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February 6, 2024

PJM Pre-Qualification Package

Application for Pre-Qualified Designated Entity status for NGV US Transmission, Inc.

NGV US Transmission Inc. submits this pre-qualification application pursuant to Schedule 6, section 1.5.8(a) of the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. NGV US Transmission Inc. requests pre-qualified status as an eligible designated entity. This application highlights NGV US Transmission and its affiliate's qualifications, experience, capabilities, and financial strength to manage and deliver transmission projects in a timely and cost-effective manner. National Grid's experience and expertise in transmission planning, construction, operations, and maintenance makes NGV US Transmission uniquely qualified to develop projects in the PJM region.



1. Name and address of the entity including a point of contact:

NGV US Transmission, Inc. 170 Data Drive, Waltham, MA 02451Address

Points of Contact:

William Hazelip, President NGV US Transmission Inc. & NGV US Northeast william.hazelip@nationalgrid.com

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2. Technical and engineering qualifications of the entity or its affiliate, partner, or parent company

NGV US Transmission (Entity)

National Grid Ventures (NGV) is the competitive division of National Grid plc, one of the largest investor-owned energy transition companies in the world. NGV is shareholder-funded and operates outside of National Grid's core, regulated businesses. It develops, finances, operates, and invests in projects, technologies, and partnerships to accelerate the development of our clean energy future. Its diverse portfolio includes subsea HVDC electricity interconnectors in the United Kingdom, competitive transmission, large-scale renewable generation, battery storage, hydrogen blending, liquefied natural gas storage and regasification, and conventional generation. NGV US Transmission, Inc. formed in 2002 originally as GridAmerica Holdings is the legal entity utilized for transmission projects in the US.

NGV's engineering teams have experience gained over decades of projects as utility engineers and consulting engineers. We have capabilities in system planning, substation engineering, and construction. Our staff has also acted as lead Engineer for overhead and underground transmission projects in New York and Massachusetts. The Development Team is experienced in environmental, permitting, real estate (ROW), along with general project management and delivery. Throughout all phases of project development and delivery, our team places the highest priority on early and often engagement with all stakeholders to ensure that considerations are taken to integrate input and manage schedules for on-time and on-budget delivery.

National Grid plc (Parent)

NGV US Transmission's Parent Company, National Grid plc, is also the Parent Company of entities engaged in the transmission and distribution of electricity and gas in Great Britain and northeastern US. The Company is a public limited company, limited by shares. The Company is incorporated and domiciled in England. Under the holding company structure, NGV US Transmission and its transmission and distribution affiliates receive legal, administrative, accounting, engineering, procurement, inventory management, project management, construction and operational support services from National Grid USA Service Company, Inc., (the, "Service Company") a centralized service company under FERC regulation, which is also a wholly-owned subsidiary of National Grid Plc. National Grid Plc and its direct and indirect subsidiaries, including NGV US Transmission, are sometimes hereinafter referred to, collectively, as "National Grid".

As permitted by NERC registration requirements, National Grid's NERC registrations have been consolidated by functions common among National Grid USA's various operating subsidiaries. National Grid USA is registered on behalf of its subsidiary operating utilities including any NERC and NPCC functional obligations. NGV US Transmission would become registered and comply with NERC reliability standards.

National Grid USA (Affiliate)

National Grid USA (NGUSA), through its subsidiaries, engineers, designs, permits, constructs, owns and operates transmission facilities across upstate New York, Massachusetts, New Hampshire, Rhode Island, and Vermont and owns and operates electricity distribution networks in upstate New York and Massachusetts. Its network includes more than 8,000 miles of transmission lines.

NGUSA's Service Company employs uniquely qualified technical and engineering personnel who provide extensive background, experience and expertise in the planning, engineering, procurement, construction, operation and maintenance of transmission lines and substation facilities. National Grid USA's subsidiaries have established well-qualified teams focused on transmission line engineering, substation engineering and design, transmission planning and asset management, transmission line construction, substation construction, substation operations and maintenance, underground line operations, overhead line operations, control center operations, protection and control, standards engineering, risk and special projects, project controls and estimating, and investment planning and portfolio oversight. The ability to do work including preliminary and detailed engineering, design and surveying of facilities, is evidenced in the list of projects in the following section of this application. National Grid USA uses both internal and contract resources to perform routing and siting studies and public outreach. National Grid USA uses a competitive procurement process for contractors, material, tools, vehicles and equipment and has a network of line engineering and design firms, construction contractors, vegetation management contractors, material suppliers and other external specialists with national reputations to assist it. NGV follows a similar procurement process and as an affiliate, employs, seconds, or obtains consulting services from the Service Company employees.

