

Exhibit No.:

Issue(s): Overview of Project and
Witness Testimony; Project
Management; Scope of Work and
Project Background; Parties Roles
and Agreements; Cost;
Construction Schedule; and Tartan
Factors

Witness: Samuel F. Gardner

Type of Exhibit: Direct Testimony

Sponsoring Party: Union Electric Company

File No.: EA-2026-0058

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MISSOURI PUBLIC SERVICE COMMISSION

File No. EA-2026-0058

DIRECT TESTIMONY

OF

SAMUEL F. GARDNER

ON

BEHALF OF

UNION ELECTRIC COMPANY

d/b/a Ameren Missouri

**St. Louis, Missouri
November, 2025**

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DIRECT TESTIMONY

OF

SAMUEL F. GARDNER

FILE NO. EA-2026-0058

I. INTRODUCTION

Q. Please state your name and business address.

A. Samuel F. Gardner, One Ameren Plaza, 1901 Chouteau Avenue, St. Louis, Missouri 63103.

Q. By whom and in what capacity are you employed?

A. I work for Ameren Services Company ("Ameren Services") as a Project Manager in the Transmission Department. Ameren Services is a subsidiary of Ameren Corporation ("Ameren") and an affiliate of Union Electric Company d/b/a Ameren Missouri ("Ameren Missouri" or the "Company"), the Applicant in this proceeding.

Q. Please describe your professional background and qualifications.

A. I received a Bachelor of Science in Mechanical Engineering from the University of Missouri, Columbia in 2019. I then joined the Ameren Transmission Line Maintenance team as an engineer for three years. I worked as a project transmission line electrical engineer on various projects and determined structure health based on various conditions, such as weather, aging condition, and washout. In 2022, I joined the Project Management team within Ameren Transmission. I have completed managing a greenfield ring bus installation, a brownfield ring bus reconfiguration, and multiple transmission line rebuild projects.

II. PURPOSE OF TESTIMONY

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to introduce the other witnesses testifying on behalf of Ameren Missouri in this case. In addition, I will provide an overview of the Project construction and schedule, as well as provide an overview of how the Project satisfies the criteria used by the Commission when determining whether to grant a CCN.

Q. Are you sponsoring schedules as part of your Direct Testimony?

A. Yes. I am sponsoring the following schedule:

- Schedule SFG-D1 – 2023-12-20_Docket No. ER24-715-000_Public TCA
- Schedule SFG-D2_Project Schedule
- Schedule SFG-D3_Ameren Missouri Utility Crossings

III. OTHER WITNESSES

Q. Please provide an overview of the other witnesses and the subject matter of their testimony in this case.

A. Certainly. The table below lists the individuals other than myself who will be testifying on behalf of Ameren Missouri in this proceeding and the subject of their testimony:

Witness	Subject Matter
Justin Wenk	Mr. Wenk is a Consulting Engineer in the Transmission Line Design Department. Mr. Wenk will generally testify to the design of the Transmission Line.
Jennifer Spurlock	Ms. Spurlock is a Senior Real Estate Agent in the Real Estate Department. Ms. Spurlock will generally testify as to the real estate aspects of the Project, including the Company's proposed easement acquisition strategies.
John Dunham	Mr. Dunham works for Burns & McDonnell. ("BMcD"), a consulting firm Ameren Missouri hired to perform several tasks related to the Project. Mr. Dunham will generally testify about how the Company developed its proposed transmission line route and will sponsor the related route study.

Leah Dettmers	Ms. Dettmers is Manager of Stakeholder Relations and Training. Ms. Dettmers will testify regarding Ameren Missouri's public outreach efforts and its coordination with local government and affected regulatory agencies.
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2 **Q. What is the Project for which Ameren Missouri is seeking a CCN in this**
3 **proceeding?**

4 A. Ameren Missouri is proposing to construct an approximately 28-mile, 345 kV
5 kilovolt, new double-circuit transmission line ("Transmission Line") in Callaway County,
6 Missouri, and Montgomery County, Missouri to connect Burns substation in Callaway County to
7 Montgomery substation located in Montgomery County, Missouri. Ameren Missouri requests a
8 CCN for this Project (the "Montgomery to Callaway Connector Project " or "Project"). The new
9 double-circuit line is currently a necessary upgrade required to connect Grain Belt's Tiger
10 Connector Transmission Line to the Burns substation. Ameren Missouri plans to complete the
11 Project and place it in service by the end of 2030.

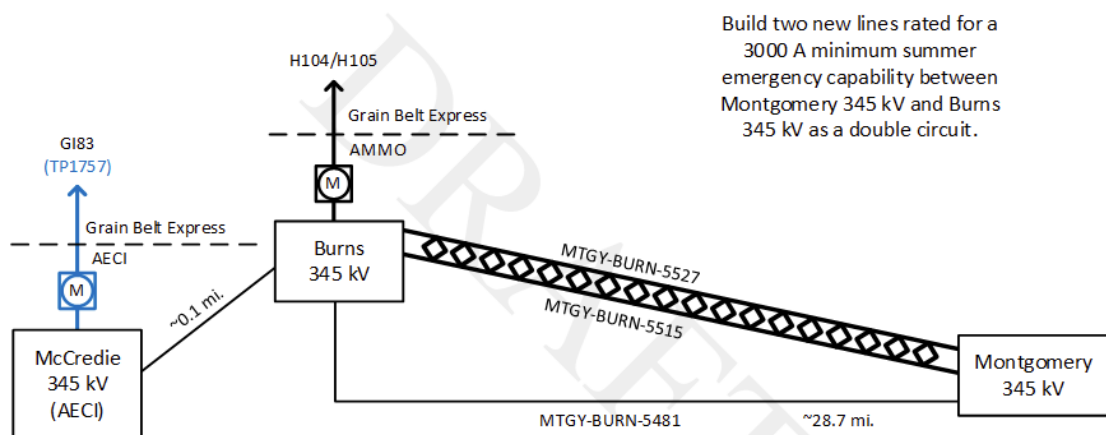
12 **Q. Why is Ameren Missouri proposing these upgrades?**

13 A. I will address this in greater detail later in my testimony, but these upgrades are
14 necessary in order to fulfill our obligations to serve. FERC Order No. 888 requires all public
15 utilities that own, control, or operate facilities used for transmitting electric energy in interstate
16 commerce to have on file open access non-discriminatory transmission tariffs that contain
17 minimum terms and conditions of non-discriminatory service. Pursuant to Order No. 888, Ameren
18 Missouri is obligated to facilitate the interconnection of Grain Belt's' High Voltage Direct Current
19 ("HVDC") interstate transmission line to the existing transmission system.

IV. PROJECT OVERVIEW AND PROJECT CONSTRUCTION

Q. You have described the Project in general terms. Can you provide more specific details about the Project?

A. Yes. In Missouri, the Project involves construction of a double-circuit greenfield 345-kV transmission line section from Burns Substation eastward to the Montgomery Substation with an estimated length of 28 miles. This double circuit line will be composed of 345-kV conductor and associated hardware capable of 3000-amp summer emergency rating, double circuit light, medium, and heavy angle suspension structures designed for two 345-kV circuits.



The proposed route of The Project, noted in the one line above, will exit the Burns Substation from the south side, then turn east paralleling the existing Montgomery to Burns 5481 transmission line for 28 miles. The proposed route will then terminate to Montgomery on the south side of the substation.

1 **Q. Can you describe how Ameren Missouri determined the routing of the**
2 **proposed line?**

3 A. Yes. Routing of the new line was determined by geographical, cultural, and
4 landowners' considerations in Missouri. The Direct Testimony of Ameren Missouri witnesses Mr.
5 John Dunham and Mr. Justin Wenk provide more information regarding the selection of the route
6 and other routing details.

7 **Q. Will new easements be required for the Project?**

8 A. Yes. Ameren Missouri has identified ninety-four (94) unique affected landowners
9 within the one-hundred and fifty (150) foot right of way. Together, these landowners own one
10 hundred and nine (109) different parcels. The exact number will be determined when Ameren
11 Missouri finalizes siting of the structures after working with the affected landowners. Ameren
12 Missouri witness, Jennifer Spurlock, provides more information regarding the affected landowners
13 and the necessary easements for the Project.

14 **Q. What community outreach efforts did Ameren Missouri engage in when**
15 **developing the Project and identifying the route for the Transmission Line?**

16 A. The Ameren Missouri Project team, supported by consultants from Burns and
17 McDonnell ("BMcD"), conducted two public open houses, one in Callaway County and one in
18 Montgomery County, Missouri, on February 4th, 2025 and February 5th, 2025, respectively. There
19 were public open house meetings hosted in the mornings and in the evenings in each county,
20 resulting in four (4) total open house events. The open houses were advertised in the newspapers
21 that are distributed in the Project area. Invitations to the open houses were also mailed to all
22 landowners within the study area of the Project and were available on an interactive website,
23 Ameren.com/company/ameren-transmission/montgomery-callaway.com, which was created for

1 anyone to review information about the Project and leave comments or questions. The study area
2 was identified by Ameren Missouri and BMcD teams to include any area in Missouri that the
3 Project could reasonably be routed between the Burns Substation and the Montgomery Substation,
4 Missouri. The testimony of company witnesses Ms. Leah Dettmers and Mr. John Dunham provide
5 much more detail on the public outreach efforts Ameren Missouri engaged in during the route
6 development process.

7 **Q. Where is Ameren Missouri in the preconstruction process?**

8 **A.** The Ameren Missouri engineers have identified the most likely route for the Project
9 and have created a preliminary design. The design includes assumptions for structure locations,
10 structure sizes, and foundations. The design will be revised once geotechnical exploration is
11 complete and the final route is determined. The engineers have created a list of anticipated
12 materials needed for the Project and have collected estimates from material suppliers. Historical
13 cost data from similar projects has also been used to create estimates for materials and construction
14 labor. When the design is near completion the material estimates will be updated by the various
15 suppliers, and the Project will be released to construction contractors to provide bids.

16 **Q. How does Ameren Missouri intend to construct the Project?**

17 **A.** The Project will be constructed using the design/bid/build project delivery process.
18 In the design/bid/build process, Ameren Missouri directs each phase of the work activities. In this
19 traditional approach to project delivery, the transmission owner (here, Ameren Missouri) arranges
20 for the completion of the design and Project specifications. In the bid phase, the owner then
21 coordinates the competitive bidding of materials and any labor necessary for the Project based on
22 the design. Ameren Missouri will evaluate the proposals and award the scope to contractors.

1 Finally, the build phase requires the owner to coordinate the receipt of the materials and manage
2 construction, including the activities of any construction contractors.

3 **Q. How will Ameren Missouri select contractors for the Project?**

4 A. Ameren Missouri will use a formal sourcing process to secure bids for the labor
5 necessary to construct the Project. Generally, the sourcing process is comprised of: (i) formation
6 of a contract development team to identify and write the scope of work to be completed,
7 identification of qualified contractors for bidding, and the contractor selection criteria necessary;
8 (ii) evaluation and acceptance of the statements of qualifications and bids received from those
9 interested in the work as scoped; and (iii) negotiation of the terms and conditions most favorable
10 to Ameren Missouri. This rigorous sourcing process assures that Ameren Missouri secures the best
11 bid for efficient and effective construction.

12 **Q. Please explain how Ameren Missouri will ensure adequate and efficient**
13 **construction of the Project.**

14 A. Ameren Missouri has a strong project management emphasis and experience. There
15 are documented corporate project oversight policies and procedures that govern all phases of
16 transmission line projects, including this Project. These policies and procedures are consistent with
17 the Project Management Institution's Project Management Book of Knowledge, which is an
18 American National Standards Institute (ANSI) standard. The policies describe key steps in
19 ensuring adequate and efficient construction, such as engineering design calculation checking,
20 constructability reviews, project risk registers with defined risk mitigation plans, and fully
21 integrated logic-driven schedules. Further, monthly status reports with key project health metrics
22 are reviewed with management. The monthly status reports identify issues affecting project
23 execution, potential high impact risks, and cost and schedule performance.

1 **Q. Please explain how Ameren Missouri will supervise construction of the**
2 **Project.**

3 A. The Transmission Construction Services group will have primary responsibility for
4 job site supervision during construction of the Project. In addition to this supervision, employees
5 engaged in design engineering, project controls, and safety will also oversee construction. Finally,
6 construction contractors will be continuously managed through field inspections, testing (as
7 required), and construction review.

8 **Q. Will Ameren Missouri ensure that the Project is designed and constructed in**
9 **accordance with applicable laws and regulations?**

10 A. Yes. The personnel involved in the design and construction of the Project are
11 regularly involved in the design and construction of transmission lines in Missouri. As such, they
12 are aware of the laws and regulations applicable to such design and construction. When changes
13 are made to these laws and regulations, employees involved in regulatory issues advise those
14 affected by the changes to implement any modifications in the process or procedure necessary to
15 stay compliant. Through its experience and the process to address changes, Ameren Missouri will
16 ensure that they comply with all applicable federal and state regulations and orders of the
17 Commission, including the National Electrical Safety Code ("NESC").

18 **Q. What is Ameren Missouri's capability to efficiently manage and supervise**
19 **construction of the Project?**

20 A. Ameren Missouri is capable of efficiently managing and supervising construction
21 of the Project. The transmission group and its personnel have successfully built many transmission

line projects. Further, the Project will be designed and constructed in accordance with all applicable federal, state, and local regulations and the NESC.

V. PROJECT SCHEDULE

Q. What is the planned in-service date for the Project?

A. The planned in-service date for the Montgomery to Callaway Connector Project is December 1, 2030.

Q. By when does Ameren Missouri request that the Commission approve its application for a CCN to comport with this in-service date?

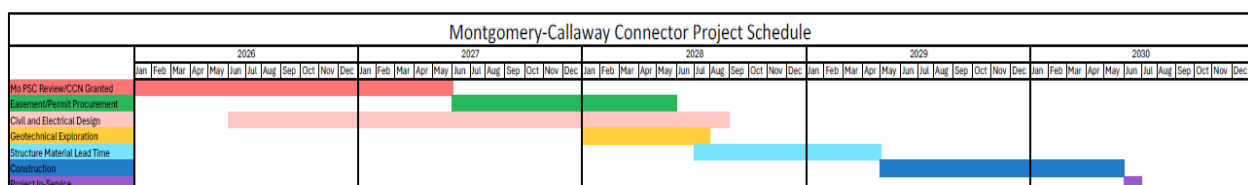
A. Ameren Missouri requests that the Commission approve its application for a CCN by May 18, 2027 and for the CCN to be effective no later than June 1, 2027.

Q. Why is that date significant?

A Grain Belt, Ameren Services Company, and MISO have a signed Transmission Connection Agreement ("TCA") which lists this Project's contractual in-service date of December 1, 2030. Ameren Services Company entered into the TCA as an agent for Union Electric Company. For the Project to meet its in-service date, it is necessary that the CCN be granted by May 18, 2027, so that geotechnical exploration efforts can begin in earnest the following month. Ameren Missouri needs to complete geotechnical borings, which require right of entry, by the end of July 2028 to maintain the Project schedule. In addition, the schedule calls for construction to commence in 2029.

Q. Please provide an overview of the anticipated schedule for the Project.

A. The following diagram depicts the anticipated schedule for the Project:



1 As depicted above, Ameren Missouri anticipates a positive ruling on the CCN Application
2 by no later than May 18, 2027, with an effective date no later than June 1, 2027. After that, there
3 are still multiple steps that will need to be accomplished to bring this Project in-service by
4 December 1, 2030. The Project team will begin micro-siting in 2026, however, Ameren Missouri
5 will not acquire easements until after a CCN has been granted. The Company's engineers will
6 continue to design the Project through September 1, 2028.

7 Ameren Missouri will complete cultural impact studies and native species studies in
8 Missouri as soon as right of access from landowners has been granted. The cultural impact studies
9 will ensure that no historically significant locations or artifacts are impacted by the construction
10 of the Project and the native species studies will determine if any Federally or State of Missouri
11 protected species will be impacted by construction of the Project.

12 Once the route is cleared of vegetation, geotechnical borings will be collected and reviewed
13 by the engineering team. This will allow the engineers to complete their foundation and structure
14 designs. Once design is complete, the structure suppliers can complete their design and begin
15 fabrication of the structures. Completion of the design by the Ameren Missouri engineers will also
16 allow other Ameren Missouri team members to submit the Project to the various Federal and State
17 entities that will require permits of approvals for construction of the Project.

18 Once all permits and approvals are secured, construction will start by placing structural
19 foundations in mid-2029. The balance of the transmission line construction consists of monopole
20 structure erection, conductor stringing, and Optical Ground Wire stringing. The expected
21 construction finish date is May 2030. Testing and inspections of the Project will be completed by
22 June of 2030. The Project will be fully operational and placed in-service by December 1, 2030.

1 As weather allows, and after stormwater pollution prevention measures are installed,
2 Ameren Missouri will begin installing monopole foundations. Once all the monopole foundations
3 are complete, Ameren Missouri will begin erecting the monopole structures. The next step in
4 construction involves stringing the line across the new structures, from substation to substation.
5 The last step will be to demobilize all the construction equipment and restore the properties as
6 close to their original state as possible. Once vegetation has taken hold, the stormwater pollution
7 prevention measures will be removed.

8 **Q. Can you describe what remains to be done to finalize the proposed route for**
9 **the Project?**

10 A. Ameren Missouri believes it has selected a route that is considerate of the feedback
11 it has received from all stakeholders, is least impactful to landowners and is most favorable for
12 cost. After approval of the route by the Commission, the last step in the routing process will be for
13 the Ameren Services engineers and BMcD consultants to work with the affected landowners to
14 microsite the structures and for the Real Estate team to secure the necessary easements. The
15 testimony of Ameren Missouri witness Mr. John Dunham provides more specific information
16 about the routing of the Project.

17 **Q. What other regulatory agency approvals are required for the Project?**

18 A. Ameren Missouri is working with several state and federal agencies, including the
19 Missouri Department of Conservation, Missouri State Parks, U.S. Fish and Wildlife Services, and
20 the U.S. Army Corps of Engineers, to obtain permits.

21 **Q. Are there any regulatory approvals which have already been obtained, are in**
22 **the process of being obtained, or are required for this Project?**

- 1 A. Given that Ameren Missouri does not have permission from the Commission to
2 construct the Project, it has not obtained any other approvals yet for this Project and has not started
3 the formal permitting acquisition process. Depending on the final approved route and the results
4 of property or environmental surveys, the following permits will or may be required for the Project:

Regulation	Regulatory Agency/Regulator	Permit/Authorization/Submittal
Section 404 of Clean Water Act ("CWA") Section 10 of Rivers and Harbors Act	US Army Corps of Engineers ("USACE") – Kansas City Regulatory District	Nationwide Permit ("NWP") 57 (Electric Utility Line and Telecommunications Activities)
Endangered Species Act ("ESA")	US Fish and Wildlife Service ("USFWS") - Missouri Ecological Services Field Office	Section 7 Consultation
Federal Aviation Regulations 75 FR 42296 - "Safe, Efficient Use and Preservation of the Navigable Airspace"	Federal Aviation Administration ("FAA") - Central Region Office	Submittal - Form 7460-1 "Notice of Proposed Construction or Alteration"
Construction Stormwater (Land Disturbance Permit) General Stormwater National Pollutant Discharge Elimination System ("NPDES") Permit for Construction Activities	Missouri Department of Natural resources ("MoDNR") – Water Protection Program	Stormwater Runoff from Construction Activities General Permit
CWA Section 401 - Water Quality Certification ("WQC")	MoDNR – Water Protection Program	Section 401 Water Quality Certification
Floodplain Development Permit	Missouri State Emergency Management Agency – Floodplain Management	Floodplain Fill Permit
Section 106 of the National Historic Preservation Act ("NHPA")	Missouri State Historic Preservation Office ("SHPO")	Concurrence

Regulation	Regulatory Agency/Regulator	Permit/Authorization/Submittal
Missouri Threatened and Endangered Species Consultation	Missouri Department of Conservation ("MDC")	Natural Resource Review for State-Listed Species
County Floodplain Development	Local County Zoning Administrator	Floodplain Development Permit
Railway Permits	Railroad Company being crossed or encroached upon	Crossing permit or Longitudinal Permit
Highway Crossing Permits	Missouri Department of Transportation	Interstate, State highway crossing permit
Road Permits/County Assent	State Highways, County roads, City jurisdictions	Crossing Permit or other permit necessary if putting infrastructure upon or over County or State Road/Highway
Utility crossing Permits	Pipeline or other utility company	Crossing permit

Q. Does Ameren Missouri anticipate any environmental impacts related to the Project? If so, what steps is the Company taking to mitigate those impacts?

A. Ameren Missouri has not yet performed site-specific environmental field surveys in Missouri, and therefore a complete list of environmental impacts is unavailable at this time. The Company does anticipate construction will require a NPDES permit from the MoDNR.

Ameren Missouri has consulted with the relevant government agencies and endeavored to obtain environmental information for the Project areas. Additionally, several criteria regarding environmental impact and sensitivities were extensively considered in the route selection process.

Ameren Missouri will begin the formal environmental field survey process upon receipt of a CCN from the Commission (when the route is certain) and obtain landowner permission to access the properties along the approved route to ascertain a full and extensive environmental impact. Surveys that Ameren Missouri plans to complete include delineation of waters of the U.S., archaeological survey, sensitive species habitat assessment, and a bat presence/absence survey.

1 Upon completing environmental field surveys, and prior to construction, the Company will obtain
2 the necessary environmental permits for the Project's facilities from all relevant agencies and
3 implement any necessary mitigation.

4 Ameren Missouri has incorporated numerous best management practices into our routing,
5 siting process, and construction efforts, to avoid and minimize impacts to the extent practicable.
6 These include desktop review and modification of specific pole locations to avoid identified
7 species habitat or other sensitive areas, utilizing existing stream crossings for access roads where
8 possible, clearing vegetation during the winter bat hibernation period, and inclusive of avian safe
9 design measures on our wire and structures.

10 **Q. Will Ameren Missouri obtain all necessary regulatory approvals required for**
11 **the Project?**

12 A. Yes.

13 **Q. What pre-construction activity is required?**

14 A. As Ameren Missouri obtains easement agreements, it will begin environmental
15 studies and surveys, conduct geotechnical explorations, assess and install construction access, and
16 begin vegetation clearing. Engineering will continue finalizing detailed designs of the
17 Transmission Line and begin material procurement for construction.

18 **VI. PROJECT COST AND FINANCING**

19 **Q. What is the estimated cost of the Project?**

20 A. The current estimated cost of the Project is compromised of a base cost of
21 **** _____ **** with a range of up to **** _____ **** as a contingency cost.

22 **Q. How was the base Project cost determined?**

1 A. The cost estimate for the project is a compilation of efforts by several groups of
2 professionals that use cost history analysis from past projects, inflation adjustments, and estimates
3 of costs for unknown factors. Project Engineers begin by creating a list of materials that are needed
4 for the Project. A cost analyst then applies known and estimated cost to each item. Meanwhile, the
5 Real Estate team gathers fair market value information for the necessary property easements. The
6 construction labor cost is estimated by using historical data from the most recent similar projects.
7 This cost remains unknown until the scope is defined well enough to present to the contractors for
8 bidding. I, as the Project Manager, then compile the costs above, as well as anticipated
9 management labor costs, design cost, costs for the various permits, safety and quality control costs,
10 and a myriad of additional costs for materials and labor. Once this subtotal is determined, the
11 project team reviews the known and unknown costs and applies an appropriate percentage of
12 contingency to cover unknown risks that may impact the project budget.

13 **Q. You provided a range of costs for the Project. Why?**

14 A. The range of cost for the Project is due to the amount of unknown conditions that
15 will be encountered as the Project develops through design, engineering, and construction. At this
16 early stage, the two most significant risks for construction and, therefore, the impact on the cost
17 for the Project, are the unknown soil conditions where the structure foundation will be placed and
18 unknown Stormwater Pollution Prevention Plan mediation construction efforts. To acknowledge
19 these risks, a budget contingency has been added to the estimated Project cost which is the
20 contingency cost I identify above.

21 **Q. What other transmission lines may be impacted during the micro-siting**
22 **process?**

1 A. The existing Montgomery-Burns-5481 345 kV transmission line runs parallel to the
2 proposed Montgomery-Callaway Connector route. The existing Montgomery-Burns-5481 345 kV
3 transmission line may be shifted North in order for the greenfield Montgomery-Callaway
4 Connector line to shift North to mitigate landowner impact.

5 **Q. What is your understanding of how Ameren Missouri will finance the Project?**

6 A. Currently, the TCA classifies the Montgomery Callaway Connector Project as a
7 Necessary Upgrade, which would be funded by annual Cash in Advance of Construction ("CIAC")
8 security payments provided by Grain Belt Express. Ameren Missouri currently reimburses the
9 project with the cash security payments monthly. Ameren Missouri anticipates this Project to be
10 reclassified, upon Federal Energy Regulatory Commission (FERC) approval, as a Network
11 Upgrade. If reclassified as a Network Upgrade, then Grain Belt Express would provide annual
12 letter of credit security payments. Upon project completion, security would be released, and
13 Ameren Missouri would recover 100% of the Network Upgrade cost through a Facilities Service
14 Agreement ("FSA") over a twenty (20) year period.

15 **Q. Will the estimated costs for the Project impact Ameren Missouri's access to**
16 **the capital needed to finance the Project?**

17 A. No. As I understand it, the estimated cost of the Project is quite modest compared
18 to Ameren Missouri's historical capital expenditures. For example, Ameren Missouri's projected
19 capital expenditures from 2025 through 2029 are \$2.725 billion. Also, the incremental amount of
20 debt and interests to support this Project is small in comparison to Ameren Missouri total
21 borrowing capacity and related interest expense. It is my understanding that with or without the
22 Project, Ameren Missouri will continue to have access to long-term sources of capital including

external debt and equity. Thus, the Project will not affect Ameren Missouri ability to finance or fund its on-going needs.

Q. Will any individual customer or customer group directly reimburse Ameren Missouri for the cost of the Project?

A. Yes. Currently, Grain Belt Express is responsible for security payments, in the form of cash, prior to Ameren Missouri expending any funds to construct the Project. These payments are CIAC security payments. If the Montgomery Callaway Connector Project is reclassified as a Network Upgrade, then Grain Belt Express will be responsible for annual letter of credit security payments. Upon project completion, security would be released, and Ameren Missouri would recover 100% of the Network Upgrade cost through a FSA over a twenty (20) year period.

Q. How will Ameren Missouri recover the cost of the Project?

A. Currently, the Ameren Missouri Project costs are reimbursed through Grain Belt Express' annual, cash security, CIAC payments. If the Montgomery Callaway Connector Project is reclassified as a Network Upgrade, then upon project completion, security would be released, and Ameren Missouri would recover 100% of the Network Upgrade cost through a FSA over a twenty (20) year period.

VII. PROJECT OPERATION AND RESTORATION

Q. Please provide an overview of Ameren Missouri's plan for operating the Project.

A. Ameren subsidiaries currently own and operate over 8,300 miles of transmission lines across multiple states. Ameren Missouri will perform operations and maintenance services once the Project is complete. Ameren Missouri maintains a primary control center that will conduct all operational switching and coordination with adjacent and interconnected systems. Once the

1 Project is placed into service, it will be continuously monitored through SCADA by the control
2 center. The control center is staffed around the clock by systems operators that are certified by the
3 North American Electric Reliability Corporation ("NERC"). The system operators are required to
4 maintain their certification through a combination of computer-based training and live system
5 simulation drills. Ameren Missouri also maintains backup control centers in the unlikely event that
6 the primary control center must be evacuated to minimize any potential disruption to operating the
7 transmission system.

8 **VIII. TARTAN FACTORS**

9 **Q. Are you familiar with the Tartan Factors that the Commission uses in its**
10 **evaluation of CCN applications?**

11 A. It is my understanding that, in its review of the CCN applications, the
12 Commission has traditionally applied the following five criteria, known as the Tartan factors: (1)
13 there must be a need for the service the applicant proposes to provide; (2) the applicant's
14 proposal must be economically feasible; (3) the applicant must have the financial ability to
15 provide the service; (4) the applicant must be qualified to provide the proposed service; and (5)
16 the proposed service must be in the public interest.

17 **Q. Please explain why there is a need for the Project.**

18 A. MISO performed Modular Multilevel Converter High-Voltage Direct Current
19 ("MHVDC") System Impact Studies which identified that the connection of Projects H104 and
20 H105 will cause constraints on the transmission system that must be mitigated before the
21 Projects are placed in-service. Project H104 is a 1,000 MW injection only, approximately 570-
22 miles, 525 kV HVDC transmission line, and Project H105 is a 500 MW injection only expansion
23 of Project H104. The TCA executed by MISO, Ameren Missouri, and Grain Belt and included

1 with my testimony as Schedule SFG-D1, addresses the upgrades necessary to remove the system
2 constraints.

3 **Q. Please explain how the Project is economically feasible.**

4 A. This Project is economically feasible as a Necessary Upgrade or a Network
5 Upgrade. Grain Belt Express is responsible for annual cash security payments to fund the
6 Project, currently. If reclassified as a Network Upgrade, then Grain Belt Express will be
7 responsible for annual letter of credit security payments to fund the Project.

8 **Q. Does Ameren Missouri have the financial ability to build and operate the**
9 **Project?**

10 A. Ameren Missouri's overall financial status is unaffected by this Project since it will
11 be funded by Grain Belt. Grain Belt has already provided CIAC security payments for engineering
12 and line routing costs forecasted throughout 2025 and is contractually obligated to provide the
13 Company with CIAC security payments annually in order to keep the Project funded. The annual
14 CIAC security payment amounts are determined by Ameren Missouri cash flows forecasted by
15 Project Management.

16 **Q. Is Ameren Missouri qualified to provide the proposed service?**

17 A. Ameren Missouri is qualified to build transmission lines due to its status as a state-
18 regulated public utility, its proven track record, and its ability to secure approval for specific
19 projects. For example, the Denny-Zachary-Thomas Hill-Maywood (DZTM) Project, EA-2024-
20 0302, was granted a CCN on July 18th, 2025.

21 **Q. Please explain why the Project is in the public interest.**

22 A. It is often said that the public interest test is generally satisfied if each of the first
23 four Tartan factors are satisfied. Given that the first four Tartan factors clearly support the issuance

1 of a CCN, as demonstrated above, it is logical to conclude that the Project is in the public interest.
2 However, there is also additional support for it being in public interest. The Project will increase
3 transmission capacity that ensures energy reliability and resiliency for Ameren Missouri customers
4 by providing flexibility to re-route power during outages while crews safely make repairs. The
5 additional transmission capacity will also support economic development opportunities to Ameren
6 Missouri customers. Finally, by constructing a double-circuit 345-kV line connecting Burns
7 substation to Montgomery substation now as part of the Grain Belt upgrades, Ameren Missouri
8 customers are saving on future cost associated with upgrading capacity within this corridor.

9 **Q. Does this conclude your Direct Testimony?**

10 **A. Yes.**



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December 20, 2023

VIA ELECTRONIC FILING

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: Midcontinent Independent System Operator, Inc.
FERC Docket No. ER24-____-000

Dear Secretary Bose:

The Midcontinent Independent System Operator, Inc. (“MISO”) hereby submits¹ an unexecuted Transmission Connection Agreement (“Interconnection Agreement” or “TCA”) among Grain Belt Express LLC (“Grain Belt Express” or “Interconnection Customer”), Union Electric Company d/b/a Ameren Missouri (“Ameren” or “Transmission Owner”), and MISO (“Transmission Provider”), collectively, the (“Parties”). MISO has designated the Interconnection Agreement as Original Service Agreement No. 4218 under MISO’s Tariff.² MISO has designated this project as Project No. H104 H105 in its interconnection queue. Further, the Parties request an effective date of February 19, 2024, as discussed below.

I. OVERVIEW OF FILING

The body of the attached Interconnection Agreement conforms to the *pro forma* Transmission Connection Agreement.

Interconnection Customer declined to execute the TCA and, accordingly, the TCA is being submitted on an unexecuted basis at the direction of Interconnection Customer. Interconnection Customer and Transmission Owner will address issues related to whether the GIA should be accepted by the Commission in separately-filed comments or protests once this filing has been noticed by the Commission.

¹ See Section 205 of the Federal Power Act (“FPA”), 16 U.S.C. § 824d, and Section 35.12 of the Federal Energy Regulatory Commission’s (“FERC” or “Commission”) regulations, 18 C.F.R. § 35.12 (2023).

² MISO FERC Electric Tariff, Fifth Revised Vol. No. 1 (“Tariff”).

Grain Belt Express requests MISO to file the Transmission Connection Agreement unexecuted because Grain Belt Express objects to the lack of a limited operation provision and needs an upgrade schedule that would allow limited operations prior to the December 1st, 2030 In-Service Date for the Ameren upgrades. Grain Belt Express filed its Complaint and Request for Extended Comment Period on December 6, 2023, and was assigned Docket No. EL24-35-000.

Ameren supports the TCA as negotiated between the Parties. Any allowance for limited operations is an issue related to the provisions of the MISO Tariff, to which the TCA must conform.

II. DOCUMENTS SUBMITTED IN THIS FILING

The documents submitted with this filing include this transmittal letter and a public and non-public version of the Interconnection Agreement in accordance with the Parties' designation of the diagrams contained in this filing as Controlled Unclassified Information ("CUI") and Critical Energy Infrastructure Information ("CEII") under the Commission's rules. 18 C.F.R. § 388.113 (2023). Pursuant to the Commission's Notice Announcing New Combined Notice of Filings, issued on May 13, 2005, and the Commission's subsequent listing on its website, no form of notice is required under 18 C.F.R. § 35.11 (2023).³ The Parties have designated diagrams of their interconnection in Exhibits B1-1, B1-2, B2, B2-1, B2-2, B2-13, B2-4, B2-5, B2-6, B2-7, B2-8 as CUI/CEII.

MISO hereby requests confidential treatment of the CEII contained in Exhibits B1-1, B1-2, B2, B2-1, B2-2, B2-13, B2-4, B2-5, B2-6, B2-7, B2-8 of the non-public version of the Interconnection Agreement enclosed pursuant to 18 C.F.R. § 388.113. The Parties assert that the information contained in Exhibits B1-1, B1-2, B2, B2-1, B2-2, B2-13, B2-4, B2-5, B2-6, B2-7, B2-8 qualify as CEII pursuant to 18 C.F.R. § 388.113(c)(1) for the following reasons: the diagrams attached to the Interconnection Agreement are system maps that provide specific detailed design information about existing critical transmission system infrastructure. The Exhibits are exempt from mandatory disclosure under the Freedom of Information Act, 5 U.S.C. § 552. Members of the public can obtain access to the Exhibits by complying with the Commission's procedures per 18 C.F.R. § 388.113.

The CEII information submitted with this filing will continue to be CEII while the facilities reported upon continue in operation. Due to the long-lived nature of utility facilities and their operation, this period is expected to be greater than the five-year period set out in 18 C.F.R. § 388.113(e)(1). Upon any expiration of the CEII designation, the critical infrastructure information should therefore be treated as CEII and re-designated as such while the facilities remain in operation.

The non-public version of the Interconnection Agreement containing CEII information has been marked CUI/CEII according to the Commission's instructions.

³ See Documents and Filings, Notice Formats, available at <http://www.ferc.gov/docs-filing/not-form.asp>.

The documents submitted with this filing include this transmittal letter;

Tab A: Clean copy of the Non-Public Interconnection Agreement;

Tab A: Clean copy of the Public Interconnection Agreement;

Tab B: Redlined copy of the Interconnection Agreement reflecting changes as compared to the *pro forma* TCA; and

Tab C: Protective Agreement.

III. PROPOSED EFFECTIVE DATE

MISO requests that the proposed revisions be made effective, without modification or condition, on February 19, 2024, which is more than sixty days after the date of this filing.

IV. COMMUNICATIONS

All correspondence and communications in this matter should be addressed to:⁴

Sarah Nieman*
Midcontinent Independent
System Operator, Inc.
720 City Center Drive
Carmel, IN 46032
Telephone: (317) 502-0041
sanieman@misoenergy.org
agreements@misoenergy.org

*Persons authorized to receive service.

V. NOTICE AND SERVICE

MISO notes that it has served a copy of this filing electronically, including attachments, upon all Tariff Customers under the Tariff, MISO Members, Member representatives of Transmission Owners and Non-Transmission Owners, as well as all state commissions within the Region. The filing has been posted electronically on MISO's website at <https://www.misoenergy.org/legal/ferc-filings/> for other interested parties in this matter. In addition, MISO has served a copy of this filing electronically on all parties to this agreement.

VI. CONCLUSION

⁴ To the extent necessary, the Parties respectfully request a waiver of Rule 203(b)(3) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.203(b), to permit all of the persons listed to be placed on the official service list for this proceeding.

The Honorable Kimberly D. Bose

December 20, 2023

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For all of the foregoing reasons, MISO requests that the Commission accept this Interconnection Agreement for filing and grant the proposed effective date of February 19, 2024, and grant waiver of any Commission regulations not addressed herein that the Commission may deem applicable to this filing.

Respectfully submitted,

/s/ Sarah Nieman

Sarah Nieman

Attorney for the Midcontinent Independent
System Operator, Inc.

Attachments

TAB A
PUBLIC

SA 4218 UNION ELECTRIC-GRAIN BELT GIA VERSION 31.0.0

EFFECTIVE 02/19/2024

ORIGINAL SERVICE AGREEMENT NO. 4218

PUBLIC VERSION

TRANSMISSION CONNECTION AGREEMENT

by and among

Grain Belt Express LLC,

Ameren Services Company as agent for **Union Electric Company** d/b/a **Ameren Missouri,**

and

Midcontinent Independent System Operator, Inc.

APPENDIX 2 TO MHCP
TRANSMISSION CONNECTION AGREEMENT

by and among

Grain Belt Express LLC,

Ameren Services Company as agent for **Union Electric Company** d/b/a **Ameren Missouri,**

and

Midcontinent Independent System Operator, Inc.

entered into on the ____ day of _____, 2023

TRANSMISSION CONNECTION AGREEMENT

THIS TRANSMISSION CONNECTION AGREEMENT (“Agreement”), dated as of _____, 2023, is entered into by and among **Ameren Services Company** as agent for **Union Electric Company** d/b/a **Ameren Missouri**, a corporation organized and existing under the laws of the State of Missouri (“Transmission Owner”), **Grain Belt Express LLC**, a Limited Liability Company organized and existing under the laws of the State of Indiana (“MHVDC Connection Customer”), and Midcontinent Independent System Operator, Inc. (“Transmission Provider”), a non-profit, non-stock Delaware corporation. Transmission Owner, MHVDC Connection Customer, and Transmission Provider are referred to herein individually as “Party,” and collectively, as “Parties.”

RECITALS

WHEREAS, Transmission Provider exercises functional control over the Transmission System pursuant to the Agreement of Transmission Facilities Owners to Organize the Midcontinent Independent System Operator, Inc., a non-profit, non-stock Delaware corporation (“Transmission Owners Agreement”), and Transmission Owner owns and/or operates certain facilities included in the Transmission System;

WHEREAS, MHVDC Connection Customer intends to own, lease, and/or control and operate the Merchant HVDC Transmission Line (“MHVDC Transmission Line”) identified in Appendix B to this agreement; and

WHEREAS, MHVDC Connection Customer, Transmission Provider, and Transmission Owner have agreed to enter this agreement for the purpose of interconnecting the MHVDC Transmission Line with the Transmission System.

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, it is agreed:

ARTICLE 1 DEFINITIONS

Wherever used in this Agreement with initial capitalization, the following terms shall have the meanings specified or referred to in this Article 1. Terms used in this Agreement with initial capitalization that are not defined in this Article 1 shall have the meanings specified in the Transmission Provider Tariff.

- 1.1 “Abnormal Condition” means any condition on the Transmission System, the MHVDC Transmission Line, or the transmission systems of other utilities, which is outside normal operating parameters such that facilities are operating outside their normal ratings or reasonable operating limits have been exceeded but which has not resulted in an Emergency. An Abnormal Condition may include, but is not limited to, high or low deviations in voltage, frequency, power flow, equipment temperature, equipment pressures, and other equipment and operating parameters.
- 1.2 “Affected System” shall mean an electric transmission or distribution system or the electric system associated with an existing generating facility or of a higher queued MHVDC Transmission Line and/or Generating Facility, which is an electric system other than the Transmission Owner’s Transmission System that is affected by the MHVDC Transmission Connection Request. An Affected System may or may not be subject to FERC jurisdiction.
- 1.3 “Affiliate” means, with respect to a corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.
- 1.4 “Applicable Laws and Regulations” shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority having jurisdiction over the Parties, their respective facilities and/or the respective services they provide.
- 1.5 “Balancing Authority” shall mean the responsible entity that integrates resource plans ahead of time, maintains load-interchange-generation balance within a Balancing Authority Area, and supports interconnection frequency in real time.
- 1.6 “Balancing Authority Area” shall mean the collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains load-resource balance within this area.
- 1.7 “Breach” shall mean the failure of a Party to perform or observe any material term or condition of this Agreement.
- 1.8 “Breaching Party” shall mean a Party that is in Breach of this Agreement.
- 1.9 “Commercial Operation Date” shall have the meaning identified in Appendix C.

- 1.10 “Common Use Upgrade” shall mean a Network Upgrade or any other classified addition, alteration, or improvement on the Transmission System or the transmission system of an Affected System, not classified under Attachment FF of the Transmission Provider Tariff as a Baseline Reliability Project, Market Efficiency Project, or Multi-Value Project, that is needed for the interconnection of multiple MHVDC Connection Customers’ and/or Interconnection Customers’ facilities and which is the shared responsibility of such MHVDC Connection Customers and/or Interconnection Customers.
- 1.11 “Connection Facilities” shall mean the Transmission Owner’s Connection Facilities and the MHVDC Connection Customer’s Connection Facilities. Collectively, Connection Facilities include all facilities and equipment between the MHVDC Transmission Line and the Point of Connection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the MHVDC Transmission Line to the Transmission System. Connection Facilities shall not include Distribution Upgrades, Network Upgrades, or Stand Alone Network Upgrades as those terms are defined in the Transmission Provider Tariff.
- 1.12 “Effective Date” shall mean the effective date of this Agreement as determined pursuant to Article 2.1 of this Agreement.
- 1.13 “Emergency” shall mean a condition or situation (1) that has been declared an emergency by an applicable NERC functional entity as defined in the NERC reliability functional model, (2) that in the reasonable judgment of the Party making the claim is imminently likely to endanger, or is contributing to the endangerment of, life or property, or public health and safety; or (3) that, in the case of a Party, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Transmission System, MHVDC Transmission Line, or the electric systems of others to which the Parties are directly connected.
- 1.14 “EPC Agreement” shall mean the Agreement for Engineering, Procurement, and Construction between Transmission Owner and MHVDC Connection Customer.
- 1.15 “Facilities Construction Agreement (FCA)” shall mean the form of facilities construction agreement, set forth in Appendix 8 to Attachment X of the Transmission Provider Tariff. The FCA shall be used when an MHVDC Connection Customer causes the need for the construction of Network Upgrades on the transmission system of an Affected System.
- 1.16 “FERC” shall mean the Federal Energy Regulatory Commission or its successor.
- 1.17 “Good Utility Practice” shall mean any of the applicable practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment by a Party in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition, giving due

regard to the requirements of governmental agencies having jurisdiction. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather includes all acceptable practices, methods, or acts generally accepted in the region as they may be applicable to the Parties as transmission system operators.

