your name, employer, job title, and business address.**

11 A. My name is Jeremiah Doner. I am employed by the Midcontinent Independent
12 System Operator, Inc. (“MISO”) as the Director of Cost Allocation and
13 Competitive Transmission within MISO’s Transmission Planning Department,
14 which is the Planning Coordinator for the MISO region and prepares the MISO
15 Transmission Expansion Plan (“MTEP”) annually. My business address is 720
16 City Center Drive, Carmel, IN, 46032.

17 **Q. What is MISO?**

18 A. MISO is a not-for-profit, member-based, regional transmission organization
19 (“RTO”) providing reliability and market services over more than 70,000 miles of
20 transmission lines in fifteen states and one Canadian province. MISO’s regional
21 area of operations stretches from the Ohio-Indiana line in the east to eastern

1 Montana in the west, and south to New Orleans. MISO’s reliability footprint and
2 control center locations are shown below:



3

4 **Q. How is MISO governed?**

5 **A.** MISO is governed by an independent ten-member Board of Directors.¹

6 **Q. What are MISO’s responsibilities?**

7 **A.** As an RTO, MISO is responsible for operational oversight and control, market
8 operations, and planning of the transmission systems of its member Transmission
9 Owners (“TOs”). Among many other responsibilities, MISO monitors and
10 calculates Available Flowgate Capability and provides tariff administration for its
11 Open Access Transmission, Energy and Operating Reserve Markets Tariff

¹ MISO has nine independent directors, and its Chief Executive Officer fills a tenth seat on the Board.

1 (“Tariff”),² which has been accepted by the Federal Energy Regulatory
2 Commission (“FERC”).³ MISO is the Reliability Coordinator for its regional area
3 of operations, providing real-time operational monitoring and control of the
4 transmission system. MISO operates real-time and day-ahead energy markets
5 based on Locational Marginal Prices (“LMPs”) in which each market participant’s
6 offer to supply energy is matched to demand and is cleared based on a security
7 constrained economic dispatch process. In addition, MISO operates a market for
8 Financial Transmission Rights, which are used by market participants to hedge
9 against congestion costs, and an ancillary services market, which provides for the
10 services necessary to support transmission of capacity and energy from generation
11 resources to load.

12
13 MISO is responsible for approving transmission service, new generation
14 interconnections, and new transmission interconnections within MISO’s regional
15 area of operations, and for ensuring that the system is planned to reliably and
16 economically provide for existing and forecasted usage of the transmission system.

17 MISO is the Planning Coordinator for its regional area of operations, which

² MISO Tariff, available at: <https://www.misoenergy.org/legal/rules-manuals-and-agreements/tariff/>.

³ MISO’s Tariff was initially accepted by FERC in 1998, but suspended until subsequently adopted in 2001. See *Midwest Indep. Transmission Sys. Operator, Inc.*, 97 FERC ¶ 61,326 (2001); *Midwest Indep. Transmission Sys. Operator, Inc.*, 97 FERC ¶ 61,033 (2001), *order on reh’g*, 98 FERC ¶ 61,141 (2002). MISO began providing transmission service under its Tariff in 2002.

1 includes portions of the state of Missouri, and performs planning functions
2 collaboratively with input from its TOs and other interested stakeholders, while also
3 providing an independent assessment and perspective of the needs of the overall
4 transmission system.

5 **Q. What is your educational background?**

6 A. I graduated from Illinois State University with a Bachelor of Science degree in
7 economics and minors in Business Administration and Mathematics. Also, I
8 received a Master of Science in economics from Illinois State University with a
9 concentration in electricity, natural gas, and telecommunications.

10 **Q. What is your professional experience?**

11 A. Prior to my current position, since joining MISO in 2007, I have performed various
12 roles across the organization. I started as a Transmission Strategy Analyst in
13 Transmission Planning, working on such items as MISO's Multi-Value Project
14 planning and cost allocation process development and FERC Order No. 1000
15 compliance. I subsequently undertook roles in corporate strategy, legal business
16 operations, seams administration in system operations, membership services, and
17 seams coordination in external affairs. More recently, I performed various economic
18 and policy tasks as part of MISO's transmission planning functions. As part of my role
19 as Director of Economic and Policy Planning, starting in January 2021, I was a member
20 of the leadership team overseeing multiple aspects of the Long Range Transmission
21 Planning ("LRTP") Tranche 1 study, which included the development of forecasting
22 assumptions (*i.e.* "Futures") and model development, economic planning, and

1 development of the business case supporting the LRTP Tranche 1 study (“Tranche 1”
2 or “LRTP Tranche 1”).

3 **Q. What are your duties and responsibilities in your present position as the**
4 **Director of Cost Allocation and Competitive Transmission?**

5 A. I have held my current position since April 2022. I am responsible for directing the
6 teams focused on multiple areas of transmission planning: LRTP business case
7 development, including for LRTP Tranche 1; all parts of MISO’s competitive
8 transmission process and the “variance analysis” process for after-the-fact review
9 of regionally cost shared transmission projects; MISO’s regional and interregional
10 transmission cost allocation; annual MTEP report development; and MISO’s seams
11 coordination strategy. I also serve as the MISO staff liaison to the MISO stakeholder
12 committee charged with improving and developing MISO’s set of regional and
13 interregional cost allocation methods, the Regional Expansion Criteria and Benefits
14 Working Group.

15 **Q. Have you ever submitted a sworn affidavit or pre-filed testimony before a**
16 **regulatory agency?**

17 A. Yes. I provided a sworn affidavit and pre-filed testimony in proceedings before
18 FERC and the Illinois Commerce Commission (“ICC”). Specifically, I submitted a
19 sworn affidavit and pre-filed testimony in FERC Docket Nos. EL22-83-000, ER22-
20 995-000, and ER22-1955-000 relating to MISO’s LRTP initiative and various
21 associated transmission planning, competitive process, and cost allocation issues.

1 I also submitted pre-filed testimony in ICC Docket No. P2024-0088 regarding
2 LRTP Tranche 1 projects located in Illinois.

3 **II. PURPOSE AND SCOPE**

4 **Q. Are you familiar with the transmission project proposed in the Application?**

5 A. Yes. The party that filed the Application in this docket, Ameren Transmission
6 Company of Illinois (“ATXI”), seeks a certificate of convenience and necessity
7 (“CCN”). ATXI is working with the Missouri Joint Municipal Electric Utility
8 Commission (“MJMEUC”) and Ameren Missouri to build a reliable and resilient
9 energy grid for the future by developing the Northern Missouri Grid
10 Transformation Program (“Program”). The Program encompasses the Missouri
11 jurisdictional portion of three of the eighteen Tranche 1 projects. This proceeding
12 addresses authorization to construct, install, operate, control, manage, and maintain
13 the Denny – Zachary – Thomas Hill – Maywood (“DZTM”) Project (the “Project”),
14 which is the second phase of the Program that is designed to be operated in
15 conjunction with the other projects located in Missouri (*i.e.* first phase) that are the
16 subject of pending Docket No. EA-2024-0302.

17

18 The DZTM Project includes the construction of over 200 miles of new 345 kilovolt
19 (“kV”) transmission lines in three transmission line segments. The first new line
20 segment will run approximately 100 miles from ATXI’s new Denny substation in
21 DeKalb County to ATXI’s existing Zachary substation near Kirksville, Missouri.