National Grid has a strong culture of compliance and a well-established control framework in place to meet NPCC and NERC compliance standards that includes a process to review events, correct issues and self-report.

3. Demonstrated experience of the entity or its affiliate, partner, or parent company to develop, construct, maintain, and operate transmission facilities. Including a list or other evidence of transmission facilities previously developed regarding construction, maintenance, or operation of transmission facilities both inside and outside of the PJM region

NGV US Transmission (Entity)

NGV US Transmission is an owner of New York Transco (NY Transco), a New Yorkbased owner, operator, and developer of bulk electric transmission facilities with a mission to safely and efficiently deliver innovative electric transmission solutions that advance clean energy to best serve customers, communities, and the environment. NY Transco is owned by subsidiaries of National Grid, Con Edison, Avangrid, and CH Energy Group. Completed projects include Ramapo to Rock Tavern, Frasers-Coopers Corners and Staten Island Unbottling. NY Transco has successfully competed in the two most recent competitive transmission solicitations in New York (Public Policy Transmission Need projects).

• New York Energy Solution (NYES) (In-service August 2023)

NY Transco recently constructed and energized the New York Energy Solution (NYES), the selected solution in the 2018 Public Policy Transmission Need Project Solicitation. The project replaces aging transmission infrastructure along a 54-mile utility corridor through Rensselaer, Columbia and Dutchess counties, including new and upgraded substations and reconductoring of lines. The project helped to modernize aging infrastructure, improve grid resiliency and storm hardening, relieve congestion on the system, and unbottle clean energy resources. All facilities adhere to all applicable NERC, NPCC, NYSRC Reliability Rules, including NYSRC Local Reliability Rules and applicable specifications, procedures and guidelines.

• Rock Tavern to Sugarloaf Project

NY Transco is currently developing the Rock Tavern to Sugarloaf Project. The project includes replacing an existing 12-mile 115 kV electric transmission line on lattice structures from New Windsor, NY to Chester NY with new 115 kV line on monopole structures as well as upgrades at two substations. The project will update aging infrastructure, increase transfer capability, and improve resiliency. The project is within existing utility rights-of-way and on utility-owned property. The project's Article VII application was approved by the PSC in 2021.

• Propel NY (In-service May 2030)

In June 2023, the Propel project was selected by NYISO as part of their Long Island Offshore Wind Export Public Policy Transmission Need Project Solicitation. New York Transco is collaborating with the New York Power Authority (NYPA) to develop, design, and construct transmission infrastructure to increase the export capability from Long Island to the rest of state, ensuring access to offshore wind energy. The 90-mile project, including new and upgraded substations and new and upgraded 138-345 kV underground and

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submarine transmission lines, will improve system reliability and resiliency. The project uses existing public rights-of-way and substation facilities on Long Island, in New York City, and across Westchester County to efficiently and cost-effectively deliver clean energy. The project is expected to commence in 2026 and enter service in 2030.

In the UK, National Grid Ventures' affiliate is the leading developer and operator of interconnectors, with a portfolio of six interconnectors that have a total combined capacity of 9.4 GW and includes the longest land and subsea interconnector in the world, Viking Link, which stretches 475 miles, connecting the grids in the UK and Denmark. National Grid's interconnectors are HVDC subsea cables with related converter stations that enable the UK to share excess power with neighboring markets and vice versa. All interconnectors are developed, constructed, and operated by National Grid Ventures. The first interconnector developed by National Grid, IFA, reached commercial operation date in 1986 and National Grid recently announced the development of LionLink, a first-of-its-kind multi-purpose interconnector project designed to allow multiple wind farms to connect to shore via a single offshore connection point.

