

Application for Federal Assistance SF-424

*** 1. Type of Submission:**

- ☐ Preapplication
☒ Application
☐ Changed/Corrected Application

*** 2. Type of Application:**

- ☒ New
☐ Continuation
☐ Revision

*** If Revision, select appropriate letter(s):**

*** Other (Specify):**

*** 3. Date Received:**

10-24-2022

4. Applicant Identifier:

5a. Federal Entity Identifier:

5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

*** a. Legal Name:** MidAmerican Energy Company

*** b. Employer/Taxpayer Identification Number (EIN/TIN):**

*** c. UEI:**

d. Address:

*** Street1:** 106 E. 2nd Street

Street2:

*** City:** Davenport

County/Parish: IA

*** State:** Iowa

Province:

*** Country:** USA: UNITED STATES

*** Zip / Postal Code:** 52801-1502

e. Organizational Unit:

Department Name:

Resource Development

Division Name:

MidAmerican Energy Company

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:

*** First Name:**

Middle Name:

*** Last Name:**

Suffix:

Title:

Organizational Affiliation:

*** Telephone Number:**

Fax Number:

*** Email:**

Application for Federal Assistance SF-424

* 9. Type of Applicant 1: Select Applicant Type:

Q: For-Profit Organization (Other than Small Business)

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

* 10. Name of Federal Agency:

US Department of Commerce (DOC)

11. Catalog of Federal Domestic Assistance Number:

11.033

CFDA Title:

Middle Mile Grant Program

* 12. Funding Opportunity Number:

NTIA-MMG-2022

* Title:

Middle Mile Grant Program

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Across Iowa. See Network Maps for details.

Add Attachment

Delete Attachment

View Attachment

* 15. Descriptive Title of Applicant's Project:

Iowa Middle Mile Fiber Project

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

Application for Federal Assistance SF-424**16. Congressional Districts Of:*** a. Applicant **IA-all*** b. Program/Project **IA-all**

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment

Delete Attachment

View Attachment

17. Proposed Project:* a. Start Date: **04-01-2023*** b. End Date: **03-31-2025****18. Estimated Funding (\$):*** a. Federal **37,839,311.86*** b. Applicant **37,854,450.62*** c. State **0*** d. Local **0*** e. Other **0**

* f. Program Income

* g. TOTAL **75,693,762.48***** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .☒ b. Program is subject to E.O. 12372 but has not been selected by the State for review.☐ c. Program is not covered by E.O. 12372.*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**☐ Yes☒ No

If "Yes", provide explanation and attach

Add Attachment

Delete Attachment

View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ **** I AGREE**

**** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.**

Authorized Representative:Prefix: * First Name: Middle Name: * Last Name: Suffix: * Title: * Telephone Number: Fax Number: * Email: * Signature of Authorized Representative:

* Date Signed:

10-24-2022



CERTIFICATION REGARDING LOBBYING

Applicants should also review the instructions for certification included in the regulations before completing this form. Signature on this form provides for compliance with certification requirements under 15 CFR Part 28, 'New Restrictions on Lobbying.' The certifications shall be treated as a material representation of fact upon which reliance will be placed when the Department of Commerce determines to award the covered transaction, grant, or cooperative agreement.

LOBBYING

As required by Section 1352, Title 31 of the U.S. Code, and implemented at 15 CFR Part 28, for persons entering into a grant, cooperative agreement or contract over \$100,000 or a loan or loan guarantee over \$150,000 as defined at 15 CFR Part 28, Sections 28.105 and 28.110, the applicant certifies that to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, 'Disclosure Form to Report Lobbying,' in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure occurring on or before October 23, 1996, and of not less than \$11,000 and not more than \$110,000 for each such failure occurring after October 23, 1996.

As the duly authorized representative of the applicant, I hereby certify that the applicant will comply with the above applicable certification.

* NAME OF APPLICANT

MidAmerican Energy Company

* AWARD NUMBER

NTIA-MMG-2022

* PROJECT NAME

Iowa Middle Mile Fiber Project

Prefix:

* First Name:

Middle Name:

* Last Name:

Suffix:

* Title:

* SIGNATURE:

* DATE:

10/20/2022

BUDGET INFORMATION - Construction Programs*NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified.*

COST CLASSIFICATION	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Columns a-b)
1. Administrative and legal expenses	\$ 896,179	\$	\$ 896,179
2. Land, structures, rights-of-way, appraisals, etc.	\$ 0	\$	\$ 0
3. Relocation expenses and payments	\$ 0	\$	\$ 0
4. Architectural and engineering fees	\$ 3,219,187.4	\$	\$ 3,219,187.4
5. Other architectural and engineering fees	\$ 227,700	\$	\$ 227,700
6. Project inspection fees	\$ 0	\$	\$ 0
7. Site work	\$ 0	\$	\$ 0
8. Demolition and removal	\$ 0	\$	\$ 0
9. Construction	\$ 44,223,613.89	\$	\$ 44,223,613.89
10. Equipment	\$ 0	\$	\$ 0
11. Miscellaneous	\$ 25,703,798.15	\$	\$ 25,703,798.15
12. SUBTOTAL (sum of lines 1-11)	\$ 74,270,478.44	\$ 0	\$ 74,270,478.44
13. Contingencies	\$ 1,423,284.04	\$	\$ 1,423,284.04
14. SUBTOTAL	\$ 75,693,762.48	\$ 0	\$ 75,693,762.48
15. XXXXXXXXXX	\$ XXXXXXXXXX	\$	\$ XXXXXXXXXX
16. TOTAL PROJECT COSTS (subtract #15 from #14)	\$ 75,693,762.48	\$ 0	\$ 75,693,762.48
FEDERAL FUNDING			
17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter the resulting Federal share.			\$ 37,839,311.86

Enter eligible costs from line 16c Multiply X 49.99%

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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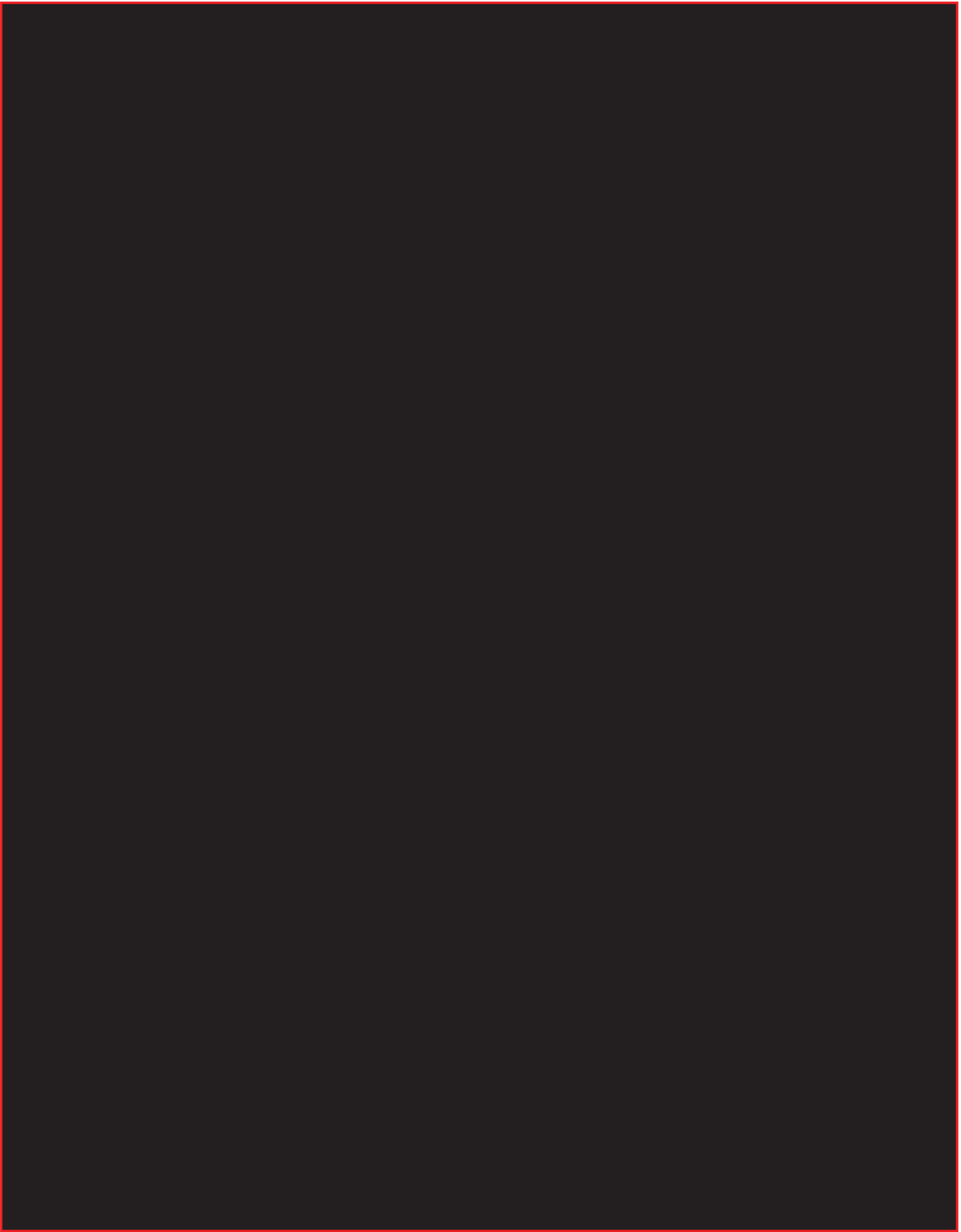
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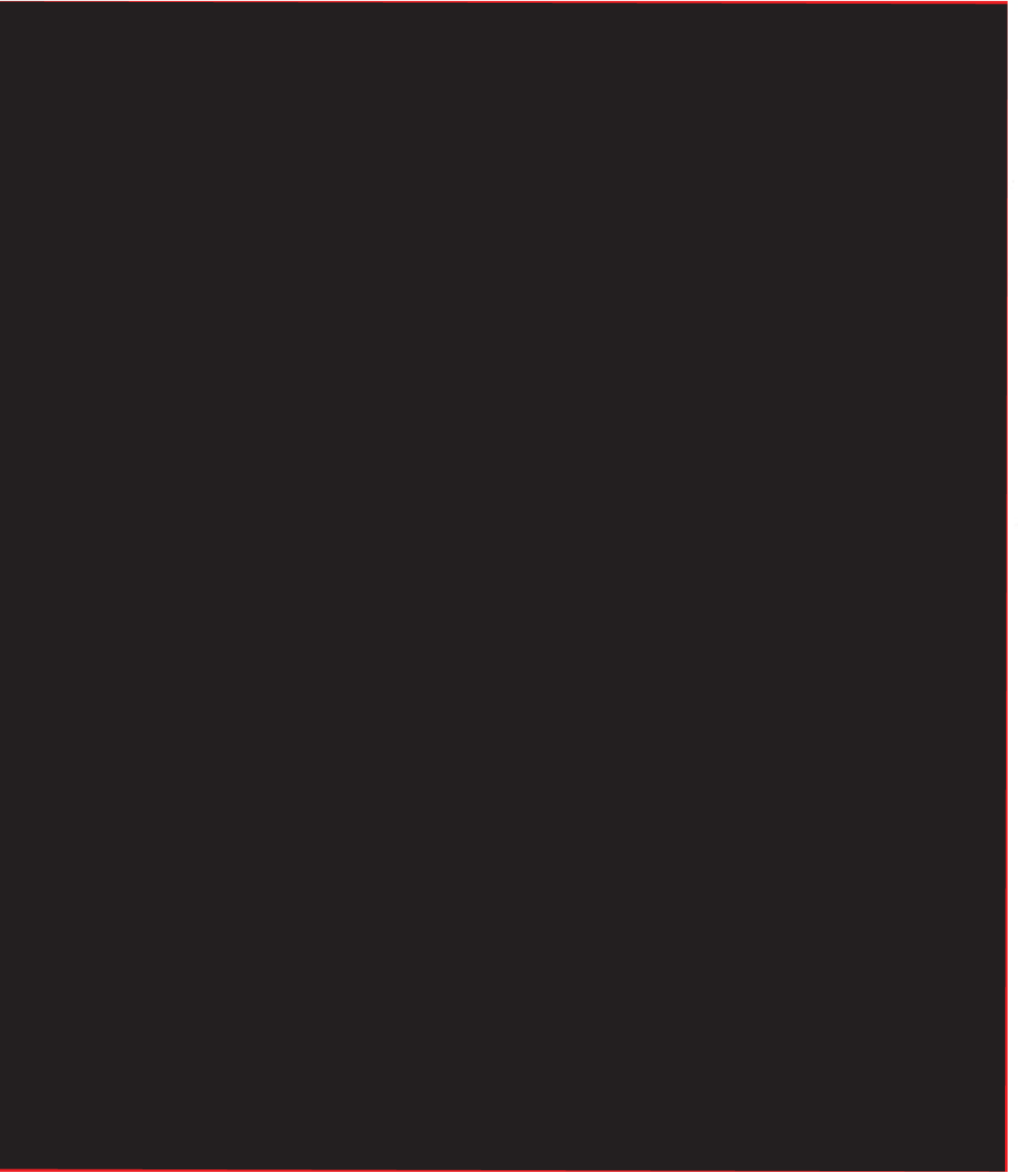
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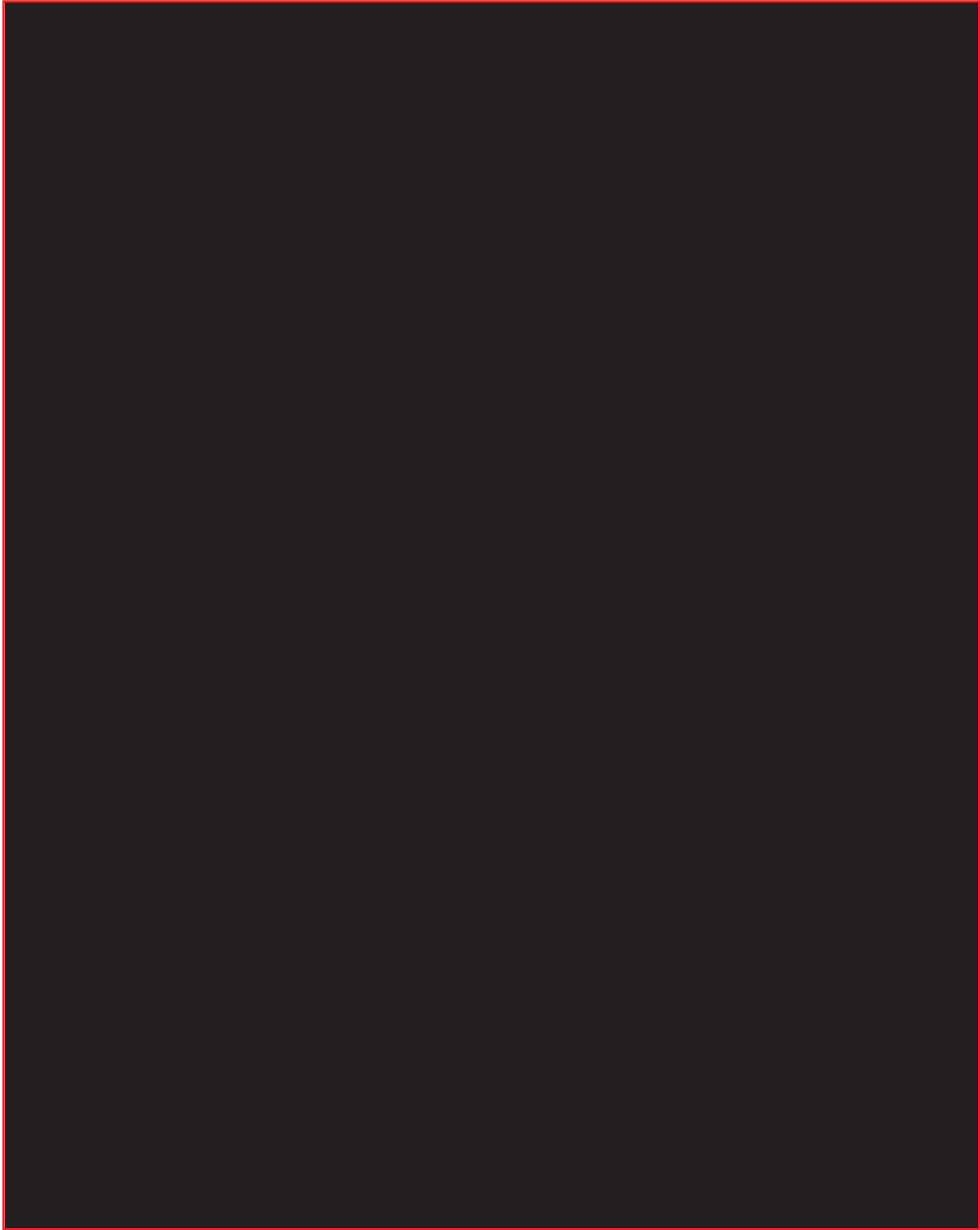
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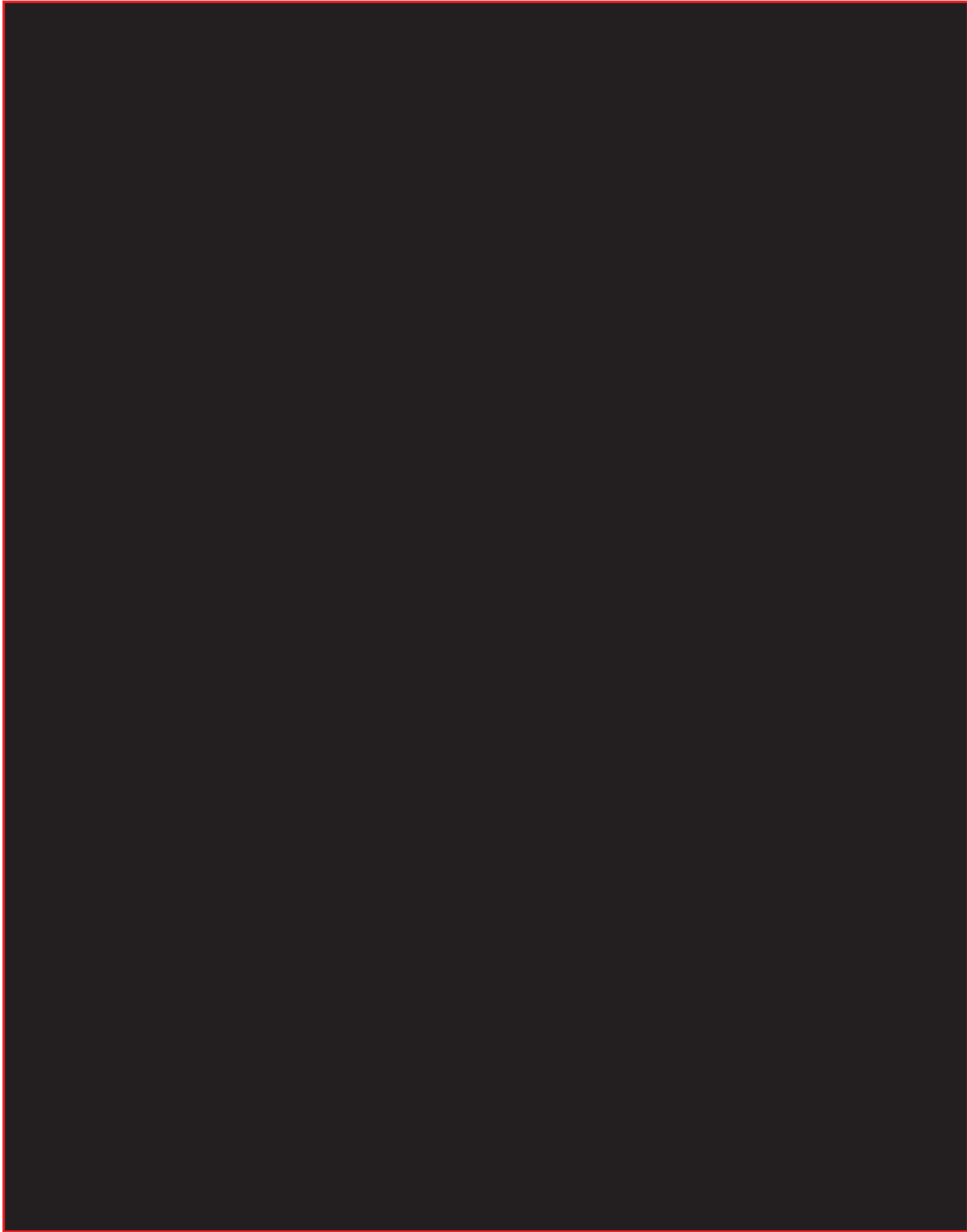
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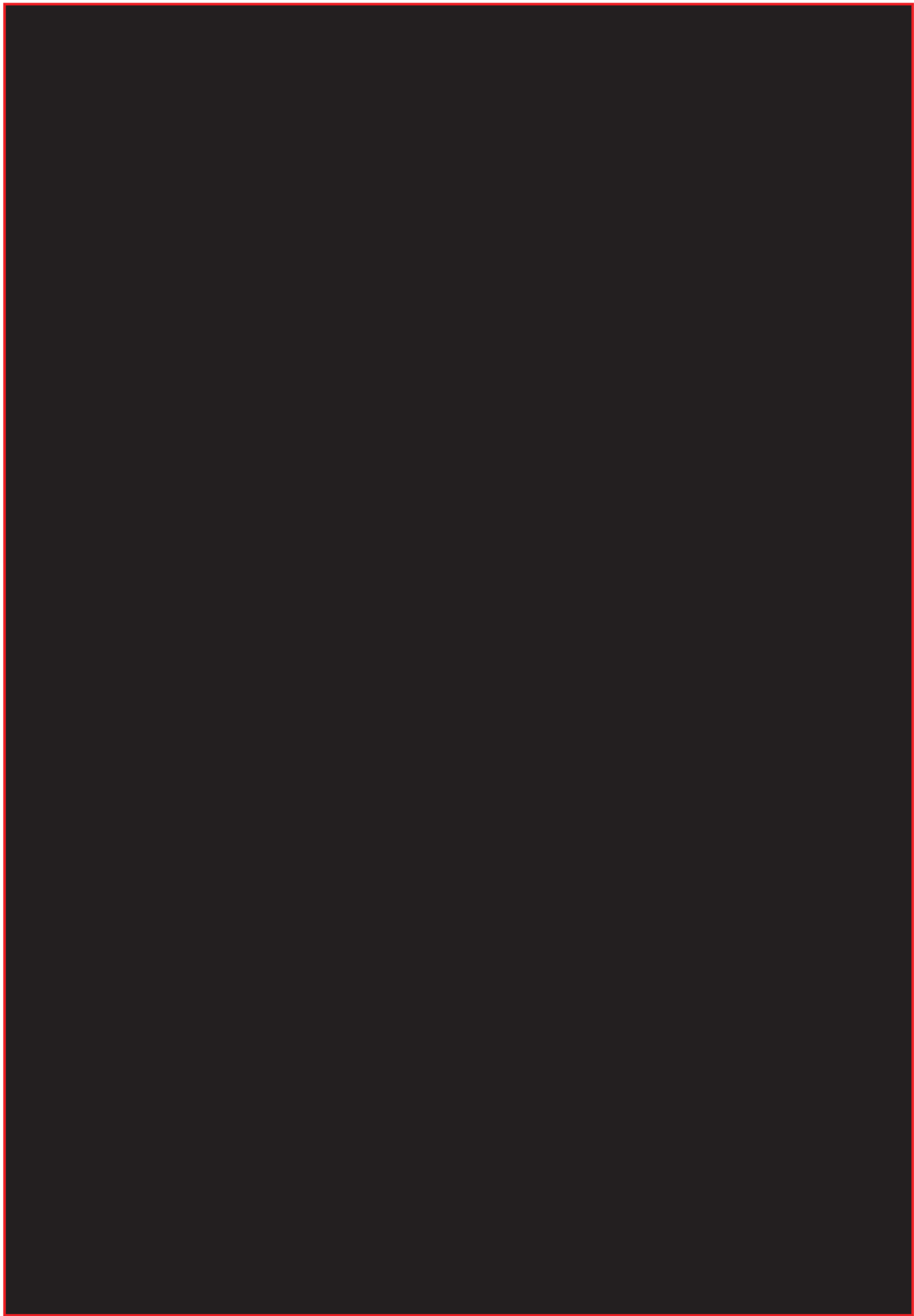
[Redacted]





