Grant Request Number	GRN-000521
Funding Program Name	Middle Mile Broadband Infrastructure Grant Program
Funding Request Name	Baltimore Gas & Electric - Middle Mile - GRN-000521
Applying Organization	Baltimore Gas and Electric Company
Applicant Name	David Greenberg

Primary Applicant Type

Identify the primary applicant type:

Single Entity

———

Primary Entity Type

Type of entity: Primary entity type, (A) a State, political subdivision of a State, Tribal government, technology company, electric utility, utility cooperative, public utility district, telecommunications company, telecommunications cooperative, nonprofit foundation, nonprofit corporation, nonprofit institution, nonprofit association, regional planning council, Native entity, or economic development authority; or (B) a partnership of two (2) or more entities described in (A).

What is the primary applicant's entity type?

Electric Utility

———

Is parent/owner of applicant a foreign entity?

No

———

Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

[redacted]

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[redacted]

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Organizational Charts

Each applicant shall submit any necessary organizational chart(s) detailing all of its parent companies, subsidiaries, and affiliates.

[redacted] LOS - CAI - Bowie State University-09-28-2022 07-17-Baltimore Gas and Electric Company-GRN-000521.pdf, LOS - CAI - UMBC-09-28-2022 07-17-Baltimore Gas and Electric Company-GRN-000521.PDF, LOS - County - Howard County-09-28-2022 07-17-Baltimore Gas and Electric Company-GRN-000521.pdf, LOS - City - City of Laurel-09-28-2022 07-17-Baltimore Gas and Electric Company-GRN-000521.pdf, LOS - County - Baltimore County-09-28-2022 07-17-Baltimore Gas and Electric Company-GRN-000521.pdf, LOS - CAI - Anne Arundel DPW-09-29-2022 12-45-Baltimore Gas and Electric Company-GRN-000521.pdf, LOS - County - Anne Arundel County-09-29-2022 12-45-Baltimore Gas and Electric Company-GRN-000521.pdf, LOS - Industry Supporter - MdBC-09-29-2022 11-45-Baltimore Gas and Electric Company-GRN-000521.pdf, [redacted]

[redacted] LOS - Ft Meade-10-28-2022 01-29-Baltimore Gas and Electric Company-GRN-000521.pdf, LOS - Baltimore City-10-28-2022 01-29-Baltimore Gas and Electric Company-GRN-000521.pdf

———

Organizational Details

Each applicant must also provide a narrative describing the applicant's readiness to manage a middle mile broadband network. This narrative should describe the experience and qualifications of key management set to undertake this project, the applicant's experience undertaking projects of similar size and scope, recent and upcoming organizational changes including mergers and acquisitions, relevant organizational policies, and ownership information consistent with 47 CFR § 1.2112.

This narrative shall denote who will own the assets at the end of award period. This response is limited to 6000 characters as an open field narrative.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

———

Form CD-511 (Certification Regarding Lobbying)

The applicant must upload a completed form that certifies that Federal funds have not and will not be used for lobbying in connection with this request for Federal financial assistance. A fillable Form CD-511 can be found in the MMG ZIP folder.

Applicant Info - 3-09-23-2022 04-50-Baltimore Gas & Electric Company-GRN-000521.1 - CD-511 - 9.23.2022 .pdf

———

Standard Form-LLL (Disclosure of Lobbying Activities)

Standard Form-LLL must be completed and submitted for those applicants that need to disclose lobbying activities that have been secured to influence the outcome of a Federal action. A fillable Form SF-LLL can be found in the MMG ZIP folder.

———

SAM.gov Registration

Applicants are asked to upload a screenshot of their SAM.gov registration.

BGE Middle Mile - SAM-Baltimore Gas & Electric Company-GRN-000521.gov Registration CF7AQKTJP2B9.pdf, SAM-03-15-2023 12-42-Baltimore Gas and Electric Company-GRN-000521.gov Screenshot.jpg

———

Executive Summary

Please describe how the applicant's proposal will advance the objectives of the MMG Program, as well as the specific objectives of outlined in the Notice of Funding Opportunity (NOFO);

An overview of the proposed route or service area(s), including information regarding rurality and socio-economic indicators in the area to be served by the proposed project.
This response is limited to 12000 characters as an open field narrative.

Introduction:
Equitable access to high-speed broadband has played a critical and increasing role in how Americans work, learn, play, receive health care, and grow the economy. This is especially true in central Maryland with its rich diversity of communities, businesses, educational and other institutions, as well as vital national security facilities. These important Maryland stakeholders have distinct needs for more affordable broadband options, higher speed services to support remote learning and working, and more resilient and redundant communications infrastructure in the face of more severe weather events and cybersecurity threats.

Baltimore Gas and Electric Company's (BGE) Underground Fiber Project (the Project) will facilitate highspeed broadband deployment to currently unserved or underserved areas and improve affordability in already-served markets, with special emphasis on enabling lower priced broadband for economically vulnerable communities while bolstering national security and other vital community anchor institutional interests. BGE will make an excellent middle mile partner as it currently operates an extensive fiber network supporting grid operations, has deep expertise in building large, complex critical infrastructure projects and is dedicated to providing safe, reliable, sustainable, and affordable solutions for its customers. The $30.9 million Project – with BGE providing a funding match of 50.02% – will be comprised of 69.9 route-miles of underground middle mile fiber communications infrastructure that will drive substantial end user benefits and encourage new last-mile broadband providers to enter this market, including those offering low-priced internet access plans. To address the urgent need, the Project will be 43% complete in just two years and 100% complete by the end of year four.