22 A second new line segment, approximately 60 miles, will connect the existing

1 Zachary substation to ATXI’s existing Maywood substation near Palmyra,
2 Missouri. The third line segment consists of 44 miles of rebuilt transmission lines
3 on Ameren Missouri’s existing transmission corridor from the Zachary substation
4 to Associated Electric Cooperative Incorporated’s (“AECI”) existing Thomas Hill
5 substation in Randolph County. The transmission lines and related facilities were
6 included in the 2021 MTEP analysis. These facilities are an integral part of the
7 larger set of LRTP Tranche 1 portfolio of transmission projects that were approved
8 as part of MISO’s 2021 MTEP process.

9 **Q. What is the purpose of your testimony?**

10 A. The purpose of my testimony is to generally expound upon the development of the
11 DZTM Project as part of the LRTP Tranche 1 portfolio and its benefits.
12 Specifically, I describe the planning functions performed by MISO, including the
13 development of MTEP. I also provide a summary of findings regarding the DZTM
14 Project based on MISO’s analyses and discuss the integration of the Project into
15 MISO’s regional plan. I explain how the LRTP Tranche 1 portfolio, including the
16 DZTM Project, reliably and economically supports a wide range of energy policies
17 and generation scenarios. I explain how the benefits of the portfolio have been
18 defined and confirmed.

19 **Q. Please elaborate on the terminology you will use in this testimony.**

20 A. Throughout the testimony, I will refer to the benefits of the DZTM Project and the
21 benefits of the 2021 Multi-Value Project (“MVP”) portfolio. MVP is a
22 transmission project type within the MISO Tariff. The 2021 MVP portfolio is

1 commonly referred to as the LRTP Tranche 1 portfolio. The benefits of the DZTM
2 Project are those that accrue to the project directly. The benefits of the LRTP
3 Tranche 1 portfolio are the aggregate benefits of all projects approved as part of the
4 2021 MVP portfolio, including the DZTM Project.

5

6 Also, I will refer to the “MISO Midwest MVP Cost Allocation Subregion” (or
7 “Midwest Subregion”) in this testimony. The Midwest Subregion begins in
8 Missouri and extends northward to the Canadian border and is bounded by
9 Michigan and eastern Montana. This identification of a subregion within the MISO
10 footprint is relevant to responsibility for costs associated with the LRTP Tranche 1
11 portfolio of which the DZTM Project is a part.

12 **Q. Are you sponsoring any exhibits with your direct testimony?**

13 A. Yes. I am sponsoring:

- 14 • Exhibit JD-2 – “MTEP21 Report Addendum” – LRTP Tranche 1
15 Report (2022).⁴

16

⁴ The MTEP21 Report Addendum discusses the LRTP Tranche 1 portfolio, and is available at: <https://cdn.misoenergy.org/MTEP21%20Addendum-LRTP%20Tranche%201%20Report%20with%20Executive%20Summary625790.pdf>. The MTEP21 Report Addendum is comprised of an Executive Summary and a Tranche 1 Portfolio Report, and refers to the Project as LRTP Tranche 1 project 10.

- 1 • Exhibit JD-3 – MISO’s Renewable Integration Impact Assessment
- 2 (“RIIA”) Summary Report (February 2021); and
- 3 • Exhibit JD-4 – MISO’s Response to the Reliability Imperative
- 4 (Updated February 2024).

5 **Q. What analyses form the basis of your testimony?**

6 A. The DZTM Project is part of the LRTP Tranche 1 portfolio. A more detailed report
7 on the LRTP Tranche 1 projects is included as Exhibit JD-2 to this direct testimony.
8 The portfolio was approved by the MISO Board of Directors on July 25, 2022 as
9 part of MISO’s MTEP21 process. This approval was based on a set of reliability,
10 economic, and public policy analyses conducted between 2020 and 2022 that
11 documented the reliability benefits of the DZTM Project and the combined
12 reliability, economic, and public policy benefits of the full LRTP Tranche 1
13 portfolio.

14 **Q. What are your key findings?**

15 A. The DZTM Project provides an extra-high voltage transmission path that increases
16 the reliability of the regional transmission system while enhancing the ability of the
17 transmission system in Missouri to meet local load serving needs. The Project is
18 part of the LRTP Tranche 1 portfolio that, as part of the MISO regional plan, will
19 deliver economic benefits in excess of costs under a future system scenario, known
20 as “Future 1,”⁵ that is guided by assessments of future conditions that include

⁵ Future 1 is extensively discussed in the MTEP21 Report Addendum (Exhibit JD-2).

1 federal, state, and utility policies. Tranche 1 provides a robust transmission
2 network that supports a broad range of generation and policy futures. Support for
3 the DZTM Project, as a planned part of LRTP Tranche 1 portfolio, is described
4 further in this testimony and is summarized as follows:

5 1) MISO's MVP Regional Transmission Planning Process

6 MISO's regional planning process ensures continued system reliability in a
7 least cost manner while considering a series of potential future policy and
8 economic conditions. This testimony discusses the high-level goals and key
9 considerations of the MISO planning process, as well as the planning
10 process utilized to define and justify the projects in the MVP portfolio.

11 2) Reliability Planning Considerations

12 MISO's analyses ensure that load has access to reliable energy. This
13 testimony discusses the key criteria applied in MTEP reliability analyses
14 and the importance of each of these factors in maintaining a safe and reliable
15 supply of energy to end-use customers.

16 3) Reliability Project Justification

17 The DZTM Project was justified based on the ability of the Project to
18 resolve reliability issues within and surrounding Missouri. This testimony
19 discusses the reliability benefits of the Project and explains why the project
20 alternatives were not selected.

21 4) Economic and Public Policy Considerations

1 The MISO planning process assessed benefits of the LRTP Tranche 1
2 portfolio under the Future 1 economic and public policy scenario. This
3 testimony elaborates on the structure of these analyses.

4 5) Economic and Public Policy Portfolio Benefits

5 The DZTM Project, as part of the overall LRTP Tranche 1 portfolio,
6 provides economic benefits in excess of its costs while enabling compliance
7 with public policy requirements such as renewable energy mandates. This
8 testimony discusses the economic benefits of the LRTP Tranche 1 portfolio
9 as a whole. I also discuss the ability of the portfolio to enable existing
10 public policies, along with a wide variety of other potential future
11 generation options.

12 6) Regional System Planning and MVP Policies

13 The projects in the LRTP Tranche 1 portfolio (a set of Muti-Value Projects),
14 including the DZTM Project, have been incorporated in the MISO
15 transmission plan and subsequent analyses. This testimony discusses the
16 cost implications of the Project and the near-term impacts of a failure to
17 approve the Project.