- 1.18 “Governmental Authority” shall mean any federal, state, local, or other governmental agency, court commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, arbitrating body, or other governmental authority having jurisdiction over a Party, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include MHVDC Connection Customer, Transmission Owner, Transmission Provider, or any Affiliate thereof.
- 1.19 “Initial Synchronization Date” shall have the meaning identified in Appendix C.
- 1.20 “Injection Rights” shall mean the Transmission Provider’s pre-certification of the Transmission System’s capability to receive capacity and energy from the MHVDC Transmission Line at the requested Point of Connection, and in the specified MW quantity, without degrading the reliability of the Transmission System, as described in Section 3.2.3 of Attachment GGG.
- 1.21 “In-Service Date” shall have the meaning identified in Appendix C.
- 1.22 “IRS” means the Internal Revenue Service.
- 1.23 “MHVDC Connection Customer Connection Facilities” shall mean all facilities and equipment, as identified in Appendix B of this Agreement, that are located between the MHVDC Transmission Line and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the MHVDC Transmission Line to the Transmission System. MHVDC Connection Customer’s Connection Facilities are sole use facilities.
- 1.24 “Modification” means any material, new construction, additions, design changes or modifications, or abandonment, retirement, relocation or rearrangement.
- 1.25 “Multi-Party Facilities Construction Agreement (MPFCA)” shall mean the form of facilities construction agreement, set forth in Appendix 9 to Attachment X of the Transmission Provider Tariff. The MPFCA shall be used when multiple MHVDC Transmission Connection Requests and/or Interconnection Requests cause the need for the construction of Common Use Upgrades on the Transmission System or the transmission system of an Affected System and share cost responsibility for such Common Use Upgrades.
- 1.26 “NERC” shall mean the North American Electric Reliability Corporation or its successor.

- 1.27 “Necessary Upgrades” shall mean the additions, modifications, and upgrades to the facilities owned by Transmission Owner required at or beyond the point at which the Connection Facilities connect to the Transmission System to accommodate the interconnection of the MHVDC Transmission Line to the Transmission System.
- 1.28 “Network Upgrades” shall mean the additions, modifications, and upgrades to the Transmission System required at or beyond the point at which the Connection Facilities connect to the Transmission System to accommodate the interconnection of the MHVDC Transmission Line to the Transmission System and to provide the requested Injection Rights.
- 1.29 “Operational Change” shall mean any change in the day-to-day routine, practices or procedures which can be reasonably expected to have an adverse or material impact on the operation of the MHVDC Transmission Line or the Transmission System but excluding any change in connection with either a planned or unplanned outage or an Emergency.
- 1.30 “Point of Change of Ownership” shall mean the point, as set forth in Appendix A to this Agreement, where the MHVDC Connection Customer’s Connection Facilities connect to the Transmission Owner’s Connection Facilities.
- 1.31 “Point of Connection” shall mean the point, as set forth in Appendix A of this Agreement, where the Connection Facilities connect to the Transmission System.
- 1.32 “Reasonable Efforts” shall mean, with respect to an action required to be attempted or taken by a Party under this Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.
- 1.33 “Regional Entity” shall mean the regional entity defined in Part 39 of the FERC regulations or its successor.
- 1.34 “Regulatory Requirements” shall mean any of the applicable practices, methods and acts required by NERC, FERC, applicable Regional Entity, Transmission Provider or other governmental agency having jurisdiction over the Parties with regard to the subject matter of this Agreement, or the successor of any of them.
- 1.35 “Reliability Requirements” shall mean mandatory reliability standards adopted by NERC, a Regional Entity or any other regional entity with such jurisdiction and authority and approved by FERC, as amended from time to time, applicable to the facilities owned, and/or operated or functionally controlled by Transmission Owner, MHVDC Connection Customer, or Transmission Provider, respectively.
- 1.36 “SCADA” means supervisory control and data acquisition equipment.

- 1.37 “Stand Alone Network Upgrades” shall mean Network Upgrades that the MHVDC Connection Customer may construct without affecting day-to-day operations of the Transmission System during their construction.
- 1.38 “Transmission Owner Connection Facilities” shall mean all facilities and equipment owned by Transmission Owner from the Point of Change of Ownership to the Point of Connection as identified in Appendix B to this Agreement, including any modifications, additions or upgrades to such facilities and equipment necessary to physically and electrically interconnect the MHVDC Transmission Line to the Transmission System. Transmission Owner’s Connection Facilities are sole use facilities and shall not include Distribution Upgrades, Network Upgrades, or Stand Alone Network Upgrades as those terms are defined in the Transmission Provider Tariff.
- 1.39 “Transmission Provider Tariff” shall mean the Open Access Transmission, Energy and Operating Reserve Markets Tariff of Transmission Provider, as filed with FERC, and as amended or supplemented from time to time, or any successor tariff.

ARTICLE 2
EFFECTIVE DATE, TERM, AND CONDITIONS PRECEDENT

- 2.1 Effective Date. This Agreement shall become effective upon execution by the Parties, subject to acceptance by FERC (“Effective Date”). The Transmission Provider shall promptly file this Agreement with FERC upon execution in accordance with Section 3.1.1, if required.
- 2.2 Term. Unless terminated in accordance with Article 14, this Agreement shall remain in full force and effect for a period of thirty (30) years from the Effective Date and shall be automatically renewed for each successive one-year period thereafter on the anniversary of the Effective Date.
- 2.3 Conditions Precedent.
- 2.3.1 Condition to Effectiveness. It is a condition to the effectiveness of this Agreement that it be accepted for filing by FERC pursuant to Section 205 of the Federal Power Act, if required, subject to the requirements of Section 3.2.1.
- 2.3.2 Condition to Transmission Owner’s Obligation to Build. It is a condition to the Transmission Owner’s obligation to commence construction of any upgrades under this Agreement that Transmission Owner has received all applicable permits, licenses, and authorizations from Governmental Authorities for the commencement of such construction in accordance with the requirements of Section 3.1.2.

ARTICLE 3
REGULATORY FILINGS

- 3.1 Regulatory Filings.
- 3.1.1 FERC Filing. Not later than ten (10) business days following execution of this Agreement or a party’s request that Transmission Provider file this Agreement with FERC unexecuted, Transmission Provider shall tender this Agreement to FERC for filing, if required. Transmission Provider will request FERC to accept this Agreement effective consistent with Article 2.1 unless the Parties mutually agree to have the Transmission Provider request a different Effective Date. Transmission Owner and MHVDC Connection Customer shall reasonably cooperate with Transmission Provider with respect to such filing and to provide any information, reasonably requested by Transmission Provider.
- 3.1.2 Transmission Owner Filings with Governmental Authorities. In the event that Applicable Laws and Regulations require Transmission Owner to obtain a permit, license, or authorization from a Governmental Authority for the construction, ownership, and/or operation of any Transmission Owner Connection Facilities or any upgrades (individually or collectively), Transmission Owner shall utilize good faith efforts to timely file the application for the applicable permit, license, or

authorization not later than the milestone date identified in Appendix C. MHVDC Connection Customer shall reasonably cooperate with Transmission Owner with respect to such filing and to provide any information reasonably requested by Transmission Owner. Transmission Provider shall reasonably cooperate with Transmission Owner with respect to such filing and to provide any information, including the filing of testimony, reasonably requested by Transmission Owner.

3.2 Effect of Regulatory Conditions.

- 3.2.1 FERC. If FERC does not accept this Agreement for filing or accepts it subject to conditions that are unacceptable to Transmission Owner and/or MHVDC Connection Customer, then the Parties will undertake negotiations in good faith to attempt to revise the Agreement in a manner that addresses the basis for FERC's rejection of the Agreement or imposition of unacceptable conditions, provided that if the Parties are unable to negotiate revisions that are acceptable to Transmission Owner and/or MHVDC Connection Customer, each in its sole discretion, within thirty (30) days after the date of the FERC order, then MHVDC Connection Customer and Transmission Owner shall submit the issue for resolution in accordance with the dispute resolution procedures in Article 18 of this Agreement.
- 3.2.2 Governmental Authority Actions. If a Governmental Authority does not grant an applicable permit, license, or authorization for Transmission Owner to construct, own, or operate the Transmission Owner's Connection Facilities or any upgrades (individually or collectively) or unduly delays or conditions its grant of an applicable permit, license, or authorization in a manner that would (1) materially or adversely affect (i) the timing of completion of the MHVDC Connection Customer's Connection Facilities and the Transmission Owner's Connection Facilities at the Point of Connection, (ii) the MHVDC Connection Customer's Connection Facilities, or (iii) the operation of the MHVDC Transmission Line, or (2) would increase the scope of the cost of any upgrades, then the Parties shall confer regarding the nature and extent of the delay or conditions that have been applied and shall undertake negotiations in good faith to attempt to revise the Agreement in a manner that addresses the basis for the Governmental Authority's delay or imposition of conditions to the extent this Agreement does not address such terms. If the Parties determine that the Agreement cannot be revised in a manner that addresses the basis for the Governmental Authority's delay or imposition of conditions, Transmission Owner, Transmission Provider and/or MHVDC Connection Customer, each in its sole discretion, may terminate this Agreement in accordance with Article 14.

ARTICLE 4 PURPOSE AND SCOPE

- 4.1 Purpose. The purpose of this Agreement is to document Connection Facilities, any upgrades, and the Point of Connection and to set forth the terms and conditions for the ownership, system interconnections, operation, maintenance, and future Modifications

thereto between the MHVDC Transmission Line and the Transmission System and the coordination between the Parties relating to such operation, maintenance and interconnection of these individual transmission systems. If MHVDC Connection Customer has elected to procure Injection Rights in accordance with Attachment GGG of the Tariff, this Agreement also shall document any such Injection Rights received.

- 4.2 Scope. The scope of service available under this Agreement will be limited to the provision of MHVDC Transmission Connection Service as set forth in Attachment GGG of the Tariff. Nothing in this Agreement shall constitute a request for Transmission Service or confer upon MHVDC Connection Customer or any other entity any right to receive Transmission Service or Wholesale Distribution Service under the Tariff. Nothing in this Agreement shall constitute a request for Interconnection Service as defined in Attachment X of the Tariff or confer upon MHVDC Connection Customer or any other entity any right to receive Interconnection Service under the Tariff.
- 4.3 Injection Rights. MHVDC Connection Customer may elect to request Injection Rights on the Transmission System pursuant to the procedures set forth in Section 3.2.3 of Attachment GGG and Article 16 of Attachment X to the Tariff. Any such Injection Rights granted by Transmission Provider, and any increases or reductions to those Injection Rights, shall be documented in Appendix F to this Agreement. Documentation of such Injection Rights may require this Agreement to be amended from time to time, consistent with Section 23.7 of this Agreement.
- 4.4 Representation of Control and Authority. MHVDC Connection Customer represents that it has the right, power, and authority to carry out the following activities: design, develop, construct, operate, and maintain the MHVDC Transmission Line in its entirety, provide transmission service on the MHVDC Transmission Line consistent with Applicable Laws and Regulations, including any FERC approvals and requirements, and to undertake all actions, obligations, and responsibilities with respect to the MHVDC Transmission Line identified in this Agreement.

ARTICLE 5 SYSTEM CONNECTIONS

- 5.1 Point of Connection. The MHVDC Transmission Line will connect with the Transmission System at the Point of Connection identified in Appendix A. Any additional Point of Connection or any deletion of a Point of Connection shall be added to or removed from this Agreement by written amendment to this Agreement signed by all Parties. The appropriate geographical reference, a description of the facilities and any applicable special terms and conditions shall be stated in the Point of Connection description in the respective amendment.
- 5.2 Modifications or Additions. If a modification or expansion to the portions of the MHVDC Transmission Line that connect with the Transmission System may be reasonably expected to affect another Party's facilities and Transmission Provider determines that such modifications are subject to the Transmission Provider Tariff, then MHVDC Connection

Customer will initiate all applicable study processes under the Transmission Provider Tariff and undertake the development and installation of all upgrades and other modifications identified in such studies as a condition of obtaining MHVDC Transmission Connection Service for the modified or expanded MHVDC Transmission Line.

5.3 Balancing Authority, Regional Transmission Planning and Transmission Provider Authority.

5.3.1 Balancing Authority Certification. The MHVDC Transmission Line shall be operated by MHVDC Connection Customer or its agent as a Balancing Authority Area separate from the Balancing Authority Area operated by Transmission Provider. No less than thirty (30) days prior to Commercial Operation Date, MHVDC Connection Customer shall present to Transmission Owner and Transmission Provider evidence of certifications for the Balancing Authority for the MHVDC Transmission Line.

5.3.2 Balancing Authority Boundary. The boundary between the MHVDC Transmission Line's Balancing Authority Area and the Transmission Provider Balancing Authority Area shall be at the Point of Connection.

5.3.3 Balancing Authority Operation. MHVDC Connection Customer may delegate the operation of the MHVDC Transmission Line Balancing Authority Area to a qualified operator. MHVDC Connection Customer or its agent will operate the MHVDC Transmission Line Balancing Authority Area in a manner consistent with Good Utility Practice. MHVDC Connection Customer will ensure that the MHVDC Transmission Line Balancing Authority Area is operated in a manner consistent with all applicable requirements of NERC, a Regional Entity, or a Governmental Authority with respect to Balancing Authority Area operations. MHVDC Connection Customer or its agent will coordinate with Transmission Provider, in its capacity as operator of the Balancing Authority Area that includes the Transmission System, with respect to Balancing Authority Area operational matters including power flow scheduling.

5.3.4 NERC Reliability Functional Model. MHVDC Connection Customer shall notify Transmission Owner and Transmission Provider of the regional transmission planning process in which it will participate in accordance with applicable Regulatory Requirements and identify the Functional Entity responsible for performing the Functions identified in NERC Reliability Functional Model, Version 5, as it may be amended or superseded.

5.3.5 Transmission Provider Authority. MHVDC Connection Customer shall provide transmission service on the MHVDC Transmission Line, consistent with all Applicable Laws and Regulations, including any FERC approvals and requirements, and subject to a FERC-approved open access transmission tariff or a reciprocity tariff. Subject to FERC approval, MHVDC Connection Customer may delegate its transmission provider responsibilities to a qualified entity.

5.4 Connection Facilities and Upgrades Engineering, Procurement, and Construction Without Injection Rights Option Selected.

5.4.1 Construction and Milestones.

The MHVDC Connection Customer shall, at its expense, design, procure, construct, own and install the MHVDC Connection Customer Connection Facilities, as set forth in Appendix B. The MHVDC Connection Customer Connection Facilities shall be designed and constructed in accordance with Good Utility Practice. Within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, the MHVDC Connection Customer shall deliver to Transmission Owner “as-built” drawings, information and documents for the MHVDC Connection Customer Connection Facilities. The Transmission Owner shall, at the MHVDC Connection Customer’s expense, design, procure, construct, own and install the Transmission Owner Connection Facilities, as set forth in Appendix B. The Transmission Owner Connection Facilities shall be designed and constructed in accordance with Good Utility Practice. Upon request, within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, the Transmission Owner shall deliver to Transmission Provider (if requested) and the MHVDC Connection Customer the “as-built” drawings, information and documents for the Transmission Owner Connection Facilities specified in Appendix B to this TCA.

The schedule for designing, engineering, procuring and constructing the Transmission Owner Connection Facilities and any Necessary Upgrades by the Transmission Owner, and for designing, engineering, procuring and constructing the MHVDC Connection Customer Connection Facilities by the MHVDC Connection Customer, and for submitting security payments for the same, including the In-Service Date, Initial Synchronization Date, and Commercial Operation Date, are identified in Appendix C. As needed and upon reasonable notice, the Parties shall work in good faith to modify, update, or amend the milestones provided in Appendix C; provided, however, that in the event the MHVDC Connection Customer directs the Transmission Owner to suspend work on the Transmission Owner Connection Facilities and/or any Necessary Upgrades and has not requested Transmission Owner to recommence the work on or before the expiration of a total of three (3) years following commencement of such suspension, this Agreement shall be deemed terminated. The three-year period shall begin on the date the suspension is requested, or the date of the written notice to Transmission Provider, if no effective date is specified.

5.4.2 Necessary Upgrades. Transmission Owner shall design, procure, and construct the Necessary Upgrades, as identified in Appendix B, at MHVDC Connection Customer’s sole expense. Transmission Owner will utilize efforts that are consistent with Good Utility Practice to place such facilities in service by the dates

set forth in Appendix C. Transmission Owner shall not be required to undertake any action which is inconsistent with its standard safety practices, its material and equipment specifications, its design criteria and construction procedures, its labor agreements, and Applicable Laws and Regulations. In the event Transmission Owner expects that it will not be able to complete the Necessary Upgrades by the specified dates in Appendix C, Transmission Owner shall promptly provide written notice to MHVDC Connection Customer, identify revised target in-service dates for such facilities, and shall undertake efforts consistent with Good Utility Practice to meet the revised dates. If, at any time, MHVDC Connection Customer determines that the completion of the Necessary Upgrades will not be required until after the Commercial Operation Date, MHVDC Connection Customer will provide written notice to Transmission Owner of such later date upon which the completion of the Necessary Upgrades will be required.

5.4.2.1 Construction Standard. The Necessary Upgrades shall be designed and constructed in accordance with the Transmission Owner's policies and practices for transmission facility design and construction; the Transmission Provider Tariff, as applicable; and Good Utility Practice, including any applicable Regulatory Requirements and Reliability Requirements.

5.4.2.2 O&M Costs. Subject to provisions herein addressing the use of facilities by others, MHVDC Connection Customer shall be responsible for any costs including overheads incurred by Transmission Owner to own, operate and maintain the Transmission Owner Connection Facilities in accordance with Good Utility Practice after such facilities have been placed into service.

5.4.3 Provision of Security. Unless otherwise provided in this Agreement, at least thirty (30) Calendar Days prior to the commencement of the procurement, installation, or construction of a discrete portion of an element of the Transmission Owner Connection Facilities or any upgrades, MHVDC Connection Customer shall provide Transmission Owner, at MHVDC Connection Customer's selection, a guarantee, a surety bond, letter of credit, cash payment or other form of security that is reasonably acceptable to Transmission Owner and is consistent with the Uniform Commercial Code of the jurisdiction identified in Section 23.2. Such security for payment shall be in an amount sufficient to cover the Transmission Owner's applicable costs and cost commitments required to procure, install, or construct such discrete portion of the Transmission Owner Connection Facilities and any upgrades pursuant to the construction schedule developed in Appendix C and shall be reduced on a dollar-for-dollar basis for payments made to Transmission Owner for these purposes.

5.5 Connection Facilities and Upgrades Engineering, Procurement, and Construction With Injection Rights Option Selected.

5.5.1 The MHVDC Connection Customer shall, at its expense, design, procure, construct, own and install the MHVDC Connection Customer Connection

Facilities, as set forth in Appendix B. The MHVDC Connection Customer Connection Facilities shall be designed and constructed in accordance with Good Utility Practice. Within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, the MHVDC Connection Customer shall deliver to Transmission Owner “as-built” drawings, information and documents for the MHVDC Connection Customer Connection Facilities. The Transmission Owner shall, at the MHVDC Connection Customer’s expense, design, procure, construct, own and install the Transmission Owner Connection Facilities, as set forth in Appendix B. The Transmission Owner Connection Facilities shall be designed and constructed in accordance with Good Utility Practice. Upon request, within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, the Transmission Owner shall deliver to Transmission Provider (if requested) and the MHVDC Connection Customer the “as-built” drawings, information and documents for the Transmission Owner Connection Facilities specified in Appendix B to this TCA.

Options. Unless otherwise mutually agreed to between the Parties, MHVDC Connection Customer shall select: 1) the In-Service Date, Initial Synchronization Date, and Commercial Operation Date based on a reasonable construction schedule that will allow sufficient time for design, construction, equipment procurement, and permit acquisition of Transmission System equipment or right-of-way; and 2) either Standard Option or Alternate Option set forth below for completion of the Transmission Owner’s Connection Facilities or Network Upgrades, as applicable, and set forth in Appendix B, and such dates and selected option shall be set forth in Appendix C. The dates and selected option shall be subject to the acceptance of Transmission Owner taking into account the type of construction to be employed and the regulatory requirements of Governmental Authorities, and does not convey any right to deliver electricity to any specific customer or Point of Delivery, including the need to obtain permits or other authorizations for construction of the Connection Facilities or Network Upgrades.

5.5.1.1 Standard Option. Transmission Owner shall design, procure, and construct the Transmission Owner’s Connection Facilities, Necessary Upgrades, and Network Upgrades using Reasonable Efforts to complete the Transmission Owner’s Connection Facilities and Network Upgrades by the dates set forth in Appendix C, Milestones, subject to the receipt of all approvals required from Governmental Authorities and the receipt of all land rights necessary to commence construction of such facilities, and such other permits or authorizations as may be required. Transmission Provider or Transmission Owner shall not be required to undertake any action which is inconsistent with its standard safety practices, its material and equipment specifications, its design criteria and construction procedures, its labor agreements, Applicable Laws and Regulations and Good Utility Practice. In the event Transmission Owner reasonably expects that it will not be able to complete the Transmission Owner’s Connection Facilities and Network Upgrades by

the specified dates, Transmission Owner shall promptly provide written notice to MHVDC Connection Customer and Transmission Provider and shall undertake Reasonable Efforts to meet the earliest dates thereafter.

5.5.1.2 Alternate Option. If the dates designated by MHVDC Connection Customer are acceptable to Transmission Provider and Transmission Owner, Transmission Provider shall so notify MHVDC Connection Customer within thirty (30) Calendar Days, and Transmission Owner shall assume responsibility for the design, procurement and construction of the Transmission Owner's Connection Facilities by the designated dates.

If Transmission Owner subsequently fails to complete the Transmission Owner's Connection Facilities by the In-Service Date, to the extent necessary to provide back feed power; or fails to complete Network Upgrades by the Initial Synchronization Date to the extent necessary to allow for Trial Operation at full power output, unless other arrangements are made by the Parties for such Trial Operation; or fails to complete the Network Upgrades by the Commercial Operation Date, as such dates are reflected in Appendix C, Milestones; Transmission Owner shall pay MHVDC Connection Customer liquidated damages in accordance with Article 5.5.5, Liquidated Damages, provided, however, the dates designated by MHVDC Connection Customer shall be extended day for day for each Calendar Day that Transmission Provider refuses to grant clearances to install equipment.

Transmission Owner and MHVDC Connection Customer may adopt an incentive payment schedule that is mutually agreeable to encourage Transmission Owner to meet specified accelerated dates. Such payment by MHVDC Connection Customer is not subject to refund.

5.5.1.3 Option to Build. If the dates designated by MHVDC Connection Customer are not acceptable to Transmission Owner to complete the Transmission Owner's Connection Facilities or Stand Alone Network Upgrades, Transmission Provider shall so notify MHVDC Connection Customer within thirty (30) Calendar Days, and unless the Parties agree otherwise, MHVDC Connection Customer shall have the option to assume responsibility for the design, procurement and construction of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades by the dates originally designated by MHVDC Connection Customer under Article 5.5.1.2. The Parties must agree as to what constitutes Stand Alone Network Upgrades and identify such Stand Alone Network Upgrades in Appendix B. Except for Stand Alone Network Upgrades, MHVDC Connection Customer shall have no right to construct Network Upgrades under this option.

5.5.1.4 Negotiated Option. If MHVDC Connection Customer elects not to exercise its option under Article 5.5.1.3, Option to Build, MHVDC Connection Customer shall so notify Transmission Provider and Transmission Owner within thirty (30) Calendar Days, and the Parties shall in good faith attempt to negotiate terms and conditions (including revision of the specified dates and liquidated damages, the provision of incentives or the procurement and construction of a portion of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades by MHVDC Connection Customer) pursuant to which Transmission Owner is responsible for the design, procurement and construction of the Transmission Owner's Connection Facilities and Network Upgrades. If the Parties are unable to reach agreement on such terms and conditions, Transmission Owner shall assume responsibility for the design, procurement and construction of the Transmission Owner's Connection Facilities and Network Upgrades pursuant to 5.5.1.1, Standard Option.

Transmission Owner and MHVDC Connection Customer may adopt an incentive payment schedule that is mutually agreeable to encourage Transmission Owner to meet specified accelerated dates. Such payment by MHVDC Connection Customer is not subject to refund.

5.5.2 General Conditions Applicable to Option to Build. If MHVDC Connection Customer assumes responsibility for the design, procurement and construction of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades after receipt of all required approvals from Governmental Authorities necessary to commence construction,

(1) MHVDC Connection Customer shall engineer, procure equipment, and construct the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades (or portions thereof) using Good Utility Practice and using standards and specifications provided in advance by Transmission Owner, or as required by any Governmental Authority;

(2) MHVDC Connection Customer's engineering, procurement and construction of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades shall comply with all requirements of law or Governmental Authorities to which Transmission Owner would be subject in the engineering, procurement or construction of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades;

(3) Transmission Provider, at Transmission Provider's option, and Transmission Owner shall be entitled to review and approve the engineering design, equipment acceptance tests (including witnessing of acceptance tests), and the construction (including monitoring of construction) of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades, and shall have the right to reject any design, procurement, construction or acceptance test of any equipment that does

not meet the standards and specifications of Transmission Provider, Transmission Owner and any Governmental Authority;

(4) Prior to commencement of construction, MHVDC Connection Customer shall provide to Transmission Provider and Transmission Owner a schedule for construction of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades, and shall promptly respond to requests for information from Transmission Provider and Transmission Owner;

(5) At any time during construction, Transmission Provider and Transmission Owner shall have unrestricted access to the construction site for the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades and to conduct inspections of the same;

(6) At any time during construction, should any phase of the engineering, equipment procurement, or construction of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades not meet the standards and specifications provided by Transmission Owner, MHVDC Connection Customer shall be obligated to remedy deficiencies in that portion of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades to meet the standards and specifications provided by Transmission Provider and Transmission Owner;

(7) MHVDC Connection Customer shall indemnify Transmission Provider and Transmission Owner for claims arising from the MHVDC Connection Customer's construction of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades under the terms and procedures applicable to Article 13;

(8) MHVDC Connection Customer shall transfer control of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades to Transmission Owner;

(9) Unless Parties otherwise agree, MHVDC Connection Customer shall transfer ownership of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades to Transmission Owner;

(10) Transmission Provider, at Transmission Provider's option, and Transmission Owner shall approve and accept for operation and maintenance the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades to the extent engineered, procured, and constructed in accordance with this Section 5.5.2 only if the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades meet the standards and specifications of Transmission Provider, Transmission Owner and any Governmental Authority.

(11) MHVDC Connection Customer shall deliver to Transmission Owner "as-built" drawings, information, and any other documents that are reasonably required

by Transmission Owner to assure that the Connection Facilities and Stand Alone Network Upgrades are built to the standards and specifications required by Transmission Owner.

- 5.5.3 Initial Payment. MHVDC Connection Customer shall elect (and provide its election to the Transmission Provider within five days of the commencement of negotiation of the TCA pursuant to Section 7.2 of the MHCP) to make either 1) an initial payment equal to twenty (20) percent of the total cost of Network Upgrades, Transmission Owner Connection Facilities, Transmission Owner's System Protection Facilities, and/or Distribution Upgrades (if the In-Service Date is less than or equal to five (5) years of the initial payment date); or 2) an initial payment equal to ten (10) percent of the total cost of Network Upgrades, Transmission Owner Connection Facilities, Transmission Owner's System Protection Facilities, and/or Distribution Upgrades (if the In-Service Date exceeds the initial payment date by more than five (5) years); or 3) the total cost of Network Upgrades, Transmission Owner Connection Facilities, Transmission Owner's System Protection Facilities, and/or Distribution Upgrades in the form of security pursuant to Section 5.5.4. The initial payment shall be provided to Transmission Owner by MHVDC Connection Customer pursuant to this Section 5.5.3 within the later of a) forty-five (45) Calendar Days of the execution of the TCA by all Parties, or b) forty-five (45) Calendar Days of acceptance by FERC if the TCA is filed unexecuted and the payment is being protested by MHVDC Connection Customer, or c) forty-five (45) Calendar Days of the filing if the TCA is filed unexecuted and the initial payment is not being protested by MHVDC Connection Customer. If the MHVDC Connection Customer made its milestone payments in the form of cash and the MHVDC Connection Customer elects a cash initial payment, then the Transmission Provider shall transfer those funds to the Transmission Owner on the MHVDC Connection Customer's behalf.
- 5.5.4 Provision of Security. Unless otherwise provided in Appendix C, at least thirty (30) Calendar Days prior to the commencement of the design, procurement, installation, or construction of a discrete portion of an element, not otherwise funded under Section 5.5.3, of the Transmission Owner's Connection Facilities, Transmission Owner's System Protection Facilities, Network Upgrades, Distribution Upgrades or Stand Alone Network Upgrades, or at the request of Transmission Owner if regulatory approvals are required for the construction of such facilities, MHVDC Connection Customer shall provide Transmission Owner, at MHVDC Connection Customer's selection, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to Transmission Owner and is consistent with the Uniform Commercial Code of the jurisdiction identified in Section 23.2. Such security for payment shall be in an amount sufficient to cover the applicable costs and cost commitments, in addition to those funded under Section 5.5.3, required of the Party responsible for building the facilities pursuant to the construction schedule developed in Appendix C for designing, engineering, seeking regulatory approval from any Governmental Authority, constructing, procuring and installing the applicable portion of the Transmission Owner's Connection Facilities,

Transmission Owner's System Protection Facilities, Network Upgrades, Distribution Upgrades or Stand Alone Network Upgrades and shall be reduced on a dollar-for-dollar basis for payments made to Transmission Owner for these purposes.

In addition:

5.5.4.1 The guarantee must be made by an entity that meets the creditworthiness requirements of Transmission Owner, and contain terms and conditions that guarantee payment of any amount that may be due from MHVDC Connection Customer, up to an agreed-to maximum amount.

5.5.4.2 The letter of credit must be issued by a financial institution reasonably acceptable to Transmission Owner and must specify a reasonable expiration date.

5.5.4.3 The surety bond must be issued by an insurer reasonably acceptable to Transmission Owner and must specify a reasonable expiration date.

5.5.4.4 If the Shared Network Upgrade is not in service, MHVDC Connection Customer will provide, as applicable, an Irrevocable Letter of Credit to fund any Shared Network Upgrade pursuant to Attachment FF of the Tariff. The Irrevocable Letter of Credit shall be in an amount sufficient to cover the MHVDC Connection Customer's share of the applicable costs and cost commitments associated with the Shared Network Upgrades. Transmission Provider may periodically adjust the MHVDC Connection Customer's share of the applicable costs and cost commitment of Shared Network Upgrades and may require MHVDC Connection Customer to adjust the amount of the Irrevocable Letter of Credit accordingly.

5.5.5 Liquidated Damages. The actual damages to MHVDC Connection Customer, in the event the Transmission Owner's Connection Facilities or Network Upgrades are not completed by the dates designated by MHVDC Connection Customer and accepted by Transmission Provider and Transmission Owner pursuant to subparagraphs 5.5.1.2 or 5.5.1.4, above, may include MHVDC Connection Customer's fixed operation and maintenance costs and lost opportunity costs. Such actual damages are uncertain and impossible to determine at this time. Because of such uncertainty, any liquidated damages paid by Transmission Owner to MHVDC Connection Customer in the event that Transmission Owner does not complete any portion of the Transmission Owner's Connection Facilities or Network Upgrades by the applicable dates, shall be an amount equal to ½ of 1 percent per day of the actual cost of the Transmission Owner's Connection Facilities and Network Upgrades, in the aggregate, for which Transmission Owner has assumed responsibility to design, procure and construct.

However, in no event shall the total liquidated damages exceed 20 percent of the actual cost of the Transmission Owner's Connection Facilities and Network Upgrades for which Transmission Owner has assumed responsibility to design, procure, and construct. The foregoing payments will be made by Transmission Owner to MHVDC Connection Customer as just compensation for the damages caused to MHVDC Connection Customer, which actual damages are uncertain and impossible to determine at this time, and as reasonable liquidated damages, but not as a penalty or a method to secure performance of this Agreement. Liquidated damages, when the Parties agree to them, are the exclusive remedy for the Transmission Owner's failure to meet its schedule.

No liquidated damages shall be paid to MHVDC Connection Customer if: (1) MHVDC Connection Customer is not ready to commence use of the Transmission Owner's Connection Facilities or Network Upgrades to take the delivery of power from the MHVDC Transmission Line on the specified dates, unless MHVDC Connection Customer would have been able to commence use of the Transmission Owner's Connection Facilities or Network Upgrades to take the delivery of power from the MHVDC Transmission Line, but for Transmission Owner's delay; (2) the Transmission Owner's failure to meet the specified dates is the result of the action or inaction of Transmission Provider, MHVDC Connection Customer or any other earlier queued customer who has entered into an earlier agreement with Transmission Provider and/or a Transmission Owner or with an Affected System Operator, or any cause beyond Transmission Owner's reasonable control or reasonable ability to cure; (3) MHVDC Connection Customer has assumed responsibility for the design, procurement and construction of the Transmission Owner's Connection Facilities; (4) the delay is due to the inability of Transmission Owner to obtain all required approvals from Governmental Authorities in a timely manner for the construction of any element of the Connection Facilities or Network Upgrades, or any other permit or authorization required, or any land rights or other private authorizations that may be required, and Transmission Owner has exercised Reasonable Efforts in procuring such approvals, permits, rights or authorizations; or (5) the Parties have otherwise agreed.

- 5.6 Coordination of Work. The Parties will keep each other advised periodically as to the progress of their respective design, procurement and construction efforts. Either Party may, at any time, request a progress report from the other Party and sufficient information to monitor and review the work of the other Party on the Connection Facilities.
- 5.7 Permits. MHVDC Connection Customer, Transmission Provider and Transmission Owner shall cooperate with each other in good faith in obtaining all applicable permits, licenses and authorizations that are necessary to accomplish the construction of the Connection Facilities.
- 5.8 Taxes.

- 5.8.1 Indemnification for the Cost Consequences of Current Tax Liability Imposed Upon Transmission Owner. The Parties agree that any payments by MHVDC Connection Customer to Transmission Owner in contribution to the construction of any facilities under this Agreement may create a tax liability for Transmission Owner. To that end, MHVDC Connection Customer shall protect, indemnify, and hold harmless Transmission Owner from the cost consequences of any current tax liability imposed against Transmission Owner as the result of payments or property transfers made by MHVDC Connection Customer to Transmission Owner under this Agreement for Connection Facilities, any upgrades, or other facilities and equipment. All payments from MHVDC Connection Customer to Transmission Owner shall be calculated on a fully grossed-up basis to account for this tax liability.
- 5.8.2 Tax Gross-Up Amount. MHVDC Connection Customer's potential liability for the cost consequences of any current tax liability under this Section 5.8.2 shall be calculated on a fully grossed-up basis. The Parties agree that "fully grossed-up basis" means that MHVDC Connection Customer will pay Transmission Owner, in addition to the amount paid for the Connection Facilities, any upgrades, or other facilities and equipment, an amount equal to (1) the current taxes imposed on Transmission Owner or determined to be reported by Transmission Owner pursuant to Section 5.8.1 ("Current Taxes") on the excess of (a) the gross income realized by Transmission Owner as a result of payments or property transfers made by MHVDC Connection Customer to Transmission Owner under this Agreement (without regard to any payments under this Section 5.8) (the "Gross Income Amount") over (b) the present value of future tax deductions for depreciation that will be available as a result of such payments or property transfers (the "Present Value Depreciation Amount"), plus (2) an additional amount sufficient to permit Transmission Owner to receive and retain, after the payment of all Current Taxes, an amount equal to the net amount described in clause (1). For this purpose, (i) Current Taxes shall be computed based on Transmission Owner's composite federal and state tax rates at the time the payments or property transfers are received and Transmission Owner will be treated as being subject to tax at the highest marginal rates in effect at that time (the "Current Tax Rate"), and (ii) the Present Value Depreciation Amount shall be computed by discounting Transmission Owner's anticipated tax depreciation deductions as a result of such payments or property transfers by Transmission Owner's current weighted average cost of capital. Thus, the formula for calculating MHVDC Connection Customer's liability to Transmission Owner pursuant to this Section 5.8.2 can be expressed as follows: $(\text{Current Tax Rate} \times (\text{Gross Income Amount} - \text{Present Value Depreciation Amount})) / (1 - \text{Current Tax Rate})$.

MHVDC Connection Customer shall make such payments according to the milestone schedule set forth in Appendix C. If the actual costs of the Transmission Owner Connection Facilities, any upgrades, and other facilities and equipment are greater than the estimated costs set forth in Appendix B, Transmission Owner shall calculate the tax gross-up payment for the difference between the actual and

estimated facilities costs in the event taxes are imposed and present MHVDC Connection Customer with a bill for the tax gross-up amount pursuant to the procedures set forth in Article 19, and MHVDC Connection Customer shall pay such amount pursuant to the procedures set forth in Article 20. If the actual costs of the Transmission Owner Connection Facilities, any upgrades, or other facilities and equipment are less than the estimated costs set forth in Appendix B, Transmission Owner shall refund the tax gross-up payment difference between the actual and estimated facilities costs.

- 5.8.3 Private Letter Ruling or Change or Clarification of Law. At MHVDC Connection Customer's request and expense, Transmission Owner shall file with the IRS a request for a private letter ruling as to whether any property transferred or sums paid, or to be paid, by MHVDC Connection Customer to Transmission Owner under this Agreement are subject to federal income taxation. MHVDC Connection Customer will prepare the initial draft of the request for a private letter ruling, and will certify under penalties of perjury that all facts represented in such request are true and accurate to the best of MHVDC Connection Customer's knowledge. Transmission Owner and MHVDC Connection Customer shall cooperate in good faith with respect to the submission of such request.

Transmission Owner shall keep MHVDC Connection Customer fully informed of the status of such request for a private letter ruling and shall execute either a privacy act waiver or a limited power of attorney, in a form acceptable to the IRS, that authorizes MHVDC Connection Customer to participate in all discussions with the IRS regarding such request for a private letter ruling. Transmission Owner shall allow MHVDC Connection Customer to attend all meetings with IRS officials about the request and shall permit MHVDC Connection Customer to prepare the initial drafts of any follow-up letters in connection with the request.

5.9 Testing and Inspection

- 5.9.1 Pre-Operation Testing and Modifications. Prior to the Commercial Operation Date, and after all specifications are met, Transmission Owner shall test the Transmission Owner Connection Facilities and MHVDC Connection Customer shall test the MHVDC Connection Customer Connection Facilities to ensure their safe and reliable operation up to the delivery capacity of the Point of Connection as identified in Appendix B. Each Party shall make any modifications to its Connection Facilities that are necessary as a result of such testing. MHVDC Connection Customer shall bear the cost of all such testing and modifications.

ARTICLE 6 OPERATIONS AND MAINTENANCE

- 6.1 Parties' Obligations. All Parties shall perform their obligations hereunder in accordance with Good Utility Practice, the provisions of this Agreement, and subject to the applicable

procedures and requirements of the Transmission Provider Tariff and any Governmental Authority, NERC, or a Regional Entity.

- 6.2 MHVDC Connection Customer Obligations. MHVDC Connection Customer at its sole expense shall design, operate, and maintain the MHVDC Transmission Line and the MHVDC Connection Customer Connection Facilities in a safe and reliable manner and in accordance with the requirements identified in Appendix E.
- 6.3 Inadvertent Energy. MHVDC Connection Customer acknowledges and agrees that, to the extent that inadvertent energy flows through any Point of Connection onto the Transmission System, the Transmission Owner shall recoup, recover or otherwise balance any energy amounts with such Balancing Authorities as may be appropriate. MHVDC Connection Customer will provide assistance to Transmission Owner as reasonably requested in resolving inadvertent energy issues at Points of Connection.
- 6.4 Operating Guidelines. The Parties acknowledge that an operating guide will be developed and approved by the Parties to reflect the operating limitations on the MHVDC Transmission Line as detailed in the results of the reliability studies performed on behalf of Transmission Provider pursuant to the connection request by the MHVDC Connection Customer.

MHVDC Connection Customer and Transmission Owner shall operate their respective facilities in accordance with the operating guidelines identified in Appendix E.

- 6.5 Preventive and Corrective Maintenance Outages.
 - 6.5.1 Planning and Scheduling. In accordance with Good Utility Practice and as may be provided in Appendix E of this Agreement, the Parties shall confer regularly to coordinate the planning and scheduling of preventive and corrective maintenance of, and Modifications and Operational Changes to, the Connection Facilities that might be reasonably expected pursuant to Good Utility Practice to affect the operation of another Party's transmission system. Absent an Emergency or a contrary directive from Transmission Provider, the Parties shall coordinate their respective schedules for any such activities and will, to the extent practicable and appropriate under the circumstances, give reasonable consideration to, among other things, the impact of the schedule on the other Parties' operations.
- 6.6 Inspections and Testing.
 - 6.6.1 Inspections. Transmission Owner and MHVDC Connection Customer shall perform routine inspection and testing of their equipment on their respective Connection Facilities in accordance with Good Utility Practice as may be necessary to ensure the continued connection of the MHVDC Transmission Line and the Transmission System in a safe and reliable manner.