BGE proudly offers NTIA a compelling middle mile project that provides many benefits to central Maryland citizens and Community Anchor Institutions (CAIs), as well as the broader regional populations they serve, including several unique benefits given BGE's strengths as a utility:

-Competitive Pricing – The Project will enable a significantly lower cost of service to households via open, non-discriminatory open access interconnection to last mile broadband providers that can pass cost savings on to customers for high-speed access (1GB download/upload speeds).

-Improving Latency – The Project will install new, high capacity, modern fiber cable deployed in underground conduits with minimal splice points, providing a significant improvement in latency compared to existing dark fiber in the Project area.

-Supporting Poverty-Stricken Areas – The Project has support from internet service providers (ISPs) offering affordable, equitable internet that would directly benefit the cities of Laurel, Elkridge, Columbia, Bowie, Glen Burnie, Linthicum, and Brooklyn Park that have concentrations of underserved

and/or economically disadvantaged populations.

-Supporting Unserved Areas – While the Federal Communications Commission (FCC) map suggests that several ISPs exist in the area, there are still over 8,500 unserved residents and only one provider that offers a low-income or affordable internet option.

-Catalyzing Workforce Development, Highly Skilled Workforce, Fair Wages – The Project will utilize BGE's long-established workforce development programs and non-profit partners, employ local and diverse suppliers and contractors, and procure American-made products and materials.

-Enhancing Climate Resiliency – The Project is 100% underground and designed to withstand the worst impacts of climate change, such as severe winter weather, tropical storms and high wind events present in the area, which in turn supports communities with less resources to manage outages as well as national security.

-Improving Energy Reliability – Fiber for the electric grid improves reliability and resiliency which is necessary to operate the grid and enables renewables and clean energy technologies in support of Maryland state policy goals; both further national security interests as well. If this grant is awarded, BGE plans to invest in additional fiber for grid hardening incremental to the NTIA funds.

Impact to Families in Our Communities:
BGE is committed to leading Maryland to an environmentally and economically sustainable future. Internet service must be fast, reliable, and affordable for families to thrive and improve their economic situation, opening doors for better access to remote education and higher paying jobs. According to the national not-for-profit Education Superhighway, nearly two-thirds of unconnected households have access to a home broadband connection but are offline because they cannot afford to connect. Affordability is now the number one barrier to closing the digital divide – which today impacts over 306,000 Maryland residents. Internet service without affordability is not internet service for all.

There are many communities of need in the Project path – including concentrated areas in Laurel, Elkridge, Columbia, Bowie, Glen Burnie, Linthicum and Brooklyn Park – that will directly benefit from more affordable broadband options. In these areas alone, there are over 33,000 households currently using the Affordable Connectivity Program (ACP) and Emergency Broadband Benefit (EBB) subsidy (which does not deliver 100MBps down/20MBps up in this market) as well as over 74,000 school children who receive free or reduced lunches. While there are currently multiple ISPs in central Maryland, none provide the combination of affordable prices and bandwidth at or above FCC's definition of underserved. The Project will enable a significantly lower cost of service to families by offering non-discriminatory interconnection to existing, emerging and new last mile broadband providers in the area that can pass middle mile cost savings from the Project on to customers for highspeed access, driving consumer competition, choice and affordability. BGE includes 5 Letters of Support (LOS) from ISPs, plus one Memorandum of Understanding, indicating interest in partnership

and support for achieving these last mile objectives.

The Project will also be a catalyst for job creation and diverse and local spend. BGE has a long track record of workforce development and community job creation. The Project workforce strategy seeks to focus on citizens within the targeted Project areas who have historically faced systemic and socioeconomic barriers to infrastructure work. BGE commissioned a study to identify sustainable career paths, skills and salary levels for broadband job creation and seeks to increase the number of underrepresented populations trained, certified, and employed in trade careers supporting the energy and broadband sectors. To expedite the Project, BGE has already begun targeted outreach to industry, local partners, and engineering and construction firms. For diverse supplier spending, in 2021 BGE spent over a half billion dollars on diverse-certified and/or local suppliers and contracts, representing 41% of its annual spend. BGE will fully leverage its diverse supplier program for construction of the Project with the objective of meeting or exceeding diverse spend targets. The Project will also be 100% compliant with the Build America, Buy America Act (BABA) requiring domestic manufacture of manufactured products and construction materials.

Additionally, if awarded, BGE plans to invest incremental capital to connect 20 electric substations to the underground fiber backbone, separate and distinct from the Project's matching funds. This highspeed, low latency, climate-resilient connectivity for the power grid will improve reliability, support advanced monitoring capabilities and automation, increase cybersecurity and enable grid interconnection of renewable energy resources. This additional benefit amplifies Project outcomes by enhancing the quality of life for communities – especially those in need who are most vulnerable – as well as improving reliability for CAIs, businesses, and nearby national security interests.