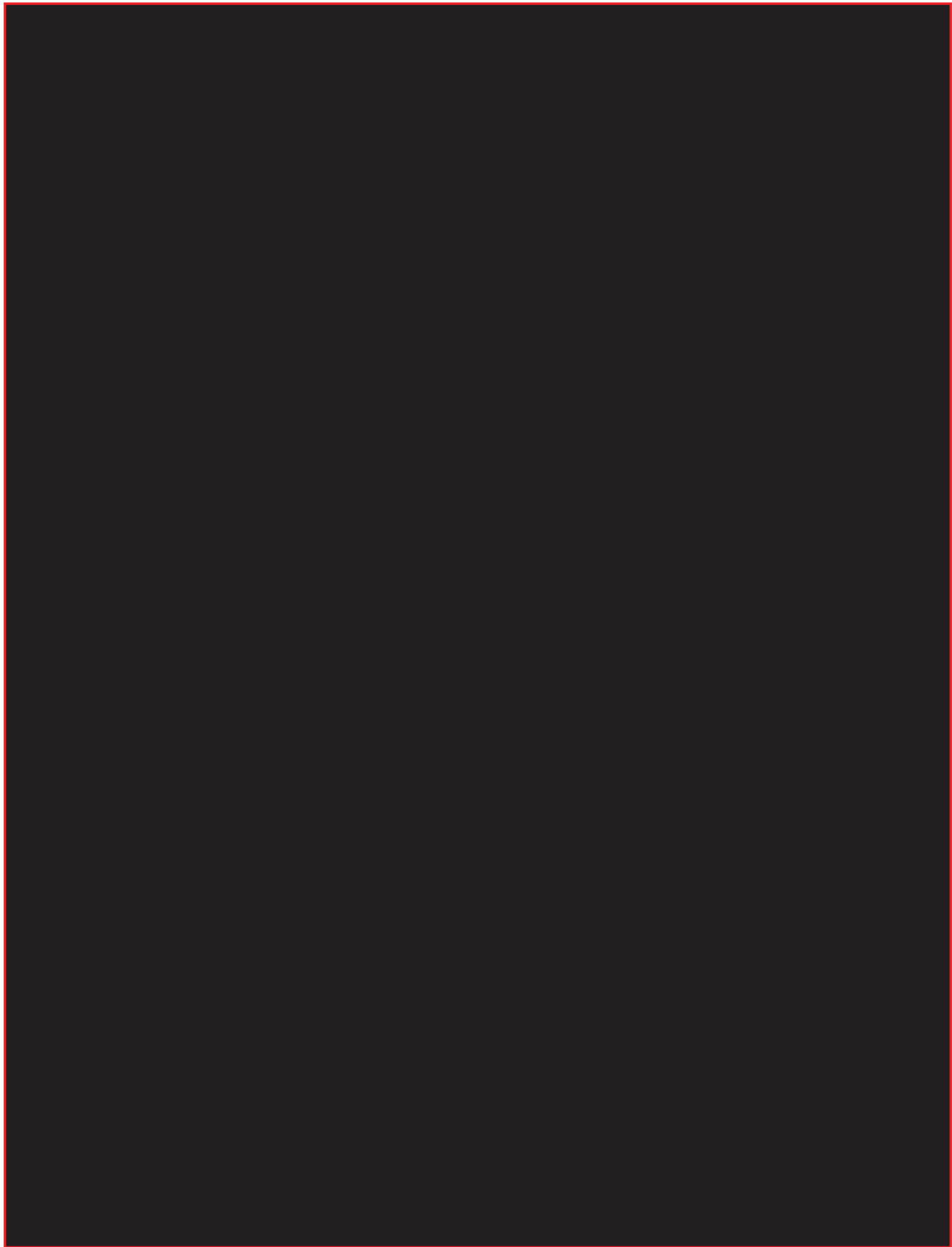








The first part of the paper discusses the importance of understanding the cultural context of the research. It highlights the need for researchers to be sensitive to the values and beliefs of the communities they are studying. This is particularly important in the field of education, where cultural differences can significantly impact learning outcomes. The paper then moves on to discuss the challenges of conducting research in culturally diverse settings. It notes that researchers often face difficulties in establishing rapport with participants and in interpreting their responses. To address these challenges, the paper suggests several strategies, including the use of local informants and the development of culturally appropriate research instruments. The final part of the paper discusses the importance of ethical considerations in cross-cultural research. It emphasizes the need for researchers to obtain informed consent from participants and to ensure that their research does not cause harm to the communities they are studying.



Grant Request Number	GRN-000519
Funding Program Name	Middle Mile Broadband Infrastructure Grant Program
Funding Request Name	MidAmerican Energy Company - Middle Mile - GRN-000519
Applying Organization	MidAmerican Energy Company
Applicant Name	

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.

Key Personnel -

— — —

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.

Key Personnel - [REDACTED]
[REDACTED]
[REDACTED]

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.

Key Personnel - [REDACTED]
[REDACTED]
[REDACTED]

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.

Key Personnel - [REDACTED]
[REDACTED]
[REDACTED]

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.

Key Personnel - [REDACTED]
[REDACTED]

[REDACTED]

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.

Key Personnel - [REDACTED]

[REDACTED]

[REDACTED]

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.

Key Personnel - [REDACTED]

[REDACTED]

[REDACTED]

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.

Key Personnel - [REDACTED]

[REDACTED]

[REDACTED]

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Key Personnel - [REDACTED]
[REDACTED]
[REDACTED]

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.

Key Personnel - [REDACTED]
[REDACTED]
[REDACTED]

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.

Key Personnel - [REDACTED]
[REDACTED]
[REDACTED]

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.

Key Personnel - [REDACTED]
[REDACTED]
[REDACTED]

Organizational Charts

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



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.

MidAmerican NTIA MMG - Standard Form CD511 Ce-09-20-2022 01-34-MidAmerican Energy Company-GRN-000519.pdf, MidAmerican NTIA MMG - Standard Form CD511 Lo-10-24-2022 03-07-MidAmerican Energy Company-GRN-000519.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.

MidAmerican NTIA MMG - SAM Registration to 03-09-12-2022 04-48-MidAmerican Energy Company-GRN-000519.pdf, MidAmerican NTIA MMG - SAM Registration to 03-04-11-2023 04-37-MidAmerican Energy Company-GRN-000519.pdf

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.

The COVID-19 pandemic has brought many issues to light for people all over the nation, and perhaps one of the most concerning is the lack of access to reliable high-speed internet. The people of Iowa may be most attuned to this realization as information provided by the Governor's office indicates that "Iowa ranks 45th in the nation in broadband access and has the second-slowest internet speed nationwide". Providing high-speed internet to all communities in Iowa is a massive undertaking for local network providers, and MEC understands these efforts cannot be done alone. Although MEC does not directly provide internet services to end users, MEC expects it can benefit the program with a cost-effective approach of utilizing existing and planned communication networks to provide connectivity for an ISPs to deliver broadband to end users in need.

MEC is a regulated utility that provides electric and gas service across four states in the Midwest, operating billions of dollars' worth of energy infrastructure assets. As part of its infrastructure, MEC owns and operates almost 1,400 miles of command and control fiber optic cable. To address energy infrastructure security, MEC has been developing plans to ensure that all of its major facilities are connected by fiber. This effort offers an opportunity to leverage MEC's energy infrastructure management needs to provide a high quality, cost-effective middle mile fiber route that can facilitate last mile service. In addition to building new routes to connect its remaining infrastructure and making that fiber available for middle mile broadband, MEC will be offering unused capacity its existing command and control fiber as new open access middle mile.

MEC has designed a fiber route that meets both its energy infrastructure needs and rural Iowa's broadband challenges. Six sub-routes comprising 775 miles of new build traverse 25 counties in central and western Iowa, facilitating last mile access in 59 communities. Opening 1,365 miles of MEC-owned fiber to public access will facilitate last mile connections for an additional 136 communities. Within one mile of the new build route, 5,297 locations are unserved and 4,610 locations are underserved. Along the dark fiber route that will be made open-access, 7,380 locations are unserved and 1,766 are underserved. Total unserved locations for which the project could enable last mile service are 12,677 with 6,376 locations that are underserved, for 19,053 locations for which last mile service could be enabled.

The proposed routes have been developed such that they pass nearby as many major anchor institutions as possible to prevent additional construction costs and time for ISPs or anchor institutions to build last mile infrastructure. MEC has a letter of intent from [REDACTED] who has expressed interest in 24 of the communities along the new build route and [REDACTED] who has expressed interest in five communities. In addition to residential internet service providers, MEC has received interest from business fiber providers, such as [REDACTED] to lease fiber to help with providing small business fiber internet solutions to rural communities.

One of the unique and compelling aspects of MEC's proposed project lies in the different economic drivers for its business, when compared to traditional telecoms. Since MEC is a regulated utility, only a specific rate of return can be attained by the company unlike many other unregulated competitors.

Any additional revenue generated from internet service providers leasing middle mile broadband will reduce overall revenue requirement from retail utility customer rates. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

These affordable middle mile rates will be necessary for achieving broadband access in the rural parts of Iowa that the project accesses. The cities and census designated places that are served by the new build are extremely rural in nature, with a median population of 182 and average population of 288. The counties are very rural as well, with a median population of 15,363 and average population of 22,062. It is difficult for many carriers to justify the buildout to these communities because the capital and operating expenditures are not justified by anticipated revenue.