- 6.6.2 Right to Observe Testing. The Parties shall have the right to observe the testing of the other Party's Connection Facilities. The testing Party shall notify the other Parties in advance of such testing unless, in the testing Party's reasonable judgment, the testing must be performed immediately, in which case the testing Party shall provide notice as soon as practicable. The observing Parties may each have a representative attend and be present during such testing.
- 6.6.3 Observation of Deficiencies. If any Party observes any condition it believes may be inconsistent with Good Utility Practice with respect to a Party's Connection Facilities that might reasonably be expected to adversely affect the observing Party's transmission system, the observing Party shall notify the other Parties. Notwithstanding the foregoing, no Party shall be relieved from liability for adversely affecting another Party's transmission system due to the observing Party's failure to give such notice.
- 6.7 Disconnection. Transmission Provider or Transmission Owner may disconnect the MHVDC Connection Customer Connection Facilities, when such disconnection is necessary under Good Utility Practice due to an Emergency. These rights are separate and distinct from any right of curtailment of Transmission Provider pursuant to the Transmission Provider Tariff. When Transmission Provider can schedule the reduction or disconnection in advance, Transmission Provider shall, consistent with the Transmission Provider Tariff, notify MHVDC Connection Customer of the reasons, timing, and expected duration of the disconnection. Transmission Provider shall coordinate with MHVDC Connection Customer and Transmission Owner using Good Utility Practice to schedule the disconnection during periods reasonably expected to have the least impact to MHVDC Connection Customer, Transmission Owner, and Transmission Provider. Any disconnection shall continue only for so long as reasonably necessary pursuant to Good Utility Practice. The Parties shall cooperate with each other to restore the Connection Facilities and the Transmission System to their normal operating state as soon as practicable consistent with Good Utility Practice.
- 6.8 Outages. In the event of an outage, planned or unplanned, on any Party's transmission system, each such Party shall use efforts consistent with Good Utility Practice, the Transmission Provider Tariff, and any specific requirements as may be provided in Appendix E to this Agreement to restore that Party's transmission system to service.
- 6.9 Access Rights. Upon reasonable notice by a Party, and subject to any required or necessary regulatory approvals, a Party (the "Granting Party") shall furnish at no cost to the other Party (the "Access Party") any rights of use, licenses, rights of way, and easements with respect to lands owned or controlled by the Granting Party, its agents, or any Affiliate, that are necessary to enable the Access Party to obtain ingress and egress to construct, operate, maintain, repair, test (or witness testing), inspect, replace, or remove facilities and equipment to: (i) interconnect the Connection Facilities; (ii) operate and maintain the Connection Facilities; and (iii) disconnect or remove the Access Party's facilities and equipment upon termination of this Agreement. In exercising such licenses, rights of way and easements, the Access Party shall not unreasonably disrupt or interfere with normal

operation of the Granting Party's business and shall adhere to the safety rules and procedures established in advance, as may be changed from time to time, by the Granting Party and provided to the Access Party.

6.9.1 Access Changes. Neither the MHVDC Connection Customer nor the Transmission Owner shall make changes to the site topography or accesses, including but not limited to grading or drainage, that could reasonably be expected to have a material adverse effect upon the other Party's facilities or common use drainage or pollution controls systems without the prior written consent of the other Party, such consent not to be unreasonably withheld.

ARTICLE 7 EMERGENCIES AND ENVIRONMENTAL RELEASES

- 7.1 Generally. The Parties shall comply with applicable procedures upon declaration of an Emergency by any applicable NERC reliability functional model entity.
- 7.2 Notice. Any Party shall provide the other Parties with oral notification that is prompt under the circumstances of an Emergency that may reasonably be expected to affect the other Parties' operation of their respective transmission systems, to the extent the notifying Party is aware of the Emergency. Such notification shall describe, as known, the Emergency, the extent of any damage or deficiency, its anticipated duration, and the corrective action taken and/or to be taken. If requested by another Party, the initial notice shall be followed as soon as practicable with written notice.
- 7.3 Immediate Action. In the event of an Emergency, the Party becoming aware of the Emergency may, in accordance with Good Utility Practice and using its reasonable judgment, take such action with respect to its own facilities as is reasonable and necessary to prevent, avoid, or mitigate injury, danger and/or loss of life or property. The Parties shall, consistent with Good Utility Practice, take whatever actions or inactions the Parties deem necessary during an Emergency, including, without limitation, to request and comply with directives of Transmission Provider, in order to: (i) preserve public health and safety; (ii) preserve the reliability of the Parties' transmission systems; (iii) limit or prevent damage; and (iv) expedite restoration of service.
- 7.4 Abnormal Conditions. To the extent any Party is aware of any Abnormal Condition, such Party, subject to the satisfaction of and compliance with Regulatory Requirements, will make Reasonable Efforts to promptly notify the other Parties of such Abnormal Condition if it may reasonably be expected to affect a Party's operation of its transmission system. However, the failure of any Party to provide notice in conformance with this Section 7.4 shall not constitute a material breach of this Agreement.
- 7.5 Environmental Releases. Each Party shall notify the other Parties, first orally and then in writing, of the release of any hazardous substances, any asbestos or lead abatement activities, or any type of remediation activities related to the MHVDC Transmission Line or the Connection Facilities, each of which may reasonably be expected to affect another

Party. The notifying Party shall: (i) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than twenty-four hours after such Party becomes aware of the occurrence; and (ii) promptly furnish to the other Parties copies of any publicly available reports filed with any Governmental Authorities addressing such events.

ARTICLE 8 MODIFICATIONS OR OPERATIONAL CHANGES

- 8.1 Generally. Each of the Parties shall make such Modifications or Operational Changes to its Connection Facilities as are necessary to comply with Good Utility Practice and as may be provided in Appendix B of this Agreement.
- 8.2 Notice. In the event a Party plans to undertake Modifications or Operational Changes to its Connection Facilities that may be reasonably expected, pursuant to Good Utility Practice, to impact any other Party's transmission system, the initiating Party shall provide the other Parties with at least ninety (90) days' advance notice of the desired Modifications or Operational Changes, or such shorter period upon which the Parties may agree, which agreement shall not unreasonably be withheld, conditioned, or delayed. The nature of and the schedule of work for performing such Modifications, or the nature of the Operational Changes shall be subject to review and acceptance by the other Parties, which review and acceptance shall not be untimely nor unreasonably withheld or delayed, to ensure that such Modifications or Operational Changes will (i) not adversely affect a Party's transmission system, or other facilities, (ii) are consistent with Good Utility Practice, and (iii) are as provided in Appendix B of this Agreement. Subject to all applicable requirements imposed by Transmission Provider, the suitability and the responsibility for the safe and adequate design, operation, and maintenance of the initiating Party's facilities shall be and remain the sole obligation of the initiating Party.
- 8.3 Cost Responsibility. When the actions of either Party necessitate Modifications or Operational Changes to the other Party's Connection Facilities that are not required by Transmission Provider or FERC or are not otherwise needed to satisfy Regulatory Requirements or Reliability Requirements, such Modifications or Operational Changes to the other Party's Connection Facilities shall be made at the sole cost and expense of the Party initiating the changes, unless otherwise agreed to in writing by the applicable Parties. The initiating Party's responsibility for such Modification or Operational Change costs is limited to those costs that are incremental to costs already planned to be incurred by the other Party.

ARTICLE 9 INFORMATION REPORTING, ACCESS, AND AUDIT RIGHTS

- 9.1 Information Reporting Obligations. Subject to applicable Regulatory Requirements and/or confidentiality agreements, each Party shall, in accordance with Good Utility Practice, work with the other Parties regarding the transfer of information which may reasonably be necessary to support the reliability of any other Party's Connection Facilities.

- 9.2 Information Access. Each Party (the “disclosing Party”) shall make available to the other Parties information that is in the possession of the disclosing Party and is necessary in order for the other Parties to: (i) verify the costs incurred by the disclosing Party for which another Party is responsible under this Agreement; and (ii) carry out its obligations and responsibilities under this Agreement. The Parties shall not use such information for purposes other than those set forth in this Article 9 and to enforce their rights under this Agreement.
- 9.3 Reporting of Non-Force Majeure Events. A Party (the “notifying Party”) shall notify the other Parties when the notifying Party becomes aware of its inability to comply with the provisions of this Agreement for a reason other than a Force Majeure event. The Parties agree to cooperate with each other and provide necessary information regarding such inability to comply, including the date, duration, reason for the inability to comply, and corrective actions taken or planned to be taken with respect to such inability to comply. Notwithstanding the foregoing, notification, cooperation or information provided under this Article shall not entitle any Party receiving such notification to allege a cause for anticipatory breach of this Agreement.
- 9.4 Audit Rights. Subject to the requirements of confidentiality under Article 17 of this Agreement, each Party shall have the right, during normal business hours, and upon prior reasonable notice to the other Parties, to audit at its own expense the other Parties’ accounts and records pertaining to the Parties’ performance or the Parties’ satisfaction of obligations under this Agreement. Such audit rights shall include audits of the other Parties’ costs and calculation of invoiced amounts. Any audit authorized by this Article shall be performed at the offices where such accounts and records are maintained and shall be limited to those portions of such accounts and records that relate to each Party’s performance and satisfaction of obligations under this Agreement. Each Party shall keep such accounts and records for a period equivalent to the audit rights periods described in Section 9.5.
- 9.5 Audit Rights Periods.
- 9.5.1 Audit Rights Period for Construction-Related Accounts and Records. Accounts and records related to the design, engineering, procurement, and construction of the MHVDC Connection Customer’s Connection Facilities, Transmission Owner Connection Facilities, and any upgrades shall be subject to audit for a period of twenty-four months following Transmission Owner’s issuance of a final invoice in accordance with Article 20.
- 9.5.2 Audit Rights Period for All Other Accounts and Records. Accounts and records related to a Party’s performance or satisfaction of all obligations under this Agreement other than those described in Section 9.5.1 shall be subject to audit as follows: (i) for an audit relating to cost obligations, the applicable audit rights period shall be twenty-four (24) months after the auditing Party’s receipt of an invoice giving rise to such cost obligations; and (ii) for an audit relating to all other

obligations, the applicable audit rights period shall be twenty-four (24) months after the event for which the audit is sought.

- 9.5 Audit Results. If an audit by a Party determines that an overpayment or an underpayment has occurred, a notice of such overpayment or underpayment shall be given to the Party or from whom the overpayment or underpayment is owed together with those records from the audit which support such determination.

ARTICLE 10 METERING AND TELEMETERING

- 10.1 Metering and Telemetering Equipment. The Parties' respective metering and telemetering equipment, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics, is identified in Appendix D. Each Party shall own and maintain its respective metering and telemetering equipment consistent with all applicable Regulatory Requirements.
- 10.2 Power Quality Metering. Power Quality measurements including but not limited to harmonic current injection, voltage variation and imbalance will be assessed at the Point of Connection using a standard instrument in compliance with industrial standards, and approved by Transmission Owner.

ARTICLE 11 ASSIGNMENT

- 11.1 Successors and Assigns. This Agreement, and the rights and obligations created thereby, shall bind and inure to the benefit of the successors and permitted assigns of the Parties hereto.
- 11.2 Consent Required. No Party may assign any rights or obligations hereunder without obtaining the consent of the other Parties, which consent shall not unreasonably be withheld, conditioned, or delayed.
- 11.3 Assignment in Event of Merger or for Financing.
- 11.3.1 Notwithstanding anything to the contrary herein, a Party may assign this Agreement without the consent of the other Parties to any Affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Agreement; and provided further that MHVDC Connection Customer shall have the right to assign this Agreement, without the consent of either Transmission Provider or Transmission Owner, for collateral security purposes to aid in providing financing for the MHVDC Transmission Line, provided that MHVDC Connection Customer will promptly notify Transmission Owner and Transmission Provider of any such assignment. Any financing arrangement entered into by MHVDC Connection

Customer pursuant to this Article will provide that prior to or upon the exercise of the secured party's, trustee's, or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify Transmission Owner and Transmission Provider of the date and particulars of any such exercise of assignment right(s). Any attempted assignment that violates this Article is void and ineffective. Any assignment under this Agreement shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned, or delayed.

- 11.4 Party to Remain Responsible. Except for assignments pursuant to Section 11.3.1, no assignment, transfer, pledge, conveyance, or disposition of rights or obligations under this Agreement by a Party will relieve that Party from liability and financial responsibility for the performance thereof after any such assignment, transfer, conveyance, pledge, or disposition unless and until the transferee or assignee agrees in writing to assume the obligations and duties of that Party under this Agreement and the non-assigning Parties have consented in writing to such assumption and to a release of the assigning Party from such liability, which consent shall not unreasonably be withheld, conditioned, or delayed.
- 11.5 Termination of Corporate Existence. If a Party terminates its existence as a corporate entity by acquisition, sale, consolidation, or otherwise, or if all or substantially all of such Party's Connection Facilities are transferred to another person or business entity, without complying with Section 11.2 above, the other Parties will have the right, enforceable in a court of competent jurisdiction, to enjoin the Party's successor from using its facilities in any manner that interferes with, impedes, or restricts the other Parties' ability to carry out its ongoing business operations, rights and obligations.

ARTICLE 12 FORCE MAJEURE

- 12.1 Force Majeure Defined. The term "Force Majeure" shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include an act of negligence or intentional wrongdoing by the Party claiming Force Majeure.
- 12.2 Effect of Force Majeure. Except for obligations to make any payments under this Agreement, the Parties shall be excused from performing their respective obligations under this Agreement and shall not be liable in damages or otherwise if and to the extent that they are unable to so perform or are prevented from performing by a Force Majeure, provided that:
- 12.2.1 the non-performing Party, as promptly as practicable after the Party reasonably determines that a Force Majeure event has occurred and such Force Majeure event

will adversely impact the Party's ability to perform its obligations hereunder, gives the other Parties written notice describing the particulars of the occurrence;

12.2.2 the suspension of performance is of no greater scope and of no longer duration than is reasonably required by the Force Majeure;

12.2.3 the non-performing Party uses all Reasonable Efforts to remedy its inability to perform; and

12.2.4 as soon as the non-performing Party is able to resume performance of its obligations excused as a result of the occurrence, it gives prompt written notification thereof to the other Party.

ARTICLE 13

LIMITATION OF LIABILITY, INDEMNIFICATION, AND INSURANCE

13.1 Limitation on Liability. A Party, its affiliates, directors, officers, employees and agents, shall not be liable to another Party, its affiliates, directors, officers, employees and agents, or to any third party or other person for any damages whatsoever arising or resulting from any act or omission in any way associated with the service provided under this agreement, except as provided in the Transmission Provider Tariff.

13.2 Indemnification.

13.2.1 To the extent permitted by law, a Party (the "Indemnifying Party") shall at all times indemnify, defend, and hold the other Parties (each an "Indemnified Party") harmless from any and all losses relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from another Party's performance, or non-performance of its obligations under this Agreement on behalf of the indemnifying Party, except in cases of negligence or intentional wrongdoing by the indemnified Party.

13.2.1.1 Indemnified Party. If an Indemnified Party is entitled to indemnification under this Article 12 as a result of a claim by a third party, and the Indemnifying Party fails, after notice and reasonable opportunity to proceed under Article 12.2, to assume the defense of such claim, such Indemnified Party may at the expense of the Indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

13.2.1.2 Indemnifying Party. If an Indemnifying Party is obligated to indemnify and hold any Indemnified Party harmless under this Article 12, the amount owing to the Indemnified Party shall be the amount of such Indemnified Party's actual loss, net of any insurance or other recovery.

13.2.1.3 Indemnity Procedures. Promptly after receipt by an Indemnified Party of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in Section 13.2 may apply, the Indemnified Party shall notify the Indemnifying Party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the Indemnifying Party.

The Indemnifying Party shall have the right to assume the defense thereof with counsel designated by such Indemnifying Party and reasonably satisfactory to the Indemnified Party. If the defendants in any such action include one or more Indemnified Parties and the Indemnifying Party and if an Indemnified Party reasonably concludes that there may be legal defenses available to it and/or other Indemnified Parties which are different from or additional to those available to the Indemnifying Party, the Indemnified Party shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on its own behalf. In such instances, the Indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an Indemnified Party or Indemnified Parties having such differing or additional legal defenses.

The Indemnified Party shall be entitled, at its expense, to participate in any such action, suit or proceeding, the defense of which has been assumed by the Indemnifying Party. Notwithstanding the foregoing, the Indemnifying Party (i) shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent that, in the opinion of the Indemnified Party and its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the Indemnified Party, or there exists a conflict or adversity of interest between the Indemnified Party and the Indemnifying Party, in such event the Indemnifying Party shall pay the reasonable expenses of the Indemnified Party, and (ii) shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the Indemnified Party, which shall not be reasonably withheld, conditioned or delayed. .

13.2.2 No Consequential Damages. In no event shall any Party be liable under any provision of this Agreement for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided; however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

- 13.3 Survival. The limitation of liability provided for, and the indemnification obligations of each Party under this Article shall continue in full force and effect regardless of whether this Agreement has either expired or been terminated or canceled with respect to matters that arise during the effectiveness of the Agreement.
- 13.4 Insurance. Transmission Owner and MHVDC Connection Customer shall, at their own expense, maintain in force throughout the period where construction activities are underway by such Party, and until released by the other Party, the following minimum insurance coverages, with insurers authorized to do business or an approved surplus lines carrier in the state where the Point of Connection is located:
- 13.4.1 Employers' Liability and Workers' Compensation Insurance providing statutory benefits in accordance with the laws and regulations of the state in which the Point of Connection is located.
- 13.4.2 Commercial General Liability Insurance including premises and operations, personal injury, broad form property damage, broad form blanket contractual liability coverage (including coverage for the contractual indemnification) products and completed operations coverage, coverage for explosion, collapse and underground hazards, independent contractors coverage, coverage for pollution to the extent normally available and punitive damages to the extent normally available and a cross liability endorsement, with minimum limits of One Million Dollars (\$1,000,000) per occurrence/One Million Dollars (\$1,000,000) aggregate combined single limit for personal injury, bodily injury, including death and property damage.
- 13.4.3 Comprehensive Automobile Liability Insurance, for coverage of owned and non-owned and hired vehicles, trailers or semi-trailers licensed for travel on public roads, with a minimum combined single limit of One Million Dollars (\$1,000,000) each occurrence for bodily injury, including death, and property damage.
- 13.4.4 Excess Public Liability Insurance over and above the Employer's Liability, Commercial General Liability and Comprehensive Automobile Liability Insurance coverage, with a minimum combined single limit of Twenty Million Dollars (\$20,000,000) per occurrence/Twenty Million Dollars (\$20,000,000) aggregate.
- 13.4.5 The Commercial General Liability Insurance, Comprehensive Automobile Insurance and Excess Public Liability Insurance policies shall name the other Parties, their parents, associated and Affiliate companies and their respective directors, officers, agents, servants and employees ("Other Party Group") as additional insured. All policies shall contain provisions whereby the insurers waive all rights of subrogation in accordance with the provisions of this Agreement against the Other Party Groups and provide thirty (30) Calendar Days' advance written notice to the Other Party Groups prior to anniversary date of cancellation or any material change in coverage or condition.

- 13.4.6 The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies shall contain provisions that specify that the policies are primary and shall apply to such extent without consideration for other policies separately carried and shall state that each insured is provided coverage as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount for which the insurer would have been liable had only one insured been covered. Each Party shall be responsible for its respective deductibles or retentions.
- 13.4.7 The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies, if written on a Claims First Made Basis, shall be maintained in full force and effect for two (2) years after termination of this Agreement, which coverage may be in the form of tail coverage or extended reporting period coverage if agreed by Transmission Owner and MHVDC Connection Customer.
- 13.4.8 The requirements contained herein as to the types and limits of all insurance to be maintained by Transmission Owner and MHVDC Connection Customer are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by Transmission Owner and MHVDC Connection Customer under this Agreement.
- 13.4.9 As of the date set forth in Appendix C, Milestones, and as soon as practicable after the end of each fiscal year or at the renewal of the insurance policy and in any event within ninety (90) Calendar Days thereafter, MHVDC Connection Customer and Transmission Owner shall provide the other Party with certification of all insurance required in this Agreement, executed by each insurer or by an authorized representative of each insurer.
- 13.4.10 Notwithstanding the foregoing, Transmission Owner or MHVDC Connection Customer may self-insure to meet the minimum insurance requirements of Sections 13.4.1 through 13.4.8, to the extent it maintains a self-insurance program; provided that, Transmission Owner's or MHVDC Connection Customer's senior secured debt is rated at investment grade, or better, by Standard & Poor's and that its self-insurance program meets minimum insurance requirements under Sections 13.4.1 through 13.4.8. For any period of time that a Transmission Owner's or MHVDC Connection Customer's senior secured debt is unrated by Standard & Poor's or is rated at less than investment grade by Standard & Poor's, such Party shall comply with the insurance requirements applicable to it under Articles Sections 13.4.1 through 13.4.8. In the event that Transmission Owner or MHVDC Connection Customer is permitted to self-insure pursuant to this article, it shall notify the other Party that it meets the requirements to self-insure and that its self-insurance program meets the minimum insurance requirements in a manner consistent with that specified in Section 13.4.9.

13.4.11 Transmission Owner and MHVDC Connection Customer agree to report to each other in writing as soon as practical all accidents or occurrences resulting in injuries to any person, including death, and any property damage arising out of this Agreement.

ARTICLE 14

DEFAULT AND TERMINATION

- 14.1 Default. No Breach shall exist where such failure to discharge an obligation (other than the payment of money) is the result of Force Majeure as defined in this Agreement or the result of an act or omission of the other Parties. Upon a Breach, the non-Breaching Parties shall give written notice of such to the Breaching Party. The Breaching Party shall have thirty (30) Calendar Days from receipt of the Breach notice within which to cure such Breach; provided however, if such Breach is not capable of cure within thirty (30) Calendar Days, the Breaching Party shall commence such cure within thirty (30) Calendar Days after notice and continuously and diligently complete such cure within ninety (90) Calendar Days from receipt of the Breach notice; and, if cured within such time, the Breach specified in such notice shall cease to exist.
- 14.2 Continued Operation. In the event of a Breach by any Party, the Parties shall continue to operate and maintain, as applicable, such AC (and any DC backup) power systems, protection and metering equipment, telemetering equipment, SCADA equipment, transformers, communications equipment, building facilities, software, documentation, structural components, and other facilities and appurtenances that are reasonably necessary for the Parties to operate and maintain their respective transmission systems in a safe and reliable manner or as may be required under any Reliability Requirements.
- 14.3 Right to Terminate.
- 14.3.1 If a Breach is not cured as provided in this Article 14, or if a Breach is not capable of being cured within the period provided for herein, the non-Breaching Parties acting together shall thereafter have the right to declare a Default and terminate this Agreement by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not those Parties terminate this Agreement, to recover from the defaulting Party all amounts due hereunder, plus all other damages and remedies to which they are entitled at law or in equity. The provisions of this Article will survive termination of this Agreement.
- 14.3.2 This Agreement may be terminated by any one of the Parties after giving ninety (90) Calendar Days advance written notice to the other Parties if the MHVDC Transmission Line fails to achieve Commercial Operation for three (3) consecutive years following the Commercial Operation Date, or has ceased Commercial Operation for three (3) consecutive years, beginning with the last date of Commercial Operation for the MHVDC Transmission Line, after giving MHVDC Connection Customer ninety (90) Calendar Days advance written notice.

14.3.3 Any Party may terminate this Agreement due to Government Authority Actions, as set forth in Section 3.2.2 hereof.

14.4 FERC Approval. No termination of this Agreement shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination, including the filing with FERC of a notice of termination of this Agreement, if required, which notice has been accepted for filing by FERC.

14.5 Termination Costs. If a Party elects to terminate this Agreement pursuant to this Article 14, each Party shall pay all costs incurred for which that Party is responsible (including any cancellation costs relating to orders or contracts for Connection Facilities, applicable upgrades, and related equipment) or charges assessed by the other Parties, as of the date of the other Parties' receipt of such notice of termination, under this Agreement. In the event of termination by a Party, the Parties shall use commercially Reasonable Efforts to mitigate the costs, damages and charges arising as a consequence of termination. Upon termination of this Agreement, unless otherwise ordered or approved by FERC:

14.5.1 With respect to any portion of the Connection Facilities and any upgrades that have not yet been constructed or installed, Transmission Owner shall to the extent possible cancel any pending orders of, or return any materials or equipment for, or contracts for construction of, such facilities; provided that in the event MHVDC Connection Customer elects not to authorize such cancellation, MHVDC Connection Customer shall assume all payment obligations with respect to such materials, equipment, and contracts, and Transmission Owner shall deliver such material and equipment, and, if necessary, assign such contracts, to MHVDC Connection Customer as soon as practicable, at MHVDC Connection Customer's expense. To the extent that MHVDC Connection Customer has already paid Transmission Owner for any or all such costs of materials or equipment not taken by MHVDC Connection Customer, Transmission Owner shall promptly refund such amounts to MHVDC Connection Customer, less any costs, including penalties incurred by Transmission Owner to cancel any pending orders of or return such materials, equipment, or contracts.

If MHVDC Connection Customer terminates this Agreement, it shall be responsible for all costs incurred in association with that MHVDC Connection Customer's connection, including any cancellation costs relating to orders or contracts for Connection Facilities and equipment, and other expenses including any upgrades or related equipment for which Transmission Owner has incurred expenses and has not been reimbursed by MHVDC Connection Customer.

14.5.2 Transmission Owner may, at its option, retain any portion of such materials, equipment, or facilities that MHVDC Connection Customer chooses not to accept delivery of, in which case Transmission Owner shall be responsible for all costs associated with procuring such materials, equipment, or facilities. If Transmission Owner does not so elect, then MHVDC Connection Customer shall be responsible for such costs.

- 14.5.3 With respect to any portion of the Connection Facilities and any other facilities already installed or constructed pursuant to the terms of this Agreement, MHVDC Connection Customer shall be responsible for all costs associated with the removal, relocation, reconfiguration or other disposition or retirement of such materials, equipment, or facilities, and such other expenses actually incurred by Transmission Owner necessary to return the Transmission System to safe and reliable operation.
- 14.6 Disconnection. Upon termination of this Agreement in accordance with this Article 14, a Party shall, in coordination with the other Parties, physically disconnect its transmission system from the terminated Party's transmission system. If this Agreement terminates in part with respect to a particular Point of Connection, the Parties will coordinate to disconnect their transmission systems at such Point of Connection.
- 14.7 Survival of Rights. Termination of this Agreement shall not relieve any Party of any of its liabilities and obligations arising hereunder prior to the date termination becomes effective, and each Party may take whatever judicial or administrative actions as appear necessary or desirable to enforce its rights hereunder. Applicable provisions of this Agreement will continue in effect after expiration, cancellation or termination of this Agreement to the extent necessary to provide for final billings, billing adjustments, and the determination and enforcement of liability and indemnification obligations arising from events or acts that occurred while this Agreement was in effect.

ARTICLE 15 LABOR RELATIONS

- 15.1 Each Party agrees to immediately notify the other Parties, orally and then in writing, of any labor dispute or anticipated labor dispute of which its management has actual knowledge that might reasonably be expected to affect the operations of the other Parties with respect to this Agreement.

ARTICLE 16 SUBCONTRACTOR

- 16.1 Generally. Nothing in this Agreement shall prevent a Party from utilizing the services of such subcontractors as it deems appropriate to perform its obligations under this Agreement; provided, however, that all Parties shall require their subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services.
- 16.2 Responsibility of Principal. The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. Each Party shall be fully responsible to the other Parties for the acts or omissions of any subcontractor it hires as if no subcontract had been made. Any applicable obligation imposed by this Agreement upon a Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

- 16.3 No Third Party Beneficiary. No subcontractor is intended to be, nor will it be deemed to be, a third-party beneficiary of this Agreement.
- 16.4 No Limitation by Insurance. The obligations under this Article will not be limited in any way by any limitation on subcontractor's insurance.

ARTICLE 17 CONFIDENTIALITY

- 17.1 Nondisclosure. No Party shall disclose any Confidential Information of the other Parties obtained pursuant to or in connection with the performance of this Agreement to any third party without the express written consent of the other Parties, except that any Party may produce Confidential Information in response to a subpoena, discovery request or other compulsory process issued by a judicial body or governmental agency, under applicable law, upon reasonable notice to the Party whose Confidential Information it is.
- 17.2 Definition. "Confidential Information" means any confidential, proprietary or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, which is designated as Confidential Information by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise. Confidential Information shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by a Party to another Party on a confidential basis prior to the execution of this Agreement. Confidential Information shall not include information that the receiving Party can demonstrate: (i) is generally available to the public other than as a result of a disclosure by the receiving Party; (ii) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (iii) was supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party, after due inquiry, was under no obligation to the other Party to keep such information confidential; (iv) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (v) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or breach of this Agreement; or (vi) is required, in accordance with this Article, to be disclosed by any federal or state government or agency or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under this Agreement held in a court or agency of competent jurisdiction. Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as Confidential Information notifies the other Parties that such information no longer is confidential. Finally, for the purposes of this Agreement, information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential.

- 17.3 Standard of Care. All Parties shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination.
- 17.4 Use of Confidential Information. Any Party may use Confidential Information solely to fulfill its obligations to the other Party or Parties under this Agreement or its Regulatory Requirements, or in any proceeding under Article 18 or 20 or in any administrative agency or court of competent jurisdiction addressing any dispute arising under this Agreement, subject either to a confidentiality agreement with all participants (including, if applicable, arbitrator(s)) or to a protective order. Notwithstanding the absence of a protective order or waiver, a Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose.
- 17.5 Damages. The Parties agree that monetary damages by themselves will be inadequate to compensate a Party for the other Party's breach of its obligations under this Section 17.5. Each Party accordingly agrees that the other Parties are entitled to equitable relief, by way of injunction or otherwise, if it breaches or threatens to breach its obligations under this Section 17.5.
- 17.6 Survival. The confidentiality provisions of this Article shall survive termination of this Agreement for a period of two (2) years.

ARTICLE 18 DISPUTE RESOLUTION

- 18.1 In the event any Party has a dispute, or asserts a claim, that arises out of or in connection with this Agreement or its performance, such Party (the "Disputing Party") shall provide the other Parties with written notice of the dispute or claim ("Notice of Dispute"). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the non-disputing Parties. In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the non-disputing Parties' receipt of the Notice of Dispute, such claim or dispute shall be submitted for resolution in accordance with the dispute resolution procedures of the Transmission Provider Tariff.

ARTICLE 19 NOTICES AND COMMUNICATIONS

- 19.1 Unless otherwise specified herein, any notice, request, claim, demand and other communication required or permitted to be given by any Party to the other Parties and any instrument required or permitted to be tendered or delivered by a Party in writing to the other Parties shall be effective when delivered and may be so given, tendered or delivered by recognized national courier, or by depositing the same with the United States Postal Service with postage prepaid, for delivery by certified or registered mail, addressed to the Party, or personally delivered to the Party respective Parties as follows:

To Transmission Owner:

Shawn E Schukar
Vice President - Transmission
Ameren Services Company as agent for
Union Electric Company d/b/a **Ameren**
Missouri
1901 Chouteau Avenue, MC 410
PO Box 66149
St. Louis, MO 63166-6149
Voice telephone – 314-749-9275
Facsimile telephone – (314) 554-3066
Email address – SSchukar@ameren.com

To MHVDC Connection Customer:

Grain Belt Express LLC
General Counsel
c/o Invenenergy Transmission LLC
One South Wacker Drive, Suite 1800
Chicago, IL 60606
Phone: 312-582-1490
Email: interconnection-
notices@invenenergy.com

To Transmission Provider:

Attn: Director, Transmission Access Planning
Midcontinent Independent System Operator, Inc.
720 West City Center Drive
Carmel, IN 46032

Any such notice or communication will be deemed to have been given as of the date received.

- 19.2 Any Party may change its address or designated representative for notices by notice to the other Parties in the manner provided above.
- 19.3 Any notice or request required or permitted to be given by any Party to the other and not required by this Agreement to be given in writing may be so given by telephone, facsimile or email to the telephone numbers and email addresses set out above in Section 19.1.
- 19.4 Notwithstanding Section 19.1, any notice hereunder concerning an Emergency or other occurrence requiring prompt attention, or as necessary during daytoday operations, may be made by telephone or in person provided that such notice is confirmed in writing promptly thereafter. Notice in an Emergency, or as necessary during -daytoday- operations, shall be provided: (-i-) if by Transmission Owner, to the shift supervisor at MHVDC Connection Customer's transmission control center, (ii) if by Transmission Owner, to the shift supervisor at MHVDC Connection Customer's transmission control center, and (iii) if by Transmission Provider, pursuant to Transmission Provider's established procedures.

ARTICLE 20
BILLING AND PAYMENT

- 20.1 Procedure. All bills for amounts owed by one Party to the other hereunder, not otherwise billed by Transmission Owner, shall be due on the 15th Business Day following receipt of the bill. The standard period for the purpose of settlements hereunder shall be a calendar month.

- 20.2 Final Invoice. Within six (6) months after completion of the construction of the Connection Facilities and any upgrades, Transmission Owner shall provide an invoice of the final cost of the construction of the Transmission Owner Connection Facilities and any upgrades and shall set forth such costs in sufficient detail to enable MHVDC Connection Customer to compare the actual costs with the estimates and to ascertain deviations, if any, from the cost estimates. Transmission Owner shall refund, with interest (calculated in accordance with 18 C.F.R. Section 35.19a(a)(2)(iii)), to MHVDC Connection Customer any amount by which the actual payment by MHVDC Connection Customer for estimated costs exceeds the actual costs of construction within thirty (30) Calendar Days of the issuance of such final construction invoice.
- 20.3 Interest on Unpaid Balances. Interest on any unpaid amounts that are past due (including amounts placed in escrow) shall be calculated in accordance with the methodology specified for interest on refunds in the FERC's regulations at 18 C.F.R. Section 35.19a(a)(2)(iii). Interest on delinquent amounts shall be calculated and compounded quarterly as required under such FERC regulation from the due date of the bill to the date of receipt of payment. When payments are made by mail, bills shall be considered as having been paid on the date of receipt by Transmission Owner or MHVDC Connection Customer.

ARTICLE 21

RELIABILITY STANDARDS

21.1 Reliability Standards.

21.1.1 Each Party will maintain responsibility to comply, at its own expense, with NERC and Regional Entity mandatory Reliability Requirements applicable to the facilities owned by the Party. The Parties agree to share data or documentation as may be required to demonstrate compliance with Reliability Requirements where an individual Party has possession of data or documentation necessary for the other Party to demonstrate compliance.

21.1.2 To the extent that MHVDC Connection Customer contributes in whole or in part to actions which result in monetary penalties being assessed to Transmission Owner for non-compliance with Reliability Requirements, MHVDC Connection Customer shall reimburse Transmission Owner for its proportional share of such monetary penalties. To the extent that Transmission Owner contributes in whole or in part to actions which result in monetary penalties being assessed to MHVDC Connection Customer for non-compliance with Reliability Requirements, Transmission Owner shall reimburse MHVDC Connection Customer for its proportional share of such monetary penalties. NERC, or the Regional Entity by which a compliance penalty has been assessed, will make the determination of the responsible parties and the contribution to such non-compliance event(s). In the event of a dispute between the Parties regarding either Party's share of such monetary penalties, the dispute shall be subject to the provisions of Article 18 herein.

- 21.2 Reserved Rights. Except as provided by any Reliability Requirements, nothing herein shall affect the right of either Party or Transmission Provider, subject to any necessary regulatory approval, to take such other measures to maintain reliability, including disconnection, which such Party may otherwise be entitled to take under this Agreement, Good Utility Practice or the Transmission Provider Tariff.

ARTICLE 22

JOINT OPERATING COMMITTEE

- 22.1 Joint Operating Committee. No less than one hundred twenty (120) days before the commencement of operation of the MHVDC Transmission Line the Parties shall establish a Joint Operating Committee to coordinate operating and technical considerations of the connection provided for in this Agreement. Each Party shall appoint a representative to such Committee and notify the other Party of such Appointee. Transmission Provider shall participate in such Committee and shall appoint a representative thereto. Such appointments may be changed at any time by similar notice. The Joint Operating Committee shall hold a meeting at the request of either Party or Transmission Provider, at a time and place agreed upon by the representatives. The Joint Operating Committee shall perform all of its duties consistent with the provisions of this Agreement. Each Party shall cooperate in providing to the Joint Operating Committee all information required in the performance of the Joint Operating Committee's duties. All decisions and agreements, if any, made by the Joint Operating Committee, shall be evidenced in writing. The duties of the Joint Operating Committee shall include the following:

- 22.1.1 Assess readiness of the Parties' Connection Facilities to be placed in service on the schedules identified in Appendix C and recommend corrective actions if necessary to facilitate the placement in service of facilities and equipment.
- 22.1.2 Establish data requirements and operating record requirements.
- 22.1.3 Review the requirements, standards, and procedures for data acquisition equipment, protective equipment, and any other equipment or software.
- 22.1.4 Annually review the one (1) year forecast of maintenance and planned outage schedules of the Connection Facilities with such forecasts posted on the applicable OASIS.
- 22.1.5 Coordinate the scheduling of maintenance and planned outages on the Connection Facilities, and other facilities that impact the normal operation of the connection, with such scheduled maintenance and planned outages posted on the applicable OASIS.
- 22.1.6 Ensure that information is being provided by each Party regarding equipment availability with such equipment availability posted on each Party's OASIS.

22.1.7 Perform such other duties as may be conferred upon it by mutual agreement of the Parties.

ARTICLE 23

MISCELLANEOUS PROVISIONS

23.1 General. Each Party makes the following representations, warranties and covenants:

23.1.1 Good Standing. Such Party is duly organized, validly existing and in good standing under the laws of the state in which it is organized, formed, or incorporated, as applicable; that it is qualified to do business in the state or states in which the Connection Facilities are located; and that it has the corporate power and authority to carry on its business as now being conducted and to enter into this Agreement and carry out the transactions contemplated hereby and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this Agreement.

23.1.2 Authority. Such Party has the right, power and authority to enter into this Agreement, to become a Party hereto and to perform its obligations hereunder. This Agreement is a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms, except as the enforceability thereof may be limited by applicable bankruptcy, insolvency, reorganization or other similar laws affecting creditors' rights generally and by general equitable principles (regardless of whether enforceability is sought in a proceeding in equity or at law).

23.1.3 No Conflict. The execution, delivery and performance of this Agreement does not violate or conflict with the organizational or formation documents, or bylaws or operating agreement, of such Party, or any judgment, license, permit, order, material agreement or instrument applicable to or binding upon such Party or any of its assets.

23.1.4 Consent and Approval. Notwithstanding Section 23.2 of this Agreement, each Party has sought or obtained, or, in accordance with this Agreement will seek or obtain, each consent, approval, authorization, order, or acceptance by any Governmental Authority in connection with the execution, delivery and performance of this Agreement, and it will provide to any Governmental Authority notice of any actions under this Agreement that are required by Applicable Laws and Regulations.

23.2 Governing Law. The validity, interpretation and performance of this Agreement and each of its provisions shall be governed by the laws of the state where the Point of Connection is located, without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, rules, or regulations of a Governmental Authority.

- 23.3 Relationship of the Parties. Nothing in this Agreement is intended to create a partnership, joint venture, or other joint legal entity making any Party jointly or severally liable for the acts of the other Party. Unless otherwise agreed to in a writing signed by all Parties, no Party shall have any authority to create or assume in another Party's name or on its behalf any obligation, express or implied or to act or purport to act as any other Party's agent or legally-empowered representative for any purpose whatsoever. Each Party shall be solely liable for the payment of all wages, taxes, and other costs related to the employment of persons by that Party to perform under this Agreement, including all federal, state, and local income, social security, payroll and employment taxes and statutorily mandated- workers' compensation coverage. None of the persons employed by any Party shall be considered employees of the other Party for any purpose; nor shall any Party represent to any person that such persons are or shall become employees of the other Party. Except as expressly provided for herein, no Party shall be liable to any third Party in any way for any engagement, obligation, commitment, contract, representation, or for any negligent act or omission to act of the other Party.
- 23.4 No Third Party Rights. Nothing in this Agreement, express or implied, is intended to confer on any person, other than the Parties hereto, any benefits, interests, rights, or remedies under or by reason of the Agreement.
- 23.5 Waiver. Except as otherwise provided in this Agreement, a Party's compliance with any obligation, covenant, agreement, or condition herein may be waived by the Party entitled to the benefits thereof only by a written instrument signed by the Party granting such waiver, but such waiver or failure to insist upon strict compliance with such obligation, covenant, agreement, or condition will not operate as a waiver of, or estoppel with respect to, any subsequent or other failure.
- 23.6 Failure to Enforce. Failure of any Party to enforce or insist upon compliance with any of the terms or conditions of this Agreement, or to give notice or declare this Agreement or the rights hereunder terminated, shall not constitute a waiver or relinquishment of any rights set out herein, but the same shall be and remain at all times in full force and effect, unless and only to the extent expressly set forth in a writing signed by the Party granting such waiver or relinquishing any such right(s). Any waiver granted, or relinquishment of any right, by a Party shall not operate as a relinquishment of any other rights or a waiver or of any other failure of the Party granted the waiver to comply with any obligation, covenant, agreement, or condition herein.
- 23.7 Amendments and Modification. Except as otherwise provided, (a) this Agreement may only be modified in writing and signed by all Parties, and (b) no amendment or modification to this Agreement or waiver of a Party's rights hereunder shall be binding unless the same shall be in writing and signed by all Parties against which enforcement is sought. Notwithstanding any provision in this Agreement to the contrary, Transmission Provider shall have the right to make a unilateral filing with FERC to modify this TCA with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under Section 205 or any other applicable provision of the Federal Power Act

and FERC's rules and regulations thereunder, and Transmission Owner and MHVDC Connection Customer shall have the right to make a unilateral filing with FERC to modify this TCA pursuant to Section 206 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing and to participate fully in any proceeding before FERC in which such modifications may be considered.

- 23.8 Severability. If any term, condition, covenant, restriction or other provision of this Agreement is held by a court or regulatory agency of competent jurisdiction or by legislative enactment to be invalid, void or otherwise unenforceable, the remainder of the terms, conditions, covenants restrictions and other provisions of this Agreement shall remain in full force and effect unless such an interpretation would materially alter the rights and privileges of any Party. If any term, condition, covenant, restriction or other provision of this Agreement is held invalid, void or otherwise unenforceable, the Parties shall attempt to negotiate an appropriate and equitable replacement, revision or adjustment to the provision of this Agreement to restore the benefits and obligations conferred under the original Agreement.
- 23.9 Headings and Captions. Article headings, section headings, and/or other captions are included in this Agreement for reference purposes only and shall not constitute a part of this Agreement or in any way affect the meaning or interpretation of this Agreement. Whenever used herein the singular number shall include the plural, the plural shall include the singular, and the use of any gender shall include all genders.
- 23.10 Further Assurances. Each Party shall do such other and further acts and things, and shall execute and deliver such instruments and documents, as any other Party reasonably requests from time to time in furtherance of the purposes of this Agreement.
- 23.11 Entire Agreement. This Agreement, including all schedules, appendices and other attachments hereto and made part hereof, sets forth the entire understanding and agreement of the Parties as to the subject matter of this Agreement and merges and supersedes all prior written and oral understandings, offers, agreements, commitments, representations, writings, discussions or other communications of every kind between the Parties.
- 23.12 Rights Cumulative. The rights and remedies set forth in this Agreement are cumulative and non-exclusive.
- 23.13 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the Parties have caused their authorized representatives to execute this Agreement in quadruplicate originals, each of which shall constitute and be an original effective Agreement among the Parties as of the date first above written.