18 **III. MISO REGIONAL TRANSMISSION PLANNING**

19 **Q. What are the requirements and objectives of the MISO regional planning**
20 **process?**

21 **A.** Regional planning at MISO is performed in accordance with several guiding
22 documents. The Agreement of Transmission Facilities Owners to Organize the

1 Midcontinent Independent System Operator, Inc., a Delaware Non-Stock
2 Corporation (“Transmission Owners Agreement” or “TOA”) includes the planning
3 framework that describes the planning responsibilities of MISO and its
4 transmission owning members.⁶ MISO’s responsibilities include the development
5 of the MTEP in collaboration with transmission owners and other stakeholders.
6
7 MISO also adheres to the nine planning principles outlined in FERC Order No.
8 890.⁷ In so doing, MISO provides an open and transparent regional planning
9 process that results in recommendations for expansion that are reported in the
10 MTEP. FERC Order No. 1000 furthered the planning principles outlined in FERC
11 Order No. 890 and included the requirements to plan for public policy and for
12 coordinated inter-regional planning and cost allocation.⁸

⁶ See MISO Transmission Owners Agreement (TOA), Version: 36.0.0 Effective: 7/29/2020, Appendix B, Section VI, publicly available at: https://misodocs.azureedge.net/miso12-legalcontent/Rate_Schedule_01_-_Transmission_Owners_Agreement.pdf.

⁷ *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, FERC Stats. & Regs. ¶ 31,241, *order on reh’g*, Order No. 890-A, FERC Stats. & Regs. ¶ 31,261 (2007), *order on reh’g and clarification*, Order No. 890-B, 123 FERC ¶ 61,299 (2008), *order on reh’g*, Order No. 890-C, 126 FERC ¶ 61,228 (2009), *order on clarification*, Order No. 890-D, 129 FERC ¶ 61,126 (2009). “The Transmission Provider’s planning process shall satisfy the following nine principles, as defined in the Final Rule in Docket No. RM05-25-000: coordination, openness, transparency, information exchange, comparability, dispute resolution, regional participation, economic planning studies, and cost allocation for new projects.” Order 890-B, Attachment K.

⁸ *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, Order No. 1000, 136 FERC ¶ 66,051 (2011), *order on reh’g*, Order No. 1000-A, 139 FERC ¶ 61,132 (2012), *order on reh’g and clarification*, Order No. 1000-B, 141 FERC ¶ 61,044 (2012).

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Consistent with these planning principles, the objectives of the MTEP process are to (i) identify transmission system expansions that will ensure the reliability of the transmission system that is under the operational and planning control of MISO, (ii) identify expansion that is critically needed to support the reliable and competitive supply of electric power by this system, and (iii) identify expansion that is necessary to support energy policy mandates in effect within the MISO footprint. MISO’s MTEP21 Report Addendum provides assessments of resource adequacy, analyses of various energy policy scenarios, and discusses the development of long-term resource forecasts based on those scenarios.

- Q. What is the planning process used to develop the MTEP and Tranche 1?**
- A. MISO uses a “bottom-up, top-down” approach in developing the MTEP plan. The “bottom-up” portion relies on the ongoing responsibilities of the individual TOs to continuously review and plan to reliably and economically meet the needs of their local systems. MISO then reviews these local planning activities with stakeholders and performs a “top-down” review of the adequacy of, and appropriateness of, the local plans in a coordinated fashion to most efficiently ensure that all of the needs are cost-effectively met. In addition, MISO, together with stakeholders, considers opportunities for improvements and expansions that would reduce consumer costs by providing access to new low-cost resources that are consistent with and required by evolving legislative energy policies.

1 MISO’s planning process examines congestion that may limit access to the most
2 efficient resources and considers improvements that may be needed to meet
3 forecasted energy requirements. Stakeholders from each MISO member sector,
4 including state regulatory authorities, public consumer advocates, environmental
5 representatives, end use customers, and independent power producers, among
6 others, are engaged to develop a wide range of future system scenarios that are
7 guided by assessments of possible future state and federal energy policy decisions.
8 These possible future scenarios and energy policies (“Futures”) form the basis for
9 forecasts of generation resources and load that would be economical and consistent
10 with member plans and policy. Transmission needs are then assessed, and plans
11 developed to reliably and economically deliver the necessary energy from
12 generation resources to load.

13 **Q. What does it mean for a project to be approved by the MISO Board of**
14 **Directors as a part of the MTEP?**

15 A. The MTEP consists of the many individual projects or portfolios of projects that
16 are recommended by the MISO staff to the MISO Board of Directors. In
17 accordance with the TOA, approval of a MTEP by the Board of Directors certifies
18 the MTEP as MISO’s plan for meeting the transmission needs of all stakeholders,
19 subject to any required approvals by federal or state regulatory authorities.

20 **Q. In preparing the MTEP regional plans, what considerations does MISO take**
21 **into account?**

1 A. There are numerous considerations in planning for a regional transmission system;
2 however, two considerations are crucial. First, the reliability of the transmission
3 system must be maintained. That is, the transmission system must be able to
4 withstand disturbances (generator and/or transmission facility outages) without
5 interruption of service to load. This is achieved, in part, by assuring that
6 disturbances do not lead to cascading loss of other generator or transmission
7 facilities.

8
9 Second, the transmission system must be adequately planned to be able to
10 accommodate load growth and/or changes in load and load growth patterns, as well
11 as changes in generation and generation dispatch patterns without causing
12 equipment to perform outside of its design capability. Additional considerations
13 include planning the transmission system to address constraints that limit market
14 efficiency and provide for expansions that enable energy policy mandates to be
15 achieved.

16 **IV. LONG RANGE TRANSMISSION PLANNING PROCESS**

17 **Q. What was the beginning of the Tranche 1 development?**

18 A. MISO has observed a significant shift in its members' portfolio projections –
19 transitioning from conventional dispatchable nuclear, coal, and gas generation to
20 substantial levels of new carbon-free, weather-dependent generation resources,
21 such as wind and solar. The shift signaled a rapidly approaching transformation of
22 the resource mix in MISO's footprint. To better understand the impact of

1 renewable energy growth in the MISO region over the long-term, MISO initiated
2 the RIIA study in 2018.

3 **Q. What did the RIIA study?**

4 A. The RIIA examined “inflection points” – thresholds at which system complexities
5 resulting from the integration of carbon-free, weather-dependent generation
6 resources significantly increase – by assessing the impacts of various penetration
7 levels of those renewables on resource adequacy, energy adequacy, and operating
8 reliability (both steady-state and stability) within the MISO system. The intent of
9 the RIIA study was to identify not only integration issues, but also at what inflection
10 points they might occur. This would in turn enable MISO to evaluate and timely
11 implement potential solutions to mitigate or guard against those issues.

12 **Q. What did the RIIA study find?**

13 A. The RIIA study found that renewable penetration levels of up to thirty percent are
14 likely manageable with incremental transmission expansion. However, at
15 penetration levels beyond thirty percent, planning and operating the grid become
16 more complex. At those levels, expected portfolio changes will cause significant
17 grid and stability issues. Regional energy transfers will likely increase in
18 magnitude and become more variable, leading to a need for increased extra high-
19 voltage line thermal capabilities to maintain reliability. Additionally, the growth in
20 renewables penetration causes different dispatch patterns relative to conventional
21 generators, leading to several dynamic operational issues. For penetration levels
22 beyond thirty percent, increased transmission investment and transformational

1 change in planning, markets, and operations are required to maintain system
2 reliability. Nevertheless, the RIIA found that renewable penetration levels of even
3 fifty percent or higher could be reliably achieved if MISO, its members, and states
4 work together now towards a future grid that will support that level of integration.
5 The full summary report is provided as part of my testimony as Exhibit JD-3.