The project advances the objectives of the Middle Mile Grant Program as follows. To “encourage the expansion and extension of middle mile infrastructure to reduce the cost of connecting unserved and underserved areas to the backbone of the internet,” the Project will build new middle mile that has been designed with ISPs and will be cost-effectively priced to facilitate last mile access. To “promote broadband connection resiliency through the creation of alternative network connection paths that can be designed to prevent single points of failure on a broadband network,” the project will provide multiple connections and diverse routing through the new build and the opening of access to MEC’s dark fiber.

The project meets workforce objectives by working with unions on apprenticeship programs, robust training efforts, partnerships with local colleges and strong diversity, equity and inclusion programs.

The proposed project also meets the NOFO programmatic review objectives. The proposed project should reduce end-user broadband prices by leveraging MEC’s status as regulated utility to provide extremely cost-effective middle mile pricing. It will provide competition by designing a route that reaches many communities through the new build and by reaching over a hundred additional communities opening access to dark fiber. It will support cost efficiencies using existing rights of way and economies of scale.

The project will reduce backhaul distances and technology limitations which create latency problems for users. The ad hoc construction of legacy fiber systems often suffers from latency issues, as the multiple and different connectors and splice points create decibel loss. The strategic design of this new fiber will reduce these sources of latency. Network latency is a network engineering function, and minimum latency is determined by a combination of network design, fiber path availability, and optical distance that MEC can’t estimate latency performance with a strong degree of accuracy, as it’s a function of the full system design from last mile provider through to tier 1 Internet services. While MidAmerican will be providing optical transport, it will not be involved with network design; however,

MEC's middle-mile fiber routes will provide attractive options for interested ISP's to design and construct some of the shortest and most direct optical paths that could connect remote locations in Iowa to centrally located Internet POP sites within the state, as opposed to interstate or non-regional dark fiber or fiber circuit providers who may have POP's located outside of the state of Iowa where the end user resides.

MEC's interested ISP partners have experienced issues in leasing from regional providers in Iowa, experiencing limits to lit bandwidth, and unavailability of dark fiber while MEC would be able to offer dark fiber to its interested ISP partners to enable more direct paths (lower latency), full capacity bandwidth and better competition. With access to fiber in rural communities, MEC's interested ISP partners can pursue FTTH PON builds, either through additional grant-assisted builds or on their own with lower latency access technology than any other technology. Considering that many of the rural communities that MidAmerican fiber is proposed to pass through may be limited to DSL, fixed wireless and/or satellite, MEC through its ISP partners will in most cases be lowering end user experienced latency by means of network connection type with more direct backhaul connections.

Substantial benefits from the infrastructure will accrue to rural Iowa residents with average community sizes below 300 in population. The project route provides connections between many small communities (as described above) with unserved and underserved areas. The project will enable last mile connections to 12,746 unserved and 6,388 underserved locations. These unserved areas include numerous Community Anchor Institutions (CAIs) that can be served by the route designed with CAIs in mind. As the new build route intersects 59 communities and the dark fiber open access change accesses 136, it will enable fiber connections that can provide 1 Gbps symmetrical across a wide area of Iowa.

MEC has developed the buried fiber routes for middle mile broadband to pass through several rural communities along the way between our electrical substations and other facilities. The original route designs were developed in collaboration with local ISPs in an effort to determine the most effective way to not only improve the communication infrastructure to the electric grid, but to also enhance and enable as much internet connectivity to as many rural communities as possible, both households and core institutions and enterprises. MidAmerican utilized FCC data maps to analyze the broadband needs of the communities along the proposed routes identifying a total of 694 CAIs within one mile of its proposed new middle mile fiber build and existing middle mile fiber assets brought to its open middle mile portfolio.

According to the data, the new middle mile fiber build that MidAmerican is proposing will pass within 1,000 feet of 173 CAIs and within one mile of another 158 CAIs. Out of the 331 total anchor institutions that the proposed fiber build will pass through, 27 of them are located within an unserved community according to FCC data that was utilized.

In addition to the proposed middle mile broadband fiber build, MidAmerican will open up hundreds of

miles of existing buried fiber that it currently has leasable capacity on for internet service providers to lease. The addition of the existing buried fiber network and additional 363 CAIs will have close proximity for direct connection to MEC's fiber infrastructure. Out of the list of CAIs, 53% are schools and libraries, 5.4% are hospitals or healthcare facilities and 21% are public safety institutions.

As MidAmerican completes the final detailed route engineering, it will plan for additional access splice points in vaults in the closest proximity to the CAIs as possible in consultation with its partner ISPs and their market and institutional familiarity. This should allow for the optimum availability lowest construction cost possible for providing new fiber access to those CAIs that might seek direct connection to the buried fiber infrastructure.

The project meets the requirements for Fair Labor Practices and Civil Rights and Non-Discrimination Law Compliance as described in Section 1.12.1., Highly Skilled Workforce as described in Section 1.12.2. and Equitable Workforce as described in Section 1.12.3 and as noted above for achieving workforce objectives.

The project is designed for climate resilience through its focus on buried cable, with underground structures either using watertight cases or draining quickly. The middle mile will facilitate energy infrastructure resilience to cooling demands from high temperatures, as better communication between substations and other facilities will allow system management to avoid blackouts.

The project will enable community benefit agreements through potential provision of discount dark fiber leasing to serve public or nonprofit entities.

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.

This project is focused on improving broadband service in central and western Iowa, building a new 775-mile middle mile network across 25 counties to 59 communities. The project also includes making approximately 1,365 miles of MEC-owned fiber open public access, which will facilitate last mile connections for an additional 136 communities. The proposed project will serve seven counties that have less than 85% broadband coverage and an additional six counties with less than 90% coverage. Within one mile of the new build route, 5,297 locations are unserved and 4,610 locations are underserved. Along the dark fiber route that will be made open-access, 7,380 locations are unserved and 1,766 are underserved. Total unserved locations for which the project could enable last mile

service are 12,677 with 6,376 locations that are underserved, for 19,053 locations for which last mile service could be enabled.

The cities and census designated places that are served by the new build are extremely rural in nature, with a median population of 182 and average population of 288. The counties are very rural as well, with a median population of 15,363 and average population of 22,062. It is difficult for many carriers to justify the buildout to these communities because the capital and operating expenditures are not justified by anticipated revenue. These communities are largely supplied wireless internet services through point-to-point links, which are limited in capacity and dictates the level of service available to consumers. This project will enable fiber access to these communities and allow ISPs to have unlimited backhaul from their sites and not be restricted on the level of service offered. MEC offers the opportunity to leverage its 10-year plan to build new communication paths to critical electric facilities and improve grid resiliency. As regulated utilities have different economic drivers than telecommunication companies, pricing can reduce operating expenses for last mile providers and facilitate projects to connect end users.

In 2016 the University of Iowa conducted a lease rate market analysis for multiple states across the nation, which can provide a basis for pricing of comparable middle mile offerings. The variance of price is influenced by geographics, population density, broadband demand, and number of incumbent providers. It is thought Dekalb county, IL would be most comparable to the project region in Iowa which assumes an average lease rate of \$125/month/strand/mile. From MEC's perspective, \$125/month/strand/mile is not unreasonable but is on the higher side of the spectrum. MEC has experienced dark fiber lease rates anywhere between \$20 and \$75/month/strand/mile based upon active middle mile lease agreements. For the proposed region served by the project's middle mile network, approximately 25% has no other middle mile offerings (please see maps provided for the Supplement to the Competitive Landscape section). Where ILEC's offer middle mile, rural central office demands can limit available capacity to supply last middle providers. ILEC's also can be motivated to price lease rates higher for last mile providers to reduce competition.

The project will leverage existing infrastructure and rights of way by utilizing public rights of way to which MEC will obtain permitted access. The project will not use privately owned easements, which can take longer to modify. The right of way owners have been engaged and have expressed willingness to expedite permitting processes in an effort to support MEC's middle mile project (see letters of support from municipalities and Department of Transportation).

MEC has focused on providing adequate capacity and strategic routing in order to comprehensively meet needs in the project area. MEC's fiber network carries a heavy burden to reliably operate the electric grid, so it is important the fiber in place contains high bandwidth with low latency. The project entails the installation of 96 count fiber with 24 reserved for internal use. The remaining capacity can easily support the backhaul needs of service providers to deliver high-speed internet to end consumers. From initial conversations with ISPs, most will only use a pair of fiber strands to adequately

serve the smaller target communities. With 72 fiber strands being available for lease, this open access project will allow many ISPs to extend their services, which will foster competition within the communities and lower prices for end users. This capacity will also be sufficient to meet future needs for technological demands and community growth with support for Wave Division Multiplexing (WDM) technology to scale as needed.

The proposed routes have been developed such that they pass nearby as many major CAIs as possible in order to prevent additional construction costs and time for ISPs or anchor institutions to build last mile infrastructure. In addition to residential internet service providers, MEC has received interest from business fiber providers, [REDACTED], to lease fiber to help with providing small business fiber internet solutions to rural communities.

Since MEC is a regulated utility, only a specific rate of return can be attained by the company, unlike many other unregulated competitors. Any additional revenue generated from internet service providers leasing middle mile broadband will reduce the overall revenue requirement from retail utility customer rates. [REDACTED]

[REDACTED] MEC intends to implement lease rates [REDACTED]

[REDACTED] which is considerably lower than the average market price [REDACTED]
[REDACTED]

The project will reduce backhaul distances and technology limitations which create latency problems for users. The ad hoc construction of legacy fiber systems often suffers from latency issues, as the circuitous paths, multiple and different connectors and splice points create decibel loss. The strategic design of this new fiber will reduce these sources of latency. MEC's interested ISP partners have experienced issues in leasing from regional providers encountering limits to lit bandwidth and unavailability of dark fiber. MEC will offer dark fiber to them to enable more direct paths (lower latency), full capacity bandwidth, and better competition so that they can pursue FTTH PON builds with lowest possible latency access. Considering that many of the rural communities that MidAmerican fiber is proposed to pass through may be limited to DSL, fixed wireless and/or satellite, MEC through its ISP partners will in most cases be lowering end user experienced latency by means of network connection type with more direct backhaul connections.

In addition to the significant workforce initiatives described elsewhere, as part of its efforts on community benefit agreements, MEC can potentially provide discount dark fiber leasing to serve public or nonprofit entities.

The proposed middle mile new build route crosses 25 counties and 59 communities in a very rural area of Iowa and serves communities with significant concentration of poverty. Of the 59 communities, census data is available for 47; the remaining communities are too small to qualify as cities or census designated places. To compare the poverty guidelines to these communities, MEC queried the U.S.

Census data and determined the following communities fell below 200% of the federal poverty guidelines for certain household sizes. (Poverty status for each community is described below by Community Name; Household Size below 200% of the Poverty Guidelines; Percent of Total Households in the Community in that Size. This final statistic provides an indication of the percentage of the community where household income for the most recently completed calendar year was at or below 200% of the Federal Poverty Guidelines. Please note that the percentages for households sized 5-person, 6-person, or 7 or more may be overstated, as occupied housing statistics provide their largest households at 4 or more. These percentages are preceded with a "<" sign.)

Arion city; 1-person \$25,000; 22.2% of HH
Arion city; 5-person \$36,360, <16.7% of HH
Auburn city; 1-person \$26,563; 40.7% of HH
Auburn city; 6-person \$72,500, <16% of HH
Battle Creek city; 1-person \$19,688, 32.4% of HH
Battle Creek city, 5-person \$64,306 and 6-person \$21,750; <24.7% of HH
Carbon city; 1-person \$16,875; 35.7% of HH
Charter Oak city, 3-person \$36,176; 15.7% of HH
Galva city; 1-person \$23,750; 35% of HH
Hastings city; 1-person \$15,625; 23.4% of HH
Kirkville city, 2-person \$35,000; 32.9% of HH
Lincoln city, 1-person \$20,000; 22.2% of HH
Lu Verne city; 5-person \$42,083; 28.6% of HH
Palmer city, 5-person \$36,250; <11.8% of HH
Rutland city, 1-person \$22,917, 28.8% of HH
Sandyville city; 5-person \$41,250; <20% of HH
Silver City city; 5-person \$39,375; <19.6% of HH
Truesdale city; 4-person \$31,000; 46.2% of HH
Washta city; 1-person \$21,250; 32.7% of HH
Yetter city; 2-person \$19,250; 36.8% of HH

The analysis of poverty was undertaken for individual communities, rather than counties, as the benefits of the middle mile project will be concentrated in the communities that it traverses. For the 47 communities (of the 59 on the route) for which the census provides median household income by household size (thus allowing an assessment of federally-defined poverty by community), 4% of households (214 total) are below 200% of federal poverty guidelines. These communities exhibit a significant concentration of poverty. Of the 17 communities with 21 household size categories that are below the guideline's levels, 14 of them exhibit 20% of their households below the specified levels. It should also be noted that this is almost certainly an understatement of poverty along the route, as 14 of the communities (23%) on the route are too small to obtain household size or income. The proposed route will enable last mile connections to 1,200 unserved or underserved locations in the 14 communities that exhibit high poverty.

[REDACTED]

The same census data set of household size and income can be used to estimate those households along the new build route that are eligible to participate in the National School Lunch Program, which is based on household incomes up to 185% of federal poverty guidelines. For those households for which income data by household size data is available on the new build route, approximately 3% of the households, or 190 households, qualify for the school lunch program. Like the poverty estimates along the route, it is an understatement as 23% of the communities are too small to obtain household size or income. The potential service to these communities by enabled last mile connections, [REDACTED] [REDACTED], are the same as discussed above for high poverty communities.

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.

MEC has been reaching out to state and local governmental representatives during the development of this project. A briefing with the Iowa Office of the Chief Information Officer, [REDACTED] was provided, offering information on the project and seeking [REDACTED] input. [REDACTED]

On a more local level, MEC has also been reaching out to communities along the new build route, providing an introductory email, a fact sheet and offering to provide a one-on-one consultation and input session. Communication has been challenging due to the very small size of these communities and the difficulty identifying the appropriate staff. Small communities often contract part-time for municipal staffing, which can limit their staff's abilities to engage with activities outside the core municipal work. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

MEC has not requested financial or equipment contributions from any other organization for the proposed project, providing all the match funding itself.

As MEC would not be a middle mile provider, our community benefit agreement approach focuses on

working with governmental agencies, nonprofit organizations and educational institutions to potentially provide discount dark fiber leasing to serve the public good.

— — —

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

— — —

The eligible entity identifies specific terrestrial and wireless last mile broadband providers that have(i) expressed written interest in interconnecting with middle mile infrastructure planned to be deployed by the eligible entity; and ii) demonstrated sustainable business plans or adequate funding sources with respect to such interconnection. This may be demonstrated in the Level of Need narrative of the Exec Summary.

Do you attest to this?

Yes

— — —

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?

No

— — —

The eligible entity has demonstrated that the middle mile infrastructure will benefit national security interests of the United States and the Department of Defense. The benefits may be explained in the Benefitting National Security Interests Narrative.

Do you attest to this?

Yes

— — —

Please describe:

The proposed project will benefit national security interests by protecting power grid infrastructure. MEC currently lacks fiber optic connections between many of its substations, limiting communication and monitoring capabilities. The proposed route incorporated both opportunities to enable last mile service and the provision of energy infrastructure communications in its design. Redundancy will support provision of continued operational data (e.g., SCADA) should MEC suffer an attack on its grid, as data can quickly be rerouted. [REDACTED]

[REDACTED] The proposed fiber network provides enhanced monitoring to detect damage, improving response times.

— — —

Project

Duration

Number of Years

2

— — —

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.

The proposed project has developed a timeline that shows completion of the shovel ready project within two years of an anticipated award date of April 1, 2023. The tasks that identified in this timeline are pre-application activities, engineering (permitting and design), materials procurement, construction, and testing and turn-up (commissioning). In order to meet this ambitious schedule, MEC has included multiple risk mitigation factors for schedule delays. (1) Segmenting the project into six sub-routes for bidding to allow multiple contractors to implement the sub-routes and reduce risk of workforce shortages. (2) Procuring engineering, environmental compliance and construction from a single engineering, procurement and construction (EPC) firm will streamline operations on each segment. (3) Procuring fiber optic cable in advance of construction for routes NW3 and SW1 mitigates the supply chain risk, as delivery dates for Buy America/Build American compliant fiber is currently estimated at one year. (4) Early identification of potential sensitive environmental conditions allows surveys (e.g., wetlands) to be scheduled in the appropriate windows. (5) Initiating construction on segments in fall of 2023 on routes NW3 and SW1 allows work to begin immediately after proposal submittal. (6) Construction methods that focus on areas without environmental conflicts, use of avoidance measures (e.g., directional boring) for sensitive areas and installation of conduit for subsequent fiber installation mitigate schedule risks from environmental compliance and supply chain.