Impact to Anchor Institutions in Our Communities:
CAIs are enduring organizations that play a vital role in their local communities and economies; they are the "glue" that binds together neighborhoods, towns, and cities that make this region a great place to live, work, learn, play, raise families, and start new businesses. The Project is directly aligned with the NTIA anchor institution objective of promoting broadband connection resiliency through the creation of alternative network connection paths designed to prevent single points of failure of broadband. Key CAIs include US Army base Ft. Meade, Bowie State University, the Jessup Correctional Institution as well as schools, libraries, fire, safety, and community organizations (total of 50). The Project is also designed to enable connection of unserved CAIs, such as Anne Arundel County's Dept. of Public Works (DPW) renewable biogas plant at the Millersville Landfill.

Nearby County government fiber networks will also benefit along the Project route. The Project will provide all four Counties with new, climate-resilient middle mile infrastructure that will add important redundancy to complement existing communications networks. Anne Arundel, Howard, Prince George's and Baltimore counties have provided LOS expressing enthusiasm for partnering with BGE on new fiber construction that could potentially be leveraged to accelerate County network deployments and reach underserved areas.

As another example, the Project will have significant impacts for Bowie State University (BSU), a premier Historically Black College and University. BSU has also expressed support for the Project as the planned high-speed, resilient fiber infrastructure will help amplify the school's mission of empowering its diverse population of students to reach their potential by providing innovative academic programs and transformational experiences. The Project will be a key enabler for BSU's Center for Cyber Security and Emerging Technologies, which is an initiative with the National Security Agency and the Department of Homeland Security to increase the pool of locally educated cyber security professionals.

Finally, the Project brings mission-critical value to national security interests in the form of communications redundancy and resiliency for Fort Meade, which provided a LOS, and the agencies on -site including, but not limited to, U.S. Cyber Command, the National Security Agency and the Defense Information Systems Agency. The underground middle mile dark fiber backbone will create easier and lower-cost servicing of federal agency assets and supports the U.S. Army Climate Strategy's resilience and sustainability goals, including microgrids developed on every Army installation by 2035 – which can be enabled by highspeed, low latency fiber communications – an area in which BGE has expertise as a utility.

In Closing: BGE is proud to lead and advance shared local, State and national goals to increase broadband connectivity, affordability, and equity with our innovative middle mile infrastructure Project. The Project is a natural extension of BGE's leadership in central Maryland for more than 200 years. That kind of longevity does not happen by chance. It happens because of the company's people – the majority of whom live and work in these communities – who are committed to shaping the next horizon for a brighter, more equitable future for central Maryland.

———

Level of Need

A description of the level of need in the proposed service area(s), including but not limited to communities considered unserved and/or underserved in the proposed service area(s), discussion of the competitive landscape in the area, variations among service areas if there are any, or the general economic conditions in the proposed funded service area.

This response is limited to 12000 characters as an open field narrative.

[redacted]

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[redacted]

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State Collaboration Acknowledgement

NTIA strongly encourages prospective non-state applicants to coordinate and consult with the State Broadband Office or other coordinating body located in the jurisdiction in which the eligible entity proposes to deploy middle mile infrastructure to ensure that the proposal is consistent with the state's broadband plan and priorities. Please confirm collaboration and consultation.

Do you confirm collaboration and consultation with the appropriate organization?

Yes

———

State and Local Collaboration Narrative

Please provide information on the applicant's coordination with applicable State, Territory, Tribal, and local governments, including their awareness of the proposed project and any potential impact to respective service areas; and

Information regarding the applicant's involvement and coordination with community organizations or other relevant partners in the proposed service area.

This response is limited to 6000 characters as an open field narrative.

[redacted]

[redacted]

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[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

———

Will the project connect middle mile infrastructure to last mile networks that provide or plan to provide broadband service to households in unserved areas?

Yes

———

Is the project connecting non-contiguous trust lands?

No

———

Do you commit to offering wholesale broadband service at reasonable rates on a carrier-neutral basis?

Yes

———

The eligible entity adopts fiscally sustainable middle mile strategies. This strategy should be described in the Budget Narrative.

Do you attest to this?

Yes

———

The eligible entity commits to offering non-discriminatory interconnect to terrestrial and wireless last mile broadband providers and any other party making a bona fide request. This policy will be described in the Interconnect Policy.

Do you attest to this?

Yes

———

[redacted]

———

The eligible entity has identified supplemental investments or in-kind support (such as waived franchise or permitting fees) that will accelerate the completion of the planned project. Such acceleration may be described in the Project Timeline narrative.

Do you attest to this?

Yes

———

[redacted]

———

Please describe:

The BGE Underground Fiber Project (the Project) uniquely improves redundancy, resiliency and greater access to broadband for national security interests by delivering 100% underground middle mile dark

fiber backbone with redundant pathing in direct proximity to United States Army and Department of Defense installations. Of note is CAI Ft. Meade, the U.S. Army's second largest installation, and the agencies on-site including, but not limited to, U.S. Cyber Command, the National Security Agency and the Defense Information Systems Agency. This design specifically supports the Army's Climate Strategy (ACS) that states "climate change threatens America's security" and Executive Orders 14009 and 14057 that instruct the U.S. government to focus on resilience. The Project also supports CAI Bowie State University, which has an important national security role via their computer science and cyber security degree programs, validated by the National Security Agency. Maryland's Department of Corrections and Prison Systems Jessup Correctional Institution, a CAI critical to the area's public safety, has a number of online prisoner rehabilitation programs such as the Prison Scholar Program which are enabled by access to high-speed middle mile fiber.