6 **Q. Was any other early study conducted?**

7 A. Yes. MISO recognized as a result of the RIIA study and other efforts – such as its
8 annual Regional Resource Assessment (“RRA”) that reports on publicly shared
9 utility resource plans and goals –that industry trends were driving members to make
10 significant changes to their portfolios, including retirement of aging units and
11 integration of increased levels of renewable generation. Thus, MISO was aware
12 that it must focus on solutions that anticipate and timely adapt to those changes.
13 MISO therefore formulated its Reliability Imperative. The Reliability Imperative
14 reflects MISO’s approach to its shared responsibility with its members and states
15 to address the region’s electric system reliability challenges posed by a changing
16 fleet in addition to other factors affecting the MISO system (*e.g.* increasingly
17 frequent extreme weather events). The Reliability Imperative pulls together a
18 number of strategic initiatives under a single framework for the purpose of ensuring
19 more alignment, reinforcing the sense of urgency, and highlighting the connections
20 among the workstreams. MISO’s response to the Reliability Imperative (updated
21 February 2024) is attached to my testimony as Exhibit JD-4.

1 **Q. What strategic initiatives comprise the Reliability Imperative?**

2 A. MISO's response to the Reliability Imperative consists of a host of interconnected
3 initiatives that aim to address the region's challenges in a comprehensive and
4 prioritized fashion. These initiatives are organized into four primary, linked
5 initiatives: (1) Market Redefinition; (2) Operations of the Future; (3) System
6 Enhancements; and (4) Transmission Evolution (i.e. Long Range Transmission
7 Planning). Transmission Evolution is particularly important here because the
8 DZTM Project was developed as part of the LRTP Tranche 1 portfolio of
9 transmission projects.

10 **Q. What is the overall purpose of MISO's LRTP process?**

11 A. LRTP, through its stakeholder process, focuses on the development of robust
12 solutions that address future reliability challenges posed by the continuing trend
13 towards increasing levels of carbon-free, weather-dependent generation resources.
14 Long range planning provides a comprehensive, forward-looking assessment of
15 future needs based on a range of anticipated future conditions that identify the
16 regional transmission expansion needed to maintain reliable performance, cost
17 efficient energy delivery, accessibility to resources, and flexibility in fuel mix.

18 **Q. What is an MVP under the MISO Tariff?**

1 A. An MVP is a type of transmission project developed by MISO and stakeholders
2 that was accepted by FERC in 2010.⁹ Regional transmission projects identified in
3 the LRTP process are MVPs whose costs are sub-regionally or regionally shared.
4 An MVP is a project that must be (i) evaluated as part of a portfolio of MVPs whose
5 benefits are spread broadly across the MISO footprint or subregion and (ii) must
6 meet at least one of the following criteria, as stated in Attachment FF of the MISO
7 Tariff:¹⁰

8 a. Criterion 1. A Multi-Value Project must be developed
9 through the transmission expansion planning process for the
10 purpose of enabling the Transmission System to reliably and
11 economically deliver energy in support of documented
12 energy policy mandates or laws that have been enacted or
13 adopted through state or federal legislation or regulatory
14 requirement that directly or indirectly govern the minimum
15 or maximum amount of energy that can be generated by
16 specific types of generation. The MVP must be shown to
17 enable the transmission system to deliver such energy in a
18 manner that is more reliable and/or more economic than it
19 otherwise would be without the transmission upgrade.

⁹ *Midwest Independent Transmission System Operator, Inc.*, 133 FERC ¶ 61,221 (2010) at PP 1, 3, *order on reh'g*, 137 FERC ¶ 61,074 (2011) (“MVP Rehearing Order”), P 1.

¹⁰ MISO Tariff, Attachment FF, Section II.C.

- 1 b. Criterion 2. A Multi-Value Project must provide multiple
2 types of economic value across multiple pricing zones with
3 a Total MVP Benefit-to-Cost ratio of 1.0 or higher where the
4 Total MVP Benefit-to-Cost ratio is described in Section
5 II.C.7 of this Attachment FF. The reduction of production
6 costs and the associated reduction of LMPs resulting from a
7 transmission congestion relief project are not additive and
8 are considered a single type of economic value.

- 9 c. Criterion 3. A Multi-Value Project must address at least one
10 Transmission Issue associated with a projected violation of
11 a NERC or Regional Entity standard and at least one
12 economic-based Transmission Issue that provides economic
13 value across multiple pricing zones. The project must
14 generate total financially quantifiable benefits, including
15 quantifiable reliability benefits, in excess of the total project
16 costs based on the definition of financial benefits and Project
17 Costs provided in Section II.C.7 of Attachment FF.

1 The Tariff also requires that (1) MVPs must include transmission facilities at a
2 voltage of 100 kV or above and (2) the total capital cost of the transmission project
3 must be at least \$20 million.¹¹

4 **Q. What is the relationship between the MVP project type and the LRTP**
5 **Tranche 1?**

6 A. The MVP cost allocation process was refined as part of the LRTP initiative that
7 was filed with, and accepted by, FERC in 2022.¹² The initiative included
8 subdividing the MISO footprint into two subregions – the Midwest Subregion and
9 the MISO South MVP Cost Allocation Subregion (“South Subregion”). The Tariff
10 provisions that provide for these subregions recognize that benefits from an MVP
11 portfolio may be widespread and yet mostly contained within geographic
12 subregions in the midwestern and southern portions of the MISO footprint. The
13 LRTP Tranche 1 portfolio is a collection of eighteen (18) transmission projects
14 whose benefits are mostly spread across the midwestern portion of the MISO
15 footprint.

16 **Q. Why was the MVP cost allocation and planning process developed?**

17 A. As early as 2002, in a process that would lead to approval of the first MVP portfolio
18 in 2011, MISO began to conduct studies to investigate the regional transmission
19 required to provide value to MISO stakeholders while responding to a growing

¹¹ MISO Tariff, Attachment FF, Section II.C.3(d) & (e).

¹² *Midcontinent Independent System Operator, Inc.*, 179 FERC ¶ 61,124 (2022), P 1.

1 desire for renewable energy in the MISO footprint. As time and analyses continued,
2 renewable mandates were passed by an increasing number of states in the MISO
3 footprint. At the same time, the MISO Interconnection Queue for generators saw a
4 substantial increase in queued requests, and the study results for those generators
5 continued to show the need for more large-scale transmission projects. These
6 factors led to the definition of an MVP project type, and they also led to the ultimate
7 analysis and approval of the 2011 MVP portfolio.