Transmission Owner
Ameren Services Company as agent for
Union Electric Company d/b/a **Ameren Missouri**

By: _____
Name: Shawn E Schukar
Title: Vice President – Transmission

MHVDC Connection Customer
Grain Belt Express LLC

By: _____
Name: Shashank Sane
Title: Vice President

Transmission Provider
Midcontinent Independent System Operator, Inc.

By: _____
Name: _____
Title: _____

Project No. H104 H105

**APPENDIX A
TRANSMISSION CONNECTION AGREEMENT
by and among**

**Ameren Services Company as agent for Union Electric Company d/b/a Ameren Missouri,
Grain Belt Express LLC,
and
Midcontinent Independent System Operator, Inc.**

POINT OF CHANGE OF OWNERSHIP

Point of Change of Ownership	
	<p>Burns substation, Callaway County, Missouri The Point of Change of Ownership is at the dead-end structure inside the proposed Burns substation fence.</p>

POINT OF CONNECTION

Point of Connection	
	<p>Transmission Owner's new Burns 345kV substation, connected at Montgomery-McCredie-5470 345 kV Line, ~0.5 mi from McCredie</p>

APPENDIX B

TRANSMISSION CONNECTION AGREEMENT

by and among

Ameren Services Company as agent for **Union Electric Company d/b/a Ameren Missouri,**
Grain Belt Express LLC,
and
Midcontinent Independent System Operator, Inc.

CONNECTION FACILITIES AND ANY NECESSARY UPGRADES

General Description of MHVDC Connection Customer's Connection Facilities

The MHVDC Connection Customer will design, construct, and own the MHVDC Connection Customer's Connection Facilities. The MHVDC Connection Customer's Connection Facilities will be between the MHVDC Transmission Line located at Montgomery-McCredie-5470 345 kV Line, ~0.5 mi from McCredie to the Point of Change of Ownership located at the dead-end structure inside the proposed Burns substation fence. The site for the MHVDC Connection Customer's Connection Facilities is depicted in the drawing attached hereto as Exhibit B1.

General Description of Transmission Owner's Connection Facilities

The Transmission Owner will design, construct, own and operate the Transmission Owner's Connection Facilities. The Transmission Owner's Connection Facilities will be between the Point of Change of Ownership located at the dead-end structure inside the proposed Burns substation fence to the Point of Connection located at Montgomery-McCredie-5470 345 kV Line, ~0.5 mi from McCredie. The site for the Transmission Owner's Customer's Connection Facilities is depicted in the drawing attached hereto as Exhibit B2.

1. Transmission Owner's Connection Facilities -

The Transmission Owner Connection Facilities will consist of one 345 kV terminal in the proposed Burns substation. The terminal will consist of all necessary terminal equipment to connect the J1488-J1490 leadline to the Burns substation 345 kV bus.

Major Items:

- One (1) 345 kV steel dead-end arbor structure
- One (1) 345 kV motor operated disconnect switch, 3000A rated
- Three (3) 345 kV surge arresters
- Three (3) 345 kV potential/voltage transformers
- Three (3) 345 kV current transformers
- Revenue metering
- One (1) line relay panel (SEL 411L and SEL 311C)
- One fiber patch panel housing, fiber splice box, and fiber termination in the control house

- Bus and Fittings: 2500 AAC (2) wire conductor with bolted aluminum bus connectors, fittings, and terminals
- Insulators: high -strength porcelain station post insulators
- Foundations: designed per Transmission Owner standard design criteria
- Structures: steel tapered tube style

General Description of Any Necessary Upgrades

1. Construct Montgomery 345kV Substation BAAH Leg

Ameren will expand the Montgomery BAAH to accommodate two new Burns lines into Montgomery:

- Six (6) 345 kV Motor-Operated Disconnect Switches, 3000A
- Three (3) 345kV Circuit Breakers
- Six (6) 345 kV Coupling Capacitor Voltage Transformers
- Six (6) 345 kV Surge Arresters
- Bus and Fittings: Six inch and Five inch aluminum tube with portions of 2500 AAC (2) wire conductor with a combination of welded and bolted aluminum bus connectors, fittings, and terminals
- Structures: steel tapered tube style
- Insulators: Extra High Strength 345 kV porcelain station post insulators
- Relaying and Control: Two (2) line & breaker protection relay panels, one (1) breaker control panels
- Foundations: Designed per Transmission Owner standard design criteria
- Structures: Steel tapered tube style

2. Upgrade Bus #2 at Moreau Substation

Upgrade 161kV Bus 2 to 1200A capability by upgrading strain bus, remove 954 kcmil ACSR with 1590 kcmil AAC. Strain bus runs from H2 C448 switch to H3 C508 switch.

Major Items:

- 1590 AAC (2), and 1590 AAC (1) wire conductor with a combination of welded and bolted aluminum bus connectors, fittings, and terminals
- High Strength 161 kV porcelain station post insulators

3. Expansion of Burns Substation for two new 345kV Lines to Montgomery

Ameren will complete out the six-position ring bus to accommodate two new Montgomery Lines:

- Five (5) 345 kV Motor-Operated Disconnect Switches, 3000A
- Two (2) 345kV Circuit Breakers
- Six (6) 345 kV Coupling Capacitor Voltage Transformers
- Six (6) 345 kV Surge Arresters

- Bus and Fittings: Six inch and Five inch aluminum tube with portions of 2500 AAC (2) wire conductor with a combination of welded and bolted aluminum bus connectors, fittings, and terminals
- Structures: steel tapered tube style
- Insulators: Extra High Strength 345 kV porcelain station post insulators
- Relaying and Control: Two (2) line & breaker protection relay panels
- Foundations: Designed per Transmission Owner standard design criteria
- Structures: Steel tapered tube style

4. Construct Two (2) New Montgomery - Burns – 345 kV Transmission Lines

Transmission Owner will build two (2) 345kV transmission tie lines between the new Burns and existing Montgomery stations to reduce the overload identified in the Ameren System Impact Study.

Tie Line #1: Transmission Owner will install two-hundred and forty (240) direct embed steel H-Frame transmission line structures, and twenty-seven (27) steel 3-pole dead end structures on foundation.

Major Items:

- Two-Hundred and Forty (240) Tangent Light Duty Direct Embed Steel Transmission Structures
- Twenty-Seven (27) Heavy Angle Steel Transmission Structures on Drilled Pier Foundation
- Conductor/Shield Wire
- Typical 345 kV insulators
- Compression type connectors
- Required 150' wide easement

Tie Line #2: Transmission Owner will install two-hundred and forty (240) direct embed steel H-Frame transmission line structures, and twenty-seven (27) steel 3-pole dead end structures on foundation.

Major Items:

- Two-Hundred and Forty (240) Tangent Light Duty Direct Embed Steel Transmission Structures
- Twenty-Seven (27) Heavy Angle Steel Transmission Structures on Drilled Pier Foundation
- Conductor/Shield Wire
- Typical 345 kV insulators
- Compression type connectors
- Required 150' wide easement

5. Reconductor 6.8mi of the Big Creek – Warrenton 161kV Transmission Line

Reconductor 6.8 miles of the existing 161kV Big Creek – Warrenton Transmission Line to increase ampacity to 1600A.

Transmission Owner will install one (1) double circuit dead end steel monopole on drilled pier foundation. New structure will replace existing one.

Major Items:

- One (1) 345kV/161kV Dead End Monopole Transmission Structure on Drilled Pier Foundation
- Conductor / Shield Wire
- Typical 161/345kV insulators
- Compression type connectors

6. Re-route existing Montgomery-Spencer Creek 345kV Transmission Line to new arbor position at Montgomery Substation

Re-Route existing 345kV Transmission line 0.3 miles to a new arbor position to optimize substation layout for the new tie lines needing to be connected.

Transmission Owner will install three (3) 345kV Heavy Angle Steel 3-pole structures on foundation.

Major Items:

- Three (3) 345kV Heavy Angle Steel Dead End Structures on Drilled Pier Foundations
- Conductor / Shield Wire
- Typical 345kV insulators
- Compression type connectors

7. Re-route two (2) existing 345kV Montgomery-Callaway Transmission Lines to new arbor positions at Montgomery Substation

Re-Route (2) existing 345kV Transmissions lines to a new arbor position to optimize substation layout for the new tie lines needing to be connected.

Transmission Owner will install one (1) double circuit 345kV Heavy Angle Steel Dead-end monopole transmission line structure on foundation, this will replace existing structure.

Major Items:

- One (1) 345kV Double Circuit Heavy Angle Steel Dead End Structures on Drilled Pier Foundations
- Conductor / Shield Wire
- Typical 345kV insulators
- Compression type connectors

8. Re-route existing 345kV Belleau-Montgomery Transmission Line to new arbor positions at Montgomery Substation

Re-Route existing 345kV Transmission line to a new arbor position to optimize substation layout for the new tie lines needing to be connected.

Major Items:

- Conductor / Shield Wire
- Typical 345kV insulators
- Compression type connectors

9. Expansion of Burns Substation for new 345kV J1488/1490 Line

Ameren will complete out the six-position ring bus to accommodate one new J1488/1490 Line

Major Items:

- Two (2) 345 kV Motor-Operated Disconnect Switches, 3000A
- One (1) 345kV Circuit Breakers
- Three (3) 345 kV Coupling Capacitor Voltage Transformers
- Three (3) 345 kV Surge Arresters
- Bus and Fittings: 2500 AAC (2) wire conductor with a combination of welded and bolted aluminum bus connectors, fittings, and terminals
- Structures: steel tapered tube style
- Insulators: Extra High Strength 345 kV porcelain station post insulators
- Relaying and Control: One (1) breaker protection relay panel
- Foundations: Designed per Transmission Owner standard design criteria
- Structures: Steel tapered tube style

NETWORK UPGRADES

1. Belle Tap-Gasco Tap 138 kV Line

Transmission Owner will rebuild 7 miles of the Bland-Miller 138kV transmission line. Transmission Owner will install 1200A conductor, shield wire, five (5) direct embed steel dead end structures, and sixty-five (65) direct embed steel tangent H-frames. These new structures will replace existing ones.

2. Belle Tap-Meta Tap 138 kV Line

Transmission Owner will rebuild 20.7 miles of the Bland-Miller 138kV transmission line. Transmission Owner will install 1200A conductor, shield wire, six (6) direct embed steel dead end structures, and one hundred and ninety-four (194) direct embed tangent steel H-frames. These new structures will replace existing ones. A new river crossing will be required as part of this rebuild.

3. Bland-Gasco Tap 138 kV Line

Transmission Owner will rebuild 8.3 miles of the Bland-Miller 138kV transmission line. Transmission Owner will install 1200A conductor, shield wire, three (3) direct embed steel dead end structures, and eighty-two (82) direct embed tangent steel Hframes , these new structures will replace existing ones.

4. Miller-Meta Tap 138 kV Line

Transmission Owner will rebuild 11 miles of the Bland-Miller 138kV transmission line. Transmission Owner will install 1200A conductor, shield wire, eight (8) direct embed steel dead end structures, and ninety-two (92) direct embed tangent steel Hframes , these new structures will replace existing ones. A river crossing will be required as part of this rebuild.

5. Warrenton-Montgomery-3 161 kV Line

Transmission Owner will reconductor 17.6 miles of existing 161kV transmission line. Transmission Owner will install 1600A conductor and eight (8) double circuit heavy angle dead-end monopoles on drilled pier foundation to support the new conductor.

Major Items for Network Upgrades 1-5 listed above:

- Four-Hundred and Thirty Three (433) 138 kV direct embed steel tangent H frame structures
- Twenty-Two (22) 138 kV direct embed steel dead end structures
- Eight (8) Double circuit 161kV/345kV steel monopole dead end structures on drilled pier foundation.
- Conductor / Shield Wire
- Typical 138 kV / 161kV / 345kV insulators
- Compression type connectors

Exhibits – The following exhibits are included:

- B1. MHVDC Connection Customer One-Line and Site Map
 - B1-1: MHVDC Connection Customer One-Line Diagram
 - B1-2: Connection Project Site Map
- B2. Transmission Owner One Lines and System Maps Moreau Substation Upgrade
 - B2-1: Burns Substation Expansion for H104/H105 and J1488/1490
 - B2-2: Montgomery Substation Reconfiguration for Two New 345kV Burns Lines
 - B2-3: Construct Two (2) New Montgomery - Burns – 345 kV Transmission Lines
 - B2-4: Belle Tap – Gasco Tap 138kV Transmission Line
 - B2-5: Belle Tap – Meta Tap 138kV Transmission Line
 - B2-6: Bland – Gasco Tap 138kV Transmission Line
 - B2-7: Miller – Meta Tap 138kV Transmission Line
 - B2-8: Warrenton-Montgomery-3 138kV Transmission Line
- B3. {Reserved}
- B4. {Reserved}
- B5. Facilities to be Constructed by Transmission Owner
- B6. Detailed Costs of Facilities to be Constructed by Transmission Owner
- B7. Transmission Owner Facilities to be Constructed by MHVDC Connection Customer
- B8. Detailed Costs of Transmission Owner’s Facilities to be Constructed by MHVDC Connection Customer
- B9. Facilities Subject to Transmission Owner Reimbursement
- B10. Contingent Facilities
- B11. MHVDC Connection Customer Milestones
- B12. Construction and Coordination Schedules
- B13. Permits, Licenses, Regulatory Approvals and Authorization
- B14. {Reserved}

Exhibit B1. MHVDC Connection Customer One-Line and Site Map
B1-1: MHVDC Connection Customer One-Line Diagram

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit B1-2: Connection Project Site Map

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit B2. Transmission Owner One Lines and System Maps Moreau Substation Upgrade

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit B2-1. Burns Substation Expansion for H104/H105 and J1488/1490

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit B2-2. Montgomery Substation Reconfiguration for Two New 345kV Burns Lines

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit B2-3. Construct Two (2) New Montgomery - Burns – 345 kV Transmission Lines

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit B2-4. Belle Tap – Gasco Tap 138kV Transmission Line

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit B2-5. Belle Tap – Meta Tap 138kV Transmission Line

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit B2-6. Bland – Gasco Tap 138kV Transmission Line

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit B2-7. Miller – Meta Tap 138kV Transmission Line

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit B2-8. Warrenton-Montgomery-3 138kV Transmission Line

CUI//CEII MATERIAL – DO NOT RELEASE

B3. {Reserved}

B4. {Reserved}

Exhibit B5. Facilities to be Constructed by Transmission Owner**Table B5-1 – Necessary Upgrades**

Location	Facilities to be Financed and Constructed by Transmission Owner	Estimated Cost
New Florence County, Missouri	Construct Montgomery 345kV Bus.	\$ 5,024,000
Jefferson City, Missouri	Upgrade Bus #2 at Moreau Substation.	\$ 178,000
Callaway County, Missouri	Expansion of Burns Substation for two new 345kV Lines to Montgomery.	\$ 4,550,000
Randolph and Ralls County, Missouri	Construct Two (2) New Montgomery - Burns – 345 kV Transmission Lines.	\$ 126,524,000
Warrenton, Missouri	Reconductor 6.8mi of the Big Creek – Warrenton 161kV Transmission Line.	\$ 2,579,000
New Florence County, Missouri	Re-route existing Montgomery-Spencer Creek 345kV Transmission Line to new arbor position at Montgomery Substation.	\$ 1,674,000
New Florence County, Missouri	Re-route two (2) existing 345kV Montgomery-Callaway Transmission Lines to new arbor positions at Montgomery Substation.	\$ 675,000
New Florence County, Missouri	Re-route existing 345kV Belleau-Montgomery Transmission Line to new arbor positions at Montgomery Substation.	\$ 275,000
Callaway County, Missouri	Expansion of Burns Substation for 345kV J1488/1490 Line.	\$ 1,355,000
Total:		\$ 142, 834,000

* Estimated costs are in 2022 dollars, do not include tax gross-up or escalation, and are accurate to $\pm 20\%$. Projects H104 and H105 must document that they satisfy the 'safe harbor' requirements for tax gross-up under IRS Notice 2016-36.

Table B5-2 – Network Upgrades

Location	Facilities to be Financed and Constructed by Transmission Owner	Estimated Cost*
Belle and Bland, MO	Belle Tap-Gasco Tap 138 kV line.	\$ 7,782,000
Belle and Meta, MO	Belle Tap-Meta Tap 138 kV line.	\$ 31,379,000
Bland, MO	Bland-Gasco Tap 138 kV line.	\$ 9,783,000
Henly and Meta, MO	Miller-Meta Tap 138 kV line.	\$ 19,354,000
Warrenton and New Florence, MO	Warrenton-Montgomery-3 161 kV line upgrades.	\$ 4,565,000
Total:		\$ 72,863,000

- * Estimated costs are in 2023 dollars, do not include tax gross-up or escalation, and are accurate to $\pm 20\%$. Projects J1488 and J1490 must document that they satisfy the 'safe harbor' requirements for tax gross-up under IRS Notice 2016-36.

Table B5-3 – Connection Facilities

Location	Facilities to be Financed and Constructed by Transmission Owner	Estimated Cost*
Callaway County, MO	Construct Transmission Owner's Connection Facilities at the Burns substation (For J1488/1490 Terminal).	\$ 1,319,000
	Total:	\$ 1,319,000

- * Estimated costs are in 2023 dollars, do not include tax gross-up or escalation, and are accurate to $\pm 20\%$. Projects J1488 and J1490 must document that they satisfy the 'safe harbor' requirements for tax gross-up under IRS Notice 2016-36.

Exhibit B6. Detailed Costs of Facilities to be Constructed by Transmission Owner**Construct Montgomery 345kV Bus**

Engineering, Drafting, & Project Management	\$ 556,338
Material	\$ 2,523,872
Construction & Construction Oversight	\$ 1,315,083
Indirect Overheads	\$ 628,707
Total	\$ 5,024,000

Upgrade Bus #2 at Moreau Substation

Engineering, Drafting, & Project Management	\$ 113,958
Material	\$ 8,167
Construction & Construction Oversight	\$ 29,338
Indirect Overheads	\$ 26,537
Total	\$ 178,000

Expansion of Burns 345 kV Substation to accommodate two new lines

Engineering, Drafting, & Project Management	\$ 461,171
Material	\$ 2,337,275
Construction & Construction Oversight	\$ 1,187,152
Indirect Overheads	\$ 564,402
Total	\$ 4,550,000

Construct Two (2) New Montgomery - Burns – 345 kV Transmission Lines

Engineering, Drafting, & Project Management	\$ 1,302,281
Material	\$ 56,433,928
Construction & Construction Oversight	\$ 49,925,452
Indirect Overheads	\$ 18,862,339
Total	\$ 126,524,000

Reconductor 6.8mi of the Big Creek – Warrenton 161kV Transmission Line

Engineering, Drafting, & Project Management	\$ 255,591
Material	\$ 712,592
Construction & Construction Oversight	\$ 1,240,560
Indirect Overheads	\$ 370,257
Total	\$ 2,579,000

Re-route existing Montgomery-Spencer Creek 345kV Transmission Line to new arbor position at Montgomery Substation

Engineering, Drafting, & Project Management	\$ 88,251
Material	\$ 65,821
Construction & Construction Oversight	\$ 1,271,672
Indirect Overheads	\$ 248,256
Total	\$ 1,674,000

**Re-route two (2) existing 345kV Montgomery-Callaway
Transmission Lines to new arbor positions at Montgomery
Substation**

Engineering, Drafting, & Project Management	\$ 88,313
Material	\$ 201,166
Construction & Construction Oversight	\$ 286,608
Indirect Overheads	\$ 98,913
Total	\$ 675,000

**Re-route existing 345kV Belleau-Montgomery Transmission Line
to new arbor positions at Montgomery Substation**

Engineering, Drafting, & Project Management	\$ 84,602
Material	\$ 33,676
Construction & Construction Oversight	\$ 116,224
Indirect Overheads	\$ 40,498
Total	\$ 275,000

**Construct Transmission Owner's Connection Facilities at the
Burns Substation**

Engineering, Drafting, & Project Management	\$ 286,546
Procurement of Material and Equipment	\$ 487,238
Construction & Construction Oversight	\$ 380,202
Indirect Overheads	\$ 165,014
Total	\$ 1,319,000

**Expansion of Burns 345 kV Substation to accommodate new line
for Transmission Owner**

Engineering, Drafting, & Project Management	\$ 377,000
Material	\$ 614,000
Construction & Construction Oversight	\$ 201,000
Indirect Overheads	\$ 163,000
Total	\$ 1,355,000

Belle Tap-Gasco Tap 138 kV line

Engineering, Drafting, & Project Management	\$ 185,249
Procurement of Material and Equipment	\$ 2,132,490
Construction & Construction Oversight	\$ 4,356,775
Indirect Overheads	\$ 1,107,486
Total	\$ 7,782,000

Belle Tap-Meta Tap 138 kV line

Engineering, Drafting, & Project Management	\$ 221,385
Procurement of Material and Equipment	\$ 5,790,259
Construction & Construction Oversight	\$ 21,865,357
Indirect Overheads	\$ 3,501,999
Total	\$ 31,379,000

Bland-Gasco Tap 138 kV line

Engineering, Drafting, & Project Management	\$ 174,054
Procurement of Material and Equipment	\$ 2,477,293
Construction & Construction Oversight	\$ 5,778,173
Indirect Overheads	\$ 1,353,480
Total	\$ 9,783,000

Miller-Meta Tap 138 kV line

Engineering, Drafting, & Project Management	\$ 139,040
Procurement of Material and Equipment	\$ 3,077,713
Construction & Construction Oversight	\$ 14,303,248
Indirect Overheads	\$ 1,833,999
Total	\$ 19,354,000

Warrenton-Montgomery-3 161 kV line upgrades

Engineering, Drafting, & Project Management	\$ 380,565
Procurement of Material and Equipment	\$ 2,121,415
Construction & Construction Oversight	\$ 1,399,164
Indirect Overheads	\$ 663,856
Total	\$ 4,565,000

Exhibit B7. Transmission Owner Facilities to be Constructed by MHVDC Connection Customer

None.

**Exhibit B8. Detailed Costs of Transmission Owner's Facilities to be Constructed by
MHVDC Connection Customer**

None.

Exhibit B9. Facilities Subject to Transmission Owner Reimbursement

None.

Exhibit B10. Contingent Facilities

None.

Exhibit B11. MHVDC Connection Customer Milestones

See Appendix C.

Exhibit B12. Construction and Coordination Schedules

See Appendix C.

Exhibit B13. Permits, Licenses, Regulatory Approvals and Authorization

Construction of the Transmission Owner's Interconnection Facilities and Network Upgrades is conditioned on receipt by Transmission Owner of approval from any jurisdiction having authority over the construction. No approvals, except approvals for outages, are contemplated.

For avoidance of doubt, certain Necessary Upgrades identified in Appendix B have been identified as facilities that may require state regulatory approval before the Transmission Owner can begin construction on said facilities. These regulatory approvals are a condition precedent to the Transmission Owner's ability to perform construction work on its Necessary Upgrades which require regulatory approvals. While Transmission Owner reasonably believes that said approval can be obtained in a time frame consistent with the milestones identified in Appendix B, Table A contained herein, failure to obtain these approvals in a timely manner may have an impact on viability of said milestone schedule.

Permits required for the transmission line Network Upgrade will be the responsibility of the Transmission Owner.

Exhibit B14. {Reserved}

APPENDIX C**TRANSMISSION
CONNECTION AGREEMENT**

by and among
Ameren Services Company as agent for **Union Electric Company d/b/a Ameren Missouri,**
Grain Belt Express LLC,
and
Midcontinent Independent System Operator, Inc.

MILESTONES

The **Commercial Operation Date** shall be 07/01/2031

The **Initial Synchronization Date** shall be 01/01/2031

The **In-Service Date** shall be 12/01/2030

*These dates are dependent upon system conditions in the area that will allow a line outage for cut in to take place

**Table A: MILESTONES FOR MHVDC CONNECTION
CUSTOMER CONNECTION FACILITIES**

No.	Description	Date
1.	MHVDC Connection Customer to commence detailed design, engineering, and equipment procurement for MHVDC Connection Customer Connection Facilities.	12/09/2022 – Complete.
2.	MHVDC Connection Customer to commence construction activities for MHVDC Connection Customer Connection Facilities.	12/01/2024
3.	MHVDC Connection Customer Connection Facilities construction complete and ready for back-feed.	12/01/2027
4.	Ameren ready to provide In-Service Date for MHVDC Connection Customer Connection Facilities.	12/01/2030

**Table B-1: MILESTONES FOR TRANSMISSION OWNER CONNECTION
FACILITIES AND NECESSARY UPGRADES**

NO.	MILESTONES	SCHEDULEDATE	SECURITY AMOUNT
1.	Effective Date of a Transmission Construction Agreement for the Connection Facilities and Necessary Upgrades described in this Network Upgrade Facilities Study Report.	Estimated to be December 11, 2023.	
2.	Customer to provide to Transmission Owner cash payment for 10% of the estimated cost of the Connection Facilities and Necessary Upgrades to be constructed under the TCA. The total amount of the payment is \$14,415,300.	January 15, 2024.	\$14,415,300
3.	Ameren to begin engineering and design of the Connection Facilities and Necessary Upgrades to be constructed by Transmission Owner under the TCA.	January 30, 2024.	
4a.*	Ameren to begin procurement of long-lead equipment and material for the Connection Facilities and Necessary Upgrades to be constructed by Transmission Owner under the TCA. Additional security for Procurement to be provided.	Procurement to begin upon receipt of initial payment. February 1, 2024.	See footnote below.
4b.	Ameren to acquire easements for Transmission Right of Way.	June 1, 2027.	
5.*	Ameren to begin construction of the Connection Facilities and Necessary Upgrades to be constructed by Transmission Owner under the TCA. Additional security for Construction to be provided.	February 1, 2026.	See footnote below.

NO.	MILESTONES	SCHEDULEDATE	SECURITY AMOUNT
6.	In Service Date, by which Ameren to complete the Connection Facilities and Necessary Upgrades to be constructed by Transmission Owner under the TCA.	December 1, 2030.	
7.	Transmission Owner to provide to Customers an accounting of the actual cost of the Connection Facilities and Necessary Upgrades constructed by Transmission Owner under the TCA (TCA Article 20.2).	Within six (6) months after completion of the Common Use Upgrade.	

* If any milestones outlined in the table above are missed and/or delayed by the Interconnection Customer, the requested In-Service Date of December 1, 2030, would be put at risk. The security milestones that are included in this agreement in Appendix C, Table B-1 shall be adjusted/revised, with such milestone adjustments/revisions to be as agreed upon by Transmission Owner and Interconnection Customer, once the Ameren project team is assembled, a cash flow is developed, and the sequence of work is developed. The Ameren project team shall provide cash flow updates on or before January 31, 2024 with security in place, based on the cash flow, by February 28, 2024 and, in the proceeding years, cash flow updates by November 30th for the following year with security in place by December 31st for the following year. Invoices for payment of the expenses occurred for the year shall be issued in accordance with Article 20.1. If the sum of actual expenses and next two month forecasted expenses exceed 90% of security on hand, Ameren will provide an updated forecast of remaining cash flows for the year, Interconnection Customer shall have 20 business days to provide additional security. Ameren is allowing staged security for the various activities to be performed under this Transmission Connection Agreement due to the unique nature of this project. The total estimated cost of the Necessary Upgrades and Connection Facilities is indicated in Exhibit B5, Table B5-1.

The schedule:

- is estimated and is not guaranteed.
- may be impacted if Interconnection Customer has not obtained necessary easements
- may be impacted by poor weather.
- is based on working five business days per week.
- assumes Transmission Provider and Transmission Owner conditions allow transmission outages as required and without delay.
- assumes material lead times will be similar to recent purchases of similar equipment.
- assumes Transmission Owner has resolved any permit, jurisdictional, and regulatory issues prior to the scheduled start of construction.
- assumes that all Customers will provide to the Transmission Owner all necessary security in accordance with the milestones so as to prevent delays in the schedule.
- Has an In service date contingent upon acquiring easements by June 2027.

Table B-2: MILESTONES FOR TRANSMISSION OWNER NETWORK UPGRADES

NO.	MILESTONES	SCHEDULEDATE	SECURITY AMOUNT
1.	Effective Date of a Transmission Construction Agreement for the Network Upgrades described in this Network Upgrade Facilities Study Report.	December 11, 2023.	
2.	Customer to provide to Transmission Owner cash payment for 10% of the estimated cost of the Network Upgrades to be constructed under the TCA. The total amount of the initial payment is \$7,286,300.	January 25, 2024.	\$7,286,300
3.	Ameren to begin engineering and design of the Network Upgrades to be constructed by Transmission Owner under the TCA.	February 5, 2024.	
4.*	Ameren to begin procurement of longlead- equipment and material for the Connection Facilities and Necessary Upgrades to be constructed by Transmission Owner under the TCA. Additional security for Procurement to be provided.	Procurement to begin upon receipt of initial payment. February 1, 2024.	See footnote below.
5.*	Ameren to begin construction of the Network Upgrades to be constructed by Transmission Owner under the TCA. Additional security for Construction to be provided.	June 1, 2027 (dates to be adjusted pending detailed outage review).	See footnote below
6.	In Service Date, by which Ameren to complete the Network Upgrades to be constructed by Transmission Owner under the TCA.	December 1, 2030.	
7.	Transmission Owner to provide to Customers an accounting of the actual cost of the Network Upgrades constructed by Transmission Owner under the TCA.	Within six (6) months after completion of the Common Use Upgrade.	

NO.	MILESTONES	SCHEDULEDATE	SECURITY AMOUNT
8.	Transmission Owner and each Customer to enter into a service agreement by which Transmission Owner will recover the Customer's allocated revenue requirement for the Network Upgrades financed and constructed by Transmission Owner.	Within sixty (60) days of execution of this agreement.	

* If any milestones outlined in the table above are missed and/or delayed by the Interconnection Customer, the requested In-Service Date of December 1, 2030, would be put at risk. The security milestones that are included in this agreement in Appendix C, Table B-2 shall be adjusted/revised, with such milestone adjustments/revisions to be as agreed upon by Transmission Owner and Interconnection Customer, once the Ameren project team is assembled, a cash flow is developed, and the sequence of work is developed. The Ameren project team shall provide cash flow updates on or before January 31, 2024 with security in place, based on the cash flow, by February 28, 2024 and, in the proceeding years, cash flow updates by November 30th for the following year with security in place by December 31st for the following year until all phases are complete. The security shall be reasonably phased in order to cover expected expenses for the engineering, procurement, and construction, as those activities occur for that year. If the sum of actual expenses and next two month forecasted expenses exceed 90% of security on hand, Ameren will provide an updated forecast of remaining cash flows for the year, Interconnection Customer shall have 20 business days to provide additional security. Ameren is allowing staged security for the various activities to be performed under this Transmission Connection Agreement due to the unique nature of this project. The total estimated cost of the Network Upgrades is indicated in Exhibit B5, Table B5-2.

The schedule:

- is estimated and is not guaranteed.
- may be impacted if Interconnection Customer has not obtained necessary easements
- may be impacted by poor weather.
- is based on working five business days per week.
- assumes Transmission Provider and Transmission Owner conditions allow transmission outages as required and without delay.
- assumes material lead times will be similar to recent purchases of similar equipment.
- assumes Transmission Owner has resolved any permit, jurisdictional, and regulatory issues prior to the scheduled start of construction.
- assumes that all Customers will provide to the Transmission Owner all necessary security in accordance with the milestones so as to prevent delays in the schedule.

**Table C: MILESTONES FOR TRANSMISSION OWNER
CONNECTION FACILITIES AND NECESSARY UPGRADES
TO BE CONSTRUCTED BY MHVDC CONNECTION CUSTOMER**

None.

**Table D: MILESTONES FOR AFFECTED SYSTEM UPGRADES
TO BE CONSTRUCTED BY AFFECTED SYSTEMS TRANSMISSION OWNERS**

NO	MILESTONES	SCHEDULE DATE
1.	<p>MHVDC Connection Customer is responsible to enter into necessary agreements with Affected System Owner for it's share of following upgrades:</p> <ul style="list-style-type: none"> • AECI <ul style="list-style-type: none"> ○ Detailed SSTI study for potential SSTI issue on Thomas Hill unit #3 ○ Relieve constraint 300061 5BOONE 161 300519 5MLRSBGB1 161 1 ○ Relieve constraint 300194 2CHILLI 69.0 300218 5CHILLIS 161 1 ○ Relieve constraint 300193 2AVLON 69.0 300199 2HALE 69.0 1 ○ Relieve constraint 300199 2HALE 69.0 300201 2INGROV 69.0 1 ○ Relieve constraint 300387 2BEVIER 69.0 301623 2BEVIERTP 69.0 1 ○ Relieve constraint 300400 2MACNLK 69.0 301623 2BEVIERTP 69.0 1 ○ Relieve constraint 300388 2AXTELL 69.0 300400 2MACNLK 69.0 1 ○ Relieve constraint 300388 2AXTELL 69.0 300401 2MACNTP 69.0 1 ○ Relieve constraint 300398 2LOVELK 69.0 300401 2MACNTP 69.0 1 ○ Relieve constraint 300336 2HOLDEN 69.0 300124 5HOLDENB2 161 1 ○ Relieve constraint 300327 2ELM 69.0 300336 2HOLDEN 69.0 1 ○ Relieve constraint 300173 2GOBKNOB 69.0 301218 2PBSOUTH 69.0 1 ○ Relieve constraint 300115 5STFRANB2 161 338202 5JIM HILL% 161 1 ○ Relieve constraint 300133 5THMHLB3 161 344004 5ADAIR1 161 1 ○ Relieve constraint 300126 5MOBTAP 161 345221 5MOBERLY 1 161 Z1 ○ Relieve constraint 301251 2VANDSR 69.0 301255 2MORLEY 69.0 1 • Ameren Illinois <ul style="list-style-type: none"> ○ PLMY-MRBN 161 kV line Rebuild ○ New Marblehead N 161/138 kV transformer 	Prior to Commercial Operation Date

APPENDIX D

TRANSMISSION CONNECTION AGREEMENT

by and among

Ameren Services Company as agent for **Union Electric Company d/b/a Ameren Missouri, Grain Belt Express LLC, and Midcontinent Independent System Operator, Inc.**

METERING AND TELEMETERING EQUIPMENT

- 1.1 General.** Each Party shall comply with the Applicable Reliability Council requirements. Unless otherwise agreed by the Parties, Transmission Owner, at its election, or otherwise MHVDC Connection Customer, shall install Metering Equipment (the “Metering Party”) at the Point of Connection prior to any operation of the Connection Facilities and Transmission Owner, at its election, or otherwise MHVDC Connection Customer shall own, operate, test and maintain such Metering Equipment. Power flows to and from the Connection Facilities shall be measured at or, at the Metering Party’s option, compensated to, the Point of Connection. In addition to the Metering Equipment installed at the Point of Connection, if MHVDC Connection Customer will share Connection Facilities with any other projects, MHVDC Connection Customer shall install Metering Equipment either on its own Connection Facilities or its own non-shared facilities sufficient to measure the output of such MHVDC Connection Customer’s Connection Facility separately from any other Affiliates with which it will share Connection Facilities. The Metering Party shall provide metering quantities, in analog and/or digital form, to the other Parties upon request. Interconnection Customer shall bear all reasonable documented costs associated with the purchase, installation, operation, testing and maintenance of the Metering Equipment.
- 1.2 Check Meters.** MHVDC Connection Customer, at its option and expense, may install and operate, on its premises and on its side of the Point of Connection, one or more check meters to check the Metering Equipment owned by the Metering Party. Such check meters shall be for check purposes only and shall not be used for the measurement of power flows for purposes of this TCA, except as provided in Article 1.4 below. The check meters shall be subject at all reasonable times to inspection and examination by Transmission Provider, Transmission Owner or their designees. The installation, operation and maintenance thereof shall be performed entirely by MHVDC Connection Customer in accordance with Good Utility Practice.
- 1.3 Standards.** The Metering Party shall install, calibrate, and test revenue quality Metering Equipment in accordance with applicable ANSI standards.
- 1.4 Testing of Metering Equipment.** The Metering Party shall inspect and test Metering Equipment upon installation and at least once every two (2) years thereafter. If requested to do so by a Party, the Metering Party shall, at the requesting Party’s expense, inspect or test Metering Equipment more frequently than every two (2) years. The Metering Party shall give reasonable notice to the other Parties of the time when any inspection or test shall take place, and the other Parties may have representatives present at the test or inspection. If at any time

Metering Equipment is found to be inaccurate or defective, it shall be adjusted, repaired or replaced at MHVDC Connection Customer's expense, in order to provide accurate metering, unless the inaccuracy or defect is due to the Metering Party's failure to maintain, then the Metering Party shall pay. If Metering Equipment fails to register, or if the measurement made by Metering Equipment during a test varies by more than two percent (2%) from the measurement made by the standard meter used in the test, the Metering Party shall adjust the measurements by correcting all measurements for the period during which Metering Equipment was in error by using MHVDC Connection Customer's check meters, if installed. If no such check meters are installed or if the period cannot be reasonably ascertained, the adjustment shall be for the period immediately preceding the test of the Metering Equipment equal to one-half the time from the date of the previous test of the Metering Equipment.

- 1.5 Metering Data.** At MHVDC Connection Customer's expense, the metered data shall be telemetered to one or more locations designated by Transmission Provider and Transmission Owner and one or more locations designated by MHVDC Connection Customer. Such telemetered data shall be used, under normal operating conditions, as the official measurement of the amount of energy delivered from the Connection Facility to the Point of Connection.

APPENDIX E

TRANSMISSION CONNECTION AGREEMENT

by and among

Ameren Services Company as agent for **Union Electric Company d/b/a Ameren Missouri, Grain Belt Express LLC, and Midcontinent Independent System Operator, Inc.**

MHVDC TRANSMISSION LINE DESIGN AND OPERATING REQUIREMENTS

The MHVDC Line shall be modeled in the MISO Transmission Expansion Plan as having capabilities consistent with any approved application for Long-Term Firm Transmission Service made through Module B or Injection Rights made through Attachment X, or approved modifications to the operating characteristics of the MHVDC Line approved through a subsequent Merchant HVDC Transmission Connection Request.

Any requests for Long-Term Firm Transmission Service under Module B to inject/withdraw from the Transmission System and source/sink to the MHVDC Line above its modeled capabilities will require the completion of a System Impact Study as defined in Module A of the Tariff, that will include stability studies as determined by MISO.

A Transmission Customer may not apply for Non-Firm or Short-Term Firm Transmission Service under Module B (or its successor) to inject/withdraw from the Transmission System and source/sink to the MHVDC Line until the MHVDC Line is In-Service, and any application will be governed by the then effective Tariff.

NERC Reporting Standards

Complete and accurate modeling data is essential to the planning process. The following items are critical for the accuracy of data and are addressed by the requirements as referenced below:

- field verifications of modeling parameters
- clear statement of data requirements
- protection system settings that impact system studies

In accordance with the periodicity established within the current NERC standards, the H104/H105 MHVDC Facility will ensure that compliance with all applicable NERC Modelling Standards has been met. Applicability of these standards to the H104/H105 MHVDC Facility will be determined based on the applicability criteria in the current version of the NERC standards. These standards are subject to change. All inverter-based resources must conform to Clause 10 of the IEEE 2800 to meet the Modeling Requirements. Generation Interconnecting customers with inverter-based resources can only obtain commercial status when the models in Clause 10 of IEEE 2800 are submitted to Ameren Transmission Planning and these models must include the Electromagnetic Transient (EMT) models in PSCAD software format.

For reference, at the time of signing, the current System Modelling Standards that may be applicable to the H104/H105 MHVDC Facility include:

- **MOD-025** Verification and Data Reporting of Generator Real and Reactive Power Capability and Synchronous Condenser Reactive Power Capability
- **MOD-026** Verification of Models and Data for Generator Excitation Control System or Plant Volt/Var Control Functions
- **MOD-027** Verification of Models and Data for Turbine/Governor and Load Control or Active Power/Frequency Control Functions
- **MOD-032** Data for Power System Modeling and Analysis
- **PRC-024** Generator Frequency and Voltage Protective Relay Settings

Ameren Reporting Standards

Interconnection Customer is required to install a Phasor Measurement Unit (PMU) to verify Inverter Based Resource (IBR) performance during system disturbances in addition to ensuring compliance with FERC Orders 827 and 842.

Operating Guidelines

If required, to be provided on completion of all Interconnection Studies.

Normally Open Operation of Bus Tie

To ensure that the MHVDC device does not inject more power into the Transmission Provider's transmission system for the loss of the AC line between the Burns station and the AECI McCredie station, the bus tie between the two poles will be operated as normally open. This also ensures that power never flows from the McCredie station, through the Burns station and back into the Ameren station creating a parallel connection to the McCredie – Montgomery 345kV line.