[redacted]

———

Project Duration

Number of Years

4

———

Project Timeline Narrative

The narrative requires the Applicant to describe a project with critical path, including key milestones for implementation of the project, preparations, and risk factors; and a capital investment schedule evidencing that the applicant will complete build-out and the initiation of service within five years of the date on which the entity receives the grant and will meet interim buildout requirements set forth herein and in any other binding document.
If the project is able to be accelerated with supplemental investments or in-kind support to meet a statutory purpose, this should be explained.

This response is limited to 6000 characters as an open field narrative.

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Is an extension being requested?

No

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Special Rules for Tribal Governments and Native Entities

The Infrastructure Investment and Jobs Act permits the Assistant Secretary, in consultation with Tribal governments and Native entities, to waive, or specify alternative requirements, in connection with most directives governing the MMG Program if the Assistant Secretary finds that waiver or modification of the requirement is necessary for (a) the effective delivery and administration of middle mile grants to Tribal governments or (b) the construction, improvement, or acquisition of middle mile infrastructure on trust land.

Is a waiver or alternative requirements requested?

No

———

Fair Labor Practices

Applicants must have a demonstrated record of and plans to be in compliance with federal labor and employment laws as described in III.H in the NOFO. This will help ensure that projects are carried out in accordance with the law, assist NTIA in ensuring that a prospective awardee is capable of carrying out activities funded by an award in a competent manner in compliance with all applicable federal, state, and local laws; and promote the effective and efficient completion of high-quality middle mile broadband infrastructure projects by ensuring a reliable supply of skilled workers and minimizing disruptive and costly delays.

This response is limited to 6000 characters as an open field narrative.

[redacted]

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[redacted]

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Officer Certification

In order for NTIA to evaluate an applicant's demonstrated record of and plans to be in compliance with federal labor and employment laws, each applicant must provide examples of items described in III.H in the NOFO. Applicants are asked to upload a Certification from an Officer/Director-level employee (or equivalent) of the applicant evidencing consistent past compliance with federal labor and employment laws by the applicant, as well as contractors and subcontractors.

1-09-27-2022 01-22-Baltimore Gas and Electric Company-GRN-000521.12 - Certification of Compliance with Federal Labor & Employment Laws - 9-26-22 - Signed.pdf

———

Highly Skilled Workforce

To ensure that applicants have the technical and operational capacity to carry out the project, applicants must submit a plan for ensuring that the project workforce will be an appropriately skilled and credentialed workforce (including by the applicant and each of its contractors and

subcontractors). The plan for a highly skilled workforce should include the information described in III.I in the NOFO.

This response is limited to 6
000 characters as an open field narrative.

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[redacted]

[redacted]

Advancing Workforce Development

A skilled workforce is critical to meeting infrastructure buildout timelines under the Infrastructure Act and connecting households across the country to reliable, affordable, high-speed broadband. A well-trained workforce will also allow for the safe deployment of sustainable networks. To meet the

workforce needs of the MMG Program, applicants must make appropriate investments to develop a skilled, diverse workforce. Each applicant must provide as part of its application examples of items described in III.J in the NOFO.

This response is limited to 6000 characters as an open field narrative.

Equitable workforce development and job quality are priorities to BGE and part of its operating model. BGE has a long-established record of developing successful workforce development (WFD) programs and highly trained workers, a key benefit for the BGE Underground Fiber Project (the Project), local workers and the Maryland economy. BGE will leverage its current and planned WFD programs to drive development and use of a highly skilled workforce in a manner that is safe and effective as part of the Project.

To bolster job opportunities for underrepresented populations, BGE has spent $546 million (41%) of all its supply chain expenses on diverse suppliers in 2021, which includes businesses run by people of color, women, veterans, and people with disabilities. Note that BGE's support goes beyond simply spending, as it helps to train and prepare these businesses to meet stringent industry expectations and requirements including, for instance, to meet cybersecurity controls. [redacted] Exelon was the first utility that launched the Inclusion Initiative, whose members commit to spending at least $1 million annually with minority- and/or women-owned law firms. BGE commits to extending diversity spend goals to the Project.

BGE will continue to work with local WFD agencies and community-based nonprofits to attract, train and retain a diverse pool of local workers, including targeted outreach to populations that have traditionally been underrepresented in broadband and information technology jobs. Currently BGE recruits through several different resources including the Direct Employers Association which allows BGE to advertise open positions on several job boards geared towards attracting diverse candidates including women, persons of color, persons with disabilities, veterans, and persons for whom English is not a first language. BGE also frequently coordinates career fairs with its 12 local university and community college partners, with special focus on its Historically Black Colleges and Universities (HBCU) partners. BGE also invests in at least 5 non-profits specializing in digital equity (Pratt for Digital Divide, Byte Back, Baltimore Digital Equity Coalition, PCs for People, Digital Harbor Foundation) and is continually evaluating new partnerships.