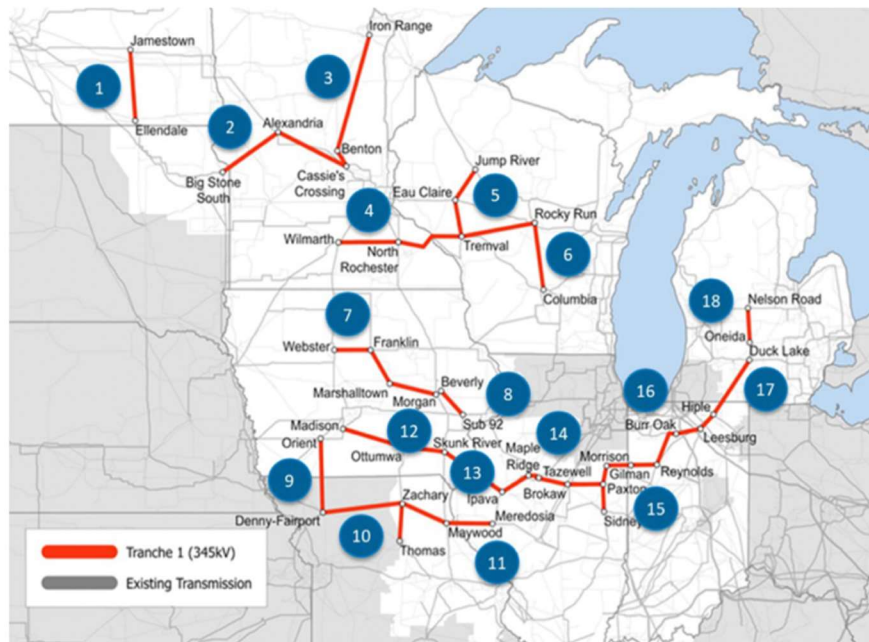
8

9 The need for further development of the high voltage transmission system to
10 facilitate the integration of renewable generation resources accelerated after the
11 2011 MVP portfolio was approved. Subsequent to approval of the 2011 MVP
12 portfolio, the MISO footprint had a major change with the addition of MISO South
13 in 2013 (*i.e.*, south of Missouri). At the start of the LRTP initiative in 2021, MISO
14 recognized this change and provided an additional option for subregional cost
15 allocation for MVP portfolios.

16 **Q. What is the LRTP Tranche 1 portfolio?**

17 A. The LRTP Tranche 1 portfolio is a group of eighteen transmission projects
18 distributed across the Midwest Subregion that will enable the reliable delivery of
19 increased levels of renewable generation and provide for economic benefits in
20 excess of the portfolio costs to the Midwest Subregion, primarily by reducing
21 generator production costs and allowing for more economically efficient resource
22 and transmission investment decisions. The portfolio, which includes the DZTM

1 Project, was approved for implementation by the MISO Board of Directors as part
2 of MTEP21. Each project within the LRTP Tranche 1 portfolio approved by the
3 MISO Board of Directors was evaluated as part of the MVP portfolio. Each project
4 was determined to be a necessary component of the portfolio that would together
5 provide benefits that broadly span the MISO Midwest Subregion, and meet at least
6 one of the criteria stated earlier to be classified as an MVP. The LRTP Tranche 1
7 portfolio is shown below, including MISO’s estimated cost and in-service date for
8 each MVP at the time of approval:¹³



9

¹³ MTEP21 Report Addendum pages 3-4, Figure 1-1 and Table 1-1 (Exhibit JD-2). As stated in the Application, the cost for the DZTM Project, project 10 in the figure below, is now lower than MISO’s original estimated cost.

ID	DESCRIPTION	EXPECTED ISD	EST COST (\$2022M)
1	Jamestown – Ellendale	12/31/2028	\$439
2	Big Stone South – Alexandria – Cassie’s Crossing	6/1/2030	\$574
3	Iron Range – Benton County – Cassie’s Crossing	6/1/2030	\$970
4	Wilmarth – North Rochester – Tremval	6/1/2028	\$689
5	Tremval – Eau Claire – Jump River	6/1/2028	\$505
6	Tremval – Rocky Run – Columbia	6/1/2029	\$1,050
7	Webster – Franklin – Marshalltown – Morgan Valley	12/31/2028	\$755
8	Beverly – Sub 92	12/31/2028	\$231
9	Orient – Denny – Fairport	6/1/2030	\$390
10	Denny – Zachary – Thomas Hill – Maywood	6/1/2030	\$769
11	Maywood – Meredosia	6/1/2028	\$301
12	Madison – Ottumwa – Skunk River	6/1/2029	\$673
13	Skunk River – Ipava	12/31/2029	\$594
14	Ipava – Maple Ridge – Tazewell – Brokaw – Paxton East	6/1/2028	\$572
15	Sidney – Paxton East – Gilman South – Morrison Ditch	6/1/2029	\$454
16	Morrison Ditch – Reynolds – Burr Oak – Leesburg – Hiple	6/1/2029	\$261
17	Hiple – Duck Lake	6/1/2030	\$696
18	Oneida – Nelson Rd.	12/29/2029	\$403
TOTAL PROJECT PORTFOLIO COST			\$10,324

Figure 1: LRTP Tranche 1 portfolio includes 18 projects in MISO’s Midwest Subregion, with an investment cost of \$10.3 billion

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Q. What was the overall process by which the DZTM Project became part of the LRTP Tranche 1 portfolio of projects?

A. In addressing its RTO planning responsibilities, MISO undertook a multi-year planning process aimed at addressing regional transmission plans to address the increasing transition from conventional dispatchable coal and natural gas generation in the Midwest to increasing amounts of weather-dependent generation sources, such as wind and solar, in a manner that lowers total delivered wholesale energy costs. The MISO Futures analysis examined reliability, economic, policy and technological impacts on resource changes and established future planning

1 scenarios to be evaluated for regional transmission expansion needs. These future
2 scenarios were used to identify a number of focus areas across the Midwest
3 subregion for evaluating potential transmission solutions. Reliability studies were
4 performed to identify thermal and voltage issues in the area and the transmission
5 projects that provided the most effective mitigation. The projects were further
6 consolidated into a proposed LRTP Tranche 1 portfolio to meet the overall regional
7 planning objectives.

8 **Q. What factors were considered by MISO and stakeholders in identifying and**
9 **justifying the LRTP Tranche 1 portfolio?**

10 A. MISO worked with stakeholders, including ATXI representatives, to identify
11 potential transmission solutions that provided future benefits for the MISO
12 Midwest Subregion. These potential transmission solutions were then intensively
13 studied through MISO's open and transparent stakeholder process.

14
15 This intensive process began with analyses of the challenges expected from the
16 future resource transition and the need for long-term transmission planning
17 solutions, and included discussions around the MVP cost allocation process in a
18 number of MISO stakeholder forums that reached final MISO Board approval in
19 July 2022. MISO conducted over 200 internal and stakeholder meetings, the latter
20 of which included 200-300 attendees at each meeting to develop a final set of
21 reliability, economic, and public policy assessments.

22

1 The overall goal for the LRTP Tranche 1 portfolio analyses was to design a
2 transmission portfolio that takes advantage of the linkages between local and
3 regional reliability and economic benefits to ensure a reliable and economic electric
4 market. The portfolio was designed using reliability and economic analyses,
5 applying a Future developed through the stakeholder process to determine a robust
6 portfolio.

7 **Q. Did MISO perform analyses to determine the effectiveness of the DZTM**
8 **Project to provide a reliable supply of electric energy to customers and**
9 **promote the development of a competitive and efficient electric market?**

10 A. Yes. The LRTP Tranche 1 portfolio analyses evaluated the expected future
11 conditions on the MISO regional transmission system. MISO's analyses found that
12 the DZTM Project will be needed in order to ensure the continued reliable operation
13 of the regional transmission system, including the ATXI transmission system in
14 Missouri, while meeting the expanding role of renewable generation resources in
15 the Midwest Subregion. In addition, MISO's analyses show that the LRTP Tranche
16 1 portfolio of projects that includes the DZTM Project provides additional
17 connectivity across the transmission system, reducing congestion and enabling
18 access to a broader array of resources by customers in Missouri. These
19 improvements will increase market efficiency, the competitive supply of energy,
20 and will provide economic benefits to retail electric consumers well in excess of
21 the LRTP Tranche 1 portfolio costs. The LRTP Tranche 1 portfolio represents a

1 holistic solution for delivering these benefits when considering generation,
2 transmission, and other factors under expected future conditions.