The critical path of activities for the project and key milestones are as follows. MEC will bid and award two of the sub-routes (NW3 and SW1) in fall 2023 and will initiate engineering work on those routes by December 1, 2022. MEC recognizes that this is a risk and that those costs may not be reimbursed. MEC has been working on business and operational systems for fiber leasing since May 2022 and the procedures, staff and other resources will be in place by December 1, 2022. MEC will also develop procurement documents by December 1, 2022, for fiber optic cable sufficient for these two sub-routes, with delivery expected by December 15, 2023. By initiating these sub-routes fall of 2022, MEC can address the fiber optic cable supply chain issues and achieve a two-year build schedule for the entire project. Construction for these sub-routes is scheduled for completion by February 15, 2024

MEC will develop engineer, procure, construct bid packages, and procure for the remaining four sub-routes (C1, C2, N1, NW2) in spring 2023, seeking to award contracts upon receipt of a middle mile grant award, estimated for April 1, 2023. Procurement of fiber optic cable for these four routes will initiate immediately upon award, with completion estimated by and delivery of materials by August 1, 2024. Construction can begin without receiving the fiber, as excavation, conduit installation and other preparatory steps can proceed prior to the fiber. Engineering and permitting for these sub-routes is estimated to be complete by August and September of 2023. Construction of these four sub-routes is phased, with two (C1 and C2) initiating by October 1, 2023, and completing by October 30, 2024, and two (N1, NW2) initiating by March 15, 2024, and completing by December 15, 2024.

Testing and turn-up is the next step in the critical path for the network and will be conducted on sub-routes C1 and C2 from November 2024 to January 2025, the second two sub-routes from November 2024 to January 2025, and sub-routes N1 and NW2 from December 2024 to February 2025.

A capital investment schedule is provided as the second page of the PDF, and includes the Gantt chart.

MEC's approach to project implementation includes supplemental investments that will accelerate completion. MEC will be implementing two sub-routes beginning October 2022, investing in design, engineering and procurement, with the understanding that costs may not be reimbursed. Together with a procurement strategy that will allow the use of multiple contractors across all the sub-routes, implementation can be accelerated to be completed within two years.

— — —
Project Timeline File

Applicants are asked to upload a timeline which will denote key milestones for implementation of the project, including but not limited to field survey, network design, equipment/material procurement, environmental assessment, permitting, construction, network testing, network activation and completion.

MidAmerican NTIA MMG - Project Timeline File -09-30-2022 05-33-MidAmerican Energy Company-GRN-000519.pdf

— — —
Is an extension being requested?

No

— — —
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.

MEC strives to provide and promote equal opportunity and nondiscriminatory treatment for all current and prospective employees as required by applicable federal, state and local laws and regulations. The company is strongly committed to making employment decisions based on valid requirements, without regard to race, color, religion or religious creed, age, national origin, ancestry, gender, gender identity, gender expression, sex, pregnancy, sexual orientation, genetic information, physical or mental disability, veteran or military status, familial or parental status, marital status or any other status protected by applicable law, including reprisal for participating in a protected equal employment opportunity activity. Where the law requires affirmative action programs, the company strives to comply with the provisions of those laws.

Company policy regarding equal employment opportunity, discrimination and harassment is established to communicate the company's intent to maintain a work environment that fosters respect for diversity and fairness. The company believes in both the actual requirements and the spirit of equal opportunity laws and regulations. To that end, unlawful acts of discrimination, harassment or other illegal conduct will not be tolerated. It is the responsibility of all employees to ensure that the concepts of equal employment opportunity and nondiscrimination are understood and followed by everyone. Managers have special responsibility as these protections cover all management practices and decisions, including recruitment, hiring, appraisals, promotions and training and career development programs. If one believes they have been subjected to or exposed to any workplace discrimination or harassment, they are encouraged to report the situation to their immediate supervisor, human resources or the legal department. The company will take prompt and immediate action against discrimination, retaliation or harassment.

Recognizing and respecting the diversity among our employees and within the communities where MEC does business is vital to accomplishing the company's goals. All employees at MEC are responsible for creating and maintaining a diverse and inclusive workplace. Diversity and inclusion are critical components of a sustainable business and both should be considered in all business decisions. Making our workplace more diverse, equitable and inclusive is not only the right thing to do, but also crucial to MEC's success; employees are the company's greatest asset. MEC must continue to celebrate differences and value diversity as the company grows throughout the world. MEC fully supports the affirmative action programs and the diversity and inclusion programs, and is committed to the implementation of the company's equal employment opportunity and affirmative action policies.

MEC has a demonstrated record of compliance with all applicable labor and employment laws and can carry out activities funded by an NTIA award in a competent manner in compliance with all applicable federal, state, tribal, and local laws. MEC has had no OSHA, FLSA or other federal labor or employment law violations. MEC agrees to abide by federal and state employment laws, including: (i) all applicable provisions of the Federal Fair Labor Standards Act (FLSA); (ii) Title VI and VII of the Civil Rights Act of 1964 (42 U.S.C. 2000e), which prohibits discrimination against any employee or applicant for employment or any applicant or recipient of services, on the basis of race, religion, color, or national origin; (iii) Executive Order No. 11246, as amended, which prohibits discrimination on the basis of sex; (iv) the Age Discrimination in Employment Act (ADEA) and 45 CFR 90, which prohibit discrimination on the basis of age; (v) Section 504 of the Rehabilitation Act of 1973, or the Americans with Disabilities Act (ADA) of 1990, which prohibits discrimination on the basis of disabilities; (v) the Family and Medical Leave Act (FMLA); (vi) the Occupational Safety and Health Act (OSHA); Iowa Chapter 91A Wage Payment Collection; Iowa Chapter 91 D Minimum Wage; and Iowa Chapter 216 Iowa Civil Rights Commission.

MEC has submitted a letter from a corporate officer certifying that MEC has complied with federal labor and employment laws and committing to ensuring compliance by subcontractors that are procured for its middle mile project. MEC will also require in any subcontracts that the contractor immediately report any violation of federal labor or employment law, including but not limited to OSHA and the FLSA.

As part of its labor compliance plan, MEC will ensure compliance with all Davis Bacon provisions for its covered employees and will contractually require Davis Bacon wages and certified payroll for any subcontractors for this project. MEC pays overtime as required by the FLSA and will require appropriate overtime from its subcontractors. The labor compliance plan will require that, as part of its request for proposals, each proposer certify that it will comply with all federal labor and employment laws, including but not limited to those listed above. Proposers' bids will be required to include documentation from the US Department of Labor's Data Enforcement website on any past labor or employment law violations and a certification attesting to the results. MEC's labor compliance plan will also include a collaborative working relationship with its unions, a robust training and professional development program for its employees, and appropriate certification and licensure and maintenance of worker classifications. MEC will also utilize workplace safety committees that will be authorized to raise health and safety concerns in connection with network construction. MEC provides quality jobs with full benefits packages (health, dental, vision, PTO, family leave) and robust training programs as described in Section 1.12.2. Highly Skilled Workforce).

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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.

MidAmerican NTIA MMG - Certification of Labor-09-30-2022 03-09-MidAmerican Energy Company-GRN-000519.pdf

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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.**

MEC practice is to directly employ its workforce (rather than subcontracting) and will utilize this model for its broadband project, where its own employees develop and implement the broadband project. The only components of the project that will be contracted are for environmental compliance, fiber optic cable design and the fiber optic cable installation, all of which will be competitively procured. Within this framework, MEC has specific positions that are represented by unions, without requiring that employees join those unions. MEC utilizes a system of union partnerships, CBO partnerships, internal training programs and transparent job classifications to ensure that its workforce in developing and maintaining a high level of skills appropriate to the technical work required to develop and manage a middle mile fiber optic system. Working with the IBEW Local 109 and 499 (electrical) and USW local 738 (steel workers), MEC has 21 Registered Apprenticeship programs. We collaborate with community colleges, including a recent collaboration with Des Moines Area CC, Iowa Assoc. of Municipalities and Alliant Energy to establish the Electric Utility Technology Program. MEC also works with iJAG (Iowa Jobs for America's Graduates) to provide educational and career connections in the industry by participating and providing industry events such as career fairs, lunch and learns, and internships.

Continuing professional development is provided through a tuition support program with an annual benefit that was increased by over 40% effective May 2022 to \$7,500. To ensure appropriate credentials, MEC maintains detailed job descriptions with periodic reviews to ensure employees are in the appropriate DOT testing pools and that the positions are appropriately classified as exempt or nonexempt under the FLSA. Some positions require pre-employment skills testing and education and license requirements are documented by background checks.

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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.

MEC utilizes internal management structures and external partnerships to advance workforce development for its staff and underrepresented groups. Its training programs that support development and use of highly skilled workforce and its sector partnerships for training are described in response 1.12.2. Highly Skilled Workforce. MEC has demonstrated its commitment to Diversity, Equity and Inclusion (DEI) by establishing a DEI Committee and DEI recruitment strategy.

As an integral part of MEC's training and professional development programs, MEC's Diversity, Equity and Inclusion (DEI) Committee has developed a program to support engagement of underrepresented groups in order to access job opportunities. MEC has an internship program that works with Des Moines, Iowa area high schools from underrepresented neighborhoods to provide summer internships. Together with Des Moines Area Community College, MEC also partners with Avenue of Scholars, which provides comprehensive, individualized support services to help students identify, prepare for, and ultimately enter financially sustaining, high-demand careers requiring an associate degree or less. Engagement begins in high school and MEC works with the Business Outreach & Engagement Coordinator to provide career-building opportunities, such as career exploration events, mock interviews, job fairs, career consultations, job shadowing, internships and part-time and full-time employment.

MEC's college internship programs provide summer internships for about 40 students and year-round part-time internships for about 15 students. About half of the internships are in engineering, with another 30% in IT, Finance and Supply Chain. Post-program evaluation has established that the internship provides soft skills training in addition to work-specific tasks and the ability to work on intentional and meaningful projects. The program culminates with a two-day event where they tour a wide variety of MEC facilities, network with MEC senior management, attend presentations on pressing industry and culturally relevant topics.

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 Fourth National Climate Assessment posits that the Midwest is trending towards warmer, wetter, and more humid conditions identifying the risks associated with these climatic changes with annual precipitation increasing by 5% to 15% from the first half of the last century (1901-1960) compared to the present (1986-2015). Heavy rain events have increased the overall flood risk, overwhelming storm drainage systems and causing disruptions to transportation and damage to property and infrastructure. Episodes of widespread heavy rains in recent years have led to flooding, soil erosion, faster streamflow eroding the bases of bridges, and water quality issues from nutrient runoff into aquatic ecosystems. Flooding risk on the Missouri River is significant in that it can affect a larger area and take longer to recede. Climate projections suggest an increased risk of inland flooding under all scenarios. Average annual damages from heightened flooding risk in the Midwest are projected to be more than \$500 million (in 2015 dollars) by 2050. The Fourth National Assessment also identifies the significant risks associated with increased temperatures. Extreme heat can stress materials, which can be partially offset by warmer winters reducing the freeze-thaw cycle. Extreme heat such as that experienced in July 2011 (with temperatures reaching over 100°F in much of the Midwest) is expected to intensify.

According to NOAA, Iowa's interior location and the lack of mountains to the north and south expose the state to incursions of bitterly cold air masses from the Arctic in the winter and warm, humid air masses from the Gulf of Mexico in the summer. As a result, its climate is characterized by wide-ranging temperatures with temperatures having risen more than 1°F since the beginning of the 20th century. The hottest year on record was 2012, with an annual average temperature of 52.1°F, which is 4.5°F above the long-term (1895-2020) average. Warming has been concentrated in winter and fall, while summers have not warmed substantially, a feature characteristic of much of the Midwest. The winter warming trend is reflected in a below average number of very cold nights since 1990, except for the 2010-2014 period. Climate Explorer estimates from climate models that the summertime average daily maximum temperature in all counties covered by the project will increase from an average of 85°F to 92°F (lower emissions) to 98°F (higher emissions), an increase of about 8-15%. Days exceeding 100°F

will increase from less than an average across the region of less than 0.5/year to more than 30 under the high emissions scenario.

Precipitation varies widely across Iowa with the southeastern portion of the state receiving around 38 inches annually compared to only 26 inches in the northwest. Much of Iowa's precipitation falls in summer, averaging about 14 inches in the central part of the state. The frequency of 2-inch extreme precipitation events has increased, with the highest number occurring during the past 16 years. From 1955 to 1997, Iowa was ranked first in state losses due to flooding. In 2008, 83 of 99 Iowa counties were declared disasters from flooding and in 2011 flooding occurred along the entire length of the Missouri River (the western border of Iowa). In addition to flooding, winter storms can cause damage, including heavy snows, high winds and low temperatures. Tornadoes also affect Iowa, along with violent thunderstorms and derecho winds.

FEMA's National Risk Index indicates that western Iowa, including 14 of the 25 counties proposed for the project, are rated Relatively Moderate or Relatively High for tornado risk and strong winds.

Underground placement of most of the lines is the primary construction method to manage for future climate change as it protects from increased precipitation and flooding, with underground structures either using watertight cases or designed to drain quickly. Adaptation for potential energy outages due to cooling demand from hot summer days would be facilitated by MEC's utility status. MEC would also facilitate back-up power capabilities for prospective dark fiber customers.

Because the fiber endpoints would be co-located with MEC electric distribution and transmission infrastructure, MEC would be able to quickly respond to outages and interruptions with the same speed and urgency that is undertaken to restore electric service for distribution and transmission assets keeping with MEC's reliability responsibilities as a rate regulated electric and gas utility.

Similarly, if fiber cables are impacted by or outages caused by increased precipitation events or excessive scour, because the same cable bundle would also provide MEC's network service any resulting outage would likely negatively impact our grid as well.

For specific construction practices meant to minimize impacts from increased precipitation and localized and riverine flooding, the fiber would either be attached to a bridge crossing or bored using best professional judgement for engineering design that allows for adequate cover at a reasonable bore depth given the streambed characteristics and potential for scour at each individual crossing (e.g. soil substrate type/cohesiveness etc.).

Evolving climate change impacts are difficult to predict over the planned twenty-five years project lifecycle. To mitigate these risks, ongoing data monitoring and external guidance will inform planned reassessment of climate risks every five years or less through an iterative process incorporating commercially available satellite and aerial imagery, climate researcher teams and organizations, state,

local, and federal agencies, and feedback from community members. MEC will include data-informed climate considerations in relevant risk analyses and planning system adaptation and hardening, identifying future mitigation improvements and practices to include as part of planned capital improvement and maintenance plans.

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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.

MidAmerican NTIA MMG - Certification of Techn-09-28-2022 03-05-MidAmerican Energy Company-GRN-000519.pdf

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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.

Note that this Interconnect Policy is conditional upon our application for an NTIA Middle Mile Grant and does not take effect until such time as such grant is awarded.

MidAmerican Energy is committed to being transparent with their prices, and to provide reasonable and affordable open access middle mile connectivity services in perpetuity where technically feasible to all interested Internet Service Providers (ISPs) and any other parties making bona fide requests on a fair and non-discriminatory basis. MidAmerican Energy will negotiate in good faith and coordinate with any telecom provider making a legitimate request for an interconnection agreement or for wholesale

backhaul services, offering them the ability to ride atop the network in any practical manner including the purchase of backhaul capacity within reasonable technical and business limits to be negotiated with requesting parties to enable their operations and enable them to create affordable packages for service as ISPs to any customer base in their targeted service areas.

MidAmerican Energy's current and planned network is constructed and operated on industry standards-based solutions and an open architecture model to allow for future upgrades and highly scalable deployments including both the ability to connect to the public Internet and physical interconnection for traffic exchange, capable of delivering 1Gbps and above symmetric services. These and any other future MidAmerican Energy network facilities will be made available on a wholesale open access basis to existing or future service providers. Today's investment in MidAmerican Energy's open access middle mile network will thus scale and evolve as the needs of the served communities and nearby populations continue to grow and advance.

Any considerations in pricing or volume discounts, business arrangements, capacity limits, financial terms, and technical conditions will be based on business or marketing advantage and not based on any discriminatory approach. MidAmerican Energy will install pull or breakout boxes and other infrastructure facilities strategically along its terrestrial routes for periodic interconnectivity points. MidAmerican Energy further agrees to provide fiber connectivity anywhere along the route between the interconnect points via ring splicing to other middle mile and last mile partners. MidAmerican Energy will use standards-based networking practices to manage interoperability with other wired and wireless networks and will allow for both wholesale and retail use of network facilities.

Existing and new network facilities will be made available in perpetuity where technically feasible on a wholesale basis to existing or future service providers so they can offer competitive alternate services to community anchor institutions, businesses, and residences. Where MidAmerican Energy negotiates contractual covenants with broadband service providers to deploy or operate the network facilities, we will ensure that the network nondiscrimination and interconnection obligations are incorporated to their contractual terms and conditions. MidAmerican Energy when operating as a wholesale middle mile backhaul provider does not have any practices in place to block access to illegal or harmful content and plans to leave that to its last mile provider partners to implement and manage. Above interconnection policy can be found on our website at <https://www.midamericanenergy.com/filings-standards> and it's our practice is to provide notice to customers of any amendments to the policy within 30 days.

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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.

As an electric and gas utility company who has long operated its own middle mile fiber capacity for command-and-control purposes, the proposed open access middle mile project combining some 775 miles of new fiber infrastructure with some 1,365 miles of existing fiber assets is a natural extension of our company's operations and business model, supported by our experience and expertise in designing, constructing, operating, and managing past projects of comparable size and scope.