BGE will continue to heavily invest in education and training for students to grow the local workforce pool. Since 2016, BGE has implemented the Smart Energy H.S. Internship program with 300 students participating, offered in partnership with regional technology education high schools. Graduates of the program are considered for summer internships to extend the classroom experience and ensure students have gained additional experience needed for full-time roles at BGE. Students hired from the internship program into full-time roles can double their hourly wages. The BGE Workforce Collaborative, a program offered in partnership with local non-profit Civic Works, is an intensive 2-month job training program that equips under- or unemployed adults with necessary skills to begin a career within the utility industry. [redacted] BGE also offers driver's education and provides a vehicle for the test, since lack of transportation is often a barrier to successful employment. Participants hired through BGE can also qualify for tuition reimbursement if they plan to further their education to continue to grow their career prospects.

BGE partners with universities and community colleges to open access to post-secondary education and training in fields that prepare students to work in STEM and energy sector careers. BGE's HBCU partnerships specifically support programs that remove education barriers and promote persistence in STEM majors for diverse students. BGE partners with CAI Bowie State University to support occupational skill training programs that offer industry-recognized credentialing and licensure. BGE also supports nonprofit organizations that connect youth and adult job seekers to occupational skills training programs in technology fields (IT and software development), construction, skilled trades, manufacturing, and other related in-demand sectors in central Maryland. Additionally, BGE partners with organizations that provide wrap-around services to eliminate yet another barrier to employment.

[redacted]

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Climate Resiliency

Please demonstrate that the applicant has sufficiently accounted for current and future weather- and climate-related risks to new MMG Program infrastructure projects. In particular, each applicant should clearly demonstrate how it is conducting the items listed in III.K in the NOFO.

This response is limited to 6000 characters as an open field narrative.

The BGE Underground Fiber Project (the Project) mitigates the impacts of climate and increasingly severe and frequent weather-related risks in several ways:

1. Protecting the proposed infrastructure by building exclusively underground fiber
2. Improving resiliency and reliability via a ring design with redundant paths that will limit outages
3. Strengthening energy reliability and economic, health and safety resiliency by promoting electric grid hardening and resiliency as an added benefit of the Project adjacent to BGE electric substations. Energy security is particularly critical for disadvantaged communities with less resources to respond to climate related events that cause extended outages or loss of internet
4. Ensuring long-term network health by building on BGE's existing best practices for asset management, maintenance and inspection

BGE has detailed plans for periodically repeating weather and climate-related assessments over the life of the project and are refreshed in alignment with the release of a new IPCC Assessment report every 4 years.

Current impact to Prince George's, Howard, Anne Arundel and Baltimore Counties, MD include: Prince George's County is a NOAA-identified at-risk county due to its exposure to climate and environmental risks that are often double the national average and higher than the Maryland state average. These risks include drought, freeze risk, severe storm risk (29.95 risk index score for PG's vs 16.99 for the US), tropical cyclones, and winter storms (27.04 risk index score compared to 13.71 for the US). FEMA data indicates increasing propensities for heat waves, lightning, strong winds and severe winter weather. The City of Bowie is notably vulnerable with higher concentrations of underserved with economic challenges.

Outside of Prince George's County, NOAA and FEMA data indicate that several other localities along the Project route area have significant climate risk. As a result of natural disasters across BGE's proposed route, expected annual monetary loss is estimated at $60 million. Howard County and Anne Arundel County are projected to experience above average levels of agricultural damage because of climate change, illustrating their sensitivity. Baltimore County has been identified as a high-risk area for natural disasters due to both cold and heat waves, hurricanes, lightning, strong wind, tornados and winter weather. Extreme weather events across the Project area are likely to increase. Therefore, it is

imperative that new infrastructure prioritizes resiliency to these known risks.

BGE's fiber build is designed to mitigate some of the worst impacts of climate change such as severe winter weather, tropical storms and high wind events that disproportionally impact unserved and underserved communities in the Project area, [redacted] All 69.9 miles of fiber will be underground, with multiple conduits, open trench construction and added network redundancy due to a ring design (see network route map). BGE's experience undergrounding electric and gas lines will support an efficient build, leveraging industry best practices. It will also protect the new fiber over the next 20 years and is more cost-effective than overhead fiber by reducing the risk of post-disaster relief, repair and replacement.

[redacted]

As an added benefit, the Project's adjacency to BGE's transmission system also unlocks BGE's ability to improve electric grid redundancy and climate resiliency, reducing disruptive outages and minimizing the risk of expensive damage and repairs. Currently, much of BGE's fiber is overhead, exposed to storms and climate risks. If awarded, BGE plans to connect [redacted] transmission substations with fiber in a dedicated underground conduit at its own cost. Fiber adds significant benefits to electric customers as it enables real-time communications, monitoring for grid operators and enables clean renewable interconnections, while the ring design improves redundancy and resiliency. Given that climate damage and power outages disproportionately affect economically vulnerable communities who may not have the resources to bear unplanned expenses, the Project's route through significant economically vulnerable populations will help them obtain the benefits of improved reliability and energy security [redacted]

BGE's continuous volume of construction work requires constant communication with each County's environmental permitting offices and the Maryland Department of Environment (MDE). BGE is intimately familiar with environmental agencies, forms and review processes and has a deep knowledge of the specific terrain, including recurring or new environmental issues.