National Grid USA (Affiliate)

As an affiliate of National Grid USA, NGV US Transmission has access to the same resources as National Grid USA's subsidiaries, New England Power Company ("NEP") and Niagara Mohawk Holdings, Inc. The following projects have been developed with such resources in the past years, demonstrating National Grid's experience with developing, constructing, maintaining, and operating transmission facilities.

New England Power Company (NEP) (Affiliate)

• Ready Path Solution (In-service June 2023)

National Grid and Eversource worked collaboratively to construct the Ready Path Solution, which was competitively selected by ISO New England to maintain grid reliability following the retirement of the Mystic Generating Station, a 2,000MW fossil fuel-fired power plant in Everett. National Grid completed control system upgrades at the Amesbury and Haverhill substations to allow the electric transmission network to respond reliably to avert line overloads. National Grid installed a Static Synchronous Compensator, STATCOM, at the Tewksbury substation to provide the transmission network with voltage support and reactive power control. The project was completed in 2023, ahead of schedule.

Woburn-Wakefield 345kV Cable Project (In-service January 2024)

The National Grid portion of this project consists of two main components: (1) the portion of the new 345kV underground cable that traverses the town of Wakefield, MA and (2) terminal equipment at the Wakefield Junction #88 Substation. The installation of a new 345kV underground cross-linked polyethylene (XLPE) transmission cable travels along an approximately 8.5 mile route between the Eversource Woburn #211 Substation in Woburn, MA and the

National Grid-owned Wakefield Junction #88 Substation in Wakefield, MA. The underground cable was planned jointly with Eversource, with Eversource responsible for delivering the project in the towns of Stoneham, Winchester, and Woburn (approximately 4.9 miles), and National Grid delivering the project in the town of Wakefield (approximately 3.6 miles). The second component of the Project is to install the following equipment at the Wakefield Junction #88 Substation:

- Two new 345kV, 50kA, 4000A Gas-Insulated Substation (GIS) circuit breakers.
- One new 345kV, 160 MVAR (70MVAR fixed and 90MVAR variable) shunt reactor bank.
- Two separate 4000A, 345kV line terminal equipment for the new proposed underground (UG) cable and shunt reactor

• 532N/533N Cable Replacement Project (In-service May 2024)

This project will install two 115 kV underground extruded dielectric cable systems to replace the existing 532N and 533N underground cable lines between North Quincy Substation and Field Street Substation. The length is about 3.3 miles (6.6 circuit miles) mostly in public road. The new underground circuits will be installed in a new shared concrete-encased duct bank and manhole system. Separate precast concrete manholes will be installed for each circuit to facilitate maintenance and repairs. After the new cables are placed into service, all the existing fluid-filled cables and fluid reservoirs between North Quincy Substation and Field Street Substation will be removed. The project will install equipment at Field Street #1 Substation to support the new cables to include: six (6) 115kV underground cable terminations, six (6) 115kV CCVTs, six (6) 96kV, 76MCOV station class surge arresters, and the installation of one (1) fiber handhole and fiber to control house for future use. The project will install equipment at North Quincy #11 Substation to support the new cables to include: six (6) 115 kV underground cable terminations, and two (2) 115 kV circuit switchers with group operated grounding switches. Six (6) 96 kV, 76 MCOV station class surge arresters will be installed, along with the installation of; one (1) fiber handhole and fiber to control house for future use, four (4) deep foundations for the two (2) circuit switch structures, and four (4) deep foundations for the two (2) cable termination structures. The team determined that the optimal route for the new cable system includes a section of approximately 1,500 feet under private property, for which the team has obtained tentative agreement for land rights, in Quincy, MA.

Niagara Mohawk Holdings, Inc. (NIMO) (Affiliate)

• Smart Path Connect 345kV (In-service Q4 2025)

National Grid co-developed Smart Path Connect with the New York Power Authority (NYPA) to increase the availability and usage of renewable energy and reduce system congestion. Smart Path Connect falls primarily within existing transmission rights-of-way in Clinton, Franklin, St. Lawrence, Lewis, and Oneida counties. National Grid is responsible for a 55-mile section of 345kV line between Croghan and Marcy, New York. Wooden H-frame structures are being replaced by steel monopoles to reduce land usage. Higher capacity lines will be strung to address congestion. The project also includes the upgrade or construction of several substations. Construction on the entire project is expected to be complete by the end of 2025.