MEC intends on building a rural fiber backbone connected to our existing fiber optical facilities to connect multiple substations and service centers. [REDACTED]


[REDACTED]

[REDACTED] This further increases the opportunities for many CAIs and other ISPs to have direct internet connectivity.

[REDACTED]

[REDACTED]

[REDACTED]



MEC plans to offer dark fiber lease agreements on a monthly lease rate per mile and per pair of fibers leased as well as long term IRUs with 20-year terms with a single up-front charge and low annual maintenance fee. MEC plans to create meetup points where it would provide electricity and possibly provide shelter locations where available throughout the service territory for ISPs to use as take-off points for new community installations, tied back to various POP sites around the state to provide redundancy or for the ISP to backhaul to their own network.

The proposed project is designed to improve network resiliency by modernizing obsolete equipment and establishing new communication paths to critical electric and natural gas facilities creating 46 new fiber connections between substations, service centers, towers, and remote gas facilities. In addition, 22 existing sites will gain redundant communication paths improving the reliability of the electric grid. The proposed routes needed to better the system pass through many rural Iowa communities that are currently unserved or underserved based on the Iowa Broadband V5 map from data collected up to August of 2022. The project will serve as middle mile to connect rural communities in need to the major broadband network leased to ISPs at an affordable rate that is intended to recover project investments.

MEC's middle mile broadband fiber will be connected throughout the electric grid substations and facilities for internal communications for voice, video, data, and SCADA alerting the control center when a communication connection is lost on MEC's command and control fiber as well as the dedicated open access middle mile fiber. MEC's IT and Telecom department analyses such alerts to determine root cause and dispatch technicians and/or contractors to determine the location of the failure. MEC's fiber lease and IRU agreements contain language that outlines the chain of communication for notification when an outage occurs as well as the timeframe for restoration. These lease agreements ensure the dark fiber lease customer can communicate fiber-related issues to MEC and receives the proper notification and restoration in the event of a fiber outage.

MEC has identified a total of 331 CAIs within one mile and 173 CAIs within 1,000 feet of its proposed new middle mile fiber build and existing middle mile fiber assets brought to its open middle mile portfolio, 27 of which are located within an unserved community according to FCC data that was utilized. The addition of the existing buried fiber network and additional 363 CAIs will have close proximity for direct connection to MEC's fiber infrastructure.

A Certification of Technical Capability attesting that MEC is technically qualified to complete and operate the proposed project has been provided. MEC also certifies that the project will, upon completion, be capable of supporting retail broadband service and has identified ISP partners who will be moving to provide last mile service based on our middle mile project.

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.

Across most of the state of Iowa, the main exchange carriers, [REDACTED], have some middle mile offerings throughout the rural areas; however, utilization of this fiber is predominantly for supporting their central offices in their exchanges. The coverage area as it compares to MEC's proposed middle mile locations is around 65% of routes in which MEC proposes installing middle mile fiber. The capacity for the major exchange carriers has limits and they would benefit from leasing additional rural coverage areas from MEC. [REDACTED]

[REDACTED] Much of the long-haul fiber has routes leading through major cities and covers less than a quarter of the rural regions. In the larger cities, there are anywhere from 4-6 ISPs for the consumer to choose from, whereas in the communities nearby the MEC route, there are sometimes only one or two providers, including satellite providers. [REDACTED]

[REDACTED] Close to one-third of the proposed MEC middle mile routes through areas where there are no other middle mile fiber offerings.

MEC plans to offer dark fiber lease agreements for a monthly lease rate per mile and per pair of fibers leased. For those interested in long term IRUs, MEC will provide 20-year terms with a single up-front charge and low annual maintenance fee. MEC plans to create meetup points in which MEC would provide electricity and possibly provide shelter locations where available throughout the service territory for internet service providers to use as a take-off point for a new community installation. These meetup points will be tied back to various POP sites around the state to provide redundancy or choice by the ISP to backhaul to their own network.

When determining an appropriate lease rate for dark fiber, there are many factors to consider. MEC has built a standalone economic model that calculated a monthly lease rate (\$/fiber strand/mile) based on total investment, number of leasers, and length of fibers to be leased. [REDACTED]

This range of prices allows MEC to stay competitive amongst competitors while still contributing cost recovery and not affecting rate payers.

Since MEC is a regulated utility, only a specific rate of return can be attained by the company unlike many other unregulated competitors. Any additional revenue generated from internet service providers leasing middle mile broadband will reduce overall revenue requirement from retail utility customer rates.

The proposed route locations pass directly through 33 of the targeted communities that are underserved or unserved and within 5-10 miles of the other targeted communities. This proximity to the customer allows very little construction expense to an ISP interested in leasing middle mile services. With MEC's very competitive lease rates proposed to be less than half of the price of typical middle mile offerings, there is a great opportunity for the consumer to see end user broadband savings. The ISPs that MEC has met with and discussed the middle mile opportunity concur that competitive lease rates on middle mile fiber will help them to offer more affordable rates to those communities.

Applicants are encouraged to upload supplemental documentation.

MidAmerican NTIA MMG - Competitive Landscape -09-30-2022 05-23-MidAmerican Energy Company-GRN-000519.pdf

Type of technology to be used in proposal:

Fiber Optic Technology

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

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

MidAmerican NTIA MMG - CAIs Spreadsheet V2-09-28-2022 03-07-MidAmerican Energy Company-GRN-000519.xlsx

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

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.



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.



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.



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.

The proposed action is the installation of 775 miles of fiber optic cable, with associated vaults, huts and other equipment, all within buried existing public transmission rights of way or attached to existing transmission structures. The majority of the project is in rural areas of Iowa with adjacent land use consisting of row-crop production. The area of potential effect (APE) was evaluated based on the proposed route with a 10-foot buffer along both sides of the associated roadway right of way. Details on wetlands, aquatic crossings, 100-year floodplain, critical habitat of federally listed species and cultural resources are provided by route number below and maps are provided in the environmental supplemental, organized by route number and provided on aerial imagery. Street view photos are provided in the environmental supplemental and depict the typical environmental setting of the proposed route, which is established roadways with gravel shoulders. Following is a discussion of the project activities and included environmental measures.

[REDACTED]
[REDACTED]
[REDACTED]. No new poles are planned. Bore pits are no larger than 5 ft. x 5 ft. and all hand holds are buried 2 ft. x 3 ft. and 4 ft. A wetlands delineation and aquatic resources survey will determine areas where directional boring will be used to avoid any impact to these resources. Set up and take out for directional boring will be outside aquatic resource features. No above-ground physical structure will be placed in the 100-year floodplain and the ground surface will be returned to its pre-existing contours. No trees will be removed, with directional drilling used to remain outside the dripline of any trees. Best management practices (BMPs) will be used to avoid water quality impacts from erosion and sedimentation, and dust control will be used to protect air quality. Project specifications will require contractors to comply with permitting for any proposed generators covered under air quality regulations. Noise impacts will be avoided as the project takes place along active roads where the noise would be consistent with the ambient levels and construction would only take place during daylight hours. Contractors will be required to use Iowa Department of Transportation measures for traffic control, thus avoiding traffic impacts. Agricultural land impacts will be avoided as the project is in road right of way.

Consideration of protected species was included in the project scope and design. Directional drilling under aquatic habitat and use of water quality BMPs will protect Topeka shiner, scale shell mussel and sturgeon. Piping plover, red knot, other migratory birds and bats will be protected by avoiding tree removal, directional drilling under trees and avoiding placement of new towers or poles. The project

will comply with the Avian Powerline Interaction Committee Standards. The Des Moines River is the largest water body to be crossed and, if directional boring is not feasible, the project will use a bridge attachment.

Route C1: Central Iowa- Bondurant to Wellsburg (~116 miles)

This route commences in a substation [REDACTED] southwest of Bondurant. The route generally runs to northeast and goes through Bondurant, Colfax, Baxter, Marshalltown, Gladbrook, Lincoln, Grundy Center and terminates at a substation [REDACTED]

Wetlands: This route encounters 44 freshwater emergent wetlands (1.29-acres), 72 riverine wetlands/streams (1.40-acres), 6 freshwater forested/shrub wetlands (0.48-acres), and 1 pond (0.04-acres).

Aquatic Crossings: 123

100-year Flood Plain: Encounters 100-year floodplain 56 times

Critical Habitat of Federally listed species: Not identified

Public Lands used for Conservation: 10

Cultural Resources: 1 Archaeological Site, 8 Cemeteries, 22 NRHP-Eligible Properties, 1 NRHP Historic Districts, 9 Notable Locations, and 1 Iowa HILD

Route C2: Central Iowa Broadband Middle Mile – Ottumwa to Madison County (~160 miles)

This route commences [REDACTED] in Ottumwa, Iowa, and generally runs west-northwest. The route runs through Kirkville, Oskaloosa, Beacon, Knoxville, Pleasantville, Indianola, Martensdale, Bevington, Patterson and terminates at a substation at the intersection of Quail Ridge Trail and Rolling Green Avenue. North of Kirkville, the route branches and runs to the west, through Eddyville and terminates at a substation [REDACTED]. The route also branches in Pleasantville and runs to the north, through Runnells and terminates at a substation [REDACTED].

Wetlands: Route encounters 33 freshwater emergent wetlands (1.43-acres), 120 riverine wetlands/streams (2.66-acres), 15 freshwater forested/shrub wetlands (2.53-acres), and 3 ponds (0.02-acres)

Aquatic Crossings: 164

Sovereign Lands: Crosses the Des Moines River in two locations. The Des Moines River is identified by

the IDNR as a Sovereign River

100-year Flood plain: 100-year floodplain 70 times

Critical Habitat of Federally listed species: Not identified

Public Lands used for Conservation: 10

Cultural Resources: 18 Archaeological Site, 9 Cemeteries, 42 NRHP-Eligible Properties, 1 NRHP-Listed Properties, three NRHP Historic Districts, 12 Notable Locations, and 5 Iowa HILD

Route N1: Northern Iowa Broadband Middle Mile – Irvington to Pomeroy (~62 miles). This

This route commences [REDACTED] to the north of Pomeroy. The route generally runs to the north-northeast and goes through Gilmore City, Lu Verne, and terminates [REDACTED] in rural Kossuth County.

Wetlands: 3 freshwater emergent wetlands (0.08 acres), 18 riverine wetlands/streams (1.56 acres), and 1 freshwater forested/shrub wetland (0.07-acres)

Aquatic Crossings: 22 aquatic crossings

Sovereign Lands: Crosses the West Fork Des Moines River and the East fork Des Moines River. The West Fork Des Moines River and East Fork Des Moines River are identified by the IDNR as a Sovereign Rivers

100-year flood plain: 100-year floodplain 18 times

Critical Habitat of Federally listed species: Critical Habitat for the Topeka Shiner (*Notropis topeka*) was identified for the segment that extends from Gilmore City to Lu Verne.

Public Lands used for Conservation: 3

Cultural Resources: 3 Archaeological Site, 1 Cemeteries, and 1 NRHP-Eligible Locations

Route NW2: Central Iowa Broadband Middle Mile – Carroll North to Early (~101 miles)

This route has multiple unconnected segments. The primary route commences at a substation [REDACTED] [REDACTED] in Carroll. The route generally runs to the north-northeast and runs through Auburn, Lake City, Sac City, Lytton, [REDACTED] [REDACTED].

Wetlands: 13 freshwater emergent wetlands (0.59-acres) and 54 riverine wetlands/streams (1.15-

acres). See National Wetland Inventory Map exhibits NW2.01-NW2.20

Aquatic Crossings: 66

100-year Flood Plain: 100-year floodplain 28 times

Critical Habitat of Federally listed species: Topeka Shiner (*Notropis topeka*) was identified for on the Carroll to Rockwell City segment, the Templeton segment, the segment south of Storm Lake on Highway 71 from 160 Street south to 190th Street south, and the segment east of Galva on 200th Street to Schaller.

Public Lands used for Conservation: 3

Cultural Resources: 2 Archaeological Site, 1 Cemeteries, 6 NRHP-Eligible Properties, 6 NRHP-Listed Properties, 1 NRHP Historic Districts, 2 Notable Locations, and 1 Iowa HILD

Route NW3: Central Iowa Broadband Middle Mile – Ida County to Logan (~153 miles)

This route has multiple segments. The primary route commences [REDACTED] [REDACTED] to the northwest of Denison. The route generally runs to the southwest and goes through Arion, Dow City, Dunlap, Earling, Logan, [REDACTED] [REDACTED]

Wetlands: 54 freshwater emergent wetlands (1.05-acres), 138 riverine wetlands/streams (2.66-acres), and 3 ponds (0.06-acres).

Aquatic Crossings: 195

100-year Flood Plain: 100-year floodplain 98 times.

Critical Habitat of Federally Listed Species: Topeka Shiner (*Notropis topeka*) identified on one of the segments (Boyer to Arthur).

Public Land used For Conservation: 3

Cultural Resources: 4 Archaeological Site, 7 Cemeteries, 2 NRHP-Eligible Properties, 9 Notable Locations, and 2 Iowa HILD

Route SW1: Central Iowa Broadband Middle Mile – Sub 706 to Hamburg (~183 miles)

This route has multiple segments. The primary segment commences at a substation [REDACTED] [REDACTED] runs to the southwest. The route runs through Carbon, Quincy, Brooks, Nodaway, Villisca, Hepburn, Clarinda, Shenandoah, Sidney, and terminates at a substation [REDACTED]

[REDACTED]

Wetlands: 22 freshwater emergent wetlands (1.50-acres), 191 riverine wetlands/streams (4.34-acres), 19 freshwater forested/shrub wetlands (0.27-acres), and 5 ponds (0.14-acres).

Aquatic Crossings: 216

100-year Flood Plain: 100-year floodplain 78 times

Critical Habitat of Federally Listed Species: Not identified

Public Land used for Conservation Areas: 17

Cultural Resources: 13 Archaeological Site, 7 Cemeteries, 3 NRHP-Eligible Properties, 2 NRHP-Listed Properties, 1 NRHP Historic Districts, 12 Notable Locations, and 5 Iowa HILD.

Consultation Summary

USFWS: IPAC, Project Code: 2022-0083728, Project Name: FO alignment 8227246, dated September 9, 2022. The IPAC identified critical habitat for the Topeka Shiner in portions of route N1, NW2, and NW-3. Habitat for the Topeka Shiner is restricted to small, low-order prairie streams with good water quality, cool temperatures and generally exhibit perennial flow.

Iowa Department of Natural Resources: Environmental Review Request, Tracking Number 2022-1824, requested on September 9, 2022. Email received on September 14, 2022, [REDACTED] with the IDNR confirmed receipt of the request and did not request additional information at that time.

The Desktop Cultural Resources Records Search will be uploaded to the Iowa Department of Cultural Affairs E-SHPO portal no later than September 26, 2022, to initiate Section 106 consultation in accordance with National Historic Preservation Act of 1966.

Upload Map Images:

MidAmerican NTIA MMG - Environmental Suppleme-09-28-2022 06-19-MidAmerican Energy Company-GRN-000519.pdf

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.

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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 it 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.

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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.

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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]

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.

[REDACTED]

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.**



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.

MidAmerican NTIA MMG - Budget Narrative Final-09-30-2022 05-58-MidAmerican Energy Company-GRN-000519.docx, MidAmerican NTIA MMG - Budget Narrative V2-10-24-2022 03-08-MidAmerican Energy Company-GRN-000519.pdf, MidAmerican NTIA MMG - Budget Narrative Final-10-24-2022 04-08-MidAmerican Energy Company-GRN-000519.pdf, MidAmerican NTIA MMG - Budget Narrative V4 01-04-11-2023 04-50-MidAmerican Energy Company-GRN-000519.pdf

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.

MidAmerican NTIA MMG - Detailed Budget Justif-09-30-2022 05-01-MidAmerican Energy Company-GRN-000519.xlsx, MidAmerican NTIA MMG - Detailed Budget Justif-04-11-2023 04-50-MidAmerican Energy Company-GRN-000519.xlsx

Any other funding provided for this project?