BGE monitors its fiber assets for connectivity and up-time and has procedures in place to respond to any incidents, including a ticketing system for incident tracking and an inventory management system to track assets. There are well-established
inspection programs for the ROWs used by the Project, with regular inspections and maintenance including culverts, maintenance & mowing, and tree trimming approximately every 5 years.

References: NOAA's Disaster and Risk Mapping Tool & FEMA's National Risk Index

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Civil Rights and Nondiscrimination Law Compliance

Prior to distributing any MMG Program funding to a prospective awardee, NTIA will require the prospective awardee to agree, by contract or other binding commitment, to abide by the non-discrimination requirements set forth in III.J in the NOFO.

Do you agree to abide by the non-discrimination requirements?

Yes

———

Certification of Technical Capability

Each applicant must supply a certification attesting that it is technically qualified to complete and operate the proposed project.

[redacted]

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Interconnect Policy

The Applicant must describe in detail the nondiscrimination, interconnection, and network management practices that would be adopted for the project facilities. The Applicant should describe how it will comply with nondiscrimination and interconnection obligations, particularly with connectivity to the public Internet and physical interconnection for the exchange of traffic. In addition to describing network management practices, the Applicant should disclose any practices in place to block access to illegal or harmful content.

This response is limited to 6000 characters as an open field narrative.

The purpose of the BGE Underground Fiber Project (the Project) is to facilitate the deployment of high-speed broadband to unserved and underserved end users as well as improve affordability in already-served markets. To realize this goal, it is imperative that BGE's outreach strategy, network design, policies and pricing encourage last mile providers to leverage the Project's dark fiber and conduit services to provide customers with faster and less expensive internet access options, acting as a step forward in reaching the possibility of making internet access affordable for all. Carrier neutrality, including nondiscrimination, open access interconnection and transparent network management practices, is an essential benchmark to show that BGE is fulfilling its objectives.

The Project will comply with NTIA's required non-discrimination, interconnection and network management practices by building on transparent, nondiscrimination practices already in place at BGE as required by regulated utility standards. BGE currently owns and operates hundreds of miles of private fiber to manage the electric grid. BGE will leverage the operational and cybersecurity best practices already in place as a utility to meet the standards outlined in the NOFO. BGE's experience designing, engineering, constructing, implementing and managing a large fiber network will be leveraged for the Project's network providing community and 3rd party use. BGE does not currently operate or lease dark fiber or conduit to third parties; as such, BGE does not currently publish an interconnection policy.

If BGE is awarded this grant and the Project is constructed, BGE commits that it will publicly publish its Interconnection Policy (stated below) prior to the in-service date of the Project network on its public company website. The Policy will remain in place in perpetuity. This web page will be updated as needed to comply with NTIA standards for the duration of the operation of the Project network.

The planned Non-Discrimination and Interconnection policies are stated below:

Non-discrimination:
BGE will meet the requirements set forth by the FCC's Internet Policy Statement, FCC 05-151, adopted August 5, 2005, regarding non-discrimination and active encouragement of broadband deployment and the preservation and promotion of the open and interconnected nature of the public internet.

Interconnection:
BGE's middle mile service offering will be high-capacity, point-to-point private line transport services. BGE will not manage or limit the content of communications traffic transiting BGE's network, except to the extent necessary to maintain safe and reliable service or during necessary outages associated with maintenance and repair. BGE's network management practices will not involve preferential routing of traffic based on content or provider or density of end user population. BGE will utilize neutral traffic routing and will enable connections to other carriers and to the public internet. BGE will display its network management policies in a prominent location on its webpage, which it commits to publishing prior to the Project's in-service date and will provide notice to customers of changes to these policies.

BGE will encourage last mile providers to comply with non-discrimination and interconnection policies. Last mile providers will be asked to disclose practices in place to block access to illegal or harmful content. Because BGE will provide an unmanaged dark fiber and conduit leasing service, BGE will not have access to data passing through the network and, as such, not have any way to audit and restrict content on the network. BGE will not manage or limit the data or content of communications traffic transiting the Project network, except to the extent necessary to maintain reliable service, following all applicable federal and state laws governing the transmission of illegal or harmful content.

To ensure the Project will be utilized and achieve end user objectives, BGE has actively pursued stakeholder engagement across the broadband ecosystem, emphasizing jurisdictions to validate specific communities in need and last mile providers who may interconnect with the Project. BGE has recruited multiple ISPs as potential last mile partners, evidenced by their LOS and MOU. Several of these ISPs are new to the Project area, Maryland market and/or focus on affordable plans for end users. The Project's nondiscriminatory interconnection policies, as well as physical design and wholesale pricing approach will remove barriers to market entry, create more provider choice and affordable plan options.

BGE will interconnect with other carriers to exchange traffic at their primary network Point of Presence (POP) locations and other network nodes, where feasible. BGE will negotiate with bona fide requesting parties to interconnect on negotiated, commercially reasonable terms and conditions. BGE will give preferences, where allowable by local law and regulation, to last mile providers offering affordable broadband service plans that deliver speeds above FCC defined minimums. With this priority, BGE is hopeful that the residents, CAIs and institutions who utilize the internet as a result of this Project will have access to useful, improved broadband service.

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Technical Overview

Please describe targeted last mile service objectives, including last mile service provider letters of commitment, agreements, or contracts; and a description of the proposed service offerings, including the pricing of the services to be offered over the proposed facility.