Power Factor/Reactive Power Capability:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- Attachment X-Appendix 6 GIA Article 9.6.1.2: 0.95 leading to 0.95 lagging high-side of the generator substation.
- Transmission Connection Agreement: Ameren criteria requires that all HVDC interconnections must be able to operate over a power factor range of 0.95 lagging (supplying VARs to the system) to 0.95 leading (absorbing VARs from the system) at the high-voltage side of the Generating Facility step-up transformer
- FERC Order 827
- GBX shall comply with clause 5.1 of IEEE 2800 - 2022 in relation reactive power capability as specified by AMREN

Voltage Ride Through Capability:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- NERC PRC024-3
- FERC Order 661A
- Attachment X-Appendix 6 GIA Article 9.7.3: Interconnection Customer shall implement under-frequency, over-frequency, under-voltage, and over-voltage relay set points for the Generating Facility as required by the Applicable Reliability Council to ensure “ride through” capability of the Transmission System
- **Transmission Connection Agreement:** All inverter-based resources must conform to Clause 7.2 of the IEEE 2800 standard to meet the Voltage Ride Through requirements
- HVDC facility [i.e. converter] is required to comply with stipulations of NERC PRC-024-3 and Clause 7.2 of IEEE 2800 - 2022, for voltage Ride Through

Frequency Ride Through Capability:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- NERC PRC024-3
- Attachment X-Appendix 6 GIA Article 9.7.3: Interconnection Customer shall implement under-frequency, over-frequency, under-voltage, and over-voltage relay set points for the Generating Facility as required by the Applicable Reliability Council to ensure “ride through” capability of the Transmission System
- **Transmission Connection Agreement:** All inverter-based resources must conform to Clause 7.3 of the IEEE 2800 standard to meet the Frequency Ride Through requirements
- HVDC facility [i.e. converter] is required to comply with stipulations of NERC PRC-024-3 and Clause 7.3 of IEEE 2800 - 2022, for voltage Ride Through

Operating Voltage Range:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- **Attachment X-Appendix 6 GIA Article 9.6.2:** Once Interconnection Customer has synchronized the Generating Facility with the Transmission System, Transmission Provider shall require interconnection Customer to operate the Generating Facility to produce or absorb reactive power within the design limitations of the Generating Facility set forth in Article 9.6.1 (Power Factor Design Criteria), to **maintain the output voltage or power factor at the Point of Interconnection as specified by Transmission Provider.** (voltage range is not mentioned in the document)
- **Transmission Connection Agreement:** The HVDC Facility will be required to operate to a voltage schedule estimated to be 359 kV to 362 kV (1.04 to 1.05 PU) at the Point of Interconnection
- The voltage schedule, as finally determined, needs to be coordinated with Associated Electric Cooperatives, Inc. (AECI), since their GI083 connection is also closely tied to the H104/H105 connection. MISO generator project J1145 also will connect at Burns substation and will need to have its voltage schedule coordinated with the

GI083/H104/H105 HVDC project. The Transmission Owner reserves the right to modify the voltage schedule anytime as needed due to system conditions

Ramp Rate:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- Ramp rate shall be set per industry norm of wind turbine generator ramp rate. This rate can be reconfigured by the operator.

Voltage Harmonics Limits:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- **Attachment X-Appendix 6 GIA Article 9.7.6:** ANSI Standard C84.1-1989, in accordance with IEEE Standard 519
- **Ameren TO Planning Criteria:** All generation and load connections to the Ameren system should conform to IEEE Standard 519 with respect to voltage distortion. These limits restrict individual harmonic distortion limits to 1.5% between 69 kV and 161 kV, and 1.0% at 161 kV and above, with Total Harmonic Distortion limited to 2.5% between 69 kV and 161 kV, and 1.5% at 161 kV and above

Current Harmonics Limits:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- **Attachment X-Appendix 6 GIA Article 9.7.6:** ANSI Standard C84.1-1989, in accordance with IEEE Standard 519
- **Transmission Facility Interconnection Procedures:** Transmission Connection Agreement: All inverter-based resources must conform to Clause 7.3 of the IEEE 2800 standard to meet the Frequency Ride Through requirements

Momentary Cessation:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- **Attachment X-Appendix 6 GIA - Appendix G:** Non-synchronous generating facility inverters may not trip or cease to inject current for momentary loss of synchronism. Any inverter may trip if the phase lock loop is unable to regain synchronism 150 milliseconds after loss of synchronism
- NERC PRC024-3

Frequency Control:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- **Attachment X-Appendix 6 GIA Article 9.6.4:** Interconnection Customer is required to install a governor or equivalent controls with the capability of operating: (1) with a maximum 5 percent droop and ± 0.036 Hz deadband; or (2) in accordance with the relevant droop, deadband, and timely and sustained response settings from an approved NERC Reliability Standard. The droop characteristic shall be: (1) based on the nameplate capacity of the Generating Facility, and shall be linear in the range of frequencies between 59 to 61 Hz that are outside of the deadband parameter

Voltage Control:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- NERC VAR002-4
- **Attachment X-Appendix 6 GIA: 9.6.2.1 Voltage Regulators.** Whenever the Generating Facility is operated in parallel with the Transmission or Distribution System as applicable and voltage regulators are capable of operation, Interconnection Customer shall operate the Generating Facility with its speed governors and voltage regulators in automatic operation. If the Generating Facility's voltage regulators are not capable of such automatic operation, Interconnection Customer shall immediately notify Transmission Provider's system operator, or its designated representative, and ensure that such Generating Facility's reactive power production or absorption (measured in MVARs) are within the design capability of the Generating Facility's generating unit(s) and steady state stability limits
- **Ameren TO Planning Criteria:** A generating plant or HVDC terminal should maintain either a specified voltage or reactive power schedule in accordance with NERC Reliability Standards VAR-001-5 and VAR-002-4.1

Modeling data, testing and validation:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- NERC MOD-032-1, NERC MOD-026-1, NERC MOD-027-1
- Need to obtain an as built EMT model representation (PSCAD) for the HVDC system

Plant level data recording:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- **Attachment X-Appendix 6 GIA - Appendix G:**
 - (1) Plant three-phase voltage, current and power factor

- (2) Status of ancillary reactive devices
- (3) Status of all plant circuit breakers
- (4) Status of plant controller
- (5) Plant control set points
- (6) Status of main plant transformer no load taps
- (7) Status of main plant transformer tap changer (if applicable)
- (8) Protective relay trips (relay target data)
- Need PMU (Phasor Measurement Unit) on each HVDC outlet line. Ameren's System Protection would specify the devices to use to provide this functionality. Where PMUs are installed on Ameren's transmission system, individual phase voltages and currents are monitored (magnitude and relative phase angle) as well as positive sequence voltage and current (magnitude and relative phase angle). Frequency and rate-of-change of frequency are also monitored. Sampling rate is 30 samples per second. Data is streamed to two data concentrator servers at Ameren. Data stream is forwarded to MISO in real time, and archived locally for 30 days.

Inverter level data recording:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- **Attachment X-Appendix 6 GIA - Appendix G:**
 - (1) Frequency, current, and voltage during frequency ride-through events
 - (2) Voltage and current during momentary cessation for transient high-voltage events (when used)
 - (3) Voltage and current during reactive current injection for transient low or high-voltage events
 - (4) Inverter alarm and fault codes
 - (5) DC current
 - (6) DC voltage

APPENDIX F

TRANSMISSION CONNECTION AGREEMENT

by and among

Ameren Services Company as agent for **Union Electric Company d/b/a Ameren Missouri,**
Grain Belt Express LLC, and
Midcontinent Independent System Operator, Inc.

MHVDC TRANSMISSION LINE

INJECTION RIGHTS GRANTED PER ATTACHMENT X

J1488 – 1000 MW

J1490 – 500 MW

The Injection Rights listed above must be converted to E-NRIS pursuant to the processes and timelines contained in the MISO Tariff and any relevant Business Practice Manuals, including but not limited to Attachment X, Article 16.

TAB B
PUBLIC

APPENDIX 2 TO MHCP
TRANSMISSION CONNECTION AGREEMENT

by and among

~~{MHVDC Connection Customer},~~

~~{Transmission Owner},~~
Grain Belt Express LLC,

Ameren Services Company as agent for Union Electric Company d/b/a Ameren Missouri,

and

Midcontinent Independent System Operator, Inc.

entered into on the ____ day of _____, ~~20~~2023

TRANSMISSION CONNECTION AGREEMENT

THIS TRANSMISSION CONNECTION AGREEMENT (“Agreement”), dated as of _____, ~~20____~~, 2023, is entered into by and among ~~_____~~ Ameren Services Company as agent for Union Electric Company d/b/a Ameren Missouri, a corporation organized and existing under the laws of the State of Missouri (“Transmission Owner”), ~~_____~~ Grain Belt Express LLC, a Limited Liability Company organized and existing under the laws of the State of Indiana (“MHVDC Connection Customer”), and Midcontinent Independent System Operator, Inc. (“Transmission Provider”), a non-profit, non-stock Delaware corporation. Transmission Owner, MHVDC Connection Customer, and Transmission Provider are referred to herein individually as “Party,” and collectively, as “Parties.”

RECITALS

WHEREAS, Transmission Provider exercises functional control over the Transmission System pursuant to the Agreement of Transmission Facilities Owners to Organize the Midcontinent Independent System Operator, Inc., a non-profit, non-stock Delaware corporation (“Transmission Owners Agreement”), and Transmission Owner owns and/or operates certain facilities included in the Transmission System;

WHEREAS, MHVDC Connection Customer intends to own, lease, and/or control and operate the Merchant HVDC Transmission Line (“MHVDC Transmission Line”) identified in Appendix B to this agreement; and

WHEREAS, MHVDC Connection Customer, Transmission Provider, and Transmission Owner have agreed to enter this agreement for the purpose of interconnecting the MHVDC Transmission Line with the Transmission System.

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, it is agreed:

ARTICLE 1 DEFINITIONS

Wherever used in this Agreement with initial capitalization, the following terms shall have the meanings specified or referred to in this Article 1. Terms used in this Agreement with initial capitalization that are not defined in this Article 1 shall have the meanings specified in the Transmission Provider Tariff.

- 1.1 “Abnormal Condition” means any condition on the Transmission System, the MHVDC Transmission Line, or the transmission systems of other utilities, which is outside normal operating parameters such that facilities are operating outside their normal ratings or reasonable operating limits have been exceeded but which has not resulted in an Emergency. An Abnormal Condition may include, but is not limited to, high or low deviations in voltage, frequency, power flow, equipment temperature, equipment pressures, and other equipment and operating parameters.
- 1.2 “Affected System” shall mean an electric transmission or distribution system or the electric system associated with an existing generating facility or of a higher queued MHVDC Transmission Line and/or Generating Facility, which is an electric system other than the Transmission Owner’s Transmission System that is affected by the MHVDC Transmission Connection Request. An Affected System may or may not be subject to FERC jurisdiction.
- 1.3 “Affiliate” means, with respect to a corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.
- 1.4 “Applicable Laws and Regulations” shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority having jurisdiction over the Parties, their respective facilities and/or the respective services they provide.
- 1.5 “Balancing Authority” shall mean the responsible entity that integrates resource plans ahead of time, maintains load-interchange-generation balance within a Balancing Authority Area, and supports interconnection frequency in real time.
- 1.6 “Balancing Authority Area” shall mean the collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains load-resource balance within this area.
- 1.7 “Breach” shall mean the failure of a Party to perform or observe any material term or condition of this Agreement.
- 1.8 “Breaching Party” shall mean a Party that is in Breach of this Agreement.

- 1.9 “Commercial Operation Date” shall have the meaning identified in Appendix C.
- 1.10 “Common Use Upgrade” shall mean a Network Upgrade or any other classified addition, alteration, or improvement on the Transmission System or the transmission system of an Affected System, not classified under Attachment FF of the Transmission Provider Tariff as a Baseline Reliability Project, Market Efficiency Project, or Multi-Value Project, that is needed for the interconnection of multiple MHVDC Connection Customers’ and/or Interconnection Customers’ facilities and which is the shared responsibility of such MHVDC Connection Customers and/or Interconnection Customers.
- 1.11 “Connection Facilities” shall mean the Transmission Owner’s Connection Facilities and the MHVDC Connection Customer’s Connection Facilities. Collectively, Connection Facilities include all facilities and equipment between the MHVDC Transmission Line and the Point of Connection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the MHVDC Transmission Line to the Transmission System. Connection Facilities shall not include Distribution Upgrades, Network Upgrades, or Stand Alone Network Upgrades as those terms are defined in the Transmission Provider Tariff.
- 1.12 “Effective Date” shall mean the effective date of this Agreement as determined pursuant to Article 2.1 of this Agreement.
- 1.13 “Emergency” shall mean a condition or situation (1) that has been declared an emergency by an applicable NERC functional entity as defined in the NERC reliability functional model, (2) that in the reasonable judgment of the Party making the claim is imminently likely to endanger, or is contributing to the endangerment of, life or property, or public health and safety; or (3) that, in the case of a Party, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Transmission System, MHVDC Transmission Line, or the electric systems of others to which the Parties are directly connected.
- 1.14 “EPC Agreement” shall mean the Agreement for Engineering, Procurement, and Construction between Transmission Owner and MHVDC Connection Customer.
- 1.15 “Facilities Construction Agreement (FCA)” shall mean the form of facilities construction agreement, set forth in Appendix 8 to Attachment X of the Transmission Provider Tariff. The FCA shall be used when an MHVDC Connection Customer causes the need for the construction of Network Upgrades on the transmission system of an Affected System.
- 1.16 “FERC” shall mean the Federal Energy Regulatory Commission or its successor.
- 1.17 “Good Utility Practice” shall mean any of the applicable practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment by a Party in light of the facts known at the time the decision was

made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition, giving due regard to the requirements of governmental agencies having jurisdiction. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather includes all acceptable practices, methods, or acts generally accepted in the region as they may be applicable to the Parties as transmission system operators.

- 1.18 “Governmental Authority” shall mean any federal, state, local, or other governmental agency, court commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, arbitrating body, or other governmental authority having jurisdiction over a Party, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include MHVDC Connection Customer, Transmission Owner, Transmission Provider, or any Affiliate thereof.
- 1.19 “Initial Synchronization Date” shall have the meaning identified in Appendix C.
- 1.20 “Injection Rights” shall mean the Transmission Provider’s pre-certification of the Transmission System’s capability to receive capacity and energy from the MHVDC Transmission Line at the requested Point of Connection, and in the specified MW quantity, without degrading the reliability of the Transmission System, as described in Section 3.2.3 of Attachment GGG.
- 1.21 “In-Service Date” shall have the meaning identified in Appendix C.
- 1.22 “IRS” means the Internal Revenue Service.
- 1.23 “MHVDC Connection Customer Connection Facilities” shall mean all facilities and equipment, as identified in Appendix B of this Agreement, that are located between the MHVDC Transmission Line and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the MHVDC Transmission Line to the Transmission System. MHVDC Connection Customer’s Connection Facilities are sole use facilities.
- 1.24 “Modification” means any material, new construction, additions, design changes or modifications, or abandonment, retirement, relocation or rearrangement.
- 1.25 “Multi-Party Facilities Construction Agreement (MPFCA)” shall mean the form of facilities construction agreement, set forth in Appendix 9 to Attachment X of the Transmission Provider Tariff. The MPFCA shall be used when multiple MHVDC Transmission Connection Requests and/or Interconnection Requests cause the need for the construction of Common Use Upgrades on the Transmission System or the transmission system of an Affected System and share cost responsibility for such Common Use Upgrades.

- 1.26 “NERC” shall mean the North American Electric Reliability Corporation or its successor.
- 1.27 “Necessary Upgrades” shall mean the additions, modifications, and upgrades to the facilities owned by Transmission Owner required at or beyond the point at which the Connection Facilities connect to the Transmission System to accommodate the interconnection of the MHVDC Transmission Line to the Transmission System.
- 1.28 “Network Upgrades” shall mean the additions, modifications, and upgrades to the Transmission System required at or beyond the point at which the Connection Facilities connect to the Transmission System to accommodate the interconnection of the MHVDC Transmission Line to the Transmission System and to provide the requested Injection Rights.
- 1.29 “Operational Change” shall mean any change in the day-to-day routine, practices or procedures which can be reasonably expected to have an adverse or material impact on the operation of the MHVDC Transmission Line or the Transmission System but excluding any change in connection with either a planned or unplanned outage or an Emergency.
- 1.30 “Point of Change of Ownership” shall mean the point, as set forth in Appendix A to this Agreement, where the MHVDC Connection Customer’s Connection Facilities connect to the Transmission Owner’s Connection Facilities.
- 1.31 “Point of Connection” shall mean the point, as set forth in Appendix A of this Agreement, where the Connection Facilities connect to the Transmission System.
- 1.32 “Reasonable Efforts” shall mean, with respect to an action required to be attempted or taken by a Party under this Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.
- 1.33 “Regional Entity” shall mean the regional entity defined in Part 39 of the FERC regulations or its successor.
- 1.34 “Regulatory Requirements” shall mean any of the applicable practices, methods and acts required by NERC, FERC, applicable Regional Entity, Transmission Provider or other governmental agency having jurisdiction over the Parties with regard to the subject matter of this Agreement, or the successor of any of them.
- 1.35 “Reliability Requirements” shall mean mandatory reliability standards adopted by NERC, a Regional Entity or any other regional entity with such jurisdiction and authority and approved by FERC, as amended from time to time, applicable to the facilities owned, and/or operated or functionally controlled by Transmission Owner, MHVDC Connection Customer, or Transmission Provider, respectively.

- 1.36 “SCADA” means supervisory control and data acquisition equipment.
- 1.37 “Stand Alone Network Upgrades” shall mean Network Upgrades that the MHVDC Connection Customer may construct without affecting day-to-day operations of the Transmission System during their construction.
- 1.38 “Transmission Owner Connection Facilities” shall mean all facilities and equipment owned by Transmission Owner from the Point of Change of Ownership to the Point of Connection as identified in Appendix B to this Agreement, including any modifications, additions or upgrades to such facilities and equipment necessary to physically and electrically interconnect the MHVDC Transmission Line to the Transmission System. Transmission Owner’s Connection Facilities are sole use facilities and shall not include Distribution Upgrades, Network Upgrades, or Stand Alone Network Upgrades as those terms are defined in the Transmission Provider Tariff.
- 1.39 “Transmission Provider Tariff” shall mean the Open Access Transmission, Energy and Operating Reserve Markets Tariff of Transmission Provider, as filed with FERC, and as amended or supplemented from time to time, or any successor tariff.

ARTICLE 2
EFFECTIVE DATE, TERM, AND CONDITIONS PRECEDENT

- 2.1 Effective Date. This Agreement shall become effective upon execution by the Parties, subject to acceptance by FERC (“Effective Date”). The Transmission Provider shall promptly file this Agreement with FERC upon execution in accordance with Section 3.1.1, if required.
- 2.2 Term. Unless terminated in accordance with Article 14, this Agreement shall remain in full force and effect for a period of ~~—thirty~~ (30) years from the Effective Date and shall be automatically renewed for each successive one-year period thereafter on the anniversary of the Effective Date.
- 2.3 Conditions Precedent.
- 2.3.1 Condition to Effectiveness. It is a condition to the effectiveness of this Agreement that it be accepted for filing by FERC pursuant to Section 205 of the Federal Power Act, if required, subject to the requirements of Section 3.2.1.
- 2.3.2 Condition to Transmission Owner’s Obligation to Build. It is a condition to the Transmission Owner’s obligation to commence construction of any upgrades under this Agreement that Transmission Owner has received all applicable permits, licenses, and authorizations from Governmental Authorities for the commencement of such construction in accordance with the requirements of Section 3.1.2.

ARTICLE 3
REGULATORY FILINGS

- 3.1 Regulatory Filings.
- 3.1.1 FERC Filing. Not later than ten (10) business days following execution of this Agreement or a party’s request that Transmission Provider file this Agreement with FERC unexecuted, Transmission Provider shall tender this Agreement to FERC for filing, if required. Transmission Provider will request FERC to accept this Agreement effective consistent with Article 2.1 unless the Parties mutually agree to have the Transmission Provider request a different Effective Date. Transmission Owner and MHVDC Connection Customer shall reasonably cooperate with Transmission Provider with respect to such filing and to provide any information, reasonably requested by Transmission Provider.
- 3.1.2 Transmission Owner Filings with Governmental Authorities. In the event that Applicable Laws and Regulations require Transmission Owner to obtain a permit, license, or authorization from a Governmental Authority for the construction, ownership, and/or operation of any Transmission Owner Connection Facilities or

any upgrades (individually or collectively), Transmission Owner shall utilize good faith efforts to timely file the application for the applicable permit, license, or authorization not later than the milestone date identified in Appendix C. MHVDC Connection Customer shall reasonably cooperate with Transmission Owner with respect to such filing and to provide any information reasonably requested by Transmission Owner. Transmission Provider shall reasonably cooperate with Transmission Owner with respect to such filing and to provide any information, including the filing of testimony, reasonably requested by Transmission Owner.

3.2 Effect of Regulatory Conditions.

- 3.2.1 FERC. If FERC does not accept this Agreement for filing or accepts it subject to conditions that are unacceptable to Transmission Owner and/or MHVDC Connection Customer, then the Parties will undertake negotiations in good faith to attempt to revise the Agreement in a manner that addresses the basis for FERC's rejection of the Agreement or imposition of unacceptable conditions, provided that if the Parties are unable to negotiate revisions that are acceptable to Transmission Owner and/or MHVDC Connection Customer, each in its sole discretion, within thirty (30) days after the date of the FERC order, then MHVDC Connection Customer and Transmission Owner shall submit the issue for resolution in accordance with the dispute resolution procedures in Article 18 of this Agreement.
- 3.2.2 Governmental Authority Actions. If a Governmental Authority does not grant an applicable permit, license, or authorization for Transmission Owner to construct, own, or operate the Transmission Owner's Connection Facilities or any upgrades (individually or collectively) or unduly delays or conditions its grant of an applicable permit, license, or authorization in a manner that would (1) materially or adversely affect (i) the timing of completion of the MHVDC Connection Customer's Connection Facilities and the Transmission Owner's Connection Facilities at the Point of Connection, (ii) the MHVDC Connection Customer's Connection Facilities, or (iii) the operation of the MHVDC Transmission Line, or (2) would increase the scope of the cost of any upgrades, then the Parties shall confer regarding the nature and extent of the delay or conditions that have been applied and shall undertake negotiations in good faith to attempt to revise the Agreement in a manner that addresses the basis for the Governmental Authority's delay or imposition of conditions to the extent this Agreement does not address such terms. If the Parties determine that the Agreement cannot be revised in a manner that addresses the basis for the Governmental Authority's delay or imposition of conditions, Transmission Owner, Transmission Provider and/or MHVDC Connection Customer, each in its sole discretion, may terminate this Agreement in accordance with Article 14.

ARTICLE 4

PURPOSE AND SCOPE

- 4.1 Purpose. The purpose of this Agreement is to document Connection Facilities, any upgrades, and the Point of Connection and to set forth the terms and conditions for the ownership, system interconnections, operation, maintenance, and future Modifications thereto between the MHVDC Transmission Line and the Transmission System and the coordination between the Parties relating to such operation, maintenance and interconnection of these individual transmission systems. If MHVDC Connection Customer has elected to procure Injection Rights in accordance with Attachment GGG of the Tariff, this Agreement also shall document any such Injection Rights received.
- 4.2 Scope. The scope of service available under this Agreement will be limited to the provision of MHVDC Transmission Connection Service as set forth in Attachment GGG of the Tariff. Nothing in this Agreement shall constitute a request for Transmission Service or confer upon MHVDC Connection Customer or any other entity any right to receive Transmission Service or Wholesale Distribution Service under the Tariff. Nothing in this Agreement shall constitute a request for Interconnection Service as defined in Attachment X of the Tariff or confer upon MHVDC Connection Customer or any other entity any right to receive Interconnection Service under the Tariff.
- 4.3 Injection Rights. MHVDC Connection Customer may elect to request Injection Rights on the Transmission System pursuant to the procedures set forth in Section 3.2.3 of Attachment GGG and Article 16 of Attachment X to the Tariff. Any such Injection Rights granted by Transmission Provider, and any increases or reductions to those Injection Rights, shall be documented in Appendix F to this Agreement. Documentation of such Injection Rights may require this Agreement to be amended from time to time, consistent with Section 23.7 of this Agreement.
- 4.4 Representation of Control and Authority. MHVDC Connection Customer represents that it has the right, power, and authority to carry out the following activities: design, develop, construct, operate, and maintain the MHVDC Transmission Line in its entirety, provide transmission service on the MHVDC Transmission Line consistent with Applicable Laws and Regulations, including any FERC approvals and requirements, and to undertake all actions, obligations, and responsibilities with respect to the MHVDC Transmission Line identified in this Agreement.

ARTICLE 5

SYSTEM CONNECTIONS

- 5.1 Point of Connection. The MHVDC Transmission Line will connect with the Transmission System at the Point of Connection identified in Appendix A. Any additional Point of Connection or any deletion of a Point of Connection shall be added to or removed from this Agreement by written amendment to this Agreement signed by all Parties. The appropriate geographical reference, a description of the facilities and any

applicable special terms and conditions shall be stated in the Point of Connection description in the respective amendment.

- 5.2 Modifications or Additions. If a modification or expansion to the portions of the MHVDC Transmission Line that connect with the Transmission System may be reasonably expected to affect another Party's facilities and Transmission Provider determines that such modifications are subject to the Transmission Provider Tariff, then MHVDC Connection Customer will initiate all applicable study processes under the Transmission Provider Tariff and undertake the development and installation of all upgrades and other modifications identified in such studies as a condition of obtaining MHVDC Transmission Connection Service for the modified or expanded MHVDC Transmission Line.
- 5.3 Balancing Authority, Regional Transmission Planning and Transmission Provider Authority.
- 5.3.1 Balancing Authority Certification. The MHVDC Transmission Line shall be operated by MHVDC Connection Customer or its agent as a Balancing Authority Area separate from the Balancing Authority Area operated by Transmission Provider. No less than thirty (30) days prior to Commercial Operation Date, MHVDC Connection Customer shall present to Transmission Owner and Transmission Provider evidence of certifications for the Balancing Authority for the MHVDC Transmission Line.
- 5.3.2 Balancing Authority Boundary. The boundary between the MHVDC Transmission Line's Balancing Authority Area and the Transmission Provider Balancing Authority Area shall be at the Point of Connection.
- 5.3.3 Balancing Authority Operation. MHVDC Connection Customer may delegate the operation of the MHVDC Transmission Line Balancing Authority Area to a qualified operator. MHVDC Connection Customer or its agent will operate the MHVDC Transmission Line Balancing Authority Area in a manner consistent with Good Utility Practice. MHVDC Connection Customer will ensure that the MHVDC Transmission Line Balancing Authority Area is operated in a manner consistent with all applicable requirements of NERC, a Regional Entity, or a Governmental Authority with respect to Balancing Authority Area operations. MHVDC Connection Customer or its agent will coordinate with Transmission Provider, in its capacity as operator of the Balancing Authority Area that includes the Transmission System, with respect to Balancing Authority Area operational matters including power flow scheduling.
- 5.3.4 NERC Reliability Functional Model. MHVDC Connection Customer shall notify Transmission Owner and Transmission Provider of the regional transmission planning process in which it will participate in accordance with applicable Regulatory Requirements and identify the Functional Entity responsible for

performing the Functions identified in NERC Reliability Functional Model, Version 5, as it may be amended or superseded.

5.3.5 Transmission Provider Authority. MHVDC Connection Customer shall provide transmission service on the MHVDC Transmission Line, consistent with all Applicable Laws and Regulations, including any FERC approvals and requirements, and subject to a FERC-approved open access transmission tariff or a reciprocity tariff. Subject to FERC approval, MHVDC Connection Customer may delegate its transmission provider responsibilities to a qualified entity.

5.4 Connection Facilities and Upgrades Engineering, Procurement, and Construction Without Injection Rights Option Selected.

5.4.1 Construction and Milestones.

The MHVDC Connection Customer shall, at its expense, design, procure, construct, own and install the MHVDC Connection Customer Connection Facilities, as set forth in Appendix B. The MHVDC Connection Customer Connection Facilities shall be designed and constructed in accordance with Good Utility Practice. Within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, the MHVDC Connection Customer shall deliver to Transmission Owner “as-built” drawings, information and documents for the MHVDC Connection Customer Connection Facilities. The Transmission Owner shall, at the MHVDC Connection Customer’s expense, design, procure, construct, own and install the Transmission Owner Connection Facilities, as set forth in Appendix B. The Transmission Owner Connection Facilities shall be designed and constructed in accordance with Good Utility Practice. Upon request, within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, the Transmission Owner shall deliver to Transmission Provider (if requested) and the MHVDC Connection Customer the “as-built” drawings, information and documents for the Transmission Owner Connection Facilities specified in Appendix B to this TCA.

The schedule for designing, engineering, procuring and constructing the Transmission Owner Connection Facilities and any Necessary Upgrades by the Transmission Owner, and for designing, engineering, procuring and constructing the MHVDC Connection Customer Connection Facilities by the MHVDC Connection Customer, and for submitting security payments for the same, including the In-Service Date, Initial Synchronization Date, and Commercial Operation Date, are identified in Appendix C. As needed and upon reasonable notice, the Parties shall work in good faith to modify, update, or amend the milestones provided in Appendix C; provided, however, that in the event the MHVDC Connection Customer directs the Transmission Owner to suspend work on the Transmission Owner Connection Facilities and/or any Necessary Upgrades

and has not requested Transmission Owner to recommence the work on or before the expiration of a total of three (3) years following commencement of such suspension, this Agreement shall be deemed terminated. The three-year period shall begin on the date the suspension is requested, or the date of the written notice to Transmission Provider, if no effective date is specified.

5.4.2 Necessary Upgrades. Transmission Owner shall design, procure, and construct the Necessary Upgrades, as identified in Appendix B, at MHVDC Connection Customer's sole expense. Transmission Owner will utilize efforts that are consistent with Good Utility Practice to place such facilities in service by the dates set forth in Appendix C. Transmission Owner shall not be required to undertake any action which is inconsistent with its standard safety practices, its material and equipment specifications, its design criteria and construction procedures, its labor agreements, and Applicable Laws and Regulations. In the event Transmission Owner expects that it will not be able to complete the Necessary Upgrades by the specified dates in Appendix C, Transmission Owner shall promptly provide written notice to MHVDC Connection Customer, identify revised target in-service dates for such facilities, and shall undertake efforts consistent with Good Utility Practice to meet the revised dates. If, at any time, MHVDC Connection Customer determines that the completion of the Necessary Upgrades will not be required until after the Commercial Operation Date, MHVDC Connection Customer will provide written notice to Transmission Owner of such later date upon which the completion of the Necessary Upgrades will be required.

5.4.2.1 Construction Standard. The Necessary Upgrades shall be designed and constructed in accordance with the Transmission Owner's policies and practices for transmission facility design and construction; the Transmission Provider Tariff, as applicable; and Good Utility Practice, including any applicable Regulatory Requirements and Reliability Requirements.

5.4.2.2 O&M Costs. Subject to provisions herein addressing the use of facilities by others, MHVDC Connection Customer shall be responsible for any costs including overheads incurred by Transmission Owner to own, operate and maintain the Transmission Owner Connection Facilities in accordance with Good Utility Practice after such facilities have been placed into service.

5.4.3 Provision of Security. Unless otherwise provided in this Agreement, at least thirty (30) Calendar Days prior to the commencement of the procurement, installation, or construction of a discrete portion of an element of the Transmission Owner Connection Facilities or any upgrades, MHVDC Connection Customer shall provide Transmission Owner, at MHVDC Connection Customer's selection, a guarantee, a surety bond, letter of credit, cash payment or other form of security that is reasonably acceptable to Transmission Owner and is consistent

with the Uniform Commercial Code of the jurisdiction identified in Section 23.2. Such security for payment shall be in an amount sufficient to cover the Transmission Owner's applicable costs and cost commitments required to procure, install, or construct such discrete portion of the Transmission Owner Connection Facilities and any upgrades pursuant to the construction schedule developed in Appendix C and shall be reduced on a dollar-for-dollar basis for payments made to Transmission Owner for these purposes.

5.5 Connection Facilities and Upgrades Engineering, Procurement, and Construction With Injection Rights Option Selected.

5.5.1 The MHVDC Connection Customer shall, at its expense, design, procure, construct, own and install the MHVDC Connection Customer Connection Facilities, as set forth in Appendix B. The MHVDC Connection Customer Connection Facilities shall be designed and constructed in accordance with Good Utility Practice. Within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, the MHVDC Connection Customer shall deliver to Transmission Owner "as-built" drawings, information and documents for the MHVDC Connection Customer Connection Facilities. The Transmission Owner shall, at the MHVDC Connection Customer's expense, design, procure, construct, own and install the Transmission Owner Connection Facilities, as set forth in Appendix B. The Transmission Owner Connection Facilities shall be designed and constructed in accordance with Good Utility Practice. Upon request, within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, the Transmission Owner shall deliver to Transmission Provider (if requested) and the MHVDC Connection Customer the "as-built" drawings, information and documents for the Transmission Owner Connection Facilities specified in Appendix B to this TCA.

Options. Unless otherwise mutually agreed to between the Parties, MHVDC Connection Customer shall select: 1) the In-Service Date, Initial Synchronization Date, and Commercial Operation Date based on a reasonable construction schedule that will allow sufficient time for design, construction, equipment procurement, and permit acquisition of Transmission System equipment or right-of-way; and 2) either Standard Option or Alternate Option set forth below for completion of the Transmission Owner's Connection Facilities or Network Upgrades, as applicable, and set forth in Appendix B, and such dates and selected option shall be set forth in Appendix C. The dates and selected option shall be subject to the acceptance of Transmission Owner taking into account the type of construction to be employed and the regulatory requirements of Governmental Authorities, and does not convey any right to deliver electricity to any specific customer or Point of Delivery, including the need to obtain permits or other authorizations for construction of the Connection Facilities or Network Upgrades.

5.5.1.1 Standard Option. Transmission Owner shall design, procure, and construct the Transmission Owner's Connection Facilities, Necessary Upgrades, and Network Upgrades using Reasonable Efforts to complete the Transmission Owner's Connection Facilities and Network Upgrades by the dates set forth in Appendix C, Milestones, subject to the receipt of all approvals required from Governmental Authorities and the receipt of all land rights necessary to commence construction of such facilities, and such other permits or authorizations as may be required. Transmission Provider or Transmission Owner shall not be required to undertake any action which is inconsistent with its standard safety practices, its material and equipment specifications, its design criteria and construction procedures, its labor agreements, Applicable Laws and Regulations and Good Utility Practice. In the event Transmission Owner reasonably expects that it will not be able to complete the Transmission Owner's Connection Facilities and Network Upgrades by the specified dates, Transmission Owner shall promptly provide written notice to MHVDC Connection Customer and Transmission Provider and shall undertake Reasonable Efforts to meet the earliest dates thereafter.

5.5.1.2 Alternate Option. If the dates designated by MHVDC Connection Customer are acceptable to Transmission Provider and Transmission Owner, Transmission Provider shall so notify MHVDC Connection Customer within thirty (30) Calendar Days, and Transmission Owner shall assume responsibility for the design, procurement and construction of the Transmission Owner's Connection Facilities by the designated dates.

If Transmission Owner subsequently fails to complete the Transmission Owner's Connection Facilities by the In-Service Date, to the extent necessary to provide back feed power; or fails to complete Network Upgrades by the Initial Synchronization Date to the extent necessary to allow for Trial Operation at full power output, unless other arrangements are made by the Parties for such Trial Operation; or fails to complete the Network Upgrades by the Commercial Operation Date, as such dates are reflected in Appendix C, Milestones; Transmission Owner shall pay MHVDC Connection Customer liquidated damages in accordance with Article 5.5.5, Liquidated Damages, provided, however, the dates designated by MHVDC Connection Customer shall be extended day for day for each Calendar Day that Transmission Provider refuses to grant clearances to install equipment.

Transmission Owner and MHVDC Connection Customer may adopt an incentive payment schedule that is mutually agreeable to encourage Transmission Owner to meet specified accelerated dates. Such payment by MHVDC Connection Customer is not subject to refund.

5.5.1.3 Option to Build. If the dates designated by MHVDC Connection Customer are not acceptable to Transmission Owner to complete the Transmission Owner's Connection Facilities or Stand Alone Network Upgrades, Transmission Provider shall so notify MHVDC Connection Customer within thirty (30) Calendar Days, and unless the Parties agree otherwise, MHVDC Connection Customer shall have the option to assume responsibility for the design, procurement and construction of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades by the dates originally designated by MHVDC Connection Customer under Article 5.5.1.2. The Parties must agree as to what constitutes Stand Alone Network Upgrades and identify such Stand Alone Network Upgrades in Appendix B. Except for Stand Alone Network Upgrades, MHVDC Connection Customer shall have no right to construct Network Upgrades under this option.

5.5.1.4 Negotiated Option. If MHVDC Connection Customer elects not to exercise its option under Article 5.5.1.3, Option to Build, MHVDC Connection Customer shall so notify Transmission Provider and Transmission Owner within thirty (30) Calendar Days, and the Parties shall in good faith attempt to negotiate terms and conditions (including revision of the specified dates and liquidated damages, the provision of incentives or the procurement and construction of a portion of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades by MHVDC Connection Customer) pursuant to which Transmission Owner is responsible for the design, procurement and construction of the Transmission Owner's Connection Facilities and Network Upgrades. If the Parties are unable to reach agreement on such terms and conditions, Transmission Owner shall assume responsibility for the design, procurement and construction of the Transmission Owner's Connection Facilities and Network Upgrades pursuant to 5.5.1.1, Standard Option.

Transmission Owner and MHVDC Connection Customer may adopt an incentive payment schedule that is mutually agreeable to encourage Transmission Owner to meet specified accelerated dates. Such payment by MHVDC Connection Customer is not subject to refund.

5.5.2 General Conditions Applicable to Option to Build. If MHVDC Connection Customer assumes responsibility for the design, procurement and construction of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades after receipt of all required approvals from Governmental Authorities necessary to commence construction,

(1) MHVDC Connection Customer shall engineer, procure equipment, and construct the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades (or portions thereof) using Good Utility Practice and using

standards and specifications provided in advance by Transmission Owner, or as required by any Governmental Authority;

(2) MHVDC Connection Customer's engineering, procurement and construction of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades shall comply with all requirements of law or Governmental Authorities to which Transmission Owner would be subject in the engineering, procurement or construction of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades;

(3) Transmission Provider, at Transmission Provider's option, and Transmission Owner shall be entitled to review and approve the engineering design, equipment acceptance tests (including witnessing of acceptance tests), and the construction (including monitoring of construction) of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades, and shall have the right to reject any design, procurement, construction or acceptance test of any equipment that does not meet the standards and specifications of Transmission Provider, Transmission Owner and any Governmental Authority;

(4) Prior to commencement of construction, MHVDC Connection Customer shall provide to Transmission Provider and Transmission Owner a schedule for construction of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades, and shall promptly respond to requests for information from Transmission Provider and Transmission Owner;

(5) At any time during construction, Transmission Provider and Transmission Owner shall have unrestricted access to the construction site for the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades and to conduct inspections of the same;

(6) At any time during construction, should any phase of the engineering, equipment procurement, or construction of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades not meet the standards and specifications provided by Transmission Owner, MHVDC Connection Customer shall be obligated to remedy deficiencies in that portion of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades to meet the standards and specifications provided by Transmission Provider and Transmission Owner;

(7) MHVDC Connection Customer shall indemnify Transmission Provider and Transmission Owner for claims arising from the MHVDC Connection Customer's construction of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades under the terms and procedures applicable to Article 13;

(8) MHVDC Connection Customer shall transfer control of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades to Transmission Owner;

(9) Unless Parties otherwise agree, MHVDC Connection Customer shall transfer ownership of the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades to Transmission Owner;

(10) Transmission Provider, at Transmission Provider's option, and Transmission Owner shall approve and accept for operation and maintenance the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades to the extent engineered, procured, and constructed in accordance with this Section 5.5.2 only if the Transmission Owner's Connection Facilities and Stand Alone Network Upgrades meet the standards and specifications of Transmission Provider, Transmission Owner and any Governmental Authority.

(11) MHVDC Connection Customer shall deliver to Transmission Owner "as-built" drawings, information, and any other documents that are reasonably required by Transmission Owner to assure that the Connection Facilities and Stand Alone Network Upgrades are built to the standards and specifications required by Transmission Owner.

5.5.3 Initial Payment. MHVDC Connection Customer shall elect (and provide its election to the Transmission Provider within five days of the commencement of negotiation of the TCA pursuant to Section 7.2 of the MHCP) to make either 1) an initial payment equal to twenty (20) percent of the total cost of Network Upgrades, Transmission Owner Connection Facilities, Transmission Owner's System Protection Facilities, and/or Distribution Upgrades (if the In-Service Date is less than or equal to five (5) years of the initial payment date); or 2) an initial payment equal to ten (10) percent of the total cost of Network Upgrades, Transmission Owner Connection Facilities, Transmission Owner's System Protection Facilities, and/or Distribution Upgrades (if the In-Service Date exceeds the initial payment date by more than five (5) years); or 3) the total cost of Network Upgrades, Transmission Owner Connection Facilities, Transmission Owner's System Protection Facilities, and/or Distribution Upgrades in the form of security pursuant to Section 5.5.4. The initial payment shall be provided to Transmission Owner by MHVDC Connection Customer pursuant to this Section 5.5.3 within the later of a) forty-five (45) Calendar Days of the execution of the TCA by all Parties, or b) forty-five (45) Calendar Days of acceptance by FERC if the TCA is filed unexecuted and the payment is being protested by MHVDC Connection Customer, or c) forty-five (45) Calendar Days of the filing if the TCA is filed unexecuted and the initial payment is not being protested by MHVDC Connection Customer. If the MHVDC Connection Customer made its milestone payments in the form of cash and the MHVDC Connection Customer elects a cash initial payment, then the Transmission Provider shall transfer those funds to the Transmission Owner on the MHVDC Connection Customer's behalf.

5.5.4 Provision of Security. Unless otherwise provided in Appendix C, at least thirty (30) Calendar Days prior to the commencement of the design, procurement, installation, or construction of a discrete portion of an element, not otherwise funded under Section 5.5.3, of the Transmission Owner's Connection Facilities, Transmission Owner's System Protection Facilities, Network Upgrades, Distribution Upgrades or Stand Alone Network Upgrades, or at the request of Transmission Owner if regulatory approvals are required for the construction of such facilities, MHVDC Connection Customer shall provide Transmission Owner, at MHVDC Connection Customer's selection, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to Transmission Owner and is consistent with the Uniform Commercial Code of the jurisdiction identified in Section 23.2. Such security for payment shall be in an amount sufficient to cover the applicable costs and cost commitments, in addition to those funded under Section 5.5.3, required of the Party responsible for building the facilities pursuant to the construction schedule developed in Appendix C for designing, engineering, seeking regulatory approval from any Governmental Authority, constructing, procuring and installing the applicable portion of the Transmission Owner's Connection Facilities, Transmission Owner's System Protection Facilities, Network Upgrades, Distribution Upgrades or Stand Alone Network Upgrades and shall be reduced on a dollar-for-dollar basis for payments made to Transmission Owner for these purposes.

In addition:

5.5.4.1 The guarantee must be made by an entity that meets the creditworthiness requirements of Transmission Owner, and contain terms and conditions that guarantee payment of any amount that may be due from MHVDC Connection Customer, up to an agreed-to maximum amount.