• CLCPA Phase I and II (In service by 2030)

National Grid is currently in various states of developing and rebuilding over 500 miles of transmission, from 69kV to 345kV, to meet New York's aggressive Climate Leadership and Community Protection Act mandates of 70% renewables by 2030 and net zero by 2040. This work includes overhead circuit rebuilds with larger current carrying conductors, circuit rebuilds at higher operating voltages, replacement of transformers with higher capability transformers, additions of new circuits or substation transformers to increase overall transfer capability, and replacement of weak equipment that restrict overall transfer capability. Many of these solutions, leverage an asset condition need for reliability and right-size the solution to future proof the grid for renewables integration and greater resiliency thereby delivering high value projects at a lower total system cost for customers

• Mohican-Battenkill #15 Rebuild/Reconductor (In-service 2017)

This project was to rebuild and reconductor the 115kB Mohican-Battenkill #15 and the adjacent Mohican-Luther Forest #3 over a distance of 14.2 miles. This project addressed reliability and load growth needs in the NG-NM Northeast Region. This project also included building gravel roads for access. This project included Article VII permitting and negotiation with adjacent landowners for additional access and vegetative easements. Stakeholder outreach was conducted. These rebuilt circuits were placed in service in mid-2017.

4. Previous record of the entity or its affiliate, partner, or parent company to adhere to standardized construction, maintenance and operating practices

NGV US Transmission (Entity)

NGV US Transmission and its affiliates have a proven track record of delivering large, complex transmission projects on schedule and maintaining and operating those facilities in accordance with their procedures. NGV works with third-party consultants; the contractors, designers, engineers, regulators, and users, to provide services such as project management, project controls, engineering, construction management, procurement, permitting assistance, and stakeholder relations. The third-party firms NGV works with are experienced firms with proven track records and experience working on large projects in the Northeast and throughout the country. All projects are designed in accordance with all applicable industry standards and in conformance with utility design practices and applicable law. All third-party firms are properly vetted to meet the highest security, safety, and ethical standards and comply with all relevant laws, regulations, and licenses.

National Grid Ventures has built robust in-house operations and maintenance capabilities and established operations and maintenance functions locally when

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entering new markets. Through its interconnector business, National Grid Ventures worked in four different countries staffing and supplying its operations and maintenance practice with local labor and content. In 2021, National Grid commissioned the North Sea Link (NSL) interconnector, a 1.4 GW capacity transmission line stretching 720 kilometers under the North Sea from the United Kingdom to Norway. NSL was the first in-house operations and maintenance practice developed by National Grid Ventures for its interconnector business. The team was fully staffed with local labor to ensure employees could respond promptly when oncall and to build out the local resource pool. New hires were brought in 12 to 18 months prior to the commercial operation date to get them up to speed. National Grid co-developed a robust training program with its tier 1 supplier Hitachi that included extensive shadowing and on-the-job training. The early engagement of the operations and maintenance team provided them with experience in the commissioning process and allowed the team to fill in when members of the project development team left but before new hires could be onboarded. The approach taken for North Sea Link minimized the overall cost of the operations and maintenance program by reducing the number of subcontractors, ensured all personnel were adequately trained and authorized, provided the team with more oversight of control standards, and increased accountability across the operations and maintenance practice all while growing the businesses in-house expertise. The North Sea Link experience is indicative of National Grid Ventures' ability to develop, staff, and implement new operations and maintenance practices and can inform NGV US Transmission's work.

The New York Energy Solution project through New York Transco demonstrates NGV US Transmission's ability to deliver complicated projects on aggressive schedules as it was successfully energized six months ahead of schedule. NY Transco set ups operation agreements with the local utility (usually a parent company) to operate its assets. NY Transco performs maintenance using a mix of its own employees and agreements with the local utilities. New York Transco follows all applicable industry standards such as the Institute of Electrical Engineers, America Concrete Institute, American Society of Testing and Materials, National Electrical Manufacturers Association, American Association of State Highway and Transportation Officials, American Institute of Steel Construction, National Fire Protection Association, National Electrical Safety Code, and Occupational Safety and Health Administration. In addition to the applicable standards, New York Transco exceeds the requirements to provide a robust solution.