This response is limited to 6000 characters as an open field narrative.

[redacted]

[redacted]

[redacted]

[redacted]

Applicants are encouraged to upload supplemental documentation.

[redacted]

Competitive Landscape

The Applicant should describe existing middle mile offerings in the area, if any, including competitor data if applicable. This should include a description of the proposed service offerings, including the pricing and technology of the services to be offered over the proposed facility. Where possible,

Applicant's project should be able to demonstrate a decline in middle mile costs that are likely to flow through to consumer broadband prices.

This response is limited to 6000 characters as an open field narrative.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

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Type of technology to be used in proposal:

Fiber Optic Technology

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Each applicant of an award to build middle mile infrastructure using fiber optic technology shall certify that the proposed project, upon completion, will include direct interconnection facilities that will facilitate the provision of lit broadband service, at speeds not less than 1 Gigabit per second for downloads and 1 Gigabit per second for uploads to anchor institutions located within 1,000 feet of the middle mile infrastructure, as detailed in the Template CAI below.

Do you agree to certify to the above?

Yes

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Upload Template CAI. Required for Fiber Optic Technology, optional for Wireless or Other.

[redacted]

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An eligible entity applying for a middle mile grant may seek, and the Assistant Secretary may grant, a waiver of the requirements set out in the previous paragraph, in full or in part, to the extent the eligible entity demonstrates that the requirement is not technically or economically feasible.

Do you plan to apply for a waiver? If yes, please attach the waiver application in the Application Workspace, the Application Information section, Required Documents under Required Document Question 4 "Additional Waiver Upload".

No

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Network Route Maps

Applicants should provide a physical network map that includes the following (if applicable):

The Project Area and those unserved and underserved areas which it will enable.
Applicant‘s pre-existing service area that demonstrates current service levels.
The physical path of the network‘s transmission medium (e.g., backbone and lateral cable routes, microwave links), transmission type, technology, operating bandwidth, capacity (e.g., dark vs. lit strand count), and cable placement (e.g., aerial, burial) should be displayed.
Points of interconnection (purely passive and non-environmentally controlled nodes, e.g., splice points are optional):Provider Facilities
Collocation Facilities
Private Interconnection Points with partnering service provider/private network

Wireless towers and associated coverage areas.
Anchor institutions within 1,000 feet, if desired.
Additionally, the maps should delineate between network and facilities that are:Part of the Applicant's/key partners' existing network;
Proposed as part of this project;
Leased from a third party;
Utilized under some alternative arrangement; or
Relevant to interconnection with either Last Mile or Middle Mile service providers.

PLEASE NOTE: Only ESRI Shapefiles will be accepted and uploaded.

[redacted]

[redacted]

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Data Submission Specification

There is a template "Upload Template Data Submission Specification" which shall be uploaded. Applicants must complete the table with information for all interconnection points proposed for the network. This table has three required fields: Point Name, Latitude and Longitude. This should accommodate all of the points of interconnection (passive, non-environmentally controlled points of interconnection, e.g., splice points, may be excluded), collocation facilities, central offices, head ends, and other centralized facilities, network access points to Last Mile service providers, Internet peering points, and towers.

[redacted]

Network Logical Diagram

The Applicant must provide network diagrams to be uploaded for the project including all of the network elements and the capacity, facilities, and mileage between each element. The diagram must clearly denote which of the network elements already exist. The diagrams must also explicitly show:

The links between the network nodes. The types of facilities used in connecting all the network elements (fiber, copper, microwave, etc.).
Internet peering points, access to local exchange carriers and central offices and cable head ends.
The proposed aggregation node facilities that will provide the egress point(s) from the broadband backbone to the networks of the selected service provider(s), Last Mile service providers, and the selected Internet Service Provider(s) and any other value-added services that may be provided in the new infrastructure.
The points of interconnection and collocation facilities.

The Applicant should show how traffic originates on the network and flows through the network, delineating which protocols are used on each link, and which technologies and standards are used at each junction. The diagram should include capacity constraints for each network element.

[redacted]

Environmental Narrative

Any project-related activity that may adversely affect the environment must not be undertaken prior to the completion of the environmental review process prescribed by NTIA. Doing so may jeopardize consideration of the application.

All Applicants for MMG projects must comply with the National Environmental Policy Act, the National Historic Preservation Act, and the Endangered Species Act, and other applicable environmental regulations.

Please provide a service-area environmental description that describes the physical project area and its surroundings (e.g., disturbed or developed land vs. open space; adjacent natural resources, such as rivers, wetlands, or forestlands; and any protected lands or resources in or near the project area), including site photographs and aerial photographs (e.g., Google Earth or Google Maps images), if the project includes construction and/or ground disturbing activities.

This response is limited to 12000 characters as an open field narrative with image files to be uploaded.

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Upload Map Images:

[redacted]

Template Table of Funded Partners and Unfunded Collaborators

List all funded and unfunded project collaborators, including partners, subrecipients, match providers, major contractors/supplies, details on role/scope of work for project. A fillable Template of Funded Partners and Unfunded Collaborators can be found in found in the MMG ZIP folder.

[redacted]

Certificate of Operational Capability

Each applicant must supply a certification from an officer-level employee (or individual of comparable rank) attesting to the applicant's operational capability to complete and operate the proposed project.