5.5.4.2 The letter of credit must be issued by a financial institution reasonably acceptable to Transmission Owner and must specify a reasonable expiration date.

5.5.4.3 The surety bond must be issued by an insurer reasonably acceptable to Transmission Owner and must specify a reasonable expiration date.

5.5.4.4 If the Shared Network Upgrade is not in service, MHVDC Connection Customer will provide, as applicable, an Irrevocable Letter of Credit to fund any Shared Network Upgrade pursuant to Attachment FF of the Tariff. The Irrevocable Letter of Credit shall be in an amount sufficient to cover the MHVDC Connection Customer's share of the applicable costs and cost commitments associated with the Shared Network Upgrades. Transmission Provider may periodically adjust the MHVDC Connection Customer's share of the applicable costs and cost commitment of Shared

Network Upgrades and may require MHVDC Connection Customer to adjust the amount of the Irrevocable Letter of Credit accordingly.

5.5.5 Liquidated Damages. The actual damages to MHVDC Connection Customer, in the event the Transmission Owner's Connection Facilities or Network Upgrades are not completed by the dates designated by MHVDC Connection Customer and accepted by Transmission Provider and Transmission Owner pursuant to subparagraphs 5.5.1.2 or 5.5.1.4, above, may include MHVDC Connection Customer's fixed operation and maintenance costs and lost opportunity costs. Such actual damages are uncertain and impossible to determine at this time. Because of such uncertainty, any liquidated damages paid by Transmission Owner to MHVDC Connection Customer in the event that Transmission Owner does not complete any portion of the Transmission Owner's Connection Facilities or Network Upgrades by the applicable dates, shall be an amount equal to ½ of 1 percent per day of the actual cost of the Transmission Owner's Connection Facilities and Network Upgrades, in the aggregate, for which Transmission Owner has assumed responsibility to design, procure and construct.

However, in no event shall the total liquidated damages exceed 20 percent of the actual cost of the Transmission Owner's Connection Facilities and Network Upgrades for which Transmission Owner has assumed responsibility to design, procure, and construct. The foregoing payments will be made by Transmission Owner to MHVDC Connection Customer as just compensation for the damages caused to MHVDC Connection Customer, which actual damages are uncertain and impossible to determine at this time, and as reasonable liquidated damages, but not as a penalty or a method to secure performance of this Agreement. Liquidated damages, when the Parties agree to them, are the exclusive remedy for the Transmission Owner's failure to meet its schedule.

_____ No liquidated damages shall be paid to MHVDC Connection Customer if: (1) MHVDC Connection Customer is not ready to commence use of the Transmission Owner's Connection Facilities or Network Upgrades to take the delivery of power from the MHVDC Transmission Line on the specified dates, unless MHVDC Connection Customer would have been able to commence use of the Transmission Owner's Connection Facilities or Network Upgrades to take the delivery of power from the MHVDC Transmission Line, but for Transmission Owner's delay; (2) the Transmission Owner's failure to meet the specified dates is the result of the action or inaction of Transmission Provider, MHVDC Connection Customer or any other earlier queued customer who has entered into an earlier agreement with Transmission Provider and/or a Transmission Owner or with an Affected System Operator, or any cause beyond Transmission Owner's reasonable control or reasonable ability to cure; (3) MHVDC Connection Customer has assumed responsibility for the design, procurement and construction of the Transmission Owner's Connection Facilities; (4) the delay is due to the inability of Transmission Owner to obtain all required approvals from Governmental Authorities in a timely manner for the construction of any element

of the Connection Facilities or Network Upgrades, or any other permit or authorization required, or any land rights or other private authorizations that may be required, and Transmission Owner has exercised Reasonable Efforts in procuring such approvals, permits, rights or authorizations; or (5) the Parties have otherwise agreed.

- 5.6 Coordination of Work. The Parties will keep each other advised periodically as to the progress of their respective design, procurement and construction efforts. Either Party may, at any time, request a progress report from the other Party and sufficient information to monitor and review the work of the other Party on the Connection Facilities.
- 5.7 Permits. MHVDC Connection Customer, Transmission Provider and Transmission Owner shall cooperate with each other in good faith in obtaining all applicable permits, licenses and authorizations that are necessary to accomplish the construction of the Connection Facilities.
- 5.8 Taxes.
- 5.8.1 Indemnification for the Cost Consequences of Current Tax Liability Imposed Upon Transmission Owner. The Parties agree that any payments by MHVDC Connection Customer to Transmission Owner in contribution to the construction of any facilities under this Agreement may create a tax liability for Transmission Owner. To that end, MHVDC Connection Customer shall protect, indemnify, and hold harmless Transmission Owner from the cost consequences of any current tax liability imposed against Transmission Owner as the result of payments or property transfers made by MHVDC Connection Customer to Transmission Owner under this Agreement for Connection Facilities, any upgrades, or other facilities and equipment. All payments from MHVDC Connection Customer to Transmission Owner shall be calculated on a fully grossed-up basis to account for this tax liability.
- 5.8.2 Tax Gross-Up Amount. MHVDC Connection Customer's potential liability for the cost consequences of any current tax liability under this Section 5.8.2 shall be calculated on a fully grossed-up basis. The Parties agree that "fully grossed-up basis" means that MHVDC Connection Customer will pay Transmission Owner, in addition to the amount paid for the Connection Facilities, any upgrades, or other facilities and equipment, an amount equal to (1) the current taxes imposed on Transmission Owner or determined to be reported by Transmission Owner pursuant to Section 5.8.1 ("Current Taxes") on the excess of (a) the gross income realized by Transmission Owner as a result of payments or property transfers made by MHVDC Connection Customer to Transmission Owner under this Agreement (without regard to any payments under this Section 5.8) (the "Gross Income Amount") over (b) the present value of future tax deductions for depreciation that will be available as a result of such payments or property transfers (the "Present Value Depreciation Amount"), plus (2) an additional

amount sufficient to permit Transmission Owner to receive and retain, after the payment of all Current Taxes, an amount equal to the net amount described in clause (1). For this purpose, (i) Current Taxes shall be computed based on Transmission Owner's composite federal and state tax rates at the time the payments or property transfers are received and Transmission Owner will be treated as being subject to tax at the highest marginal rates in effect at that time (the "Current Tax Rate"), and (ii) the Present Value Depreciation Amount shall be computed by discounting Transmission Owner's anticipated tax depreciation deductions as a result of such payments or property transfers by Transmission Owner's current weighted average cost of capital. Thus, the formula for calculating MHVDC Connection Customer's liability to Transmission Owner pursuant to this Section 5.8.2 can be expressed as follows: $(\text{Current Tax Rate} \times (\text{Gross Income Amount} - \text{Present Value Depreciation Amount})) / (1 - \text{Current Tax Rate})$.

MHVDC Connection Customer shall make such payments according to the milestone schedule set forth in Appendix C. If the actual costs of the Transmission Owner Connection Facilities, any upgrades, and other facilities and equipment are greater than the estimated costs set forth in Appendix B, Transmission Owner shall calculate the tax gross-up payment for the difference between the actual and estimated facilities costs in the event taxes are imposed and present MHVDC Connection Customer with a bill for the tax gross-up amount pursuant to the procedures set forth in Article 19, and MHVDC Connection Customer shall pay such amount pursuant to the procedures set forth in Article 20. If the actual costs of the Transmission Owner Connection Facilities, any upgrades, or other facilities and equipment are less than the estimated costs set forth in Appendix B, Transmission Owner shall refund the tax gross-up payment difference between the actual and estimated facilities costs.

- 5.8.3 Private Letter Ruling or Change or Clarification of Law. At MHVDC Connection Customer's request and expense, Transmission Owner shall file with the IRS a request for a private letter ruling as to whether any property transferred or sums paid, or to be paid, by MHVDC Connection Customer to Transmission Owner under this Agreement are subject to federal income taxation. MHVDC Connection Customer will prepare the initial draft of the request for a private letter ruling, and will certify under penalties of perjury that all facts represented in such request are true and accurate to the best of MHVDC Connection Customer's knowledge. Transmission Owner and MHVDC Connection Customer shall cooperate in good faith with respect to the submission of such request.

Transmission Owner shall keep MHVDC Connection Customer fully informed of the status of such request for a private letter ruling and shall execute either a privacy act waiver or a limited power of attorney, in a form acceptable to the IRS, that authorizes MHVDC Connection Customer to participate in all discussions with the IRS regarding such request for a private letter ruling. Transmission Owner shall allow MHVDC Connection Customer to attend all meetings with IRS

officials about the request and shall permit MHVDC Connection Customer to prepare the initial drafts of any follow-up letters in connection with the request.

5.9 Testing and Inspection

5.9.1 Pre-Operation Testing and Modifications. Prior to the Commercial Operation Date, and after all specifications are met, Transmission Owner shall test the Transmission Owner Connection Facilities and MHVDC Connection Customer shall test the MHVDC Connection Customer Connection Facilities to ensure their safe and reliable operation up to the delivery capacity of the Point of Connection as identified in Appendix B. Each Party shall make any modifications to its Connection Facilities that are necessary as a result of such testing. MHVDC Connection Customer shall bear the cost of all such testing and modifications.

ARTICLE 6 OPERATIONS AND MAINTENANCE

- 6.1 Parties' Obligations. All Parties shall perform their obligations hereunder in accordance with Good Utility Practice, the provisions of this Agreement, and subject to the applicable procedures and requirements of the Transmission Provider Tariff and any Governmental Authority, NERC, or a Regional Entity.
- 6.2 MHVDC Connection Customer Obligations. MHVDC Connection Customer at its sole expense shall design, operate, and maintain the MHVDC Transmission Line and the MHVDC Connection Customer Connection Facilities in a safe and reliable manner and in accordance with the requirements identified in Appendix E.
- 6.3 Inadvertent Energy. MHVDC Connection Customer acknowledges and agrees that, to the extent that inadvertent energy flows through any Point of Connection onto the Transmission System, the Transmission Owner shall recoup, recover or otherwise balance any energy amounts with such Balancing Authorities as may be appropriate. MHVDC Connection Customer will provide assistance to Transmission Owner as reasonably requested in resolving inadvertent energy issues at Points of Connection.
- 6.4 Operating Guidelines. The Parties acknowledge that an operating guide will be developed and approved by the Parties to reflect the operating limitations on the MHVDC Transmission Line as detailed in the results of the reliability studies performed on behalf of Transmission Provider pursuant to the connection request by the MHVDC Connection Customer.

MHVDC Connection Customer and Transmission Owner shall operate their respective facilities in accordance with the operating guidelines identified in Appendix E.

- 6.5 Preventive and Corrective Maintenance Outages.

6.5.1 Planning and Scheduling. In accordance with Good Utility Practice and as may be provided in Appendix E of this Agreement, the Parties shall confer regularly to coordinate the planning and scheduling of preventive and corrective maintenance of, and Modifications and Operational Changes to, the Connection Facilities that might be reasonably expected pursuant to Good Utility Practice to affect the operation of another Party's transmission system. Absent an Emergency or a contrary directive from Transmission Provider, the Parties shall coordinate their respective schedules for any such activities and will, to the extent practicable and appropriate under the circumstances, give reasonable consideration to, among other things, the impact of the schedule on the other Parties' operations.

6.6 Inspections and Testing.

6.6.1 Inspections. Transmission Owner and MHVDC Connection Customer shall perform routine inspection and testing of their equipment on their respective Connection Facilities in accordance with Good Utility Practice as may be necessary to ensure the continued connection of the MHVDC Transmission Line and the Transmission System in a safe and reliable manner.

6.6.2 Right to Observe Testing. The Parties shall have the right to observe the testing of the other Party's Connection Facilities. The testing Party shall notify the other Parties in advance of such testing unless, in the testing Party's reasonable judgment, the testing must be performed immediately, in which case the testing Party shall provide notice as soon as practicable. The observing Parties may each have a representative attend and be present during such testing.

6.6.3 Observation of Deficiencies. If any Party observes any condition it believes may be inconsistent with Good Utility Practice with respect to a Party's Connection Facilities that might reasonably be expected to adversely affect the observing Party's transmission system, the observing Party shall notify the other Parties. Notwithstanding the foregoing, no Party shall be relieved from liability for adversely affecting another Party's transmission system due to the observing Party's failure to give such notice.

6.7 Disconnection. Transmission Provider or Transmission Owner may disconnect the MHVDC Connection Customer Connection Facilities, when such disconnection is necessary under Good Utility Practice due to an Emergency. These rights are separate and distinct from any right of curtailment of Transmission Provider pursuant to the Transmission Provider Tariff. When Transmission Provider can schedule the reduction or disconnection in advance, Transmission Provider shall, consistent with the Transmission Provider Tariff, notify MHVDC Connection Customer of the reasons, timing, and expected duration of the disconnection. Transmission Provider shall coordinate with MHVDC Connection Customer and Transmission Owner using Good Utility Practice to schedule the disconnection during periods reasonably expected to have the least impact to MHVDC Connection Customer, Transmission Owner, and

Transmission Provider. Any disconnection shall continue only for so long as reasonably necessary pursuant to Good Utility Practice. The Parties shall cooperate with each other to restore the Connection Facilities and the Transmission System to their normal operating state as soon as practicable consistent with Good Utility Practice.

- 6.8 **Outages.** In the event of an outage, planned or unplanned, on any Party's transmission system, each such Party shall use efforts consistent with Good Utility Practice, the Transmission Provider Tariff, and any specific requirements as may be provided in Appendix E to this Agreement to restore that Party's transmission system to service.
- 6.9 **Access Rights.** Upon reasonable notice by a Party, and subject to any required or necessary regulatory approvals, a Party (the "Granting Party") shall furnish at no cost to the other Party (the "Access Party") any rights of use, licenses, rights of way, and easements with respect to lands owned or controlled by the Granting Party, its agents, or any Affiliate, that are necessary to enable the Access Party to obtain ingress and egress to construct, operate, maintain, repair, test (or witness testing), inspect, replace, or remove facilities and equipment to: (i) interconnect the Connection Facilities; (ii) operate and maintain the Connection Facilities; and (iii) disconnect or remove the Access Party's facilities and equipment upon termination of this Agreement. In exercising such licenses, rights of way and easements, the Access Party shall not unreasonably disrupt or interfere with normal operation of the Granting Party's business and shall adhere to the safety rules and procedures established in advance, as may be changed from time to time, by the Granting Party and provided to the Access Party.
- 6.9.1 **Access Changes.** Neither the MHVDC Connection Customer nor the Transmission Owner shall make changes to the site topography or accesses, including but not limited to grading or drainage, that could reasonably be expected to have a material adverse effect upon the other Party's facilities or common use drainage or pollution controls systems without the prior written consent of the other Party, such consent not to be unreasonably withheld.

ARTICLE 7

EMERGENCIES AND ENVIRONMENTAL RELEASES

- 7.1 **Generally.** The Parties shall comply with applicable procedures upon declaration of an Emergency by any applicable NERC reliability functional model entity.
- 7.2 **Notice.** Any Party shall provide the other Parties with oral notification that is prompt under the circumstances of an Emergency that may reasonably be expected to affect the other Parties' operation of their respective transmission systems, to the extent the notifying Party is aware of the Emergency. Such notification shall describe, as known, the Emergency, the extent of any damage or deficiency, its anticipated duration, and the corrective action taken and/or to be taken. If requested by another Party, the initial notice shall be followed as soon as practicable with written notice.

- 7.3 Immediate Action. In the event of an Emergency, the Party becoming aware of the Emergency may, in accordance with Good Utility Practice and using its reasonable judgment, take such action with respect to its own facilities as is reasonable and necessary to prevent, avoid, or mitigate injury, danger and/or loss of life or property. The Parties shall, consistent with Good Utility Practice, take whatever actions or inactions the Parties deem necessary during an Emergency, including, without limitation, to request and comply with directives of Transmission Provider, in order to: (i) preserve public health and safety; (ii) preserve the reliability of the Parties' transmission systems; (iii) limit or prevent damage; and (iv) expedite restoration of service.
- 7.4 Abnormal Conditions. To the extent any Party is aware of any Abnormal Condition, such Party, subject to the satisfaction of and compliance with Regulatory Requirements, will make Reasonable Efforts to promptly notify the other Parties of such Abnormal Condition if it may reasonably be expected to affect a Party's operation of its transmission system. However, the failure of any Party to provide notice in conformance with this Section 7.4 shall not constitute a material breach of this Agreement.
- 7.5 Environmental Releases. Each Party shall notify the other Parties, first orally and then in writing, of the release of any hazardous substances, any asbestos or lead abatement activities, or any type of remediation activities related to the MHVDC Transmission Line or the Connection Facilities, each of which may reasonably be expected to affect another Party. The notifying Party shall: (i) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than twenty-four hours after such Party becomes aware of the occurrence; and (ii) promptly furnish to the other Parties copies of any publicly available reports filed with any Governmental Authorities addressing such events.

ARTICLE 8

MODIFICATIONS OR OPERATIONAL CHANGES

- 8.1 Generally. Each of the Parties shall make such Modifications or Operational Changes to its Connection Facilities as are necessary to comply with Good Utility Practice and as may be provided in Appendix B of this Agreement.
- 8.2 Notice. In the event a Party plans to undertake Modifications or Operational Changes to its Connection Facilities that may be reasonably expected, pursuant to Good Utility Practice, to impact any other Party's transmission system, the initiating Party shall provide the other Parties with at least ninety (90) days' advance notice of the desired Modifications or Operational Changes, or such shorter period upon which the Parties may agree, which agreement shall not unreasonably be withheld, conditioned, or delayed. The nature of and the schedule of work for performing such Modifications, or the nature of the Operational Changes shall be subject to review and acceptance by the other Parties, which review and acceptance shall not be untimely nor unreasonably withheld or delayed, to ensure that such Modifications or Operational Changes will (i) not adversely affect a Party's transmission system, or other facilities, (ii) are consistent with Good Utility Practice, and (iii) are as provided in Appendix B of this Agreement. Subject to all

applicable requirements imposed by Transmission Provider, the suitability and the responsibility for the safe and adequate design, operation, and maintenance of the initiating Party's facilities shall be and remain the sole obligation of the initiating Party.

- 8.3 Cost Responsibility. When the actions of either Party necessitate Modifications or Operational Changes to the other Party's Connection Facilities that are not required by Transmission Provider or FERC or are not otherwise needed to satisfy Regulatory Requirements or Reliability Requirements, such Modifications or Operational Changes to the other Party's Connection Facilities shall be made at the sole cost and expense of the Party initiating the changes, unless otherwise agreed to in writing by the applicable Parties. The initiating Party's responsibility for such Modification or Operational Change costs is limited to those costs that are incremental to costs already planned to be incurred by the other Party.

ARTICLE 9

INFORMATION REPORTING, ACCESS, AND AUDIT RIGHTS

- 9.1 Information Reporting Obligations. Subject to applicable Regulatory Requirements and/or confidentiality agreements, each Party shall, in accordance with Good Utility Practice, work with the other Parties regarding the transfer of information which may reasonably be necessary to support the reliability of any other Party's Connection Facilities.
- 9.2 Information Access. Each Party (the "disclosing Party") shall make available to the other Parties information that is in the possession of the disclosing Party and is necessary in order for the other Parties to: (i) verify the costs incurred by the disclosing Party for which another Party is responsible under this Agreement; and (ii) carry out its obligations and responsibilities under this Agreement. The Parties shall not use such information for purposes other than those set forth in this Article 9 and to enforce their rights under this Agreement.
- 9.3 Reporting of Non-Force Majeure Events. A Party (the "notifying Party") shall notify the other Parties when the notifying Party becomes aware of its inability to comply with the provisions of this Agreement for a reason other than a Force Majeure event. The Parties agree to cooperate with each other and provide necessary information regarding such inability to comply, including the date, duration, reason for the inability to comply, and corrective actions taken or planned to be taken with respect to such inability to comply. Notwithstanding the foregoing, notification, cooperation or information provided under this Article shall not entitle any Party receiving such notification to allege a cause for anticipatory breach of this Agreement.
- 9.4 Audit Rights. Subject to the requirements of confidentiality under Article 17 of this Agreement, each Party shall have the right, during normal business hours, and upon prior reasonable notice to the other Parties, to audit at its own expense the other Parties' accounts and records pertaining to the Parties' performance or the Parties' satisfaction of obligations under this Agreement. Such audit rights shall include audits of the other

Parties' costs and calculation of invoiced amounts. Any audit authorized by this Article shall be performed at the offices where such accounts and records are maintained and shall be limited to those portions of such accounts and records that relate to each Party's performance and satisfaction of obligations under this Agreement. Each Party shall keep such accounts and records for a period equivalent to the audit rights periods described in Section 9.5.

9.5 Audit Rights Periods.

9.5.1 Audit Rights Period for Construction-Related Accounts and Records. Accounts and records related to the design, engineering, procurement, and construction of the MHVDC Connection Customer's Connection Facilities, Transmission Owner Connection Facilities, and any upgrades shall be subject to audit for a period of twenty-four months following Transmission Owner's issuance of a final invoice in accordance with Article 20.

9.5.2 Audit Rights Period for All Other Accounts and Records. Accounts and records related to a Party's performance or satisfaction of all obligations under this Agreement other than those described in Section 9.5.1 shall be subject to audit as follows: (i) for an audit relating to cost obligations, the applicable audit rights period shall be twenty-four (24) months after the auditing Party's receipt of an invoice giving rise to such cost obligations; and (ii) for an audit relating to all other obligations, the applicable audit rights period shall be twenty-four (24) months after the event for which the audit is sought.

9.5 Audit Results. If an audit by a Party determines that an overpayment or an underpayment has occurred, a notice of such overpayment or underpayment shall be given to the Party or from whom the overpayment or underpayment is owed together with those records from the audit which support such determination.

ARTICLE 10 METERING AND TELEMETERING

10.1 Metering and Telemetering Equipment. The Parties' respective metering and telemetering equipment, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics, is identified in Appendix D. Each Party shall own and maintain its respective metering and telemetering equipment consistent with all applicable Regulatory Requirements.

10.2 Power Quality Metering. Power Quality measurements including but not limited to harmonic current injection, voltage variation and imbalance will be assessed at the Point of Connection using a standard instrument in compliance with industrial standards, and approved by Transmission Owner.

ARTICLE 11 ASSIGNMENT

- 11.1 Successors and Assigns. This Agreement, and the rights and obligations created thereby, shall bind and inure to the benefit of the successors and permitted assigns of the Parties hereto.
- 11.2 Consent Required. No Party may assign any rights or obligations hereunder without obtaining the consent of the other Parties, which consent shall not unreasonably be withheld, conditioned, or delayed.
- 11.3 Assignment in Event of Merger or for Financing.
- 11.3.1 Notwithstanding anything to the contrary herein, a Party may assign this Agreement without the consent of the other Parties to any Affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Agreement; and provided further that MHVDC Connection Customer shall have the right to assign this Agreement, without the consent of either Transmission Provider or Transmission Owner, for collateral security purposes to aid in providing financing for the MHVDC Transmission Line, provided that MHVDC Connection Customer will promptly notify Transmission Owner and Transmission Provider of any such assignment. Any financing arrangement entered into by MHVDC Connection Customer pursuant to this Article will provide that prior to or upon the exercise of the secured party's, trustee's, or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify Transmission Owner and Transmission Provider of the date and particulars of any such exercise of assignment right(s). Any attempted assignment that violates this Article is void and ineffective. Any assignment under this Agreement shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned, or delayed.
- 11.4 Party to Remain Responsible. Except for assignments pursuant to Section 11.3.1, no assignment, transfer, pledge, conveyance, or disposition of rights or obligations under this Agreement by a Party will relieve that Party from liability and financial responsibility for the performance thereof after any such assignment, transfer, conveyance, pledge, or disposition unless and until the transferee or assignee agrees in writing to assume the obligations and duties of that Party under this Agreement and the non-assigning Parties have consented in writing to such assumption and to a release of the assigning Party from such liability, which consent shall not unreasonably be withheld, conditioned, or delayed.

- 11.5 Termination of Corporate Existence. If a Party terminates its existence as a corporate entity by acquisition, sale, consolidation, or otherwise, or if all or substantially all of such Party's Connection Facilities are transferred to another person or business entity, without complying with Section 11.2 above, the other Parties will have the right, enforceable in a court of competent jurisdiction, to enjoin the Party's successor from using its facilities in any manner that interferes with, impedes, or restricts the other Parties' ability to carry out its ongoing business operations, rights and obligations.

ARTICLE 12

FORCE MAJEURE

- 12.1 Force Majeure Defined. The term "Force Majeure" shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include an act of negligence or intentional wrongdoing by the Party claiming Force Majeure.
- 12.2 Effect of Force Majeure. Except for obligations to make any payments under this Agreement, the Parties shall be excused from performing their respective obligations under this Agreement and shall not be liable in damages or otherwise if and to the extent that they are unable to so perform or are prevented from performing by a Force Majeure, provided that:
- 12.2.1 the non-performing Party, as promptly as practicable after the Party reasonably determines that a Force Majeure event has occurred and such Force Majeure event will adversely impact the Party's ability to perform its obligations hereunder, gives the other Parties written notice describing the particulars of the occurrence;
 - 12.2.2 the suspension of performance is of no greater scope and of no longer duration than is reasonably required by the Force Majeure;
 - 12.2.3 the non-performing Party uses all Reasonable Efforts to remedy its inability to perform; and
 - 12.2.4 as soon as the non-performing Party is able to resume performance of its obligations excused as a result of the occurrence, it gives prompt written notification thereof to the other Party.

ARTICLE 13

LIMITATION OF LIABILITY, INDEMNIFICATION, AND INSURANCE

- 13.1 Limitation on Liability. A Party, its affiliates, directors, officers, employees and agents, shall not be liable to another Party, its affiliates, directors, officers, employees and agents, or to any third party or other person for any damages whatsoever arising or resulting from

any act or omission in any way associated with the service provided under this agreement, except as provided in the Transmission Provider Tariff.

13.2 Indemnification.

13.2.1 To the extent permitted by law, a Party (the “Indemnifying Party”) shall at all times indemnify, defend, and hold the other Parties (each an “Indemnified Party”) harmless from any and all losses relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from another Party’s performance, or non-performance of its obligations under this Agreement on behalf of the indemnifying Party, except in cases of negligence or intentional wrongdoing by the indemnified Party.

13.2.1.1 Indemnified Party. If an Indemnified Party is entitled to indemnification under this Article 12 as a result of a claim by a third party, and the Indemnifying Party fails, after notice and reasonable opportunity to proceed under Article 12.2, to assume the defense of such claim, such Indemnified Party may at the expense of the Indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

13.2.1.2 Indemnifying Party. If an Indemnifying Party is obligated to indemnify and hold any Indemnified Party harmless under this Article 12, the amount owing to the Indemnified Party shall be the amount of such Indemnified Party’s actual loss, net of any insurance or other recovery.

13.2.1.3 Indemnity Procedures. Promptly after receipt by an Indemnified Party of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in Section 13.2 may apply, the Indemnified Party shall notify the Indemnifying Party of such fact. Any failure of or delay in such notification shall not affect a Party’s indemnification obligation unless such failure or delay is materially prejudicial to the Indemnifying Party.

The Indemnifying Party shall have the right to assume the defense thereof with counsel designated by such Indemnifying Party and reasonably satisfactory to the Indemnified Party. If the defendants in any such action include one or more Indemnified Parties and the Indemnifying Party and if an Indemnified Party reasonably concludes that there may be legal defenses available to it and/or other Indemnified Parties which are different from or additional to those available to the Indemnifying Party, the Indemnified Party shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on its own behalf. In such

instances, the Indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an Indemnified Party or Indemnified Parties having such differing or additional legal defenses.

The Indemnified Party shall be entitled, at its expense, to participate in any such action, suit or proceeding, the defense of which has been assumed by the Indemnifying Party. Notwithstanding the foregoing, the Indemnifying Party (i) shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent that, in the opinion of the Indemnified Party and its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the Indemnified Party, or there exists a conflict or adversity of interest between the Indemnified Party and the Indemnifying Party, in such event the Indemnifying Party shall pay the reasonable expenses of the Indemnified Party, and (ii) shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the Indemnified Party, which shall not be reasonably withheld, conditioned or delayed. .

13.2.2 No Consequential Damages. In no event shall any Party be liable under any provision of this Agreement for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided; however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

13.3 Survival. The limitation of liability provided for, and the indemnification obligations of each Party under this Article shall continue in full force and effect regardless of whether this Agreement has either expired or been terminated or canceled with respect to matters that arise during the effectiveness of the Agreement.

13.4 Insurance. Transmission Owner and MHVDC Connection Customer shall, at their own expense, maintain in force throughout the period where construction activities are underway by such Party, and until released by the other Party, the following minimum insurance coverages, with insurers authorized to do business or an approved surplus lines carrier in the state where the Point of Connection is located:

13.4.1 Employers' Liability and Workers' Compensation Insurance providing statutory benefits in accordance with the laws and regulations of the state in which the Point of Connection is located.

- 13.4.2 Commercial General Liability Insurance including premises and operations, personal injury, broad form property damage, broad form blanket contractual liability coverage (including coverage for the contractual indemnification) products and completed operations coverage, coverage for explosion, collapse and underground hazards, independent contractors coverage, coverage for pollution to the extent normally available and punitive damages to the extent normally available and a cross liability endorsement, with minimum limits of One Million Dollars (\$1,000,000) per occurrence/One Million Dollars (\$1,000,000) aggregate combined single limit for personal injury, bodily injury, including death and property damage.
- 13.4.3 Comprehensive Automobile Liability Insurance, for coverage of owned and non-owned and hired vehicles, trailers or semi-trailers licensed for travel on public roads, with a minimum combined single limit of One Million Dollars (\$1,000,000) each occurrence for bodily injury, including death, and property damage.
- 13.4.4 Excess Public Liability Insurance over and above the Employer's Liability, Commercial General Liability and Comprehensive Automobile Liability Insurance coverage, with a minimum combined single limit of Twenty Million Dollars (\$20,000,000) per occurrence/Twenty Million Dollars (\$20,000,000) aggregate.
- 13.4.5 The Commercial General Liability Insurance, Comprehensive Automobile Insurance and Excess Public Liability Insurance policies shall name the other Parties, their parents, associated and Affiliate companies and their respective directors, officers, agents, servants and employees ("Other Party Group") as additional insured. All policies shall contain provisions whereby the insurers waive all rights of subrogation in accordance with the provisions of this Agreement against the Other Party Groups and provide thirty (30) Calendar Days' advance written notice to the Other Party Groups prior to anniversary date of cancellation or any material change in coverage or condition.
- 13.4.6 The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies shall contain provisions that specify that the policies are primary and shall apply to such extent without consideration for other policies separately carried and shall state that each insured is provided coverage as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount for which the insurer would have been liable had only one insured been covered. Each Party shall be responsible for its respective deductibles or retentions.
- 13.4.7 The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies, if written on a Claims First Made Basis, shall be maintained in full force and effect for two (2) years after termination of this Agreement, which coverage may be in the form of

tail coverage or extended reporting period coverage if agreed by Transmission Owner and MHVDC Connection Customer.

- 13.4.8 The requirements contained herein as to the types and limits of all insurance to be maintained by Transmission Owner and MHVDC Connection Customer are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by Transmission Owner and MHVDC Connection Customer under this Agreement.
- 13.4.9 As of the date set forth in Appendix C, Milestones, and as soon as practicable after the end of each fiscal year or at the renewal of the insurance policy and in any event within ninety (90) Calendar Days thereafter, MHVDC Connection Customer and Transmission Owner shall provide the other Party with certification of all insurance required in this Agreement, executed by each insurer or by an authorized representative of each insurer.
- 13.4.10 Notwithstanding the foregoing, Transmission Owner or MHVDC Connection Customer may self-insure to meet the minimum insurance requirements of Sections 13.4.1 through 13.4.8, to the extent it maintains a self-insurance program; provided that, Transmission Owner's or MHVDC Connection Customer's senior secured debt is rated at investment grade, or better, by Standard & Poor's and that its self-insurance program meets minimum insurance requirements under Sections 13.4.1 through 13.4.8. For any period of time that a Transmission Owner's or MHVDC Connection Customer's senior secured debt is unrated by Standard & Poor's or is rated at less than investment grade by Standard & Poor's, such Party shall comply with the insurance requirements applicable to it under Articles Sections 13.4.1 through 13.4.8. In the event that Transmission Owner or MHVDC Connection Customer is permitted to self-insure pursuant to this article, it shall notify the other Party that it meets the requirements to self-insure and that its self-insurance program meets the minimum insurance requirements in a manner consistent with that specified in Section 13.4.9.
- 13.4.11 Transmission Owner and MHVDC Connection Customer agree to report to each other in writing as soon as practical all accidents or occurrences resulting in injuries to any person, including death, and any property damage arising out of this Agreement.

ARTICLE 14

DEFAULT AND TERMINATION

- 14.1 Default. No Breach shall exist where such failure to discharge an obligation (other than the payment of money) is the result of Force Majeure as defined in this Agreement or the result of an act or omission of the other Parties. Upon a Breach, the non-Breaching Parties shall give written notice of such to the Breaching Party. The Breaching Party shall have thirty (30) Calendar Days from receipt of the Breach notice within which to cure

such Breach; provided however, if such Breach is not capable of cure within thirty (30) Calendar Days, the Breaching Party shall commence such cure within thirty (30) Calendar Days after notice and continuously and diligently complete such cure within ninety (90) Calendar Days from receipt of the Breach notice; and, if cured within such time, the Breach specified in such notice shall cease to exist.

- 14.2 Continued Operation. In the event of a Breach by any Party, the Parties shall continue to operate and maintain, as applicable, such AC (and any DC backup) power systems, protection and metering equipment, telemetering equipment, SCADA equipment, transformers, communications equipment, building facilities, software, documentation, structural components, and other facilities and appurtenances that are reasonably necessary for the Parties to operate and maintain their respective transmission systems in a safe and reliable manner or as may be required under any Reliability Requirements.

14.3 Right to Terminate.

14.3.1 If a Breach is not cured as provided in this Article 14, or if a Breach is not capable of being cured within the period provided for herein, the non-Breaching Parties acting together shall thereafter have the right to declare a Default and terminate this Agreement by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not those Parties terminate this Agreement, to recover from the defaulting Party all amounts due hereunder, plus all other damages and remedies to which they are entitled at law or in equity. The provisions of this Article will survive termination of this Agreement.

14.3.2 This Agreement may be terminated by any one of the Parties after giving ninety (90) Calendar Days advance written notice to the other Parties if the MHVDC Transmission Line fails to achieve Commercial Operation for three (3) consecutive years following the Commercial Operation Date, or has ceased Commercial Operation for three (3) consecutive years, beginning with the last date of Commercial Operation for the MHVDC Transmission Line, after giving MHVDC Connection Customer ninety (90) Calendar Days advance written notice.

14.3.3 Any Party may terminate this Agreement due to Government Authority Actions, as set forth in Section 3.2.2 hereof.

- 14.4 FERC Approval. No termination of this Agreement shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination, including the filing with FERC of a notice of termination of this Agreement, if required, which notice has been accepted for filing by FERC.

- 14.5 Termination Costs. If a Party elects to terminate this Agreement pursuant to this Article 14, each Party shall pay all costs incurred for which that Party is responsible (including any cancellation costs relating to orders or contracts for Connection Facilities, applicable upgrades, and related equipment) or charges assessed by the other Parties, as of the date of the other Parties' receipt of such notice of termination, under this Agreement. In the

event of termination by a Party, the Parties shall use commercially Reasonable Efforts to mitigate the costs, damages and charges arising as a consequence of termination. Upon termination of this Agreement, unless otherwise ordered or approved by FERC:

14.5.1 With respect to any portion of the Connection Facilities and any upgrades that have not yet been constructed or installed, Transmission Owner shall to the extent possible cancel any pending orders of, or return any materials or equipment for, or contracts for construction of, such facilities; provided that in the event MHVDC Connection Customer elects not to authorize such cancellation, MHVDC Connection Customer shall assume all payment obligations with respect to such materials, equipment, and contracts, and Transmission Owner shall deliver such material and equipment, and, if necessary, assign such contracts, to MHVDC Connection Customer as soon as practicable, at MHVDC Connection Customer's expense. To the extent that MHVDC Connection Customer has already paid Transmission Owner for any or all such costs of materials or equipment not taken by MHVDC Connection Customer, Transmission Owner shall promptly refund such amounts to MHVDC Connection Customer, less any costs, including penalties incurred by Transmission Owner to cancel any pending orders of or return such materials, equipment, or contracts.

If MHVDC Connection Customer terminates this Agreement, it shall be responsible for all costs incurred in association with that MHVDC Connection Customer's connection, including any cancellation costs relating to orders or contracts for Connection Facilities and equipment, and other expenses including any upgrades or related equipment for which Transmission Owner has incurred expenses and has not been reimbursed by MHVDC Connection Customer.

14.5.2 Transmission Owner may, at its option, retain any portion of such materials, equipment, or facilities that MHVDC Connection Customer chooses not to accept delivery of, in which case Transmission Owner shall be responsible for all costs associated with procuring such materials, equipment, or facilities. If Transmission Owner does not so elect, then MHVDC Connection Customer shall be responsible for such costs.

14.5.3 With respect to any portion of the Connection Facilities and any other facilities already installed or constructed pursuant to the terms of this Agreement, MHVDC Connection Customer shall be responsible for all costs associated with the removal, relocation, reconfiguration or other disposition or retirement of such materials, equipment, or facilities, and such other expenses actually incurred by Transmission Owner necessary to return the Transmission System to safe and reliable operation.

14.6 Disconnection. Upon termination of this Agreement in accordance with this Article 14, a Party shall, in coordination with the other Parties, physically disconnect its transmission system from the terminated Party's transmission system. If this Agreement terminates in

part with respect to a particular Point of Connection, the Parties will coordinate to disconnect their transmission systems at such Point of Connection.

- 14.7 Survival of Rights. Termination of this Agreement shall not relieve any Party of any of its liabilities and obligations arising hereunder prior to the date termination becomes effective, and each Party may take whatever judicial or administrative actions as appear necessary or desirable to enforce its rights hereunder. Applicable provisions of this Agreement will continue in effect after expiration, cancellation or termination of this Agreement to the extent necessary to provide for final billings, billing adjustments, and the determination and enforcement of liability and indemnification obligations arising from events or acts that occurred while this Agreement was in effect.

ARTICLE 15 LABOR RELATIONS

- 15.1 Each Party agrees to immediately notify the other Parties, orally and then in writing, of any labor dispute or anticipated labor dispute of which its management has actual knowledge that might reasonably be expected to affect the operations of the other Parties with respect to this Agreement.

ARTICLE 16 SUBCONTRACTOR

- 16.1 Generally. Nothing in this Agreement shall prevent a Party from utilizing the services of such subcontractors as it deems appropriate to perform its obligations under this Agreement; provided, however, that all Parties shall require their subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services.
- 16.2 Responsibility of Principal. The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. Each Party shall be fully responsible to the other Parties for the acts or omissions of any subcontractor it hires as if no subcontract had been made. Any applicable obligation imposed by this Agreement upon a Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.
- 16.3 No Third Party Beneficiary. No subcontractor is intended to be, nor will it be deemed to be, a third-party beneficiary of this Agreement.
- 16.4 No Limitation by Insurance. The obligations under this Article will not be limited in any way by any limitation on subcontractor's insurance.

ARTICLE 17

CONFIDENTIALITY

- 17.1 Nondisclosure. No Party shall disclose any Confidential Information of the other Parties obtained pursuant to or in connection with the performance of this Agreement to any third party without the express written consent of the other Parties, except that any Party may produce Confidential Information in response to a subpoena, discovery request or other compulsory process issued by a judicial body or governmental agency, under applicable law, upon reasonable notice to the Party whose Confidential Information it is.
- 17.2 Definition. “Confidential Information” means any confidential, proprietary or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, which is designated as Confidential Information by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise. Confidential Information shall include, without limitation, all information relating to a Party’s technology, research and development, business affairs, and pricing, and any information supplied by a Party to another Party on a confidential basis prior to the execution of this Agreement. Confidential Information shall not include information that the receiving Party can demonstrate: (i) is generally available to the public other than as a result of a disclosure by the receiving Party; (ii) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (iii) was supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party, after due inquiry, was under no obligation to the other Party to keep such information confidential; (iv) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (v) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or breach of this Agreement; or (vi) is required, in accordance with this Article, to be disclosed by any federal or state government or agency or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under this Agreement held in a court or agency of competent jurisdiction. Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as Confidential Information notifies the other Parties that such information no longer is confidential. Finally, for the purposes of this Agreement, information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential.
- 17.3 Standard of Care. All Parties shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination.
- 17.4 Use of Confidential Information. Any Party may use Confidential Information solely to fulfill its obligations to the other Party or Parties under this Agreement or its Regulatory Requirements, or in any proceeding under Article 18 or 20 or in any administrative

agency or court of competent jurisdiction addressing any dispute arising under this Agreement, subject either to a confidentiality agreement with all participants (including, if applicable, arbitrator(s)) or to a protective order. Notwithstanding the absence of a protective order or waiver, a Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose.

- 17.5 Damages. The Parties agree that monetary damages by themselves will be inadequate to compensate a Party for the other Party's breach of its obligations under this Section 17.5. Each Party accordingly agrees that the other Parties are entitled to equitable relief, by way of injunction or otherwise, if it breaches or threatens to breach its obligations under this Section 17.5.
- 17.6 Survival. The confidentiality provisions of this Article shall survive termination of this Agreement for a period of two (2) years.

ARTICLE 18 DISPUTE RESOLUTION

- 18.1 In the event any Party has a dispute, or asserts a claim, that arises out of or in connection with this Agreement or its performance, such Party (the "Disputing Party") shall provide the other Parties with written notice of the dispute or claim ("Notice of Dispute"). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the non-disputing Parties. In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the non-disputing Parties' receipt of the Notice of Dispute, such claim or dispute shall be submitted for resolution in accordance with the dispute resolution procedures of the Transmission Provider Tariff.