3 **Q. Are other LRTP Tranche 1 projects alternatives to or components of the**
4 **DZTM Project?**

5 A. No. The LRTP Tranche 1 analyses showed that the projects in the LRTP Tranche
6 1 portfolio function together to provide reliability, economic, and public policy
7 benefits to the transmission system, while each project in the portfolio was further
8 reviewed and justified individually based on its reliability benefits. The reliability
9 benefits were examined to ensure that each project was providing value, and line
10 segments without significant value were not ultimately included in the final LRTP
11 Tranche 1 portfolio.

12 **V. RELIABILITY PLANNING CONSIDERATIONS**

13 **Q. How does MISO determine if a transmission system has capacity sufficient to**
14 **meet projected power flows while maintaining required voltage levels and**
15 **stability?**

16 A. Determining whether a transmission system has capacity sufficient to meet projected
17 power flows while maintaining required voltage levels and stability requires an
18 engineering evaluation of the system as a whole, as well as an evaluation of critical
19 individual system components (transformers, lines, switchgear), under both normal
20 and contingency conditions (conditions where one or more system components are
21 out of service). Power system simulation models are developed for use in these
22 analyses. Projected power flows for each major component during peak loading

1 conditions are checked to ensure that rated capacities are not exceeded. Voltage
2 levels are also checked to ensure that they are maintained at, or above, the minimum
3 levels required for safe and reliable operation of the system for end-use customers.
4 The model system is tested for both generator and voltage stability following severe
5 disturbances.

6 **Q. Why is it necessary to provide capacity to meet projected power flows while**
7 **ensuring voltage levels are maintained?**

8 A. There are several reasons. Overloaded equipment or transmission voltages outside
9 of specified tolerances threaten the transmission system's ability to continue to
10 provide adequate and reliable service to its customers. Overloaded equipment can
11 fail and cause brownouts and blackouts as well as potentially dangerous operating
12 conditions. Voltage violations may cause relays or other voltage sensitive equipment
13 to operate improperly. In addition, overloads reduce the service life of equipment
14 and tend to increase the probability of component failure.

15 **Q. Why is it necessary to ensure that system stability is maintained?**

16 A. Certain conditions could cause a generating unit to lose synchronism with the rest of
17 the system or cause system voltages to decline rapidly in an uncontrolled manner.
18 These severe contingencies, while unlikely, must be tested to ensure that the
19 transmission system is strong enough to prevent a loss of system stability, or to allow
20 protective systems to act in order to regain control of the system. Without these
21 measures in place, such disturbances could both physically damage generation

1 stations and affect the secure and reliable operation of wide areas of the
2 interconnected transmission systems of the State of Missouri and of the nation.

3 **Q. What are the standards that govern MISO’s planning practices to ensure**
4 **reliable transmission system performance?**

5 A. MISO plans its transmission system in compliance with North American Electric
6 Reliability Corporation (“NERC”), regional entity, and the transmission owning
7 members’ planning standards or criteria. In addition, planning practices are
8 dictated by FERC Order Nos. 890 and 1000, as mentioned earlier. MISO
9 implements these practices through its governing and informational documents,
10 including Attachment FF to MISO’s Tariff, the TOA, and MISO’s Business
11 Practices Manuals (“BPM”).¹⁴

12 **Q. Can you briefly summarize the scope of the FERC planning practices?**

13 A. Yes. As mentioned earlier, Order No. 890 is primarily concerned with ensuring
14 that transmission planning takes place in an open and transparent environment
15 where stakeholders to the planning process are engaged in and have opportunities
16 to provide input and comment on the development of local as well as regional
17 transmission plans, and this need for transparency was reinforced in FERC Order
18 No. 1000. The planning process also addresses economic and regulatory policy
19 considerations in addition to the NERC standards for reliability. There are also

¹⁴ See MISO’s Business Practices Manual, Transmission Planning, BPM-020-r30, publicly available at: <https://www.misoenergy.org/legal/rules-manuals-and-agreements/business-practice-manuals/>.

1 requirements aimed at ensuring coordination with neighboring planning regions
2 and proper cost allocation.

3 **VI. RELIABILITY AND PROJECT JUSTIFICATION**

4 **Q. In more detail, what were the reliability analyses performed?**

5 A. A detailed reliability analysis using powerflow simulations was conducted to
6 identify transmission system equipment loadings and voltages with respect to safe
7 equipment design tolerances. The MISO reliability analyses included steady state
8 analysis of thermal loading and voltages as well as system stability. NERC’s
9 Transmission Planning reliability standard (“TPL”) is applicable to transmission
10 planning and governs planning requirements to ensure reliable transmission system
11 performance. The TPL standard addresses system performance under conditions
12 ranging from normal operation (no contingency) to more extreme events that result
13 in the loss (i.e. “outage” or “contingency”) of many transmission elements. While
14 criteria established by the TPL standard are used to evaluate acceptable
15 performance, the objectives of MVP planning incorporate reliability and economic
16 value beyond minimum compliance.

17 **Q. What was considered during the steady state analysis?**

18 A MISO’s steady state analysis included 10-year and 20-year models, described in the
19 MTEP21 Report Addendum,¹⁵ and monitored all system elements operated at 100 kV
20 and above within the MISO Midwest Subregion, as well as tie lines to the South

¹⁵ MTEP21 Report Addendum, pg. 19 (Exhibit JD-2).

1 Subregion and neighboring transmission systems. Category P1-P7 contingency
2 events from the NERC TPL Standard were analyzed for the transmission system
3 impacts within the MISO Midwest Subregion. All system elements where the worst
4 loading was 95 percent or higher of the emergency rating were flagged as potential
5 issues. The project was effective in resolving constraints if the worst overload
6 decreased by 5 percent and was below 100 percent of the emergency rating after
7 the addition of the transmission project.

8 **Q. How were the steady state models developed?**

9 A. MISO created snapshots of stressed system conditions under a Futures resource
10 expansion in the 10-year and 20-year timeframe. These scenarios, or base cases,
11 varied based on season of the year, time of the day, load level, and coincident
12 availability of renewable resources. Those models encompassed Summer Peak
13 Load (day and night), Spring/Fall Light Load (day and night), Fall/Spring Shoulder
14 Load, and Winter Peak Load (day and night). Load levels for each of those model
15 periods apply the Futures load forecast in a manner consistent with the regular
16 MTEP process. Generation additions and siting assumptions were consistent with
17 the Future 1 data set developed in collaboration with stakeholders. MISO used the
18 modeled scenarios to test the impact of the LRTP Tranche 1 portfolio. A full list
19 of models with assumptions is found in the MTEP21 Report Addendum.¹⁶
20 Transmission topology was developed by adding the transmission upgrades

¹⁶ *Id.*

1 previously approved in the MTEP regional planning process and projects identified
2 by MISO in prior MTEPs as expected to be needed to meet NERC reliability
3 standards.