If the applicant has provided a voice and/or broadband internet access service, it must supply a certification from an officer-level employee (or individual of comparable rank) attesting that it has filed FCC Form 477s and the Broadband DATA Act submission, if applicable, to the extent required during this time period and otherwise complied with the Commission's rules and regulations. Alternatively, the applicant must explain any pending or completed enforcement action, civil litigation, or other matter in which it was alleged to have failed to comply with Commission rules or

regulations.

If the applicant has operated only an electric transmission or distribution service, it must submit qualified operating or financial reports that it has filed with the relevant financial institution for the relevant time period along with a certification that the submission is a true and accurate copy of the reports that were provided to the relevant financial institution.

If applicable, the applicant must submit a certification from an officer-level employee (or individual of comparable rank) that is has operated a middle mile broadband network for at least two years or that it is a wholly owned subsidiary of such an entity and must specify the number of years the applicant or its parent company has been operating.

Project Info - 3-09-23-2022 04-45-Baltimore Gas & Electric Company-GRN-000521.3 - Certificate of Operational Capability - 9.23.2022.pdf

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Certification of Financial Capability

Each applicant must supply a certification from an officer-level employee (or individual of comparable rank) attesting that it is financially qualified to meet the obligations associated with a project, that they will have available funds for all project costs that exceed the amount of the grant, and that they will comply with all MMG Program requirements, including service milestones.

Budget Info - 1-09-23-2022 04-18-Baltimore Gas & Electric Company-GRN-000521.1 - Certification of Financial Capability - 9.23.2022.pdf

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Letter of Credit

During the application process, each applicant must submit a letter from a bank meeting eligibility requirements consistent with those set forth in 47 C.F.R. § 54.804(c)(2) committing to issue an irrevocable stand-by letter of credit, in the required form, to the applicant. The letter shall at a minimum provide the dollar amount of credit offered and the issuing bank's agreement to follow the terms and conditions of NTIA's model letter of credit. NTIA shall publish on its website a model letter of credit substantially similar to the model letter of credit established by the Federal Communications Commission in connection with the Rural Digital Opportunity Fund (RDOF - Rural Digital Opportunity Fund Order, 35 FCC Rcd at 773-77, Appx. C.).

NTIA will ensure, prior to issuing a middle mile grant award, that each eligible entity obtains an acceptable, irrevocable standby letter of credit in a value of no less than 25 percent of the award amount.

Each eligible entity shall provide with its letter of credit an opinion letter from its legal counsel clearly stating, subject only to customary assumptions, limitations, and qualifications, that in a

proceeding under Title 11 of the United States Code, 11 U.S.C. § 101 et seq. (the "Bankruptcy Code"), the bankruptcy court would not treat the letter of credit or proceeds of the letter of credit as property of the winning bidder's bankruptcy estate under Section 541 of the Bankruptcy Code.

[redacted]

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Audited Financial Statement (Previous 3 Years)

Each applicant shall submit financial statements from the most recent fiscal year that are audited by an independent certified public accountant. If the applicant is not audited in the ordinary course of business, in lieu of submitting audited financial statements it must submit unaudited financial statements from the three prior fiscal years and certify that it will provide financial statements from the three prior fiscal years that are audited by an independent certified public accountant by an NTIA specified deadline.

***You must provide 3 years of audited financial statements.**

1-09-28-2022 08-14-Baltimore Gas and Electric Company-GRN-000521.3 - Audited Financial Statements - BGE Income Statement, Balance Sheet, & Cash Flows - 2019, 2020, 2021 - 9.28.2022.pdf, BGE Audited Financials - PWC Letter-04-11-2023 10-16-Baltimore Gas and Electric Company-GRN-000521.pdf

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Historical Financial Statements (Previous 3 Years)

Each applicant shall submit financial statements from the three prior fiscal years that are audited by an independent certified public accountant. If the applicant is not audited in the ordinary course of business, in lieu of submitting audited financial statements it must submit unaudited financial statements from the three prior fiscal years and certify that it will provide financial statements from the three prior fiscal years that are audited by an independent certified public accountant by an NTIA specified deadline.

***You must provide 3 years of historical financial statements.**

1-09-28-2022 08-15-Baltimore Gas and Electric Company-GRN-000521.3 - Audited Financial Statements - BGE Income Statement, Balance Sheet, & Cash Flows - 2019, 2020, 2021 - 9.28.2022.pdf

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Budget Narrative

Applicants will create and submit a budget narrative that adequately describes all proposed activities and costs for their grant-funded project. Applicants must complete the file template, fill in all required information, and upload the file

. The file must be uploaded as a Word file, and not converted to a PDF. You can find additional guidance in the MMG Application Guidance.

[redacted]

Template Detailed Budget Justification

The Detailed Budget Justification spreadsheet must reflect the cost categories that appear on the SF-424 and SF-424C and include itemized calculations for each cost placed under those categories. A fillable Template Detailed Budget Justification can be found in found in the MMG ZIP folder.

[redacted]

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Any other funding provided for this project?

No

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Template Pro Forma

Pro forma financial projection and analysis related to the project's sustainability, inclusive of subscriber (e.g., last mile network connections, other wholesale services), across an eight-year forecast period. A fillable Template Pro Forms can be found in the MMG ZIP folder.

[redacted]