National Grid USA (Affiliate)

National Grid has a long history of successfully executing large-scale, complex, and innovative transmission projects, throughout New York and New England over the last several decades. Highlights include the Southeast MA/RI Reliability project; the Greater Boston project; and the Boston Area Optimized Solution project, which was the winning response to the first Federal Energy Regulatory Commission (FERC) Order 1000 project in New England. Each of these projects took an aggressive approach to both cost and scheduling. Other notable innovative projects include the Direct

Transfer Trip Scheme for K-163 Line Overload and the Block Island Wind Farm, the first commercial OSW farm in the United States.

National Grid also has over 30 years of experience operating one of the only HVDC convertor stations in the Northeastern United States, namely Sandy Pond, which was the world's first only multi-terminal bipole HVDC system. National Grid's experience with HVDC and HVAC equipment informs NGV US Transmission's engineering and procurement processes.

In New York, National Grid has a similar track record of success, with its innovative multi-value projects to improve deliverability of clean energy while strengthening the reliability and the resiliency of the grid. National Grid has had 15 successful transmission project CECPN (Certificate of Environmental Compatibility and Public Need) and EM&CP (Environmental Management and Construction Plan) approvals since 2000.

National Grid also brings the unique experience of operating underground natural gas infrastructure, and decades of practice opening streets and relocating utilities that can inform NGV US Transmission's outreach, permitting, cable routing, engineering, and construction plans.

5. Capability of the entity or its affiliate, partner, or parent company to adhere to standardized construction, maintenance and operating practices

National Grid is committed to Safety, Engineering and Asset Management excellence through adherence to a multitude of complementary methods and controls, using both internal disciplines and external compliance requirements.

National Grid uses a framework that describes the factors that must be considered and complied with as part of the overall engineering management system when we design, develop, test, commission, operate, maintain and, ultimately, decommission our assets. This applies to all of our businesses, current and future assets and infrastructure used in the transportation and storage of energy, including measurement, control, process and communication systems that we use to monitor and operate our networks and assets.

National Grid adheres and strives to address all Environmental and OSHA requirements at all times. National Grid, a member of the Northeast Power Coordinating Council (NPCC), is registered at NERC for compliance with all applicable mandatory standards and requirements for the following functions: TO, TOP, TP, GO, GOP, TSP, LSE and PSE, across New England and New York. National Grid also complies with all more stringent regional standards, the ISO-NE and NYISO standards, procedures and operating requirements and the NYSRC standards and will comply with any similar standards, procedures, and operating requirements specific to PJM or its states.

NGV will be responsible for the operations and maintenance ("O&M") of any project facilities. NGV will be responsible for developing the operating and maintenance plans

and managing the resource providing the O&M services, which may be through direct NGV employees or contracted services, as appropriate, and similar to the approach taken with NY Transco assets.

6. Financial statements of the entity or its affiliate, partner, or parent company. Please provide the most recent fiscal quarter, as well as the most recent three fiscal years, or the period of existence of the entity, if shorter, or such other evidence demonstrating an entity's current and expected financial capability acceptable to the Office of the Interconnection

Initial financing of transmission projects typically comes through borrowing from an internal National Grid money pool, the internal short-term borrowing vehicle that allows borrowing or lending to legal entities on a daily basis. National Grid USA evaluates internal cash, capital spending projections, and current capital structures to decide how the financing of the business plan and projects will be optimized. National Grid USA manages its financing and liquidity on a group basis. For its affiliates, including NGV US Transmission Inc., short-term liquidity requirements are managed via the group's unregulated money pool. National Grid USA's unregulated affiliates can lend to and borrow from the money pool.

NGV US Transmission's financial information is consolidated, as part of NGV US LLC, into National Grid North America Inc. and Subsidiaries financial reports attached at end of this application and linked below. While no entities at National Grid publish quarterly financial reports, National Grid Plc publishes a semi-annual financial report, so National Grid Plc financial reports are included as well. Lastly, because NGV US Transmission Inc. can lend to and borrow from National Grid USA's money pool, National Grid USA's financial statements are also included.