ARTICLE 19 NOTICES AND COMMUNICATIONS

- 19.1 Unless otherwise specified herein, any notice, request, claim, demand and other communication required or permitted to be given by any Party to the other Parties and any instrument required or permitted to be tendered or delivered by a Party in writing to the other Parties shall be effective when delivered and may be so given, tendered or delivered by recognized national courier, or by depositing the same with the United States Postal Service with postage prepaid, for delivery by certified or registered mail, addressed to the Party, or personally delivered to the Party respective Parties as follows:

To Transmission Owner:

~~{Name and/or Title}~~
~~{Company name}~~
~~{Address}~~
~~{Address}~~
~~{City, State} {Zip}~~

To MHVDC Connection Customer:

~~{Name and/or Title}~~
~~{Company name}~~
~~{Address}~~
~~{Address}~~
~~{City, State} {Zip}~~

~~T: ()~~ _____

~~F: ()~~ _____

~~E: ()~~ _____ Shawn E Schukar

Vice President - Transmission

Ameren Services Company as agent for

Union Electric Company d/b/a Ameren
Missouri

1901 Chouteau Avenue, MC 410

PO Box 66149

St. Louis, MO 63166-6149

Voice telephone – 314-749-9275

Facsimile telephone – (314) 554-3066

Email address – SSchukar@ameren.com

~~T: ()~~ _____

~~F: ()~~ _____

~~E: ()~~ _____

Grain Belt Express LLC

General Counsel

c/o Invenenergy Transmission LLC

One South Wacker Drive, Suite 1800

Chicago, IL 60606

Phone: 312-582-1490

Email: _____ interconnection-
notices@invenenergy.com

To Transmission Provider:

Attn: Director, Transmission Access Planning
Midcontinent Independent System Operator, Inc.
720 West City Center Drive
Carmel, IN 46032

Any such notice or communication will be deemed to have been given as of the date received.

- 19.2 Any Party may change its address or designated representative for notices by notice to the other Parties in the manner provided above.
- 19.3 Any notice or request required or permitted to be given by any Party to the other and not required by this Agreement to be given in writing may be so given by telephone, facsimile or email to the telephone numbers and email addresses set out above in Section 19.1.
- 19.4 Notwithstanding Section 19.1, any notice hereunder concerning an Emergency or other occurrence requiring prompt attention, or as necessary during ~~day-to-day~~day to day operations, may be made by telephone or in person provided that such notice is confirmed in writing promptly thereafter. Notice in an Emergency, or as necessary during ~~day-to-day~~day to day operations, shall be provided: ~~((i))~~ if by Transmission Owner, to the shift supervisor at MHVDC Connection Customer's transmission control center, (ii) if by Transmission Owner, to the shift supervisor at MHVDC Connection Customer's transmission control center, and (iii) if by Transmission Provider, pursuant to Transmission Provider's established procedures.

ARTICLE 20
BILLING AND PAYMENT

- 20.1 Procedure. All bills for amounts owed by one Party to the other hereunder, not otherwise billed by Transmission Owner, shall be due on the 15th Business Day following receipt of the bill. The standard period for the purpose of settlements hereunder shall be a calendar month.
- 20.2 Final Invoice. Within six (6) months after completion of the construction of the Connection Facilities and any upgrades, Transmission Owner shall provide an invoice of the final cost of the construction of the Transmission Owner Connection Facilities and any upgrades and shall set forth such costs in sufficient detail to enable MHVDC Connection Customer to compare the actual costs with the estimates and to ascertain deviations, if any, from the cost estimates. Transmission Owner shall refund, with interest (calculated in accordance with 18 C.F.R. Section 35.19a(a)(2)(iii)), to MHVDC Connection Customer any amount by which the actual payment by MHVDC Connection

Customer for estimated costs exceeds the actual costs of construction within thirty (30) Calendar Days of the issuance of such final construction invoice.

- 20.3 Interest on Unpaid Balances. Interest on any unpaid amounts that are past due (including amounts placed in escrow) shall be calculated in accordance with the methodology specified for interest on refunds in the FERC's regulations at 18 C.F.R. Section 35.19a(a)(2)(iii). Interest on delinquent amounts shall be calculated and compounded quarterly as required under such FERC regulation from the due date of the bill to the date of receipt of payment. When payments are made by mail, bills shall be considered as having been paid on the date of receipt by Transmission Owner or MHVDC Connection Customer.

ARTICLE 21

RELIABILITY STANDARDS

- 21.1 Reliability Standards.

21.1.1 Each Party will maintain responsibility to comply, at its own expense, with NERC and Regional Entity mandatory Reliability Requirements applicable to the facilities owned by the Party. The Parties agree to share data or documentation as may be required to demonstrate compliance with Reliability Requirements where an individual Party has possession of data or documentation necessary for the other Party to demonstrate compliance.

21.1.2 To the extent that MHVDC Connection Customer contributes in whole or in part to actions which result in monetary penalties being assessed to Transmission Owner for non-compliance with Reliability Requirements, MHVDC Connection Customer shall reimburse Transmission Owner for its proportional share of such monetary penalties. To the extent that Transmission Owner contributes in whole or in part to actions which result in monetary penalties being assessed to MHVDC Connection Customer for non-compliance with Reliability Requirements, Transmission Owner shall reimburse MHVDC Connection Customer for its proportional share of such monetary penalties. NERC, or the Regional Entity by which a compliance penalty has been assessed, will make the determination of the responsible parties and the contribution to such non-compliance event(s). In the event of a dispute between the Parties regarding either Party's share of such monetary penalties, the dispute shall be subject to the provisions of Article 18 herein.

- 21.2 Reserved Rights. Except as provided by any Reliability Requirements, nothing herein shall affect the right of either Party or Transmission Provider, subject to any necessary regulatory approval, to take such other measures to maintain reliability, including disconnection, which such Party may otherwise be entitled to take under this Agreement, Good Utility Practice or the Transmission Provider Tariff.

ARTICLE 22

JOINT OPERATING COMMITTEE

22.1 Joint Operating Committee. No less than one hundred twenty (120) days before the commencement of operation of the MHVDC Transmission Line the Parties shall establish a Joint Operating Committee to coordinate operating and technical considerations of the connection provided for in this Agreement. Each Party shall appoint a representative to such Committee and notify the other Party of such Appointee. Transmission Provider shall participate in such Committee and shall appoint a representative thereto. Such appointments may be changed at any time by similar notice. The Joint Operating Committee shall hold a meeting at the request of either Party or Transmission Provider, at a time and place agreed upon by the representatives. The Joint Operating Committee shall perform all of its duties consistent with the provisions of this Agreement. Each Party shall cooperate in providing to the Joint Operating Committee all information required in the performance of the Joint Operating Committee's duties. All decisions and agreements, if any, made by the Joint Operating Committee, shall be evidenced in writing. The duties of the Joint Operating Committee shall include the following:

- 22.1.1 Assess readiness of the Parties' Connection Facilities to be placed in service on the schedules identified in Appendix C and recommend corrective actions if necessary to facilitate the placement in service of facilities and equipment.
- 22.1.2 Establish data requirements and operating record requirements.
- 22.1.3 Review the requirements, standards, and procedures for data acquisition equipment, protective equipment, and any other equipment or software.
- 22.1.4 Annually review the one (1) year forecast of maintenance and planned outage schedules of the Connection Facilities with such forecasts posted on the applicable OASIS.
- 22.1.5 Coordinate the scheduling of maintenance and planned outages on the Connection Facilities, and other facilities that impact the normal operation of the connection, with such scheduled maintenance and planned outages posted on the applicable OASIS.
- 22.1.6 Ensure that information is being provided by each Party regarding equipment availability with such equipment availability posted on each Party's OASIS.
- 22.1.7 Perform such other duties as may be conferred upon it by mutual agreement of the Parties.

ARTICLE 23
MISCELLANEOUS PROVISIONS

23.1 General. Each Party makes the following representations, warranties and covenants:

23.1.1 Good Standing. Such Party is duly organized, validly existing and in good standing under the laws of the state in which it is organized, formed, or incorporated, as applicable; that it is qualified to do business in the state or states in which the Connection Facilities are located; and that it has the corporate power and authority to carry on its business as now being conducted and to enter into this Agreement and carry out the transactions contemplated hereby and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this Agreement.

23.1.2 Authority. Such Party has the right, power and authority to enter into this Agreement, to become a Party hereto and to perform its obligations hereunder. This Agreement is a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms, except as the enforceability thereof may be limited by applicable bankruptcy, insolvency, reorganization or other similar laws affecting creditors' rights generally and by general equitable principles (regardless of whether enforceability is sought in a proceeding in equity or at law).

23.1.3 No Conflict. The execution, delivery and performance of this Agreement does not violate or conflict with the organizational or formation documents, or bylaws or operating agreement, of such Party, or any judgment, license, permit, order, material agreement or instrument applicable to or binding upon such Party or any of its assets.

23.1.4 Consent and Approval. Notwithstanding Section 23.2 of this Agreement, each Party has sought or obtained, or, in accordance with this Agreement will seek or obtain, each consent, approval, authorization, order, or acceptance by any Governmental Authority in connection with the execution, delivery and performance of this Agreement, and it will provide to any Governmental Authority notice of any actions under this Agreement that are required by Applicable Laws and Regulations.

23.2 Governing Law. The validity, interpretation and performance of this Agreement and each of its provisions shall be governed by the laws of the state where the Point of Connection is located, without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, rules, or regulations of a Governmental Authority.

23.3 Relationship of the Parties. Nothing in this Agreement is intended to create a partnership, joint venture, or other joint legal entity making any Party jointly or severally liable for the

acts of the other Party. Unless otherwise agreed to in a writing signed by all Parties, no Party shall have any authority to create or assume in another Party's name or on its behalf any obligation, express or implied or to act or purport to act as any other Party's agent or legally-empowered representative for any purpose whatsoever. Each Party shall be solely liable for the payment of all wages, taxes, and other costs related to the employment of persons by that Party to perform under this Agreement, including all federal, state, and local income, social security, payroll and employment taxes and statutorily-mandated workers' compensation coverage. None of the persons employed by any Party shall be considered employees of the other Party for any purpose; nor shall any Party represent to any person that such persons are or shall become employees of the other Party. Except as expressly provided for herein, no Party shall be liable to any third Party in any way for any engagement, obligation, commitment, contract, representation, or for any negligent act or omission to act of the other Party.

- 23.4 No Third Party Rights. Nothing in this Agreement, express or implied, is intended to confer on any person, other than the Parties hereto, any benefits, interests, rights, or remedies under or by reason of the Agreement.
- 23.5 Waiver. Except as otherwise provided in this Agreement, a Party's compliance with any obligation, covenant, agreement, or condition herein may be waived by the Party entitled to the benefits thereof only by a written instrument signed by the Party granting such waiver, but such waiver or failure to insist upon strict compliance with such obligation, covenant, agreement, or condition will not operate as a waiver of, or estoppel with respect to, any subsequent or other failure.
- 23.6 Failure to Enforce. Failure of any Party to enforce or insist upon compliance with any of the terms or conditions of this Agreement, or to give notice or declare this Agreement or the rights hereunder terminated, shall not constitute a waiver or relinquishment of any rights set out herein, but the same shall be and remain at all times in full force and effect, unless and only to the extent expressly set forth in a writing signed by the Party granting such waiver or relinquishing any such right(s). Any waiver granted, or relinquishment of any right, by a Party shall not operate as a relinquishment of any other rights or a waiver or of any other failure of the Party granted the waiver to comply with any obligation, covenant, agreement, or condition herein.
- 23.7 Amendments and Modification. Except as otherwise provided, (a) this Agreement may only be modified in writing and signed by all Parties, and (b) no amendment or modification to this Agreement or waiver of a Party's rights hereunder shall be binding unless the same shall be in writing and signed by all Parties against which enforcement is sought. Notwithstanding any provision in this Agreement to the contrary, Transmission Provider shall have the right to make a unilateral filing with FERC to modify this TCA with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under Section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and Transmission Owner and MHVDC Connection Customer shall have the right to make a unilateral filing with FERC to modify this TCA pursuant to Section 206 or any other applicable provision of the Federal

Power Act and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing and to participate fully in any proceeding before FERC in which such modifications may be considered.

- 23.8 Severability. If any term, condition, covenant, restriction or other provision of this Agreement is held by a court or regulatory agency of competent jurisdiction or by legislative enactment to be invalid, void or otherwise unenforceable, the remainder of the terms, conditions, covenants restrictions and other provisions of this Agreement shall remain in full force and effect unless such an interpretation would materially alter the rights and privileges of any Party. If any term, condition, covenant, restriction or other provision of this Agreement is held invalid, void or otherwise unenforceable, the Parties shall attempt to negotiate an appropriate and equitable replacement, revision or adjustment to the provision of this Agreement to restore the benefits and obligations conferred under the original Agreement.
- 23.9 Headings and Captions. Article headings, section headings, and/or other captions are included in this Agreement for reference purposes only and shall not constitute a part of this Agreement or in any way affect the meaning or interpretation of this Agreement. Whenever used herein the singular number shall include the plural, the plural shall include the singular, and the use of any gender shall include all genders.
- 23.10 Further Assurances. Each Party shall do such other and further acts and things, and shall execute and deliver such instruments and documents, as any other Party reasonably requests from time to time in furtherance of the purposes of this Agreement.
- 23.11 Entire Agreement. This Agreement, including all schedules, appendices and other attachments hereto and made part hereof, sets forth the entire understanding and agreement of the Parties as to the subject matter of this Agreement and merges and supersedes all prior written and oral understandings, offers, agreements, commitments, representations, writings, discussions or other communications of every kind between the Parties.
- 23.12 Rights Cumulative. The rights and remedies set forth in this Agreement are cumulative and non-exclusive.
- 23.13 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the Parties have caused their authorized representatives to execute this Agreement in quadruplicate originals, each of which shall constitute and be an original effective Agreement among the Parties as of the date first above written.

{Transmission Owner}

By: _____
Ameren Services Company as agent for
Union Electric Company d/b/a Ameren Missouri

By: _____
Name: Shawn E Schukar
Title: Vice President – Transmission

{MHVDC Connection Customer}

By: _____
Grain Belt Express LLC

By: _____
Name: Shashank Sane
Title: Vice President

Transmission Provider
Midcontinent Independent System Operator, Inc.

By: _____

By: _____
Name: _____
Title: _____

1

Project No. H104 H105

APPENDIX A

TRANSMISSION CONNECTION AGREEMENT

by and among

~~{Transmission Owner},~~

~~{MHVDC Connection Customer},~~

Ameren Services Company as agent for Union Electric Company d/b/a Ameren Missouri,
Grain Belt Express LLC,

and

Midcontinent Independent System Operator, Inc.

POINT OF CHANGE OF OWNERSHIP

Point of Change of Ownership	
Name and Location Brief Description	<u>-Burns substation, Callaway County, Missouri</u> <u>The Point of Change of Ownership is at the dead-end structure inside the proposed Burns substation fence.</u>

POINT OF CONNECTION

Point of Connection	
Name and Location Brief Description	<u>Transmission Owner's new Burns 345kV substation, connected at Montgomery-McCredie-5470 345 kV Line, ~0.5 mi from McCredie</u>

APPENDIX B

TRANSMISSION CONNECTION AGREEMENT

by and among

~~{Transmission Owner},~~

~~{MHVDC Connection Customer},~~

Ameren Services Company as agent for Union Electric Company d/b/a Ameren Missouri,
Grain Belt Express LLC,

and

Midcontinent Independent System Operator, Inc.

CONNECTION FACILITIES AND ANY NECESSARY UPGRADES

General Description of MHVDC Connection Customer's Connection Facilities

The MHVDC Connection Customer will design, construct, and own the MHVDC Connection Customer's Connection Facilities. The MHVDC Connection Customer's Connection Facilities will be between the MHVDC Transmission Line located at ~~{_____}~~ Montgomery-McCredie-5470 345 kV Line, ~0.5 mi from McCredie to the Point of Change of Ownership located at ~~{_____}~~ the dead-end structure inside the proposed Burns substation fence. The site for the MHVDC Connection Customer's Connection Facilities is depicted in the drawing attached hereto as Exhibit B1.

General Description of Transmission Owner's Connection Facilities

The Transmission Owner will design, construct, own and operate the Transmission Owner's Connection Facilities. The Transmission Owner's Connection Facilities will be between the Point of Change of Ownership located at ~~{_____}~~ the dead-end structure inside the proposed Burns substation fence to the Point of Connection located at ~~{_____}~~ Montgomery-McCredie-5470 345 kV Line, ~0.5 mi from McCredie. The site for the Transmission Owner's Customer's Connection Facilities is depicted in the drawing attached hereto as Exhibit B2.

~~{insert description of the~~ **1. Transmission Owner's Connection Facilities** ~~}~~ -

The Transmission Owner Connection Facilities will consist of one 345 kV terminal in the proposed Burns substation. The terminal will consist of all necessary terminal equipment to connect the J1488-J1490 leadline to the Burns substation 345 kV bus.

Major Items:

- One (1) 345 kV steel dead-end arbor structure
- One (1) 345 kV motor operated disconnect switch, 3000A rated
- Three (3) 345 kV surge arresters
- Three (3) 345 kV potential/voltage transformers
- Three (3) 345 kV current transformers

- Revenue metering
- One (1) line relay panel (SEL 411L and SEL 311C)
- One fiber patch panel housing, fiber splice box, and fiber termination in the control house
- Bus and Fittings: 2500 AAC (2) wire conductor with bolted aluminum bus connectors, fittings, and terminals
- Insulators: high -strength porcelain station post insulators
- Foundations: designed per Transmission Owner standard design criteria
- Structures: steel tapered tube style

General Description of Any Necessary Upgrades

[insert description of the Necessary Upgrades]

1. Construct Montgomery 345kV Substation BAAH Leg

Ameren will expand the Montgomery BAAH to accommodate two new Burns lines into Montgomery:

- Six (6) 345 kV Motor-Operated Disconnect Switches, 3000A
- Three (3) 345kV Circuit Breakers
- Six (6) 345 kV Coupling Capacitor Voltage Transformers
- Six (6) 345 kV Surge Arresters
- Bus and Fittings: Six inch and Five inch aluminum tube with portions of 2500 AAC (2) wire conductor with a combination of welded and bolted aluminum bus connectors, fittings, and terminals
- Structures: steel tapered tube style
- Insulators: Extra High Strength 345 kV porcelain station post insulators
- Relaying and Control: Two (2) line & breaker protection relay panels, one (1) breaker control panels
- Foundations: Designed per Transmission Owner standard design criteria
- Structures: Steel tapered tube style

2. Upgrade Bus #2 at Moreau Substation

Upgrade 161kV Bus 2 to 1200A capability by upgrading strain bus, remove 954 kcmil ACSR with 1590 kcmil AAC. Strain bus runs from H2 C448 switch to H3 C508 switch.

Major Items:

- 1590 AAC (2), and 1590 AAC (1) wire conductor with a combination of welded and bolted aluminum bus connectors, fittings, and terminals
- High Strength 161 kV porcelain station post insulators

3. Expansion of Burns Substation for two new 345kV Lines to Montgomery

Ameren will complete out the six-position ring bus to accommodate two new Montgomery Lines:

- Five (5) 345 kV Motor-Operated Disconnect Switches, 3000A
- Two (2) 345kV Circuit Breakers
- Six (6) 345 kV Coupling Capacitor Voltage Transformers
- Six (6) 345 kV Surge Arresters
- Bus and Fittings: Six inch and Five inch aluminum tube with portions of 2500 AAC (2) wire conductor with a combination of welded and bolted aluminum bus connectors, fittings, and terminals
- Structures: steel tapered tube style
- Insulators: Extra High Strength 345 kV porcelain station post insulators
- Relaying and Control: Two (2) line & breaker protection relay panels
- Foundations: Designed per Transmission Owner standard design criteria
- Structures: Steel tapered tube style

4. Construct Two (2) New Montgomery - Burns – 345 kV Transmission Lines

Transmission Owner will build two (2) 345kV transmission tie lines between the new Burns and existing Montgomery stations to reduce the overload identified in the Ameren System Impact Study.

Tie Line #1: Transmission Owner will install two-hundred and forty (240) direct embed steel H-Frame transmission line structures, and twenty-seven (27) steel 3-pole dead end structures on foundation.

Major Items:

- Two-Hundred and Forty (240) Tangent Light Duty Direct Embed Steel Transmission Structures
- Twenty-Seven (27) Heavy Angle Steel Transmission Structures on Drilled Pier Foundation
- Conductor/Shield Wire
- Typical 345 kV insulators
- Compression type connectors
- Required 150' wide easement

Tie Line #2: Transmission Owner will install two-hundred and forty (240) direct embed steel H-Frame transmission line structures, and twenty-seven (27) steel 3-pole dead end structures on foundation.

Major Items:

- Two-Hundred and Forty (240) Tangent Light Duty Direct Embed Steel Transmission Structures
- Twenty-Seven (27) Heavy Angle Steel Transmission Structures on Drilled Pier Foundation
- Conductor/Shield Wire

- Typical 345 kV insulators
- Compression type connectors
- Required 150' wide easement

5. Reconductor 6.8mi of the Big Creek – Warrenton 161kV Transmission Line

Reconductor 6.8 miles of the existing 161kV Big Creek – Warrenton Transmission Line to increase ampacity to 1600A.

Transmission Owner will install one (1) double circuit dead end steel monopole on drilled pier foundation. New structure will replace existing one.

Major Items:

- One (1) 345kV/161kV Dead End Monopole Transmission Structure on Drilled Pier Foundation
- Conductor / Shield Wire
- Typical 161/345kV insulators
- Compression type connectors

6. Re-route existing Montgomery-Spencer Creek 345kV Transmission Line to new arbor position at Montgomery Substation

Re-Route existing 345kV Transmission line 0.3 miles to a new arbor position to optimize substation layout for the new tie lines needing to be connected.

Transmission Owner will install three (3) 345kV Heavy Angle Steel 3-pole structures on foundation.

Major Items:

- Three (3) 345kV Heavy Angle Steel Dead End Structures on Drilled Pier Foundations
- Conductor / Shield Wire
- Typical 345kV insulators
- Compression type connectors

7. Re-route two (2) existing 345kV Montgomery-Callaway Transmission Lines to new arbor positions at Montgomery Substation

Re-Route (2) existing 345kV Transmissions lines to a new arbor position to optimize substation layout for the new tie lines needing to be connected.

Transmission Owner will install one (1) double circuit 345kV Heavy Angle Steel Dead-end monopole transmission line structure on foundation, this will replace existing structure.

Major Items:

- One (1) 345kV Double Circuit Heavy Angle Steel Dead End Structures on Drilled Pier Foundations
- Conductor / Shield Wire
- Typical 345kV insulators
- Compression type connectors

8. Re-route existing 345kV Belleau-Montgomery Transmission Line to new arbor positions at Montgomery Substation

Re-Route existing 345kV Transmission line to a new arbor position to optimize substation layout for the new tie lines needing to be connected.

Major Items:

- Conductor / Shield Wire
- Typical 345kV insulators
- Compression type connectors

9. Expansion of Burns Substation for new 345kV J1488/1490 Line

Ameren will complete out the six-position ring bus to accommodate one new J1488/1490 Line

Major Items:

- Two (2) 345 kV Motor-Operated Disconnect Switches, 3000A
- One (1) 345kV Circuit Breakers
- Three (3) 345 kV Coupling Capacitor Voltage Transformers
- Three (3) 345 kV Surge Arresters
- Bus and Fittings: 2500 AAC (2) wire conductor with a combination of welded and bolted aluminum bus connectors, fittings, and terminals
- Structures: steel tapered tube style
- Insulators: Extra High Strength 345 kV porcelain station post insulators
- Relaying and Control: One (1) breaker protection relay panel
- Foundations: Designed per Transmission Owner standard design criteria
- Structures: Steel tapered tube style

NETWORK UPGRADES

1. Belle Tap-Gasco Tap 138 kV Line

Transmission Owner will rebuild 7 miles of the Bland-Miller 138kV transmission line. Transmission Owner will install 1200A conductor, shield wire, five (5) direct embed steel dead end structures, and sixty-five (65) direct embed steel tangent H-frames. These new structures will replace existing ones.

2. Belle Tap-Meta Tap 138 kV Line

Transmission Owner will rebuild 20.7 miles of the Bland-Miller 138kV transmission line. Transmission Owner will install 1200A conductor, shield wire, six (6) direct embed steel dead end structures, and one hundred and ninety-four (194) direct embed tangent steel H-frames. These new structures will replace existing ones. A new river crossing will be required as part of this rebuild.

3. Bland-Gasco Tap 138 kV Line

Transmission Owner will rebuild 8.3 miles of the Bland-Miller 138kV transmission line. Transmission Owner will install 1200A conductor, shield wire, three (3) direct embed steel dead end structures, and eighty-two (82) direct embed tangent steel Hframes , these new structures will replace existing ones.

4. Miller-Meta Tap 138 kV Line

Transmission Owner will rebuild 11 miles of the Bland-Miller 138kV transmission line. Transmission Owner will install 1200A conductor, shield wire, eight (8) direct embed steel dead end structures, and ninety-two (92) direct embed tangent steel Hframes , these new structures will replace existing ones. A river crossing will be required as part of this rebuild.

5. Warrenton-Montgomery-3 161 kV Line

Transmission Owner will reconductor 17.6 miles of existing 161kV transmission line. Transmission Owner will install 1600A conductor and eight (8) double circuit heavy angle dead-end monopoles on drilled pier foundation to support the new conductor.

Major Items for Network Upgrades 1-5 listed above:

- Four-Hundred and Thirty Three (433) 138 kV direct embed steel tangent H frame structures
- Twenty-Two (22) 138 kV direct embed steel dead end structures
- Eight (8) Double circuit 161kV/345kV steel monopole dead end structures on drilled pier foundation.
- Conductor / Shield Wire
- Typical 138 kV / 161kV / 345kV insulators
- Compression type connectors

Exhibits – The following exhibits are included:

- B1. MHVDC Connection Customer One-Line and Site Map
 - B1-1:- ~~MHVDC Connection Customer One-Line Diagram~~
 - B1-2:- ~~Connection Project Site Map~~
- B2. Transmission Owner One ~~Line~~Lines and System ~~Map~~Maps Moreau Substation Upgrade
 - B2-1: Burns Substation Expansion for H104/H105 and J1488/1490
 - B2-2: Montgomery Substation Reconfiguration for Two New 345kV Burns Lines
 - B2-3: Construct Two (2) New Montgomery - Burns – 345 kV Transmission Owner's One Line
 - ~~B2-2;~~B2-4: Belle Tap – Gasco Tap 138kV Transmission Owner's Necessary Upgrade-mapLine
 - B2-5: Belle Tap – Meta Tap 138kV ~~B3. —~~Transmission ~~Owner Substation General Arrangement~~Line
 - B2-6: Bland – Gasco Tap 138kV Transmission Line
 - B2-7: Miller – Meta Tap 138kV Transmission Line
 - B2-8: Warrenton-Montgomery-3 138kV Transmission Line
- B3. {Reserved}
- B4. {Reserved}
- B5. Facilities to be Constructed by Transmission Owner
- B6. Detailed Costs of Facilities to be Constructed by Transmission Owner
- B7. ~~Necessary Upgrades to be Constructed by~~ Transmission Owner
- ~~B8. —~~Transmission Owner's ~~Connection~~ Facilities to be Constructed by MHVDC Connection Customer
- B8. —Detailed Costs of Transmission Owner's Facilities to be Constructed by MHVDC Connection Customer
- B9. Facilities Subject to Transmission Owner Reimbursement
- B10. Contingent Facilities
- B11. MHVDC Connection Customer Milestones
- B12. Construction and Coordination Schedules
- B13. Permits, Licenses, Regulatory Approvals and Authorization

B14. {Reserved}

Exhibit B1. MHVDC Connection Customer One-Line and Site Map
B1-1: MHVDC Connection Customer One-Line Diagram

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit **B1-2: Connection Project Site Map**

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit B2. Transmission Owner One ~~Line~~Lines and System ~~Map~~Maps Moreau Substation Upgrade

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit B2-1. Burns Substation Expansion for H104/H105 and J1488/1490

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit B2-2. Montgomery Substation Reconfiguration for Two New 345kV Burns Lines

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit B2-3. Construct Two (2) New Montgomery - Burns – 345 kV Transmission ~~Owner's One Line~~ Lines
~~B2-2:~~

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit B2-4. Belle Tap – Gasco Tap 138kV Transmission ~~Owner's Necessary Upgrades map~~Line

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit B2-5. Belle Tap – Meta Tap 138kV ~~B3. — Transmission Owner Substation General Arrangement~~ Line

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit B2-6. Bland – Gasco Tap 138kV Transmission Line

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit B2-7. Miller – Meta Tap 138kV Transmission Line

CUI//CEII MATERIAL – DO NOT RELEASE

Exhibit B2-8. Warrenton-Montgomery-3 138kV Transmission Line

CUI//CEII MATERIAL – DO NOT RELEASE

B3. {Reserved}

B4. {Reserved}

Exhibit B5. Facilities to be Constructed by Transmission Owner

Table B5-1 – Necessary Upgrades

<u>Location</u>	<u>Facilities to be Financed and Constructed by Transmission Owner</u>	<u>Estimated Cost</u>
New Florence County, Missouri	Construct Montgomery 345kV Bus.	\$ 5,024,000
Description of Upgrade Jefferson City, Missouri	Upgrade Classification Bus #2 at Moreau Substation.	\$ 178,000 Estimated Cost*
{insert} . Callaway County, Missouri	{insert} Expansion of Burns Substation for two new 345kV Lines to Montgomery.	\$(insert)\$ 4,550,000
Randolph and Ralls County, Missouri	Construct Two (2) New Montgomery - Burns – 345 kV Transmission Lines.	\$ 126,524,000
Warrenton, Missouri	Reconductor 6.8mi of the Big Creek – Warrenton 161kV Transmission Line.	\$ 2,579,000
New Florence County, Missouri	Re-route existing Montgomery-Spencer Creek 345kV Transmission Line to new arbor position at Montgomery Substation.	\$ 1,674,000
New Florence County, Missouri	Re-route two (2) existing 345kV Montgomery-Callaway Transmission Lines to new arbor positions at Montgomery Substation.	\$ 675,000
New Florence County, Missouri	Re-route existing 345kV Belleau-Montgomery Transmission Line to new arbor positions at Montgomery Substation.	\$ 275,000
Callaway County, Missouri	Expansion of Burns Substation for 345kV J1488/1490 Line.	\$ 1,355,000
	Total:	\$ 142, 834,000

* Estimated costs are in 2022 dollars, do not include tax gross-up or escalation, and are accurate to ±20%. Projects H104 and H105 must document that they satisfy the 'safe harbor' requirements for tax gross-up under IRS Notice 2016-36.

Table B5-2 – Network Upgrades

<u>Location</u>	<u>Facilities to be Financed and Constructed by Transmission Owner</u>	<u>Estimated Cost*</u>
Belle and Bland, MO	Belle Tap-Gasco Tap 138 kV line.	\$ 7,782,000
Belle and Meta, MO	Belle Tap-Meta Tap 138 kV line.	\$ 31,379,000
Bland, MO	Bland-Gasco Tap 138 kV line.	\$ 9,783,000
Henly and Meta, MO	Miller-Meta Tap 138 kV line.	\$ 19,354,000
Warrenton and	Warrenton-Montgomery-3 161 kV line upgrades.	\$ 4,565,000

<u>Location</u>	<u>Facilities to be Financed and Constructed by Transmission Owner</u>	<u>Estimated Cost*</u>
<u>New Florence, MO</u>		
	Total:	\$ 72,863,000

* Estimated costs are in 2023 dollars, do not include tax gross-up or escalation, and are accurate to ±20%. Projects J1488 and J1490 must document that they satisfy the 'safe harbor' requirements for tax gross-up under IRS Notice 2016-36.

Table B5-3 – Connection Facilities

<u>Location</u>	<u>Facilities to be Financed and Constructed by Transmission Owner</u>	<u>Estimated Cost*</u>
<u>Callaway County, MO</u>	<u>Construct Transmission Owner's Connection Facilities at the Burns substation (For J1488/1490 Terminal).</u>	<u>\$ 1,319,000</u>
	Total:	\$ 1,319,000

* Estimated costs are in 2023 dollars, do not include tax gross-up or escalation, and are accurate to ±20%. Projects J1488 and J1490 must document that they satisfy the 'safe harbor' requirements for tax gross-up under IRS Notice 2016-36.

Exhibit B6. Detailed Costs of Facilities to be Constructed by Transmission Owner

**Exhibit B7.—Transmission Owner Facilities to be Constructed
by MHVDC Connection Customer**

Description of Upgrade <u>Construct Montgomery 345kV Bus</u>	Upgrade Classificati on	Estimated Cost*
<u>{insert}Engineering, Drafting, & Project Management</u>	<u>{insert}\$ 556,338</u>	<u> \${insert}</u>
<u>{insert}Material</u>	<u>{insert}\$ 2,523,872</u>	<u> \${insert}</u>
<u>Construction & Construction Oversight</u>	<u>\$ 1,315,083</u>	
<u>Indirect Overheads</u>	<u>\$ 628,707</u>	
<u>Total</u>	<u>\$ 5,024,000</u>	

Upgrade Bus #2 at Moreau Substation

<u>Engineering, Drafting, & Project Management</u>	<u>\$ 113,958</u>
<u>Material</u>	<u>\$ 8,167</u>
<u>Construction & Construction Oversight</u>	<u>\$ 29,338</u>
<u>Indirect Overheads</u>	<u>\$ 26,537</u>
<u>Total</u>	<u>\$ 178,000</u>

**Expansion of Burns 345 kV Substation to accommodate two new
lines**

<u>Engineering, Drafting, & Project Management</u>	<u>\$ 461,171</u>
<u>Material</u>	<u>\$ 2,337,275</u>
<u>Construction & Construction Oversight</u>	<u>\$ 1,187,152</u>
<u>Indirect Overheads</u>	<u>\$ 564,402</u>
<u>Total</u>	<u>\$ 4,550,000</u>

**Construct Two (2) New Montgomery - Burns – 345 kV
Transmission Lines**

<u>Engineering, Drafting, & Project Management</u>	<u>\$ 1,302,281</u>
<u>Material</u>	<u>\$ 56,433,928</u>
<u>Construction & Construction Oversight</u>	<u>\$ 49,925,452</u>
<u>Indirect Overheads</u>	<u>\$ 18,862,339</u>
<u>Total</u>	<u>\$ 126,524,000</u>

**Reconductor 6.8mi of the Big Creek – Warrenton 161kV
Transmission Line**

<u>Engineering, Drafting, & Project Management</u>	<u>\$ 255,591</u>
<u>Material</u>	<u>\$ 712,592</u>
<u>Construction & Construction Oversight</u>	<u>\$ 1,240,560</u>
<u>Indirect Overheads</u>	<u>\$ 370,257</u>

<u>Total</u>	<u>\$ 2,579,000</u>
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**Re-route existing Montgomery-Spencer Creek 345kV
Transmission Line to new arbor position at Montgomery
Substation**

<u>Engineering, Drafting, & Project Management</u>	<u>\$ 88,251</u>
<u>Material</u>	<u>\$ 65,821</u>
<u>Construction & Construction Oversight</u>	<u>\$ 1,271,672</u>
<u>Indirect Overheads</u>	<u>\$ 248,256</u>
<u>Total</u>	<u>\$ 1,674,000</u>

**Re-route two (2) existing 345kV Montgomery-Callaway
Transmission Lines to new arbor positions at Montgomery
Substation**

<u>Engineering, Drafting, & Project Management</u>	<u>\$ 88,313</u>
<u>Material</u>	<u>\$ 201,166</u>
<u>Construction & Construction Oversight</u>	<u>\$ 286,608</u>
<u>Indirect Overheads</u>	<u>\$ 98,913</u>
<u>Total</u>	<u>\$ 675,000</u>

**Re-route existing 345kV Belleau-Montgomery Transmission Line
to new arbor positions at Montgomery Substation**

<u>Engineering, Drafting, & Project Management</u>	<u>\$ 84,602</u>
<u>Material</u>	<u>\$ 33,676</u>
<u>Construction & Construction Oversight</u>	<u>\$ 116,224</u>
<u>Indirect Overheads</u>	<u>\$ 40,498</u>
<u>Total</u>	<u>\$ 275,000</u>

**Construct Transmission Owner's Connection Facilities at the
Burns Substation**

<u>Engineering, Drafting, & Project Management</u>	<u>\$ 286,546</u>
<u>Procurement of Material and Equipment</u>	<u>\$ 487,238</u>
<u>Construction & Construction Oversight</u>	<u>\$ 380,202</u>
<u>Indirect Overheads</u>	<u>\$ 165,014</u>
<u>Total</u>	<u>\$ 1,319,000</u>

**Expansion of Burns 345 kV Substation to accommodate new line
for Transmission Owner**

<u>Engineering, Drafting, & Project Management</u>	<u>\$ 377,000</u>
<u>Material</u>	<u>\$ 614,000</u>
<u>Construction & Construction Oversight</u>	<u>\$ 201,000</u>
<u>Indirect Overheads</u>	<u>\$ 163,000</u>
<u>Total</u>	<u>\$ 1,355,000</u>

Belle Tap-Gasco Tap 138 kV line

<u>Engineering, Drafting, & Project Management</u>	\$ 185,249
<u>Procurement of Material and Equipment</u>	\$ 2,132,490
<u>Construction & Construction Oversight</u>	\$ 4,356,775
<u>Indirect Overheads</u>	\$ 1,107,486
<u>Total</u>	\$ 7,782,000

Belle Tap-Meta Tap 138 kV line

<u>Engineering, Drafting, & Project Management</u>	\$ 221,385
<u>Procurement of Material and Equipment</u>	\$ 5,790,259
<u>Construction & Construction Oversight</u>	\$ 21,865,357
<u>Indirect Overheads</u>	\$ 3,501,999
<u>Total</u>	\$ 31,379,000

Bland-Gasco Tap 138 kV line

<u>Engineering, Drafting, & Project Management</u>	\$ 174,054
<u>Procurement of Material and Equipment</u>	\$ 2,477,293
<u>Construction & Construction Oversight</u>	\$ 5,778,173
<u>Indirect Overheads</u>	\$ 1,353,480
<u>Total</u>	\$ 9,783,000

Miller-Meta Tap 138 kV line

<u>Engineering, Drafting, & Project Management</u>	\$ 139,040
<u>Procurement of Material and Equipment</u>	\$ 3,077,713
<u>Construction & Construction Oversight</u>	\$ 14,303,248
<u>Indirect Overheads</u>	\$ 1,833,999
<u>Total</u>	\$ 19,354,000

Warrenton-Montgomery-3 161 kV line upgrades

<u>Engineering, Drafting, & Project Management</u>	\$ 380,565
<u>Procurement of Material and Equipment</u>	\$ 2,121,415
<u>Construction & Construction Oversight</u>	\$ 1,399,164
<u>Indirect Overheads</u>	\$ 663,856
<u>Total</u>	\$ 4,565,000

Exhibit B7.

~~*These cost estimates are from Transmission Owner. These will be constructed by MHVDC Connection Customer. Cost estimates will be revised by MHVDC Connection Customer once the engineering, procurement, and construction agreement is complete.~~ Transmission Owner
Facilities to be Constructed by MHVDC Connection Customer

None.

**Exhibit B8. Detailed Costs of Transmission Owner's Facilities to be Constructed by
MHVDC Connection Customer**

None.

Exhibit B9. Facilities Subject to Transmission Owner Reimbursement

None.

Exhibit B10. Contingent Facilities

None.

Exhibit B11. MHVDC Connection Customer Milestones

[See Appendix C.](#)

Exhibit B12. Construction and Coordination Schedules

See Appendix C.

Exhibit B13. Permits, Licenses, Regulatory Approvals and Authorization

Construction of the Transmission Owner's Interconnection Facilities and Network Upgrades is conditioned on receipt by Transmission Owner of approval from any jurisdiction having authority over the construction. No approvals, except approvals for outages, are contemplated.

For avoidance of doubt, certain Necessary Upgrades identified in Appendix B have been identified as facilities that may require state regulatory approval before the Transmission Owner can begin construction on said facilities. These regulatory approvals are a condition precedent to the Transmission Owner's ability to perform construction work on its Necessary Upgrades which require regulatory approvals. While Transmission Owner reasonably believes that said approval can be obtained in a time frame consistent with the milestones identified in Appendix B, Table A contained herein, failure to obtain these approvals in a timely manner may have an impact on viability of said milestone schedule.

Permits required for the transmission line Network Upgrade will be the responsibility of the Transmission Owner.

Exhibit B14. {Reserved}

APPENDIX C

TRANSMISSION CONNECTION AGREEMENT

by and among

~~{Transmission Owner},~~

~~{MHVDC Connection Customer},~~

Ameren Services Company as agent for Union Electric Company d/b/a Ameren Missouri,
Grain Belt Express LLC,

and

Midcontinent Independent System Operator, Inc.

MILESTONES

The **Commercial Operation Date** shall be 07/01/2031

The **Initial Synchronization Date** shall be ^{*}01/01/2031

The **In-Service Date** shall be ^{*}12/01/2030

*These dates are dependent upon system conditions in the area that will allow a line outage for cut in to take place

**Table A: MILESTONES FOR MHVDC CONNECTION
CUSTOMER CONNECTION FACILITIES**

No.	Description	Date
1.	MHVDC Connection Customer to commence detailed design, engineering, and equipment procurement for MHVDC Connection Customer Connection Facilities.	{TBD} <u>12/09/2022 – Complete.</u>
2.	MHVDC Connection Customer to commence construction activities for MHVDC Connection Customer Connection Facilities.	{TBD} <u>12/01/2024</u>
3.	<u>MHVDC Connection Customer Connection Facilities construction complete and ready for back-feed.</u>	<u>12/01/2027</u>
34.	<u>Ameren ready to provide</u> In-Service Date for MHVDC Connection Customer Connection Facilities.	{TBD} <u>12/01/2030</u>

**Table B-1: MILESTONES FOR TRANSMISSION OWNER CONNECTION
FACILITIES AND NECESSARY UPGRADES**

	<u>NO.</u>	<u>MILESTONES</u>	<u>SCHEDULE DATE</u>	<u>SECURITY</u>
No 1	Description	Date Effective Date of a Transmission Construction Agreement for the Connection Facilities and Necessary Upgrades described in this Network Upgrade Facilities Study Report.	Estimated to be December 11, 2023.	
	2.	Customer to provide to Transmission Owner cash payment for 10% of the estimated cost of the Connection Facilities and Necessary Upgrades to be constructed under the TCA. The total amount of the payment is \$14,415,300.	January 15, 2024.	\$14,415,300

<u>NO.</u>	<u>MILESTONES</u>	<u>SCHEDULE DATE</u>	<u>SECURITY</u>
<u>3.</u>	<u>Ameren to begin engineering and design of the Connection Facilities and Necessary Upgrades to be constructed by Transmission Owner under the TCA.</u>	<u>January 30, 2024.</u>	
<u>4a.*</u>	Transmission Owner Ameren to commence detailed design, engineering, and equipment <u>begin</u> procurement of <u>long-lead equipment and material</u> for Transmission Owner <u>the</u> Connection Facilities and any upgrades <u>Necessary Upgrades</u> to be constructed by Transmission Owner under the TCA. Additional security for Procurement to be provided.	{TBD} <u>Procurement to begin upon receipt of initial payment.</u> <u>February 1, 2024.</u>	<u>See footnote below.</u>
<u>4b.</u>	<u>Ameren to acquire easements for Transmission Right of Way.</u>	<u>June 1, 2027.</u>	

<u>NO.</u>	<u>MILESTONES</u>	<u>SCHEDULE DATE</u>	<u>SECURITY</u>
<u>25.*</u>	Transmission Owner Ameren to commence <u>begin</u> construction activities for Transmission Owner of the Connection Facilities and any upgrades <u>Necessary Upgrades to be constructed by Transmission Owner under the TCA. Additional security for Construction to be provided.</u>	{TBD} <u>February 1, 2026.</u>	<u>See footnote below.</u>
<u>6.</u>	<u>In Service Date, by which Ameren to complete the Connection Facilities and Necessary Upgrades to be constructed by Transmission Owner under the TCA.</u>	<u>December 1, 2030.</u>	

<u>NO.</u>	<u>MILESTONES</u>	<u>SCHEDULE DATE</u>	<u>SECURITY</u>
<u>37.</u>	In-Service Date for Transmission Owner to provide to Customers an accounting of the actual cost of the Connection Facilities and any upgrades Necessary Upgrades constructed by Transmission Owner under the TCA (TCA Article 20.2).	{TBD} Within six (6) months after completion of the Common Use Upgrade.	