No

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 content]

FORM CD-450 (REV. 10/18)		U.S. DEPARTMENT OF COMMERCE		X GRANT		COOPERATIVE AGREEMENT	
FINANCIAL ASSISTANCE AWARD				FEDERAL AWARD ID NUMBER			
				19-40-MM519			
RECIPIENT NAME MidAmerican Energy Company				PERIOD OF PERFORMANCE 07/01/2023 - 06/30/2025			
STREET ADDRESS 106 E. 2nd Street				FEDERAL SHARE OF COST \$37,839,311.86			
CITY, STATE ZIP Davenport, IA 52801-1502				RECIPIENT SHARE OF COST \$37,854,450.62			
AUTHORITY 47 U.S.C. Sec. 1741				TOTAL ESTIMATED COST \$75,693,762.48			
CFDA NO. AND NAME 11.033 Middle Mile (Broadband) Grant Program							
PROJECT TITLE: Iowa Middle Mile Fiber Project							
<p>This Award Document (Form CD-450) signed by the Grants Officer constitutes an obligation of Federal funding. By signing this Form CD-450, the Recipient agrees to comply with the Award provisions checked below and attached. Upon acceptance by the Recipient, the Form CD-450 must be signed by an authorized representative of the Recipient and returned to the Grants Officer. If not signed and returned without modifications by the Recipient within 30 days of receipt, the Grants Officer may unilaterally withdraw this Award offer and de-obligate the funds.</p> <p>X DEPARTMENT OF COMMERCE FINANCIAL ASSISTANCE STANDARD TERMS AND CONDITIONS</p> <p>R & D AWARD</p> <p>FEDERAL-WIDE RESEARCH TERMS AND CONDITIONS, AS ADOPTED BY THE DEPT. OF COMMERCE</p> <p>X SPECIFIC AWARD CONDITIONS</p> <p>X LINE ITEM BUDGET</p> <p>X 2 CFR PART 200, UNIFORM ADMINISTRATIVE REQUIREMENTS, COST PRINCIPLES, AND AUDIT REQUIREMENTS, AS ADOPTED PURSUANT TO 2 CFR § 1327.101</p> <p>X 48 CFR PART 31, CONTRACT COST PRINCIPLES AND PROCEDURES</p> <p>MULTI-YEAR AWARD. PLEASE SEE THE MULTI-YEAR SPECIFIC AWARD CONDITION.</p> <p>X OTHER(S):GENERAL TERMS AND CONDITIONS for the NTIA MIDDLE MILE GRANT PROGRAM, April 2023</p>							
SIGNATURE OF DEPARTMENT OF COMMERCE GRANTS OFFICER						DATE	
Yongming Qiu 						Digitally signed by YONGMING QIU Date: 2023.06.15 09:56:13 -04'00'	
PRINTED NAME, PRINTED TITLE, AND SIGNATURE OF AUTHORIZED RECIPIENT OFFICIAL						DATE	

Award Number: 19-40-MM519, Amendment Number 0
Federal Program Officer: Jordan Weinstock
Requisition Number: MM519
Employer Identification Number: 421425214
UEI Number: [REDACTED]
Recipient ID:
Requestor ID:

Award ACCS Information

Bureau	FCFY	Project-Task	Organization	Object Class	Obligation Amount
61	2023	4720001-000	06-00-0000-00-00-00-00	41-19-00-00	\$37,839,311.86

Award Contact Information

Contact Type	Contact Name	Email	Phone
Administrative	[REDACTED]	[REDACTED]	[REDACTED]

NIST Grants Officer:
Andrew Rittgers
100 Bureau Drive, MS 1650
Gaithersburg, MD 20899-1650

NIST Grants Specialist:
Damion Hart
100 Bureau Drive, MS 1650
Gaithersburg, MD 20899-1650
(301) 975-3766

NIST Financial Assistance Award Number: 19-40-MM519

Amendment: NEW

Recipient: MidAmerican Energy Company

**NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
MIDDLE MILE GRANT PROGRAM
FINANCIAL ASSISTANCE
SPECIFIC AWARD CONDITIONS**

1. Introduction:

The National Institute of Standards and Technology (NIST), servicing for the National Telecommunications and Information Administration (NTIA), hereby enters into this Grant number 19-40-MM519 with MidAmerican Energy Company to support the work described in the proposal entitled "Iowa Middle Mile Fiber Project" dated 10/24/2022 and any revisions received during the application review, which are hereby incorporated into this award by reference. Where the terms of this award and the proposal differ, the terms of this award shall prevail.

2. Recipient Contact Information:

Administrative:

[REDACTED]

3. NTIA Contact Information:

Federal Program Officer

Jordan Weinstock

National Telecommunications and Information Administration

US Department of Commerce

1401 Constitution Ave., NW, Ste. 4078

Washington, DC 20230

Email: JWeinstock@ntia.gov

4. NIST Contact Information:

Grants Officer:

Andrew Rittgers

National Institute of Standards and Technology

325 Broadway

Boulder, CO 80305

Telephone: 303-497-7307

Email: andrew.rittgers@nist.gov

NIST Financial Assistance Award Number: 19-40-MM519

Amendment: NEW

Recipient: MidAmerican Energy Company

Grants Specialist:

Damion Hart

National Institute of Standards and Technology

100 Bureau Drive, Mail Stop 1650

Gaithersburg, MD 20899-1650

Telephone: 301-975-3766

Email: damion.hart@nist.gov

5. Award Payments:

This award is hereby funded through advanced payments using the Department of Treasury's Automated Standard Application for Payments (ASAP) system. Payments will be issued in accordance with 2 CFR § 200.305 and the Department of Commerce Financial Assistance Standard Terms and Conditions, B.02, dated November 12, 2020.

Payments for allowable costs may be drawn down as needed by the Recipient enrolled in ASAP. Funds may be requested through ASAP by the authorized *Payment Requestor* who is the individual designated by the Recipient to access Federal funds.

This award has the following control or withdrawal limits set in ASAP:

- ☐ None
- ☐ Agency Review required for all withdrawals (see explanation below)
- ☐ Agency Review required for all withdrawal requests over \$_____ (see explanation below)
- ☒ Maximum Draw Amount controls (see explanation below)
 - \$_____ each month
 - \$_____ each quarter
 - \$ 0.00 Max drawdown amount

Explanation:

Environmental Assessment & National Historic Preservation Act Compliance Requirements restriction

The total amount of Federal funding is hereby withheld until the requirements identified in the National Institute of Standards and Technology General Terms and Conditions for the NTIA Middle Mile Grant Program, Term #11 – Environmental Assessment and #12 – National Historic Preservation Act (Six-Month Expenditure Plan), are satisfied.

Contingency Costs

Federal funding in the amount of \$1,077,338.01 is hereby withheld until approval of SAC #20 Contingency Costs to request drawdown of funds designated specifically for contingency costs.

6. Return Payments for Funds Withdrawn through ASAP:

Funds that have been withdrawn through ASAP may be returned to ASAP via the Automated Clearing House (ACH) or via FEDWIRE. The ACH or FEDWIRE transaction may only be completed by the Recipient's financial institution. Full or partial amounts of payments received by a Payment Requestor/Recipient Organization may be

returned to ASAP. All funds returned to the ASAP system will be credited to the ASAP Suspense Account. The Suspense Account allows the Regional Financial Center to monitor returned items and ensure that funds are properly credited to the correct ASAP account. Returned funds that cannot be identified and classified to an ASAP account will be dishonored and returned to the originating depository financial institution (ODFI). The Payment Requestor/Recipient Organization should notify the NIST Grants Office and provide a reason whenever return payments are made.

It is essential that the Payment Requestor/Recipient Organization provide its financial institution with ASAP account information (ALC, Recipient ID and Account ID) to which the return is to be credited. Additional detailed information is accessible at:

<https://www.fiscal.treasury.gov/asap/>.

7. Period of Performance and Funding Limitations:

The period of performance and budget incorporated into this award cover a 2 year period of performance and provide for a maximum total amount of \$37,839,311.86 amount for the entire award period in Federal funding. This award is being fully funded via this award action.

The maximum amount of NTIA funding in support of this award will not exceed the amount specified in the award documents, unless otherwise amended in writing by the NIST Grants Officer. The Department of Commerce is not liable for any obligations, expenditures, or commitments which involve any amount in excess of the Federal funds being made available pursuant to this award.

8. Federal and Non-Federal Cost Sharing:

As directed by Section 60401(f) of the Infrastructure Act, each recipient must commit to a non-federal cost share of no less than 30 percent of the total project cost, unless exempted through a partial or complete waiver for Tribal governments and Native entities.

Pursuant to this award, NIST hereby approves the committed non-federal cost share in the amount of \$ 37,854,450.62 per the proposal's budget on the part of the recipient and becomes a binding requirement under subject award (*see* 2 CFR §200). The cost sharing ratio for this award is 49.99% Federal share and 50.01% Non-Federal share. See 2 CFR §200.306 and Department of Commerce Financial Assistance Standard Terms and Conditions, Section B.03 for the treatment of cost sharing.

9. Letter of Credit and Opinion Letter

Pursuant to the NOFO, the recipient must submit an irrevocable standby letter of credit in a value of no less than 25% of the award amount. The recipient also must 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.

The recipient may obtain a new letter of credit or renew its existing letter of credit to reduce its value in accordance with the following limitations:

- Upon demonstrating to the satisfaction of the Assistant Secretary that it has completed the buildout of 40 percent of project miles, an eligible entity may obtain a new letter of credit or renew its existing letter of credit so that it is valued at no less than 20 percent of the award amount.
- Upon demonstrating to the satisfaction of the Assistant Secretary that it has completed the buildout of 60 percent of project miles, an eligible entity may obtain a new letter of credit or renew its existing letter of credit so that it is valued at no less than 15 percent of the award amount.
- Upon demonstrating to the satisfaction of the Assistant Secretary that it has completed the buildout of 80 percent of project miles, an eligible entity may obtain a new letter of credit or renew its existing letter of credit so that it is valued at no less than 10 percent of the award amount.

10. Notice of Funding Opportunity – Middle Mile Grant Program

The Department of Commerce, National Telecommunications Information Administration Notice of Funding Opportunity (NOFO) No. NTIA-MMG-2-2022, Middle Mile Grant Program, dated May 13, 2022, is incorporated by reference into this award. It is accessible at: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=340300>. Select “Closed” or “Archived” Opportunity Status to view the NOFO.

11. Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements:

The Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements as published in the Federal Register on December 30, 2014 (79 FR 78390) is incorporated by reference into this award. It is accessible at: <http://www.gpo.gov/fdsys/pkg/FR-2014-12-30/pdf/2014-30297.pdf>.

12. Department of Commerce Financial Assistance Standard Terms and Conditions:

As indicated on the Form CD-450 for this award, the Department of Commerce Financial Assistance Standard Terms and Conditions (ST&C) issued November 12, 2020 are incorporated by reference into this award. The Department’s ST&C, as well as a link to 2 CFR Part 200, are accessible at: <https://www.commerce.gov/oam/policy/financial-assistance-policy>

13. Bi-annual Performance and Financial Reporting Requirements

The Recipient must submit a Federal Financial Report (SF-425), and Performance Progress Report on a semi-annual basis for the periods ending March 31 and September 30, or any portion thereof.

NIST Financial Assistance Award Number: 19-40-MM519

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Recipient: MidAmerican Energy Company

Reports are due no later than 30 calendar days following the end of each reporting period. A final SF-425 and Performance Progress Report (Closeout) must be submitted within 120 days after the expiration of the period of performance. Subrecipients are required to submit their final performance report to the pass-through entity within 90 calendar days unless an extension has been granted.

All SF-425 and Performance Progress Reports must, at minimum, comply with the reporting requirements and contain all information and certifications specified in the NOFO.

All SF-425 and Performance Progress Reports must be submitted to the NTIA Grants Portal at <https://grants.ntia.gov/>, with copy to the Federal Program Officer, within the prescribed timeframes identified in the terms and conditions of the award.

The Recipient organization name, NIST award number, and reporting period must be included in the submission. The Recipient contact information should be included in the body of the message. To the greatest extent possible, SF-425 and Performance Progress Reports should be submitted together in the same submission.

SF-425 and Performance Progress Reports must not be sent directly to NIST/NTIA personnel, other than when copying the Federal Program Officer on submissions to the <https://grants.ntia.gov/> Portal.

Any SF-425 or Performance Progress Reports sent directly to NIST/NTIA personnel will be returned to the sender with instructions on how to submit through the <https://grants.ntia.gov/> Portal.

No other correspondence may be sent through this Portal; timely responses to any other inquiries received in this mailbox are not guaranteed. The Portal will not be used for any other purpose except for purposes identified above.

Eligible entities that receive an award shall comply with any other reasonable reporting requirements determined necessary by the NTIA Assistant Secretary.

**14. Department of Commerce Financial Assistance Standard Terms and Conditions
Section B.06 Indirect or Facilities and Administrative Costs:**

NIST will reimburse the Recipient for indirect or F&A costs in accordance with 2 C.F.R. § 200.414 and Section B.06. of the Department of Commerce Financial Assistance Standard Terms and Condition, dated November 12, 2020.

If an indirect cost rate has not been established, and NIST is identified as the cognizant agency for indirect costs in accordance with 2 C.F.R. § 200.1, “Cognizant agency for indirect costs,” within 90 calendar days of the award start date, the Recipient must electronically submit to gmdaudit@nist.gov the documentation (indirect cost rate proposal, cost allocation plan, etc.) necessary to allow NIST to perform an indirect cost rate proposal review. Organizations that have previously established indirect cost rates

NIST Financial Assistance Award Number: 19-40-MM519

Amendment: NEW

Recipient: MidAmerican Energy Company

with NIST must submit a new indirect cost rate proposal for indirect costs within six months after the end of the organization's fiscal year.

If your submission includes Personally Identifiable Information (PII) or Business Identifiable Information (BII), please send an email to gmdaudit@nist.gov to request a secure link.

The requirements for determining the relevant cognizant agency and for developing and submitting indirect (F&A) cost rate proposals and cost allocation plans are contained in 2 C.F.R. § 200.414 and in Appendices III-VII to 2 C.F.R. Part 200. For additional guidance on preparing indirect cost proposals, please review the Department of Labor's Guide for Indirect Cost Determination at: <https://www.dol.gov/oasam/boc/dcd/np-comm-guide.htm>. Section I.B and I.C lists the various types of indirect cost rates and the circumstances under which such rates would apply. The guide also addresses common indirect cost problems and contains useful FAQs.

15. Unfunded Grant Actions Mailbox (UGAM):

Requests for unfunded award actions, which include, but are not limited to, requests for no-cost extension, change in key personnel, change in scope of work, budget revisions, award transfer, and novation, must be submitted to: UGAM@nist.gov, within the prescribed timeframes identified in the terms and conditions of the award.

Unfunded award action requests and related correspondence, including justification to support the request, sent to the mailbox **must** contain the following information in the email subject line: (1) Recipient name; (2) NIST award number; (3) Principal Investigator/Project Director; and (4) Action being requested (e.g. no cost extension, change in key personnel, etc.).

Unfunded award action requests must not be sent directly to NIST personnel (e.g. Grants Specialist, Grants Officer, Administrative Assistant, GMD Division Chief, Federal Program Officer, etc.).

Any requests sent directly to NIST personnel will be returned to the sender with instructions on how to submit through the UGAM@nist.gov mailbox.

No other correspondence may be sent through this mailbox; timely responses to any other inquiries received in this mailbox are not guaranteed. The mailbox will not be used for any other purpose **except** for purposes identified above.

Requests that are processed will be authorized via a Form CD-451 Amendment to the Financial Assistance Award or a Non-Funded Administrative Change Letter.

16. Climate Resilience

Because retrofitted and new infrastructure for broadband might be expected to have a lifetime of 20 years or more, the Recipient must account not only for current risks but

also for how the frequency, severity, and nature of these extreme events may plausibly evolve as our climate continues to change over the coming decades.

Accordingly, the recipient must develop a plan for regularly assessing the changing weather and climate risks that could impact the network. Such a plan must demonstrate that the risks are understood and characterized to account for and respond to these areas for the 20 years following deployment, utilizing at least one resource or tool at <https://toolkit.climate.gov/content/understanding-climate-risk-resources-ntia-applicants>. The plan should also detail how the weather and climate risks identified are addressed through avoidance and/or mitigation for the network. The plan should articulate how this process of evaluating the updated climate and weather risk and incorporating that information into the network design, maintenance, upgrades, or similar will be performed at least once during the period of performance and periodically over the life of the project.

The recipient is to report on its climate risk reanalysis in the biannual performance reports.

17. No Duplication of Federal Funding

No federal funds may be used to duplicate costs, services, connections, facilities, or equipment that have been authorized through another federal program. To the extent that a Middle Mile Program project is later deemed to include duplicate funding from another federal program, the NIST Grants Office and NTIA reserve the right to disallow the costs associated with the duplication of federal funds or service and/or to reallocate the funds to allowable activities within the project.

18. Signage and Public Acknowledgements:

The Recipient is required to post project signage and to include public acknowledgments in published and other collateral materials (e.g., press releases, marketing materials, webpages, plaques) satisfactory in form and substance to NIST, that identifies the nature of the project and indicates that the project is funded by Infrastructure Investment and Jobs Act. The Recipient employing project signage is required to use the official Investing in America emblem in accordance with the Official Investing in America Emblem Style Guide: <https://www.whitehouse.gov/wp-content/uploads/2023/02/Investing-in-America-Brand-Guide.pdf>. Costs associated with signage and public acknowledgments must be reasonable and limited. Signs or public acknowledgments should not be produced, displayed or published if doing so results in unreasonable cost, expense, or recipient burden. The Recipient is encouraged to use recycled or recovered materials when procuring signs. Any construction site signage should be displayed throughout the construction phase of the project in an easily visible location directly linked to the work taking place. The Recipient is responsible to maintain the signage in good condition throughout the construction period.