4 **Q. What are the areas of concern in Missouri, as determined in the steady state**
5 **analysis?**

6 A. The DZTM Project is part of the transmission reinforcements in the central portion
7 of the MISO footprint, and alleviates a number of post-contingent overloads on the
8 138 kV and 161 kV transmission network. The DZTM Project, as part of the
9 Tranche 1 Northern Missouri Corridor,¹⁷ relieves 37 post-contingent overloads in
10 the Missouri portion of the MISO system. Furthermore, the inclusion of the
11 Missouri transmission reinforcements in the Tranche 1 portfolio enhances the
12 voltage performance in the area to enable increased levels of power transfer. The
13 DZTM Project, in conjunction with the other Tranche 1 Northern Missouri Corridor
14 projects,¹⁸ substantially increases the power transfer limits from 1,640 megawatts
15 (“MW”) to 6,000 MW.

16 **Q. What are some key thermal constraints mitigated by the DZTM Project?**

17 A. The DZTM Project, as part of the Northern Missouri Corridor projects, reduces
18 loadings on approximately 8 highly loaded system elements in the Missouri area,

¹⁷ The Northern Missouri Corridor projects refer to the series of LRTP Tranche 1 projects ranging from Iowa through Missouri into Illinois. MTEP21 Report Addendum, pg. 44 (Exhibit JD-2).

¹⁸ *Id.*

1 including lines and transformers, when the generation required to meet the
2 renewable energy mandates of the MISO states are included in the model. The
3 highest loaded Bulk Electric System (“BES”) elements that experienced excessive
4 loading under N-1-1 contingency conditions are listed below:¹⁹

- 5 • Overton 345/161 kV Transformer #1;
- 6 • Overton – Sibley 345 kV #1;
- 7 • Huntsdale – Overton 161 kV #1;
- 8 • California – Overton 161 kV #1;
- 9 • APCH Tap – California 161 kV #1;
- 10 • McBain – McBain Tap 161 kV #1;
- 11 • Maurer – Carrollton 161 kV #1; and
- 12 • California 161 kV bus.

13 **Q. What contingencies resulted in the steady state issues relieved by the DZTM**
14 **Project?**

15 A. Approximately 19 unique N-1-1 contingencies resulted in overloading of facilities
16 in Missouri that are relieved by the incorporation of the DZTM Project, as part of
17 the Northern Missouri Corridor projects, into the transmission system. The most
18 excessive overloads result from N-1-1 outages of generation in conjunction with
19 345 kV facilities in the vicinity.

¹⁹ An “N-1” event includes NERC TPL Category P1, P2, P4, P5 and P7 contingencies and means that the grid experiences the outage of a single transmission circuit, transformer, generator, shunt device, or common transmission structure. An “N-1-1” event includes NERC TPL Category P3 and P6 contingencies and means that a sequence takes place consisting of an initial loss followed by another loss of a single transmission circuit, transformer, generator, shunt device, or common transmission structure.

1 **Q. Were there other reliability benefits that resulted from the LRTP Tranche 1**
2 **portfolio in the aggregate?**

3 A. Yes. Each project in the portfolio mitigated specific overloads across the MISO
4 Midwest Subregion. In addition, the LRTP Tranche 1 portfolio as a whole
5 mitigated overloading on 436 facilities including many severe overloads over 125
6 percent that could cause cascading or system instability, as documented in the
7 MTEP21 Report Addendum. The LRTP Tranche 1 portfolio also provides
8 increased transfer capability to address voltage stability concerns in northern
9 Minnesota, Wisconsin and along the Northern Missouri Corridor and East-Central
10 Corridor into Indiana and Michigan.

11 **Q. Did MISO consider alternatives to the DZTM Project?**

12 A. Yes. MISO evaluated five alternative configurations of the Northern Missouri
13 Corridor configuration, which includes the DZTM Project, that are listed below:

- 14 • Zachary – Thomas Hill– Maywood – Meredosia 345 kV;
- 15 • Thomas Hill – Zachary 345 kV;
- 16 • Zachary – Maywood 345 kV;
- 17 • Zachary – Maywood – Meredosia 345 kV; and
- 18 • Zachary – Maywood – Thomas 345 kV.

19 The final design configuration delivered better performance, resolving a greater
20 number of thermal loading issues in Missouri and surrounding areas, compared to
21 the other alternative variations that exclude the Orient – Fairport – Zachary 345 kV
22 path. The full Northern Missouri Corridor configuration addressed seven more
23 issues than the Zachary – Thomas Hill – Maywood – Meredosia 345 kV
24 configuration alone, fifteen more issues than the Thomas Hill – Zachary 345 kV

1 configuration alone, thirteen more issues than Zachary – Maywood 345 kV
2 configuration alone, ten more issues than the Zachary – Maywood – Meredosia 345
3 kV configuration alone, and fourteen more issues than the Zachary – Maywood –
4 Thomas 345 kV configuration alone.

5 **Q. Please elaborate on how the DZTM Project is connected to the results from**
6 **recent Generator Interconnection Queues.**

7 A. Interconnection requests for new generation in MISO’s 2022 Interconnection
8 Queue cycle, which kicked off interconnection studies in March 2023, assume that
9 the LRTP Tranche 1 portfolio will be made part of the existing transmission
10 network. Those requests could be negatively impacted if the LRTP Tranche 1
11 projects, such as the DZTM Project, are delayed or denied. This queue cycle
12 includes 2.7 gigawatts (“GW”) of new generation resources in Missouri²⁰ that is
13 needed to help meet future decarbonization goals. In the absence of the LRTP
14 Tranche 1 portfolio, the generating capacity that achieves commercial operation
15 from the 2022 Interconnection Queue cycle may encounter substantial curtailment
16 of output due to unresolved transmission constraints that could also result in higher
17 energy costs and carbon emissions or create risks of unserved energy if a significant
18 amount of generating capacity is trapped behind these constraints. These situations

²⁰ See https://www.misoenergy.org/planning/resource-utilization/GI_Queue/gi-interactive-queue/.

1 would be mitigated by completion of the DZTM Project and other LRTP Tranche
2 1 projects.

3

4 Generation interconnection studies prior to the 2022 Interconnection Queue cycle
5 were conducted before the LRTP Tranche 1 portfolio was included in MISO's
6 transmission system base case, but may still identify new transmission projects
7 from the LRTP Tranche 1 portfolio as mitigation for issues caused by the proposed
8 generation interconnection requests. Operation of the added generating capacity
9 could be contingent on construction of LRTP projects if the proposed mitigation in
10 a queue study was the same end-to-end project as an approved LRTP Tranche 1
11 project. Prior queue cycles that comprise 32 GW of generating resources are the
12 subject of on-going negotiations of generation interconnection agreements ("GIA")
13 and 49 GW of generating resources are under study in the MISO Midwest
14 Subregion.²¹ Some of this generating capacity may be dependent on LRTP Tranche
15 1 transmission development in order to secure GIAs.