* If any milestones outlined in the table above are missed and/or delayed by the Interconnection Customer, the requested In-Service Date of December 1, 2030, would be put at risk. The security milestones that are included in this agreement in Appendix C, Table B-1 shall be adjusted/ revised, with such milestone adjustments/ revisions to be as agreed upon by Transmission Owner and Interconnection Customer, once the Ameren project team is assembled, a cash flow is developed, and the sequence of work is developed. The Ameren project team shall provide cash flow updates on or before January 31, 2024 with security in place, based on the cash flow, by February 28, 2024 and, in the proceeding years, cash flow updates by November 30th for the following year with security in place by December 31st for the following year. Invoices for payment of the expenses occurred for the year shall be issued in accordance with Article 20.1. If the sum of actual expenses and next two month forecasted expenses exceed 90% of security on hand, Ameren will provide an updated forecast of remaining cash flows for the year, Interconnection Customer shall have 20 business days to provide additional security. Ameren is allowing staged security for the various activities to be performed under this Transmission Connection Agreement due to the unique nature of this project. The total estimated cost of the Necessary Upgrades and Connection Facilities is indicated in Exhibit B5, Table B5-1.

The schedule:

- is estimated and is not guaranteed.
- may be impacted if Interconnection Customer has not obtained necessary easements
- may be impacted by poor weather.
- is based on working five business days per week.
- assumes Transmission Provider and Transmission Owner conditions allow transmission outages as required and without delay.
- assumes material lead times will be similar to recent purchases of similar equipment.
- assumes Transmission Owner has resolved any permit, jurisdictional, and regulatory issues prior to the scheduled start of construction.

- assumes that all Customers will provide to the Transmission Owner all necessary security in accordance with the milestones so as to prevent delays in the schedule.
- Has an In service date contingent upon acquiring easements by June 2027.

Table B-2: MILESTONES FOR TRANSMISSION OWNER NETWORK UPGRADES

<u>NO.</u>	<u>MILESTONES</u>	<u>SCHEDULE DATE</u>	<u>SECURITY AMOUNT</u>
<u>1.</u>	<u>Effective Date of a Transmission Construction Agreement for the Network Upgrades described in this Network Upgrade Facilities Study Report.</u>	<u>December 11, 2023.</u>	
<u>2.</u>	<u>Customer to provide to Transmission Owner cash payment for 10% of the estimated cost of the Network Upgrades to be constructed under the TCA. The total amount of the initial payment is \$7,286,300.</u>	<u>January 25, 2024.</u>	<u>\$7,286,300</u>
<u>3.</u>	<u>Ameren to begin engineering and design of the Network Upgrades to be constructed by Transmission Owner under the TCA.</u>	<u>February 5, 2024.</u>	
<u>4.*</u>	<u>Ameren to begin procurement of longlead- equipment and material for the Connection Facilities and Necessary Upgrades to be constructed by Transmission Owner under the TCA. Additional security for Procurement to be provided.</u>	<u>Procurement to begin upon receipt of initial payment.</u> <u>February 1, 2024.</u>	<u>See footnote below.</u>
<u>5.*</u>	<u>Ameren to begin construction of the Network Upgrades to be constructed by Transmission Owner under the TCA. Additional security for Construction to be provided.</u>	<u>June 1, 2027 (dates to be adjusted pending detailed outage review).</u>	<u>See footnote below</u>
<u>6.</u>	<u>In Service Date, by which Ameren to complete the Network Upgrades to be constructed by Transmission Owner under the TCA.</u>	<u>December 1, 2030.</u>	
<u>7.</u>	<u>Transmission Owner to provide to Customers an accounting of the actual cost of the Network Upgrades constructed by Transmission Owner under the TCA.</u>	<u>Within six (6) months after completion of the Common Use Upgrade.</u>	

<u>NO.</u>	<u>MILESTONES</u>	<u>SCHEDULEDATE</u>	<u>SECURITY AMOUNT</u>
8.	<u>Transmission Owner and each Customer to enter into a service agreement by which Transmission Owner will recover the Customer's allocated revenue requirement for the Network Upgrades financed and constructed by Transmission Owner.</u>	<u>Within sixty (60) days of execution of this agreement.</u>	

* If any milestones outlined in the table above are missed and/or delayed by the Interconnection Customer, the requested In-Service Date of December 1, 2030, would be put at risk. The security milestones that are included in this agreement in Appendix C, Table B-2 shall be adjusted/revised, with such milestone adjustments/revisions to be as agreed upon by Transmission Owner and Interconnection Customer, once the Ameren project team is assembled, a cash flow is developed, and the sequence of work is developed. The Ameren project team shall provide cash flow updates on or before January 31, 2024 with security in place, based on the cash flow, by February 28, 2024 and, in the proceeding years, cash flow updates by November 30th for the following year with security in place by December 31st for the following year until all phases are complete. The security shall be reasonably phased in order to cover expected expenses for the engineering, procurement, and construction, as those activities occur for that year. If the sum of actual expenses and next two month forecasted expenses exceed 90% of security on hand, Ameren will provide an updated forecast of remaining cash flows for the year. Interconnection Customer shall have 20 business days to provide additional security. Ameren is allowing staged security for the various activities to be performed under this Transmission Connection Agreement due to the unique nature of this project. The total estimated cost of the Network Upgrades is indicated in Exhibit B5, Table B5-2.

The schedule:

- is estimated and is not guaranteed.
- may be impacted if Interconnection Customer has not obtained necessary easements
- may be impacted by poor weather.
- is based on working five business days per week.
- assumes Transmission Provider and Transmission Owner conditions allow transmission outages as required and without delay.
- assumes material lead times will be similar to recent purchases of similar equipment.
- assumes Transmission Owner has resolved any permit, jurisdictional, and regulatory issues prior to the scheduled start of construction.
- assumes that all Customers will provide to the Transmission Owner all necessary security in accordance with the milestones so as to prevent delays in the schedule.

**Table C: MILESTONES FOR TRANSMISSION OWNER
CONNECTION FACILITIES AND NECESSARY UPGRADES
TO BE CONSTRUCTED BY MHVDC CONNECTION CUSTOMER**

[None.](#)

**Table D: MILESTONES FOR AFFECTED SYSTEM UPGRADES
TO BE CONSTRUCTED BY AFFECTED SYSTEMS TRANSMISSION OWNERS**

No. N	Description <u>MILESTONES</u>	Date <u>SCHEDULE DATE</u>
1	Parties Execution of Engineering, Procurement, and Construction Agreement (“EPC Agreement”)	{TBD}
2	MHVDC Connection Customer to commence detailed design, engineering, and equipment procurement for Transmission Owner Connection Facilities and Necessary Upgrades	{TBD}
3	MHVDC Connection Customer to provide design packages from EPC Agreement to Transmission Owner for review and approval prior to commencing construction activities	{TBD}
4	Transmission Owner to file application(s) to Governmental Authority(ies) for required permits, licenses, or authorizations, if any	{TBD}
5	MHVDC Connection Customer to commence construction activities for Transmission Owner Connection Facilities and Necessary Upgrades	{TBD}
6	In Service Date identified in EPC Agreement	{TBD}

No. <u>N</u>	Description <u>MILESTONES</u>	Date <u>SCHEDULE</u> <u>DATE</u>
71.	<p>MHVDC Connection Customer is responsible to make a payment to <u>enter into necessary agreements with Affected System</u> Owner for taxes associated with the transfer <u>it's share of ownership of</u> Transmission Owner Connection Facilities and Necessary Upgrades. <u>following upgrades:</u></p> <ul style="list-style-type: none"> • <u>AECI</u> <ul style="list-style-type: none"> ○ <u>Detailed SSTI study for potential SSTI issue on Thomas Hill unit #3</u> ○ <u>Relieve constraint 300061 5BOONE 161 300519 5MLRSBGB1 161 1</u> ○ <u>Relieve constraint 300194 2CHILLI 69.0 300218 5CHILLIS 161 1</u> ○ <u>Relieve constraint 300193 2AVLON 69.0 300199 2HALE 69.0 1</u> ○ <u>Relieve constraint 300199 2HALE 69.0 300201 2INGROV 69.0 1</u> ○ <u>Relieve constraint 300387 2BEVIER 69.0 301623 2BEVIERTP 69.0 1</u> ○ <u>Relieve constraint 300400 2MACNLK 69.0 301623 2BEVIERTP 69.0 1</u> ○ <u>Relieve constraint 300388 2AXTELL 69.0 300400 2MACNLK 69.0 1</u> ○ <u>Relieve constraint 300388 2AXTELL 69.0 300401 2MACNTP 69.0 1</u> ○ <u>Relieve constraint 300398 2LOVELK 69.0 300401 2MACNTP 69.0 1</u> ○ <u>Relieve constraint 300336 2HOLDEN 69.0 300124 5HOLDENB2 161 1</u> ○ <u>Relieve constraint 300327 2ELM 69.0 300336 2HOLDEN 69.0 1</u> ○ <u>Relieve constraint 300173 2GOBKNOB 69.0 301218 2PBSOUTH 69.0 1</u> ○ <u>Relieve constraint 300115 5STFRANB2 161 338202 5JIM HILL% 161 1</u> ○ <u>Relieve constraint 300133 5THMHLB3 161 344004 5ADAIR1 161 1</u> ○ <u>Relieve constraint 300126 5MOBTAP 161 345221 5MOBERLY 1 161 1</u> ○ <u>Relieve constraint 301251 2VANDSR 69.0 301255 2MORLEY 69.0 1</u> • <u>Ameren Illinois</u> <ul style="list-style-type: none"> ○ <u>PLMY-MRBN 161 kV line Rebuild</u> ○ <u>New Marblehead N 161/138 kV transformer</u> 	{TBD} Prior to Commercial Operation Date
8	MHVDC Connection Customer to transfer ownership of Transmission Owner Connection Facilities and Necessary Upgrades to be owned by Transmission Owner.	{TBD}

APPENDIX D

TRANSMISSION CONNECTION AGREEMENT

by and among

~~{Transmission Owner},~~

~~{MHVDC Connection Customer},~~

Ameren Services Company as agent for Union Electric Company d/b/a Ameren Missouri,

Grain Belt Express LLC, and

Midcontinent Independent System Operator, Inc.

METERING AND TELEMETERING EQUIPMENT

- 1.1 General.** Each Party shall comply with the Applicable Reliability Council requirements. Unless otherwise agreed by the Parties, Transmission Owner, at its election, or otherwise MHVDC Connection Customer, shall install Metering Equipment (the "Metering Party") at the Point of Connection prior to any operation of the Connection Facilities and Transmission Owner, at its election, or otherwise MHVDC Connection Customer shall own, operate, test and maintain such Metering Equipment. Power flows to and from the Connection Facilities shall be measured at or, at the Metering Party's option, compensated to, the Point of Connection. In addition to the Metering Equipment installed at the Point of Connection, if MHVDC Connection Customer will share Connection Facilities with any other projects, MHVDC Connection Customer shall install Metering Equipment either on its own Connection Facilities or its own non-shared facilities sufficient to measure the output of such MHVDC Connection Customer's Connection Facility separately from any other Affiliates with which it will share Connection Facilities. The Metering Party shall provide metering quantities, in analog and/or digital form, to the other Parties upon request. Interconnection Customer shall bear all reasonable documented costs associated with the purchase, installation, operation, testing and maintenance of the Metering Equipment.
- 1.2 Check Meters.** MHVDC Connection Customer, at its option and expense, may install and operate, on its premises and on its side of the Point of Connection, one or more check meters to check the Metering Equipment owned by the Metering Party. Such check meters shall be for check purposes only and shall not be used for the measurement of power flows for purposes of this TCA, except as provided in Article 1.4 below. The check meters shall be subject at all reasonable times to inspection and examination by Transmission Provider, Transmission Owner or their designees. The installation, operation and maintenance thereof shall be performed entirely by MHVDC Connection Customer in accordance with Good Utility Practice.
- 1.3 Standards.** The Metering Party shall install, calibrate, and test revenue quality Metering Equipment in accordance with applicable ANSI standards.
- 1.4 Testing of Metering Equipment.** The Metering Party shall inspect and test Metering Equipment upon installation and at least once every two (2) years thereafter. If requested to do so by a Party, the Metering Party shall, at the requesting Party's expense, inspect or test Metering Equipment more frequently than every two (2) years. The Metering Party shall give

reasonable notice to the other Parties of the time when any inspection or test shall take place, and the other Parties may have representatives present at the test or inspection. If at any time Metering Equipment is found to be inaccurate or defective, it shall be adjusted, repaired or replaced at MHVDC Connection Customer's expense, in order to provide accurate metering, unless the inaccuracy or defect is due to the Metering Party's failure to maintain, then the Metering Party shall pay. If Metering Equipment fails to register, or if the measurement made by Metering Equipment during a test varies by more than two percent (2%) from the measurement made by the standard meter used in the test, the Metering Party shall adjust the measurements by correcting all measurements for the period during which Metering Equipment was in error by using MHVDC Connection Customer's check meters, if installed. If no such check meters are installed or if the period cannot be reasonably ascertained, the adjustment shall be for the period immediately preceding the test of the Metering Equipment equal to one-half the time from the date of the previous test of the Metering Equipment.

- 1.5 Metering Data.** At MHVDC Connection Customer's expense, the metered data shall be telemetered to one or more locations designated by Transmission Provider and Transmission Owner and one or more locations designated by MHVDC Connection Customer. Such telemetered data shall be used, under normal operating conditions, as the official measurement of the amount of energy delivered from the Connection Facility to the Point of Connection.

APPENDIX E

TRANSMISSION CONNECTION AGREEMENT

by and among

~~{Transmission Owner},~~

~~{MHVDC Connection Customer},~~

Ameren Services Company as agent for Union Electric Company d/b/a Ameren Missouri,
Grain Belt Express LLC, and
Midcontinent Independent System Operator, Inc.

MHVDC TRANSMISSION LINE DESIGN AND OPERATING REQUIREMENTS

The MHVDC Line shall be modeled in the MISO Transmission Expansion Plan as having capabilities consistent with any approved application for Long-Term Firm Transmission Service made through Module B or Injection Rights made through Attachment X, or approved modifications to the operating characteristics of the MHVDC Line approved through a subsequent Merchant HVDC Transmission Connection Request.

Any requests for Long-Term Firm Transmission Service under Module B to inject/withdraw from the Transmission System and source/sink to the MHVDC Line above its modeled capabilities will require the completion of a System Impact Study as defined in Module A of the Tariff, that will include stability studies as determined by MISO.

A Transmission Customer may not apply for Non-Firm or Short-Term Firm Transmission Service under Module B (or its successor) to inject/withdraw from the Transmission System and source/sink to the MHVDC Line until the MHVDC Line is In-Service, and any application will be governed by the then effective Tariff.

NERC Reporting Standards

Complete and accurate modeling data is essential to the planning process. The following items are critical for the accuracy of data and are addressed by the requirements as referenced below:

- field verifications of modeling parameters
- clear statement of data requirements
- protection system settings that impact system studies

In accordance with the periodicity established within the current NERC standards, the H104/H105 MHVDC Facility will ensure that compliance with all applicable NERC Modelling Standards has been met. Applicability of these standards to the H104/H105 MHVDC Facility will be determined based on the applicability criteria in the current version of the NERC standards. These standards are subject to change. All inverter-based resources must conform to Clause 10 of the IEEE 2800 to meet the Modeling Requirements. Generation Interconnecting customers with inverter-based resources can only obtain commercial status when the models in Clause 10 of IEEE 2800 are submitted to Ameren Transmission Planning and these models must include the Electromagnetic Transient (EMT) models in PSCAD software format.

For reference, at the time of signing, the current System Modelling Standards that may be

applicable to the H104/H105 MHVDC Facility include:

- MOD-025 Verification and Data Reporting of Generator Real and Reactive Power Capability and Synchronous Condenser Reactive Power Capability
- MOD-026 Verification of Models and Data for Generator Excitation Control System or Plant Volt/Var Control Functions
- MOD-027 Verification of Models and Data for Turbine/Governor and Load Control or Active Power/Frequency Control Functions
- MOD-032 Data for Power System Modeling and Analysis
- PRC-024 Generator Frequency and Voltage Protective Relay Settings

Ameren Reporting Standards

Interconnection Customer is required to install a Phasor Measurement Unit (PMU) to verify Inverter Based Resource (IBR) performance during system disturbances in addition to ensuring compliance with FERC Orders 827 and 842.

Operating Guidelines

If required, to be provided on completion of all Interconnection Studies.

Normally Open Operation of Bus Tie

To ensure that the MHVDC device does not inject more power into the Transmission Provider's transmission system for the loss of the AC line between the Burns station and the AECI McCredie station, the bus tie between the two poles will be operated as normally open. This also ensures that power never flows from the McCredie station, through the Burns station and back into the Ameren station creating a parallel connection to the McCredie – Montgomery 345kV line.

Power Factor/Reactive Power Capability:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- Attachment X-Appendix 6 GIA Article 9.6.1.2: 0.95 leading to 0.95 lagging high-side of the generator substation.
- Transmission Connection Agreement: Ameren criteria requires that all HVDC interconnections must be able to operate over a power factor range of 0.95 lagging (supplying VARs to the system) to 0.95 leading (absorbing VARs from the system) at the high-voltage side of the Generating Facility step-up transformer
- FERC Order 827
- GBX shall comply with clause 5.1 of IEEE 2800 - 2022 in relation reactive power capability as specified by AMREN

Voltage Ride Through Capability:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- NERC PRC024-3
- FERC Order 661A
- Attachment X-Appendix 6 GIA Article 9.7.3: Interconnection Customer shall implement under-frequency, over-frequency, under-voltage, and over-voltage relay set points for the Generating Facility as required by the Applicable Reliability Council to ensure “ride through” capability of the Transmission System
- **Transmission Connection Agreement:** All inverter-based resources must conform to Clause 7.2 of the IEEE 2800 standard to meet the Voltage Ride Through requirements
- HVDC facility [i.e. converter] is required to comply with stipulations of NERC PRC-024-3 and Clause 7.2 of IEEE 2800 - 2022, for voltage Ride Through

Frequency Ride Through Capability:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- NERC PRC024-3
- Attachment X-Appendix 6 GIA Article 9.7.3: Interconnection Customer shall implement under-frequency, over-frequency, under-voltage, and over-voltage relay set points for the Generating Facility as required by the Applicable Reliability Council to ensure “ride through” capability of the Transmission System
- **Transmission Connection Agreement:** All inverter-based resources must conform to Clause 7.3 of the IEEE 2800 standard to meet the Frequency Ride Through requirements
- HVDC facility [i.e. converter] is required to comply with stipulations of NERC PRC-024-3 and Clause 7.3 of IEEE 2800 - 2022, for voltage Ride Through

Operating Voltage Range:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- **Attachment X-Appendix 6 GIA Article 9.6.2:** Once Interconnection Customer has synchronized the Generating Facility with the Transmission System, Transmission Provider shall require interconnection Customer to operate the Generating Facility to produce or absorb reactive power within the design limitations of the Generating Facility set forth in Article 9.6.1 (Power Factor Design Criteria), to **maintain the output voltage or power factor at the Point of Interconnection as specified by Transmission Provider.** (voltage range is not mentioned in the document)
- **Transmission Connection Agreement:** The HVDC Facility will be required to operate to a voltage schedule estimated to be 359 kV to 362 kV (1.04 to 1.05 PU) at the Point of Interconnection
- The voltage schedule, as finally determined, needs to be coordinated with Associated Electric Cooperatives, Inc. (AECI), since their GI083 connection is also closely tied to

the H104/H105 connection. MISO generator project J1145 also will connect at Burns substation and will need to have its voltage schedule coordinated with the GI083/H104/H105 HVDC project. The Transmission Owner reserves the right to modify the voltage schedule anytime as needed due to system conditions

Ramp Rate:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- Ramp rate shall be set per industry norm of wind turbine generator ramp rate. This rate can be reconfigured by the operator.

Voltage Harmonics Limits:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- Attachment X-Appendix 6 GIA Article 9.7.6: ANSI Standard C84.1-1989, in accordance with IEEE Standard 519
- Ameren TO Planning Criteria: All generation and load connections to the Ameren system should conform to IEEE Standard 519 with respect to voltage distortion. These limits restrict individual harmonic distortion limits to 1.5% between 69 kV and 161 kV, and 1.0% at 161 kV and above, with Total Harmonic Distortion limited to 2.5% between 69 kV and 161 kV, and 1.5% at 161 kV and above

Current Harmonics Limits:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- Attachment X-Appendix 6 GIA Article 9.7.6: ANSI Standard C84.1-1989, in accordance with IEEE Standard 519
- Transmission Facility Interconnection Procedures: Transmission Connection Agreement: All inverter-based resources must conform to Clause 7.3 of the IEEE 2800 standard to meet the Frequency Ride Through requirements

Momentary Cessation:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- Attachment X-Appendix 6 GIA - Appendix G: Non-synchronous generating facility inverters may not trip or cease to inject current for momentary loss of synchronism. Any inverter may trip if the phase lock loop is unable to regain synchronism 150 milliseconds after loss of synchronism
- NERC PRC024-3

Frequency Control:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- **Attachment X-Appendix 6 GIA Article 9.6.4:** Interconnection Customer is required to install a governor or equivalent controls with the capability of operating: (1) with a maximum 5 percent droop and ± 0.036 Hz deadband; or (2) in accordance with the relevant droop, deadband, and timely and sustained response settings from an approved NERC Reliability Standard. The droop characteristic shall be: (1) based on the nameplate capacity of the Generating Facility, and shall be linear in the range of frequencies between 59 to 61 Hz that are outside of the deadband parameter

Voltage Control:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- NERC VAR002-4
- **Attachment X-Appendix 6 GIA: 9.6.2.1 Voltage Regulators.** Whenever the Generating Facility is operated in parallel with the Transmission or Distribution System as applicable and voltage regulators are capable of operation, Interconnection Customer shall operate the Generating Facility with its speed governors and voltage regulators in automatic operation. If the Generating Facility's voltage regulators are not capable of such automatic operation, Interconnection Customer shall immediately notify Transmission Provider's system operator, or its designated representative, and ensure that such Generating Facility's reactive power production or absorption (measured in MVARs) are within the design capability of the Generating Facility's generating unit(s) and steady state stability limits
- **Ameren TO Planning Criteria:** A generating plant or HVDC terminal should maintain either a specified voltage or reactive power schedule in accordance with NERC Reliability Standards VAR-001-5 and VAR-002-4.1

Modeling data, testing and validation:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- NERC MOD-032-1, NERC MOD-026-1, NERC MOD-027-1
- Need to obtain an as built EMT model representation (PSCAD) for the HVDC system

Plant level data recording:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- **Attachment X-Appendix 6 GIA - Appendix G:**

- (1) Plant three-phase voltage, current and power factor
 - (2) Status of ancillary reactive devices
 - (3) Status of all plant circuit breakers
 - (4) Status of plant controller
 - (5) Plant control set points
 - (6) Status of main plant transformer no load taps
 - (7) Status of main plant transformer tap changer (if applicable)
 - (8) Protective relay trips (relay target data)
- Need PMU (Phasor Measurement Unit) on each HVDC outlet line. Ameren's System Protection would specify the devices to use to provide this functionality. Where PMUs are installed on Ameren's transmission system, individual phase voltages and currents are monitored (magnitude and relative phase angle) as well as positive sequence voltage and current (magnitude and relative phase angle). Frequency and rate-of-change of frequency are also monitored. Sampling rate is 30 samples per second. Data is streamed to two data concentrator servers at Ameren. Data stream is forwarded to MISO in real time, and archived locally for 30 days.

Inverter level data recording:

GBX project shall comply with following (please note, some of them states same set of requirements however for avoidance of doubt all possible references are included that are to be complied):

- **Attachment X-Appendix 6 GIA - Appendix G:**

- (1) Frequency, current, and voltage during frequency ride-through events
 - (2) Voltage and current during momentary cessation for transient high-voltage events (when used)
 - (3) Voltage and current during reactive current injection for transient low or high-voltage events
 - (4) Inverter alarm and fault codes
 - (5) DC current
 - (6) DC voltage

APPENDIX F

TRANSMISSION CONNECTION AGREEMENT

by and among

~~{Transmission Owner},~~

~~{MHVDC Connection Customer},~~

Ameren Services Company as agent for Union Electric Company d/b/a Ameren Missouri,

Grain Belt Express LLC, and

Midcontinent Independent System Operator, Inc.

MHVDC TRANSMISSION LINE

INJECTION RIGHTS GRANTED PER ATTACHMENT X

J1488 – 1000 MW

J1490 – 500 MW

The Injection Rights listed above must be converted to E-NRIS pursuant to the processes and timelines contained in the MISO Tariff and any relevant Business Practice Manuals, including but not limited to Attachment X, Article 16.

TAB C

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Case Name) **Docket No.**

PROTECTIVE AGREEMENT

1. This Protective Agreement shall govern the access to, and use of all Privileged Materials and Critical Energy Infrastructure Information (“CEII”) produced by, or on behalf of, any Participant.
2. Notwithstanding any order terminating this proceeding, this Protective Agreement shall become effective as of the date the attached Non-Disclosure Certificate is executed and shall remain in effect until specifically modified or terminated by the Federal Energy Regulatory Commission (“Commission”).
3. Definitions – For purposes of this Protective Agreement:
 - (a) The meaning of the term “Participant” shall be as defined at 18 C.F.R. § 385.102(b).
 - (b) The term "Privileged Materials" includes those materials, and information contained therein, which customarily are treated as sensitive or proprietary, which are not available to the public, and which, if disclosed publicly, would subject the Participant or its customers to risk of competitive disadvantage or other business injury. Privileged Materials may include: (A) materials designated by a Participant as “Privileged Materials”; (B) any information contained in or obtained from such designated materials in (A); (C) any other materials which are made subject to this Protective Agreement by the Presiding Judge or the Chief Judge, by the Commission, by any court or other body having appropriate authority, or by agreement of the Participants; (D) notes of Privileged Materials (notes means memorandum, summaries, or other documents produced by a Participant or Reviewing Representative as a part of their review of the Privileged Materials) (“Notes of Privileged Materials”); and (E) copies of Privileged Materials. The Participant producing the Privileged Materials shall physically mark them on each page as "PRIVILEGED MATERIALS" or with words of similar import as long as the term "Privileged" is included in that designation to indicate that they are Privileged Materials.

- (c) The meaning of the term “CEII” shall be as defined at 18 C.F.R. § 388.113(c). In producing a document that contains CEII, a Participant shall label the document in conformance with the requirements of this Protective Agreement, including but not limited to the requirements of Paragraphs 12 and 20 hereof. For the purposes of this Protective Agreement, documents that are labeled in conformance with the requirements of Paragraphs 12 and 20 are defined as “Designated CEII.”
- (d) The term “Non-Disclosure Certificate” shall mean the certificate annexed hereto by which Reviewing Representatives who have been granted access to Designated CEII or Privileged Materials shall certify their understanding that such access is provided pursuant to the terms and restrictions of this Protective Agreement, and that such Reviewing Representatives have read the Protective Agreement and agree to be bound by it. All executed Non-Disclosure Certificates shall be served on all Participants on the official service list maintained by the Secretary of the Commission in this proceeding.
- (e) The term “Reviewing Representative” shall mean a person who has signed a Non-Disclosure Certificate and who is:
 - (1) a member of the Commission Trial Staff;
 - (2) an attorney who has made an appearance in this proceeding for a Participant;
 - (3) attorneys, paralegals, and other employees associated for purposes of this proceeding with an attorney who has made an appearance in this proceeding for a Participant;
 - (4) an expert or an employee of an expert retained by a Participant for the purpose of advising, preparing for, submitting evidence, or testifying in this proceeding;
 - (5) a person designated as a Reviewing Representative by order of the Presiding Judge or the Chief Judge or the Commission; or
 - (6) employees or other representatives of Participants with significant responsibility for this docket.

4. All Privileged Materials and Designated CEII shall be made available under the terms of this Protective Agreement only to Participants and only through their Reviewing Representatives as provided in Paragraphs 6–10.

5. All Privileged Materials and Designated CEII shall remain available to Participants until an order terminating this proceeding becomes no longer subject to judicial review, or

another date specifically designated by the Commission or the Presiding Judge. If requested to do so in writing after that date, the Participants shall, within fifteen (15) days of such request, return the Privileged Materials and the Designated CEII to the Participant that produced them, or shall destroy the materials, except that copies of filings, official transcripts and exhibits in this proceeding that contain Privileged Materials or Designated CEII, and Notes of Privileged Material may be retained, if they are maintained in accordance with Paragraph 6 below. Within such time period each Participant, if requested to do so, shall also submit to the producing Participant an affidavit stating that, to the best of its knowledge, all Privileged Materials, Designated CEII and all Notes of Privileged Materials have been returned or have been destroyed or will be maintained in accordance with Paragraphs 6-7. To the extent Privileged Materials and Designated CEII are not returned or destroyed, they shall remain subject to the Protective Agreement or any superseding protective agreement or protective order.

6. All Privileged Materials and Designated CEII shall be maintained by the receiving Participant or Reviewing Representatives in a secure place. Access to those materials shall be limited to those Reviewing Representatives specifically authorized pursuant to Paragraphs 8–9. The Secretary shall place any Privileged Materials and Designated CEII filed with the Commission in a non-public file. By placing such documents in a non-public file, the Commission is not making a determination of any claim of privilege or whether the materials actually meet the definition of CEII. The Commission retains the right to make determinations regarding any claim of privilege and the discretion to release information necessary to carry out its jurisdictional responsibilities. For documents submitted to Commission Trial Staff (“Staff”), Staff shall follow the notification procedures of 18 C.F.R. § 388.112 before making public any Privileged Materials or Designated CEII.

7. All Privileged Materials and Designated CEII shall be treated as confidential by each Participant and by the Reviewing Representative in accordance with the Non-Disclosure Certificate executed pursuant to Paragraph 9 and shall be afforded the same protections that the Participant or Reviewing Representative affords to its own similarly situated confidential information. A Participant or Reviewing Representative shall promptly notify the other Participants if it has cause to believe that the Privileged Materials or Designated CEII have been disclosed, including if that disclosure was inadvertent or the result of a breach. All Privileged Materials and Designated CEII shall not be used except as necessary for the conduct of this proceeding, nor shall they be disclosed in any manner to any person except a Reviewing Representative who is engaged in the conduct of this proceeding and who needs to know the information in order to carry out that person's responsibilities in this proceeding.

8. (a) If a Reviewing Representative’s scope of employment includes the marketing of energy, the direct supervision of any employee(s) whose duties include the marketing of energy, or the provision of consulting services to any person whose duties include the marketing of energy, such Reviewing Representative may not use information contained in any Privileged Materials or Designated CEII to give any Participant or any

competitor of any Participant a commercial advantage.

(b) In the event that a Participant wishes to designate as a Reviewing Representative a person not described in Paragraph 3(e) above, the Participant shall seek agreement from the Participant providing the Privileged Materials or Designated CEII. If an agreement is reached, that person shall be a Reviewing Representative pursuant to Paragraph 3(e) above with respect to those materials. If no agreement is reached, the Participant shall submit the disputed designation to the Presiding Judge for resolution.

9. (a) A Reviewing Representative shall not be permitted to inspect, participate in discussions regarding, or otherwise be permitted access to Privileged Materials or Designated CEII pursuant to this Protective Agreement unless that person has first executed a Non-Disclosure Certificate; provided, that if an attorney is a Reviewing Representative, the paralegals, secretarial and clerical personnel under the attorney's instruction, supervision or control need not execute a Non-Disclosure Certificate. A copy of each Non-Disclosure Certificate shall be provided to counsel for the Participant 3 days prior to disclosure of any Privileged Material or Designated CEII to that Reviewing Representative, thus providing an opportunity to object to the disclosure.

(b) Attorneys qualified as Reviewing Representatives shall be responsible for ensuring that persons under their supervision or control comply with this Protective Agreement.

10. Any Reviewing Representative may disclose Privileged Materials or Designated CEII to any other such person as long as the disclosing person and the receiving person both have executed a Non-Disclosure Certificate. In the event that any Reviewing Representative to whom the Privileged Materials or Designated CEII is disclosed ceases to be engaged in this matter or is employed or retained for a position whose occupant is not qualified to be a Reviewing Representative under Paragraph 3(e), access to Privileged Materials or Designated CEII by that person shall be terminated. Even if no longer engaged in this proceeding, every person who has executed a Non-Disclosure Certificate shall continue to be bound by the provisions of this Protective Agreement and the certification.

11. Subject to Paragraphs 17-19, the Presiding Judge or the Chief Judge or the Commission shall resolve any disputes arising under this Protective Agreement. Prior to presenting any dispute under this Protective Agreement to the Presiding Judge or the Chief Judge or the Commission, the parties to the dispute shall use their best efforts to resolve it. Any Participant that contests the designation of materials as Privileged shall notify the Participant that provided the Privileged Materials by specifying in writing the basis for its objection. This Protective Agreement shall automatically cease to apply to such materials five (5) business days after the notification is made unless the designator, within said 5-day period, files a motion with the Presiding Judge or the Chief Judge or the Commission, with supporting affidavits, demonstrating that the materials should continue to be privileged. In any challenge to the designation of materials as Privileged, the burden of proof shall be on the Participant seeking protection. If the Presiding Judge or the Chief

Judge or the Commission finds that the materials at issue are not entitled to privilege, the procedures of Paragraphs 17-19 shall apply. The procedures described in this Paragraph shall not apply to materials designated by a Participant as CEII. Materials so designated shall remain privileged and subject to the provisions of this Protective Agreement, unless a Participant requests and obtains a determination from the Commission's Critical Energy Infrastructure Information Coordinator that such materials need not remain as Designated CEII.

12. All copies of all documents reflecting Privileged Materials, including the portion of the hearing testimony, exhibits, transcripts, briefs and other documents, which refer to Privileged Materials, shall be filed and served in sealed envelopes or other appropriate containers endorsed to the effect that they are sealed pursuant to this Protective Agreement. Such documents shall be marked "PRIVILEGED MATERIALS" and shall be filed under seal and served under seal upon the Presiding Judge and all Reviewing Representatives who are on the service list. Such documents containing CEII shall be additionally marked "CONTAINS CUI//CEII MATERIAL – DO NOT RELEASE." For anything filed under seal, redacted versions or, where an entire document is privileged or confidential, a letter indicating such, will also be filed with the Commission and served on all Participants on the service list and the Presiding Judge. Counsel for the producing Participant shall provide to all Participants who request the same, a list of Reviewing Representatives who are entitled to receive such materials. Counsel shall take all reasonable precautions necessary to assure that Privileged Materials and Designated CEII are not distributed to unauthorized persons.

13. If any Participant desires to include, utilize or refer to any Privileged Materials or Designated CEII or information derived therefrom in testimony or exhibits during the hearing in these proceedings in such a manner that might require disclosure of such material to persons other than Reviewing Representatives, such Participant shall first notify both counsel for the disclosing Participant and the Presiding Judge of such desire, identifying with particularity each of the Privileged Materials or Designated CEII. Thereafter, use of such Privileged Material or Designated CEII will be governed by procedures determined by the Presiding Judge.

14. Nothing in this Protective Agreement shall be construed as precluding any Participant from objecting to the use of Privileged Materials or Designated CEII on any legal grounds.

15. Nothing in this Protective Agreement shall preclude any Participant from requesting the Presiding Judge, the Chief Judge, the Commission, or any other body having appropriate authority, to find that this Protective Agreement should not apply to all or any materials previously designated as Privileged Materials or CEII pursuant to this Protective Agreement.

16. This Protective Agreement may be modified only by mutual agreement among Participants that have signed Non-Disclosure Certificates. This Protective Agreement may be replaced and superseded by a protective order issued by the Presiding Judge, the Chief

Judge, or the Commission.

17. Nothing in this Protective Agreement shall be deemed to preclude any Participant from independently seeking, through discovery in any other administrative or judicial proceeding, Privileged Materials or Designated CEII produced by any Participant under this Protective Agreement.

18. None of the Participants waives the right to pursue any other legal or equitable remedies that may be available in the event of actual or anticipated disclosure of Privileged Materials or Designated CEII.

19. The contents of Privileged Materials or Designated CEII or any other form of information that copies or discloses Privileged Materials or Designated CEII shall not be disclosed to anyone other than in accordance with this Protective Agreement and shall be used only in connection with the Participants' review of these proceedings. Any violation of this Protective Agreement and of any Non-Disclosure Certificate executed hereunder shall constitute a violation of an order of the Commission.

20. All Privileged Material or Designated CEII provided by Participants that is filed with the Commission, submitted to a Presiding Judge, or submitted to any Commission personnel or any other judicial or administrative body, must comply with the Commission's *Notice of Document Labelling Guidance for Documents Submitted to or Filed with the Commission or Commission Staff*, as issued on April 14, 2017 (82 Fed. Reg. 18632 (April 20, 2017)).

21. The provisions of 18 C.F.R. § 388.112 and 18 C.F.R. § 388.113 shall apply to any requests under the Freedom of Information Act (5 U.S.C. § 552) for Privileged Materials or Designated CEII in the files of the Commission.

IN WITNESS WHEREOF, Midcontinent Independent System Operator, Inc. has caused its authorized representative to execute this Protective Agreement.

Midcontinent Independent System Operator, Inc.

By: _____

Printed Name: _____

Title: _____

Date: _____

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Case Name _____) **Docket No.** _____

NON-DISCLOSURE CERTIFICATE

I hereby certify my understanding that access to Privileged Materials or Designated CEII is provided to me pursuant to the terms and restrictions of the Protective Agreement in this proceeding, that I have been given a copy of and have read the Protective Agreement, and that I agree to be bound by it. I understand that the contents of the Privileged Materials or Designated CEII, any notes or other memoranda, or any other form of information that copies or discloses Privileged Materials or Designated CEII shall not be disclosed to anyone other than in accordance with that Protective Agreement. I acknowledge that a violation of this certificate constitutes a violation of an order of the Federal Energy Regulatory Commission.

By: _____

Printed Name: _____

Title: _____

Representing: _____

Date: _____

Montgomery-Callaway Connector Project Schedule																																																												
	2026												2027												2028												2029												2030											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec												
Mo PSC Review/CCN Granted																																																												
Easement/Permit Procurement																																																												
Civil and Electrical Design																																																												
Geotechnical Exploration																																																												
Structure Material Lead Time																																																												
Construction																																																												
Project In-Service																																																												

List of Utilities and Railroads

Electric Crossings

OPERATOR	OWNER	kV	County	Lat	Lon
Unknown	Union Electric	345	Callaway	38.9804750°N	91.9686748°W
Unknown	Union Electric	69	Callaway	38.9725754°N	91.9229258°W
Unknown	Union Electric	69	Callaway	38.9735795°N	91.9228784°W
Unknown	Union Electric	69	Callaway	38.9975142°N	91.9209856°W
Unknown	Union Electric	69	Callaway	38.9737413°N	91.9295103°W
Unknown	Union Electric	69	Callaway	38.9745831°N	91.9286964°W
Unknown	Union Electric	69	Callaway	38.9986615°N	91.9055749°W
Unknown	Union Electric	69	Callaway	39.0295127°N	91.9013077°W
Unknown	Union Electric	69	Callaway	39.0297374°N	91.9174266°W
Unknown	Union Electric	161	Montgomery	38.9340834°N	91.7429415°W
Unknown	Union Electric	161	Montgomery	38.9779341°N	91.5721814°W
Unknown	Union Electric	161	Montgomery	38.9754425°N	91.5753545°W
Unknown	Union Electric	69	Montgomery	38.9301269°N	91.4703254°W
Unknown	Union Electric	69	Montgomery	38.9234015°N	91.4764494°W
Unknown	Union Electric	69	Montgomery	38.9219325°N	91.4618144°W

Pipeline Crossings

OPERATOR	OWNER	Diameter	County	Lat	Lon
None	None	None	None	None	None

Rail Crossings

OPERATOR	OWNER	Class	County	Lat	Lon
Unknown	IL Central RR	R1011	Callaway	39.0293954°N	91.8973944°W
Unknown	IL Central RR	R1011	Callaway	38.9983825°N	91.8998326°W
Unknown	IL Central RR	R1011	Callaway	38.9723858°N	91.9160118°W
Unknown	IL Central RR	R1011	Callaway	38.9715667°N	91.9170538°W

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

In the Matter of the Application of Union)
Electric Company d/b/a Ameren Missouri)
Company for a Certificate of Convenience)
and Necessity to Construct, Own, Operate)
and Maintain Upgrades to the Transmission)
System in Montgomery and Callaway)
Counties, Missouri)

File No. EA-2026-0058

AFFIDAVIT OF SAMUEL F. GARDNER

STATE OF MISSOURI)
) ss
CITY OF ST. LOUIS)

Samuel F. Gardner, being first duly sworn states:

My name is Samuel F. Gardner, and on my oath declare that I am of sound mind and lawful age; that I have prepared the foregoing *Direct Testimony*; and further, under the penalty of perjury, that the same is true and correct to the best of my knowledge and belief.



Samuel F. Gardner

Sworn to me this 3rd day of November, 2025.