19. Equipment:

A. Estimated Useful Life and Compliance with 2 C.F.R. § 200.313. For purposes of this award, the estimated useful life of the equipment to be acquired by the recipient varies from the date that such equipment is placed into service on the project. Additional useful life guidance will be forthcoming. During the estimated useful life of the equipment, the recipient must adhere to the requirements contained in the terms and conditions of the award, including adherence to the use, management, and disposition requirements set forth in 2 C.F.R. § 200.313.

B. UCC-1 Filing & Attorney's Certification. Pursuant to 2 C.F.R. § 200.316, within 30 calendar days of acquiring all or any portion of the equipment under this award, the recipient shall properly file a UCC-1 with the appropriate State office where the equipment will be located in accordance with the State's Uniform Commercial Code (UCC). The UCC filing(s) must include the below or substantively similar language providing public notice of the Federal Interest in the equipment acquired with NTIA Middle Mile funding. Also, a clear and accurate inventory of the subject equipment must be attached to and filed with the UCC-1.

The Equipment set forth at Attachment A hereto was acquired with funding under a financial assistance award (Award Number 19-40-MM519) issued by the National Institute of Standards and Technology, U.S. Department of Commerce. As such, the U.S. Department of Commerce retains an undivided equitable reversionary interest (Federal Interest) in the Equipment for the estimated useful life thereof, from when the equipment is placed into service on the project.

In addition, within 15 calendar days following the required UCC filing(s), the recipient must be ready if requested by the Grants Officer to provide the Grants Officer with complete and certified copies of the filed UCC forms and attachments for the equipment acquired with NTIA Middle Mile funding, along with a certification from legal counsel, licensed by the State within which the filings were made (Attorney's Certification), that the UCC filing was properly executed and filed in accordance with applicable state law. The Attorney's Certification must include the below or substantively similar language:

NIST Award Number: 19-40-MM519

Pursuant to 28 U.S.C. § 1746, I hereby certify as follows:

I am legal counsel at _____.

I am licensed to practice law in the State of _____ having been a license holder of said state and in good standing since _____.

Attached hereto is a certified copy of UCC-1 form(s) reflecting that this document was filed in the _____ on _____, 202x, bearing the following filing

NIST Financial Assistance Award Number: 19-40-MM519

Amendment: NEW

Recipient: MidAmerican Energy Company

*information [insert filing data, e.g., instrument number, etc.) and consists of _____
recorded pages as certified by the Secretary of State of _____.*

*I certify that this UCC-1 form(s) has/have been validly executed and properly recorded
as noted above.*

I certify under the penalty of perjury that the foregoing is true and correct.

Executed on this _____ day of _____.

(Attorney name and title)

(Address and phone number)

In addition, during the estimated useful life of the equipment, the recipient is hereby authorized and directed by the Grants Officer to timely file any necessary UCC-3 continuation statements (or other filings) for the subject equipment consistent with the requirements set forth in this specific award condition. If requested by the Grants Officer, copies of all filed UCC continuation statements, together with an Attorney's Certification, must be submitted to the Grants Officer within 15 calendar days following each such filing. The UCC filing(s) and the accompanying Attorney's Certification(s) must be acceptable in form and in substance to the NIST Grants Officer. If the Grants Officer does not request the UCC filing(s) and Attorney's Certification, the recipient must continue to maintain records of the filing(s) and Attorney's Certification in compliance with 2 CFR § 200.334 Retention requirements for records.

20. Contingency Costs:

To the extent provided in the approved budget, contingency costs are generally allowable under the Middle Mile Program.

The Recipient's use of federal award funds for contingency costs must be pre-approved by the Grants Officer prior to the Recipient drawing down federal award funds for such costs. A Recipient request to draw down federal award funds for contingency costs must be made in writing to the Grants Officer, who shall approve or disapprove the Recipient's request in writing.

End of Specific Award Conditions

**U.S. DEPARTMENT OF COMMERCE
NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
GENERAL TERMS AND CONDITIONS
for the
NTIA MIDDLE MILE GRANT PROGRAM**

April 2023

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1. Project Management Conference

Shortly after approval of the award, NIST (on behalf of NTIA) may contact the Recipient to arrange a project management conference. The purpose of the project management conference is to explain to the Recipient its post-approval responsibilities for administration of the award, including its responsibilities with respect to the Terms and Conditions of the award and applicable Federal requirements. The Recipient's authorized representative, architect/engineer, financial representative, and possibly the Recipient's legal counsel should attend.

2. Property Trust Relationship and Public Notice Filings for Grant-Acquired Property

In accordance with 2 CFR § 200.316 (Property trust relationship), real property, equipment, and intangible property, that are acquired or improved with a Federal award must be held in trust by the non-Federal entity (*i.e.*, Recipient or Subrecipient) as trustee for the beneficiaries of the project or program under which the property was acquired or improved. This trust relationship exists throughout the duration of the property's estimated useful life, as determined by the Grants Officer in consultation with the Program Office, during which time the Federal Government retains an undivided, equitable reversionary interest in the property (Federal Interest). The non-Federal entity must comply with all use and disposition requirements and restrictions as set forth in 2 C.F.R. §§ 200.310 (Insurance coverage) through 200.316 (Property trust relationship), as applicable, and in the terms and conditions of the Federal award.

The Grants Officer may require a non-Federal entity (*i.e.*, a Recipient or Subrecipient) to execute and to record (as applicable) a statement of interest, financing statement (Form UCC-1), lien, mortgage or other public notice of record to indicate that real or personal property acquired or improved in whole or in part pursuant to a Middle Mile Grant Program award is subject to the Federal Interest, and that certain use and disposition requirements apply to the property. The statement of interest, financing statement (Form UCC-1), lien, mortgage or other public notice must be acceptable in form and substance to NTIA and to the NIST Grants Officer and must be placed on record in accordance with applicable State and local law, with continuances re-filed as appropriate. In such cases, the NIST Grants Officer may further require the non-Federal entity to provide NTIA and the NIST Grants Officer with a written statement from a licensed attorney in the jurisdiction where the property is located, certifying that the Federal Interest has been protected, as required under the award and in accordance with applicable State and local law. The attorney's statement, along with a copy of the instrument reflecting the recordation of the Federal Interest, must be promptly returned to the Grants Officer. The non-Federal entity may use model documentation made available by NTIA.

Without releasing or excusing the non-Federal entity from these obligations, the non-Federal entity, by execution of the financial assistance award or by expending Federal financial assistance funds (in the case of a subrecipient), authorizes NTIA and/or the NIST Grants Officer to file such notices and continuations as it determines to be necessary or convenient to disclose and protect the Federal Interest in the property. The NIST Grants Officer may elect not to release any or a portion of the Federal award funds until the non-Federal entity has complied with this provision and any other applicable award terms or conditions, unless other arrangements satisfactory to the NIST Grants Officer are made.

3. **Land, Easements, and Rights of Way**

The Recipient must disclose all encumbrances to NIST. NIST will not accept any encumbrance that interferes with the construction, intended use, operation, or maintenance of the project during its estimated useful life.

4. **Project Sign**

The Recipient is responsible for constructing, erecting, and maintaining in good condition throughout the construction phase of the project a sign(s) satisfactory to NIST that identifies the project and indicates that the project is Federally funded. The sign shall:

- Be designed in accordance with the guidelines and design specifications found in the Building A Better America Brand Guide found here: <https://www.whitehouse.gov/wp-content/uploads/2022/08/Building-A-Better-America-Brand-Guide.pdf>
- Be placed in an easily visible location that can be directly linked to the work taking place; and,
- Identify the project as a “project funded by President Biden’s Bipartisan Infrastructure Law.”

The recipient should use best effort to use recycled or recovered materials when procuring signs. The recipient shall also ensure costs associated with signage are reasonable and limited,

NIST also may require that the Recipient maintain a permanent plaque or sign at the project site with the same or similar information.

5. **Eminent Domain**

In accordance with Executive Order 13406, “*Protecting the Property Rights of the American People*” (June 28, 2006), the Recipient agrees:

- (a) Not to use any power of eminent domain available to the Recipient (including the commencement of eminent domain proceedings) for use in connection with the Project for the purpose of advancing the economic interests of private parties;
- (b) Not to accept title to land, easements, or other interest in land acquired by the use of any power of eminent domain for use in connection with the Project for such purposes; and
- (c) Any use of the power of eminent domain to acquire land, easements or interests in land, whether by the Recipient or any other entity that has the power of eminent domain, in connection with the Project without prior written consent of NIST constitutes an unauthorized activity and/or use of funds under the award, and subjects the recipient to appropriate enforcement action by the Grants Officer, including but not limited to the disallowance of award costs and the termination of an award.

6. Construction Contract Security Bond

Pursuant to 2 CFR § 200.326, for construction or facility improvement contracts or subcontracts exceeding the Simplified Acquisition Threshold (currently \$250,000), the Recipient may submit its bonding policy and requirements to the Grants Officer for a determination whether the Federal Government's interest is adequately protected. If such a determination has not been made, the minimum bonding requirements of 2 CFR § 200.326 (Bonding requirements) shall apply.

7. Inspection And Testing of Materials

The Recipient shall ensure that all materials and equipment used in the completion of the work shall be subject to adequate inspection and testing in accordance with accepted standards. Materials of construction, particularly those upon which the strength and durability of any structure may depend, shall be subject to inspection and testing to establish conformance with specifications and suitability for intended uses. The Recipient shall ensure that documentation of same is cataloged and retained.

8. Energy Efficiency

The Recipient shall apply, where feasible, sustainable, and energy efficient, design principles for the purpose of reducing pollution and energy costs and optimizing lifecycle costs associated with the construction.

9. Requirements During Construction

During construction, the Recipient is responsible for:

- (a) Ensuring project completion in accordance with approved plans and specifications;
- (b) Monitoring project progress and reporting progress to NTIA and NIST;
- (c) Providing for required construction permits and adequate construction inspection;
- (d) Promptly paying costs incurred for the project purposes;
- (e) Monitoring contractors' compliance with Federal, State, and local requirements; and
- (f) Constructing and maintaining in good condition throughout the construction period, of a sign or signs, at the project site in a conspicuous place indicating that the Federal Government is participating in the project.

10. Recipient and Contractor Compliance with Applicable Requirements

The Recipient shall comply, and must require each subrecipient or contractor, including lower tier subrecipients or subcontractors, to comply with all applicable Federal, state, and local laws and regulations. The Recipient is responsible for ensuring that all contracts necessary for design and construction of the Project facilities are implemented in compliance with the Terms and Conditions of this Award.

11. Environmental Assessment

The Recipient must comply with all environmental standards and identify to NTIA any impact a proposed infrastructure project may have on the environment. The Recipient may not expend

any federal infrastructure funds other than for engineering design, permitting and work related to environmental, historical and cultural reviews, and limited, preliminary procurement funds, as described below, prior to the following:

- The completion of environmental review and issuance of a Categorical Exclusion (Cat Ex) Decision Memo, Record of Consideration (REC), Finding of No Significant Impact (FONSI), or Record of Decision (ROD) (hereinafter “decision documents”) that meets the requirements of the National Environmental Policy Act of 1969 (42 U.S.C. 4321, *et seq.*);
- The completion of any required consultations, to include consultations with the State Historic Preservation Office (SHPO) and the appropriate federally recognized Native American tribes, under Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470, *et seq.*) (NHPA), and/or consultations with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act (16 U.S.C. 1531, *et seq.*), and/or consultations with the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (33 U.S.C. 1251, *et seq.*); and/or
- Demonstration of compliance with all other applicable federal, state, and local environmental laws and regulations.

Project implementation (site preparation, demolition, construction, ground disturbance, or any other project implementation activities) may not begin prior to the completion of the above activities. The completion of a draft environmental assessment (EA) or equivalent document, and completion of any required consultations under Section 106 of the NHPA, must be completed no later than six months after the award date unless a formal request for extension is submitted and approved by the Grants Officer. The Recipient must comply with all conditions placed on the project as the result of consultation processes.

Subject to the Grants Officer’s approval of the Recipient’s 6-month expenditure plan (described below), the allowable use of award funds prior to beginning project implementation includes, but is not limited to, activities necessary for the completion of the following:

- Pre-construction project planning, including collecting environmentally-related information;
- Applications for environmental permits;
- Studies such as an Environmental Assessment (EA), and any wetland delineations, biological assessments, archaeological surveys, or other required analyses;
- Administrative costs;
- Pre-award application costs; and/or
- Required consultation activities.

The allowable use of funds for limited, preliminary procurements prior to beginning project implementation includes, but is not limited to, the initiation of activities necessary to meet the project completion requirements as specified in the award, including the following:

- Purchase or lease of equipment, or entering into binding contracts to do so;

- Purchase of applicable or conditional insurance; and/or
- Funds used to secure land or building leases, including right-of-way easements.

The allowable use of preliminary procurement funds is limited; must not result in an irrevocable commitment of resources; and is only allowed after inclusion in and approval of an initial 6-month expenditure plan. The initial 6-month expenditure plan is due in advance of any infrastructure funds draw down from ASAP and will be reviewed by the Federal Program Officer, who will make recommendations to the Grants Officer (who has final approval authority) to ensure all proposed procurement funds are reasonable and necessary to ensure that the project completion deadline requirements are met. All contracts must contain early termination clauses with termination costs clearly specified. All equipment purchased or leased in advance of project implementation and before issuance of the decision documents and completion of applicable consultations must be stored in locations other than the proposed project site and where there will be no impact to the environment, human health, or cultural resources (in most cases, this means equipment must be stored in existing warehouses). Under no circumstances will grant funds be drawn down for clearing or excavating land, or demolition or construction of buildings or towers, before all environmental SACs are completed and cleared. This limited, preliminary allowable use of funds for purchases and leases is designed for recipient flexibility and to streamline preparation for project implementation simultaneously during environmental review and conducting of consultations; the clause, and all applicable restrictions, is lifted once the decision document and applicable consultations are complete and approved.

While this SAC is in effect, the Recipient shall submit, in advance of any drawdowns of funds from ASAP, an initial 6-month expenditure plan that presents the proposed planning and design activities and limited, preliminary procurement activities and costs. The initial 6-month expenditure plan will be submitted via email to the Federal Program Officer, who will review it and provide recommendations to the Grants Officer for final approval to ensure that the proposed activities and expenditures are reasonable and necessary in the context of environmental compliance. The Federal Program Officer must review and recommend, and the Grants Officer must approve the initial 6-month expenditure plan prior to fund drawdowns through ASAP.

The completion of a draft EA will be submitted via email to the Environmental Federal Program Officer and Federal Program Officer. Once the environmental review has been completed, NTIA will review all documentation and determine whether the review sufficiently addresses all resource areas and whether the project may qualify for approval decision. Projects found to have significant impacts to environmental or historic resources may face de-obligation of funding if impacts cannot be mitigated. The Recipient is required to provide any information requested by NTIA to ensure both initial and ongoing compliance with environmental and historic preservation laws, regulations, and best practices. The Recipient shall notify NTIA within 24 hours upon receipt of any notices of foreclosure; notices for continuing consultation received from the SHPO, Tribal Historic Preservation Office (THPO), USFWS, or other consulting party; or notices of noncompliance received from consulting authorities or regulatory agencies.

Any change to the approved project scope that has the potential for altering the nature or extent of environmental or cultural resources impacts must be brought to the attention of NTIA and will be re-evaluated for compliance with applicable regulatory requirements.

For all ground disturbing activities that occur during project implementation in the vicinity of known archaeological sites or suspected or known burials, the Recipient must ensure that an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards monitors ground disturbance, and if any potential archeological resources or buried human remains are discovered, then the Recipient must immediately cease construction in that area and notify NTIA and the interested SHPO, THPO, and tribes. Such construction activities may then only continue with the written approval of NTIA.

A revised 6-month expenditure plan is due within 30 days of submitting a FONSI to NTIA. The revised 6-month expenditure plan must outline how the Recipient plans on expending the remaining budget costs related to construction-type activities. This plan should be submitted via email to the Federal Program Officer who will review it and provide recommendations to the Grants Officer for final approval to ensure that the proposed activities and expenditures are reasonable and necessary. The Federal Program Officer must review and recommend, and the Grants Officer must approve, the revised 6-month expenditure plan prior to fund drawdowns through ASAP.

12. National Historic Preservation Act

The Recipient may not expend any federal infrastructure funds other than for engineering design, permitting and work related to environmental, historical and cultural reviews, and limited, preliminary procurement funds prior to the following:

- The completion of any required consultations, to include consultations with the State Historic Preservation Officer (SHPO) and the appropriate federally recognized Native American tribes, under Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470, *et seq.*) (NHPA); and/or
- Demonstration of compliance with all other applicable Federal, State, and local environmental laws and regulations.

Project implementation (site preparation, demolition, construction, ground disturbance, or any other project implementation activities) may not begin prior to the completion of the above activities. The completion of any required consultations under Section 106 of the NHPA must be completed no later than six months after the award date unless a formal request for extension is submitted and approved by the Grants Officer. The Recipient must comply with all conditions placed on the project as the result of consultation processes.