16

17

18

²¹ *Id.*

1 **VII. ECONOMIC AND PUBLIC POLICY CONSIDERATIONS**

2 **Q. What assumptions in the Future 1 Scenario were used to develop the LRTP**
3 **Tranche 1 portfolio?**

4 A. The LRTP Tranche 1 portfolio justification was based upon an initial “least regrets”
5 Future 1 scenario that is described in the MTEP21 Report Addendum.²² The
6 assumed Future 1 uses the plans stated in utility integrated resource plans and most,
7 but not all (*i.e.* eighty-five percent), of aspirational utility plans stated in utility
8 announcements and state goals/preferences. The load growth in the Future 1
9 scenario is assumed to continue along recent trends. The Future 1 assumptions are
10 reflective of existing economic conditions including a small increase in load growth
11 (e.g. resulting from electric vehicle adoption) with an annual energy growth rate of
12 0.5 percent and annual demand growth rate of 0.6 percent over the next 20 years.

13 **Q. Please describe in more detail the primary economic benefits that MISO**
14 **identified will be made available by the LRTP Tranche 1 portfolio.**

15 A. The LRTP Tranche 1 portfolio provides reinforcements that enable reliable and
16 efficient delivery of energy from low cost regionally sited renewable resources to
17 economically serve load in Missouri and throughout the MISO footprint. The
18 portfolio of projects results in the enablement of significant renewable resources to
19 meet energy requirements and renewable goals of members.²³ The LRTP Tranche

²² MTEP21 Report Addendum, pgs. 11-12.

²³ *Id.*, pg. 49.

1 1 portfolio provides for a more cost-effective regional build out of generation
2 resources rather than a greater amount of locally sited generation that would be
3 required without greater transmission development (*i.e.* due to local transmission
4 limitations). MISO's analysis of benefits shows that the portfolio achieves resource
5 investment savings of \$17.5 billion (2022 dollars) in 20-year present value terms.
6 Additionally, the increased transmission capacity alleviates congestion for a more
7 efficient dispatch of the energy market by allowing these lower cost renewable
8 resources to displace more costly conventional resources to meet energy needs.
9 These congestion and fuel savings represent \$13.1 billion (2022 dollars) in 20-year
10 present value benefits, which would vary based on the period over which benefits
11 are calculated, discount rates applied, and assumptions about growth rates for
12 energy and demand.

13 **Q. Were other economic benefits identified?**

14 A. Yes. MISO's analysis of benefits during the LRTP process identified additional
15 value that is related to avoided transmission investment that reflects cost savings
16 from facility upgrades or rebuilds not needed as a result of LRTP Tranche 1,
17 reduced resource adequacy needs that captures capital cost savings from deferred
18 resource investment, avoided risk of load shedding that represents the value of
19 protecting load from disruption due to severe winter weather events, and
20 decarbonization that reflects carbon cost savings as a result of lower emissions.
21 These financially quantifiable savings provide an additional \$6.7 billion to \$23.6

1 billion (2022 dollars) in 20-year present value benefits (depending upon future
2 conditions) that are made possible by LRTP Tranche 1 transmission investment.²⁴

3 **Q. What was the benefit-cost ratio of the LRTP Tranche 1 portfolio as a whole,
4 and what was the benefit-cost ratio for area that includes Missouri?**

5 A. When compared to the present value of the revenue requirements for the LRTP
6 Tranche 1 portfolio, the portfolio produces total benefits of between 2.6 and 3.8
7 times the costs on a present value basis over 20 years under Future 1.²⁵ The low to
8 high range stated in the MTEP21 Report Addendum reflects different assumptions
9 regarding the value of lost load and the cost of carbon emissions. When these
10 system-wide benefits were evaluated for their distribution across the Midwest
11 Subregion, benefits to cost for Zone 5 amounted to between 3.0 and 4.2 times the
12 portfolio costs. Zone 5 is comprised of MISO member companies within Missouri.

13 **VIII. REGIONAL IMPACTS AND POLICIES**

14 **Q. Since the LRTP Tranche 1 projects are MVPs, how are the MVP costs
15 recovered under the MISO Tariff?**

16 A. LRTP Tranche 1 project costs are recovered from MISO transmission customers
17 based on their pro-rata usage of energy in the Midwest Subregion. This recovery
18 methodology is implemented in Attachment MM of the MISO Tariff.²⁶

²⁴ *Id.*, pgs. 54-67.

²⁵ MTEP21 Report Addendum, Executive Summary, pg. 4.

²⁶ *See* MISO Tariff, Attachment MM, Multi-Value Project Charge (“MVP Charge”).

1 **Q. What are the statuses of the LRTP Tranche 1 projects in the MISO regional**
2 **planning process?**

3 A. The LRTP Tranche 1 projects were approved by the MISO Board of Directors on
4 July 25, 2022. These projects are part of a portfolio of projects that together form
5 a new MVP portfolio. The DZTM Project timeline set during the MISO planning
6 process places the transmission project in-service during 2030, soon after or
7 contemporaneous with Tranche 1 segments in the first phase of the Program.

8 **Q. What is the impact on the MISO regional plan if one of the projects that has**
9 **received MISO approval is not constructed as planned?**

10 A. The purpose of the very extensive planning functions of MISO is to involve all
11 stakeholders in a process that will derive the most cost-effective expansion plan
12 that will meet local and regional needs for reliability, optimize access to economic
13 generation resources, and deliver other important values that benefit the ultimate
14 consumer and society. The MTEP process designs a very complex system that will
15 serve both short- and long-term needs of the BES in a coordinated manner. The
16 inability to construct a key element of the regional expansion plan, especially a high
17 voltage element such as the one proposed in the Application that is designed for
18 both reliability and its economic attributes, could result in the loss of the economic
19 benefits provided by the Project and the need to develop less optimal solutions to
20 reliability concerns. The revised plan would likely have a negative economic
21 impact on portions of customers located in the Midwest Subregion.

1 **Q. More specifically, what would be the system impacts if the DZTM Project was**
2 **not constructed as planned?**

3 A. The result of not constructing the DZTM Project would be the inability of the
4 existing transmission system to reliably deliver power in support of the expanding
5 set of renewable energy generators and the failure to realize the other benefits
6 offered by the LRTP Tranche 1 portfolio. The MISO analyses of the LRTP projects
7 identified numerous transmission facilities that will be loaded above safe operating
8 levels or below adequate voltage levels without the DZTM Project. The overall
9 result would be a transmission system that would also be less secure, with
10 additional voltage and transient stability limitations. In addition, without the
11 DZTM Project, Missouri and the other states in the MISO footprint would not
12 receive the full set of economic benefits that is provided by the LRTP Tranche 1
13 portfolio.

14 **IX. CONCLUSION**

15 **Q. Based upon the results of MISO planning studies, as well as your review and**
16 **analyses, how would you summarize your recommendations for the facilities**
17 **contained in the Application submitted by ATXI?**

18 A. The facilities proposed by ATXI would provide substantial reliability, economic,
19 and public policy benefits to Missouri. These facilities also fit well as a component
20 of the MISO regional plan for the continued development of a reliable and
21 economic regional transmission system.

22

1 **Q. Does this conclude your prepared direct testimony?**

2 **A. Yes, it does.**

CERTIFICATE OF SERVICE

The below certifies that on the 12th day of December, 2024, a true and correct copy of the Direct Testimony of Jeremiah Doner, including attachments, was filed by means of e-Docket (<https://efis.psc.mo.gov/>) in the above-referenced dockets. The Direct Testimony was also served via U.S. Mail and email through the e-Docket system as designated on the Official Service Lists on file with the Missouri Public Service Commission for this docket.