National Grid US Reports

National Grid North America Inc. and Subsidiaries – 2020-2021 National Grid North America Inc. and Subsidiaries – 2021-2022 National Grid North America Inc. and Subsidiaries – 2022-2023

National Grid USA and Subsidiaries – 2020-2021 National Grid USA and Subsidiaries – 2021-2022 National Grid USA and Subsidiaries – 2022-2023

<u>National Grid Plc Annual Reports</u> National Grid Plc – 2020-2021 National Grid Plc – 2021-2022 National Grid Plc – 2022-2023 National Grid Plc – 2023-2024 Half Year Results Statement

NGV US Transmission has no history of bankruptcy or dissolution in the last five years. The credit rating of National Grid plc is Baa2 / P2 (Moody's), BBB / A2 (S&P), and BBB (Fitch).

7. Commitment by the entity to execute the Consolidated Transmission Owners Agreement, if the entity becomes a Designated Entity

NGV US Transmission, Inc. commits to executing, or causing its subsidiary to execute, the Consolidated Transmission Owners Agreement if it becomes a Designated Entity in the PJM Region.

8. Evidence demonstrating the ability of the entity to address and timely remedy failure of facilities

NGV US Transmission's affiliates, NEP and NIMO, have a proven track record of delivering and maintaining transmission facilities and have demonstrated their ability to timely remedy failures of facilities. NGV US Transmission will follow similar procedures.

The reliability of the transmission system is paramount to all of National Grid and we respond in appropriate timeframes to issues to provide an adequate and acceptable level of reliability for our customers. Over the last three fiscal years, National Grid's New England and New York transmission operating companies maintained above 99.95% network reliability. NGV has similar success limiting downtime of its subsea HVDC interconnectors. Over the last half year Nemo Link operated at 98% availability and BritNed at 95% availability. National Grid's ability to maintain high network reliability is largely due to the experience of its staff and the ability to seamlessly apply best practices and learnings from experience across various markets.

National Grid has dedicated Emergency Planning teams within the New England and New York operating companies. These groups are responsible for planning employees' emergency assignments, training, emergency tabletop exercise, external coordination and coordination across local, states, regional and national requirements and government agencies. NGV will leverage the knowledge and experience of these Emergency Planning teams to develop and execute its operation and maintenance plans, including timely remedy of failures, and to manage the resource providing O&M services, which may be through direct NGV employees or contracted services, as appropriate.

9. Description of the experience of the entity in acquiring rights of way

NGV's Engineering and Development teams work alongside our Stakeholder Engagement team from the early stages of project development. Together, they analyze project alternatives, route determinations, impacts of environmental and non-environmental permitting on the proposed alternatives, key outreach objectives, constructability, community impacts, and cost impacts for each alternative route in order to determine the optimal project and route. NGV actively involves community stakeholders, government agencies and the media as early and proactive outreach is extremely helpful in obtaining valuable feedback for making routing decisions and achieving siting approvals. After a preferred route has been chosen based on cost and impacts analyses and determinations made with internal and external input, NGV coordinates the initial environmental reviews and surveys, including wetlands, waterways, filled tidelands, endangered species, and cultural resources for the preferred route. NGV engages National Grid's internal Real Estate Department, third-party real estate and right-of-way agents, and attorneys as appropriate, to commence surveys and appraisals for any property rights that need to be acquired. The internal personnel dedicated to acquiring and managing real property have extensive experience in negotiating and acquiring fee and leasehold interests, easements for transmission and distribution rights-of-way as well as the rights and permits needed for utility infrastructure to occupy public ways, state roads and highways.

National Grid has a consistent track record of approvals from local and state agencies. Since the mid-1970s, National Grid and its predecessor companies have submitted more than 50 major state level permit approvals for new electricity and natural gas transmission projects in the Northeast. Recently, NGV US Transmission via NY Transco, has undertaken two successful project applications since 2019, the NYES Segment B project and the Rock Tavern to Sugarloaf project with record Article VII approvals in New York. Additionally, NGV US Transmission's affiliate, Community Offshore Wind, has experience working in and with the communities of New York and New Jersey to identify routes and acquire the rights necessary to develop transmission infrastructure.