Subject to the Grants Officer's approval of the Recipient's 6-month expenditure plan (described below), the allowable use of funds for planning and design activities prior to beginning project implementation includes, but is not limited to, activities necessary for the completion of the following:

- Pre-construction project planning, including collecting culturally-related information;

- Applications for cultural resource approvals and/or permits;
- Studies and any archaeological, architectural history, or traditional cultural property surveys, or other required analyses;
- Administrative costs;
- Pre-award application costs; and/or
- Required consultation activities.

The allowable use of funds for limited, preliminary procurements prior to beginning project implementation includes, but is not limited to, the initiation of activities necessary to meet the project completion requirements as specified in the award, including the following:

- Purchase or lease of equipment, or entering into binding contracts to do so;
- Purchase of applicable or conditional insurance; and/or;
- Funds used to secure land or building leases, including right-of-way easements.

While this SAC is in effect, the Recipient shall submit, in advance of any drawdowns of funds from ASAP, an initial 6-month expenditure plan that presents the proposed planning and design activities and limited, preliminary procurement activities and costs. The initial 6-month expenditure plan will be submitted via email to the Federal Program Officer, who will review it and provide recommendations to the Grants Officer for final approval to ensure that the proposed activities and expenditures are reasonable and necessary in the context of environmental compliance. The Federal Program Officer must review and recommend, and the Grants Officer must approve the initial 6-month expenditure plan prior to fund drawdowns through ASAP.

The allowable use of preliminary procurement funds is limited; must not result in an irrevocable commitment of resources; and is only allowed after inclusion in and approval of an initial 6-month expenditure plan. The initial 6-month expenditure plan is due in advance of any infrastructure funds draw down from ASAP and will be reviewed by the Federal Program Officer, who will make recommendations to the Grants Officer (who has final approval authority) to ensure all proposed procurement funds are reasonable and necessary to ensure that the project completion deadline requirements are met. All contracts must contain early termination clauses with termination costs clearly specified. All equipment purchased or leased in advance of project implementation and before completion of applicable consultations must be stored in locations other than the proposed project site and where there will be no impact to the environment, human health, or cultural resources (in most cases, this means equipment must be stored in existing warehouses). Under no circumstances will grant funds be drawn down for clearing or excavating land, or demolition or construction, before all environmental SACs are completed and cleared. This limited, preliminary allowable use of funds for purchases and leases is designed for recipient flexibility and to streamline preparation for project implementation simultaneously during consultations; the clause, and all applicable restrictions, is lifted once the applicable consultations are complete, and decision document is issued.

Consultation documentation will be submitted via email to the Environmental Federal Program Officer and Federal Program Officer. Once the consultation activities have been completed, NTIA will review all documentation and determine whether the consultation activities sufficiently address historical and/or cultural resource impacts. Projects found to have

significant impacts to environmental or historic resources may face de-obligation of funding if impacts cannot be mitigated. The Recipient is required to provide any information requested by NTIA to ensure both initial and ongoing compliance with environmental and historic preservation laws, regulations, and best practices. The Recipient shall notify NTIA within 24 hours upon receipt of any notices of foreclosure; notices for continuing consultation received from the SHPO, Tribal Historic Preservation Officer (THPO), or other consulting party; or notices of noncompliance received from consulting authorities or regulatory agencies.

For all ground disturbing activities that occur during project implementation in the vicinity of known archaeological sites or suspected or known burials, the Recipient must ensure that an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards monitors ground disturbance, and if any potential archeological resources or buried human remains are discovered, then the Recipient must immediately cease construction in that area and notify NTIA and the interested SHPO, THPO, and tribes. Such construction activities may then only continue with the written approval of NTIA.

Any change to the approved project scope that has the potential for altering the nature or extent of cultural resources impacts must be brought to the attention of NTIA and will be re-evaluated for compliance with applicable regulatory requirements.

A revised 6-month expenditure plan is due within 30 days of submitting a FONSI to NTIA. The revised 6-month expenditure plan must outline how the Recipient plans on expending the remaining budget costs related to construction-type activities. This plan should be submitted via email to the Federal Program Officer who will review it and provide recommendations to the Grants Officer for final approval to ensure that the proposed activities and expenditures are reasonable and necessary. The Federal Program Officer must review and recommend, and the Grants Officer must approve, the revised 6-month expenditure plan prior to fund drawdowns through ASAP.

13. Tribal Employment Rights Ordinances

In accordance with Departmental policy, NIST must recognize Tribal Employment Rights Ordinances (TEROs), which may provide for preferences in contracting and employment, in connection with its financial assistance awards. Tribal ordinances requiring preference in contracting, hiring, and firing and the payment of a TERO fee are allowable provisions under Federal awards and is incorporated by NTIA into Middle Mile Grant Program grants with Native American/Alaska Native/Native Hawaiian entities. The payment of the TERO fee, which supports the tribal employment rights office to administer the preferences, should generally be allowable as an expense that is "necessary and reasonable for proper and efficient performance and administration" of an award, as provided under as provided under 2 CFR § 200.403.

14. Scheduling Inspection for Final Acceptance

The Recipient will schedule its final inspection when all construction has been completed, the architect/engineer has conducted its own final inspection, and any deficiencies have been corrected. Representatives of the Recipient, the architect/engineer, and the contractor(s) will make the Recipient's final inspection. NTIA must be given advance notice of the final inspection so that a representative of NTIA may participate.

15. Build America, Buy America – Required Use of Domestic Fiber Optic Glass and Fiber Optic Cable

A. Applicability & Scope: Pursuant to the Infrastructure Investment and Jobs Act, 2021, Pub. L. No. 117-58, 135 Stat. 429 (Nov. 15, 2021) (IIJA) including the Build America, Buy America Act, Pub. L. No. 117-58, §§ 70901-52 (BABA), as well as guidance provided by Memorandum for Heads of Executive Departments and Agencies, Initial Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure, Executive Office of the President, Office of Management and Budget (April 18, 2022) (OMB M-22-11), recipients of a federal financial assistance award from the U.S. Department of Commerce (DoC) are hereby notified that none of the funds provided under this award may be used for a Middle Mile (MM) infrastructure project unless all of the fiber optic glass and fiber optic cable used in the project is produced in the United States. The Buy America domestic content procurement preference only applies to fiber optic glass and to fiber optic cable that are consumed in, incorporated into, or affixed to a MM infrastructure project. As applicable, the requirements of this subsection must be included in all subawards and contracts, including all contracts and purchase orders for work or products pursuant to this program.

B. Waivers: When necessary, recipients may apply for, and DoC may grant, a waiver from the Buy America domestic content procurement preference applicable to MM awards. When DoC has made a determination that one of the following exceptions applies, the awarding official may waive the application of the Buy America domestic content procurement preference in any case in which DoC determines that:

- 1) applying the Buy America domestic content procurement preference to the fiber optic glass and/or fiber optic cable needed for the MM project would be inconsistent with the public interest;
- 2) the fiber optic glass and/or fiber optic cable needed for the MM project are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality; or
- 3) the inclusion of fiber optic glass and/or fiber optic cable needed for the MM project and produced in the United States will increase the cost of the overall project by more than 25 percent.

A request to waive the application of the Buy America domestic content procurement preference must be submitted in writing. The NTIA Federal Program Officer will provide instructions on the format, contents, and supporting materials required for any waiver request. Waiver requests are subject to public comment periods of no less than 15 days and must be reviewed by the Office of Management and Budget Made in America Office. There may be instances where an award qualifies, in whole or in part, for an existing waiver accessible at: <https://www.whitehouse.gov/omb/management/made-in-america/build-america-buy-america-act-federal-financial-assistance/>.

Please note that NTIA has waived the Buy America domestic content procurement preference requirement for all iron, steel, manufactured products, and construction

materials used in MM infrastructure projects, with the exceptions of fiber optic glass and fiber optic cable. See *Limited Applicability Nonavailability Waiver of the Buy America Domestic Content Procurement Preference as Applied to Recipients of Middle Mile Grant Program Awards*, which was issued by the Assistant Secretary of Commerce for Communications and Information on April 18, 2023 and is accessible at: <https://www.commerce.gov/oam/build-america-buy-america>.

Notwithstanding the NTIA waiver and excepting fiber optic glass and fiber optic cable used in a MM project, the Recipient should, as appropriate and consistent with law and to the greatest extent practicable, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including, but not limited to, iron, aluminum, steel, cement, and other manufactured products). As applicable, the requirements of this subsection must be included in all subawards, including all contracts and purchase orders for work or products pursuant to this program. See 2 CFR § 200.322, *Domestic preference for procurements*.

C. Definitions:

“Construction materials” includes an article, material, or supply—other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives¹—that is or consists primarily of:

- non-ferrous metals;
- plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- glass (including optic glass);
- lumber; or
- drywall.

In the case of construction materials, all manufacturing processes for the construction material must have occurred in the United States.²

“Domestic content procurement preference” means all iron and steel used in the project are produced in the United States; the manufactured products used in the project are produced in the United States; or the construction materials used in the project are produced in the United States.

“Infrastructure” includes, at a minimum, the structures, facilities, and equipment for, in the United States, roads, highways, and bridges; public transportation; dams, ports, harbors, and other maritime facilities; intercity passenger and freight railroads; freight and intermodal facilities; airports; water systems, including drinking water and wastewater systems; electrical transmission facilities and systems; utilities; broadband infrastructure;

¹ IJA, § 70917(c)(1).

² *Id.* at § 70912(6)(C).

and buildings and real property. Infrastructure includes facilities that generate, transport, and distribute energy.

“Project” means the construction, alteration, maintenance, or repair of infrastructure in the United States.

D. Recordkeeping and Reporting: In accord with 2 C.F.R. § 200.334, *Retention requirements for records*, the recipient is required to maintain detailed records pertinent to a MM award, including financial records, procurement records, and real property/equipment records. In this connection, the recipient is required to maintain detailed records concerning the acquisition of all iron, steel, manufactured products, and construction materials used in MM projects. For fiber optic glass and fiber optic cable used in a MM project, this includes but is not limited to the: acquisition date; acquisition price; verification of domestic sourcing (unless DoC issues a waiver); how it was used in the project; and current location. Additionally, the recipient is required to maintain detailed records concerning the acquisition of iron, steel, manufactured products, and construction materials from foreign sources that are used in a MM project, including but not limited to: acquisition date; acquisition price; efforts to source domestically; foreign source(s); how it was used in the project; and current location. NTIA may require the recipient to report such information to the Agency at a time and in the format specified by the NTIA Federal Program Officer.

E. Questions: Questions concerning the Buy America domestic content procurement preference requirements applicable to MM awards should be addressed to the NTIA Federal Program Officer.

16. Contracting with Small and Minority Businesses, Women’s Business Enterprises, and Labor Surplus Area Firms

Pursuant to 2 CFR § 200.321, the Recipient and its subrecipients must take all necessary affirmative steps (as described in 2 CFR § 200.321) to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible.

17. Open Network Requirements

The Recipient must comply with NTIA’s open network requirements, which allows all other broadband service providers to interconnect with networks and other broadband infrastructure deployed using funds from this grant program on fair and non-discriminatory terms and conditions. The requirement to interconnect will apply to Recipients that deploy middle mile networks or submarine cable landing stations and not last mile networks.

- **Interconnection**: Recipients shall allow interconnection in perpetuity to grant-funded facilities at any technically feasible point along the network (without exceeding current or reasonably anticipated capacity limitations). This duty includes, at a minimum, the physical interconnection of the Recipient’s facilities to a requesting party’s facilities for the exchange of traffic. In addition, Recipients shall connect to the public Internet directly or indirectly and provide requesting parties with an ability to connect to the

Internet. Rates and terms for interconnection shall be reasonable and nondiscriminatory.

- **Negotiate in Good Faith:** Recipients shall negotiate in good faith with all requesting parties (*i.e.*, public, private, non-profit, or other parties) making a bona fide request for interconnection or wholesale services.
- **Wholesale Broadband Service:** NTIA encourages Recipients to offer wholesale broadband services at rates and terms that are reasonable and nondiscriminatory

18. Prohibition on Use for Covered Communications Equipment or Services

A Recipient or subrecipient may not use grant funds received under the Middle Mile Grant Program to purchase or support any covered communications equipment or service (as defined in section 9 of the Secure and Trusted Communications Networks Act of 2019 (47 U.S.C. 1608)). *See also* 2 C.F.R. 200.216 (Prohibition on certain telecommunications and video surveillance services or equipment), which also applies to this award.

19. Prevention of Waste, Fraud, and Abuse

Consistent with the principles in 2 CFR part 200, at any time(s) during the grant period of performance, NTIA may direct a Recipient's key personnel to take a Government-provided training on preventing waste, fraud and abuse. Key personnel include those responsible for managing the Recipient's finances and overseeing any contractors, sub-contractors or sub-recipients (for financial matters and/or general oversight related to the grant). NTIA will provide instructions on when and how to take such training(s), and costs incurred by a Recipient relative to the training (*e.g.*, staff time) are eligible for reimbursement pursuant to the NTIA award.

Further, recipients must monitor award activities for common fraud schemes, including but not limited to:

- false claims for materials and labor;
- bribes related to the acquisition of materials and labor;
- product substitution;
- mismarking or mislabeling on products and materials; and
- time and materials overcharging.

Should a Recipient detect any fraud schemes or any other suspicious activity, the grant recipient must contact its assigned NTIA Federal Program Officer and the Department of Commerce, Office of Inspector General Hotline, as indicated at <https://www.oig.doc.gov/Pages/Contact-Us.aspx>, as soon as possible. Additionally, in accordance with 2 CFR § 200.113, an applicant or recipient must disclose, in a timely manner, in writing to the Federal awarding agency or pass-through entity all violations of Federal criminal law involving fraud, bribery, or gratuity violations potentially affecting the Federal award. Non-Federal entities that have received a Federal award are required to report certain civil, criminal, or administrative proceedings to SAM.gov. Failure to make required disclosures can result in any of the remedies described in Section 200.339. (*See also* 2 CFR Part 180, 31 U.S.C. § 3321, and 41 U.S.C. § 2313.)

20. Protection of Whistleblowers

The Department of Commerce Financial Assistance Standard Terms and Conditions are incorporated into every NTIA grant award. Section F.05 of these Terms and Conditions states that each award is subject to the whistleblower protections afforded by 41 U.S.C. § 4712 (Enhancement of contractor protection from reprisal for disclosure of certain information).

Generally, this law provides that an employee or contractor (including subcontractors and personal services contractors) of a non-Federal entity may not be discharged, demoted, or otherwise discriminated against as a reprisal for disclosing to a person or body information that the employee reasonably believes is evidence of gross mismanagement of a Federal award, subaward, or a contract under a Federal award or subaward, a gross waste of Federal funds, an abuse of authority relating to a Federal award or subaward or contract under a Federal award or subaward, a substantial and specific danger to public health or safety, or a violation of law, rule, or regulation related to a Federal award, subaward, or contract under a Federal award or subaward.

Non-Federal entities and contractors under Federal awards and subawards must inform their employees in writing of the rights and remedies provided under 41 U.S.C. § 4712, in the predominant native language of the workforce.

A person that believes they have been the subject of retaliation for protected whistleblowing can contact the Department of Commerce, Office of Inspector General Hotline, as indicated at <https://www.oig.doc.gov/Pages/Hotline.aspx>, or the U.S. Office of Special Counsel, toll free at 1-800-872-9855.



BUDGET INFORMATION - Construction Programs

NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified.

COST CLASSIFICATION	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Columns a-b)
1. Administrative and legal expenses	\$896,179	\$	\$896,179
2. Land, structures, rights-of-way, appraisals, etc.	\$0	\$	\$0
3. Relocation expenses and payments	\$0	\$	\$0
4. Architectural and engineering fees	\$3,219,187.4	\$	\$3,219,187.4
5. Other architectural and engineering fees	\$227,700	\$	\$227,700
6. Project inspection fees	\$0	\$	\$0
7. Site work	\$0	\$	\$0
8. Demolition and removal	\$0	\$	\$0
9. Construction	\$44,223,613.89	\$	\$44,223,613.89
10. Equipment	\$0	\$	\$0
11. Miscellaneous	\$25,703,798.15	\$	\$25,703,798.15
12. SUBTOTAL (sum of lines 1-11)	\$74,270,478.44	\$0	\$74,270,478.44
13. Contingencies	\$1,423,284.04	\$	\$1,423,284.04
14. SUBTOTAL	\$75,693,762.48	\$0	\$75,693,762.48
15. <div></div>	<div></div>	<div></div>	<div></div>
16. TOTAL PROJECT COSTS (subtract #15 from #14)	\$75,693,762.48	\$0	\$75,693,762.48

FEDERAL FUNDING

17. Federal assistance requested, calculate as follows:
(Consult Federal agency for Federal percentage share.)
Enter the resulting Federal share.

Enter eligible costs from line 16c Multiply X 49.99 %

\$ 37,839,311.86

MidAmerican Energy Company - Middle Mile Project
Middle Mile Grant Program - Detailed Budget Justification

\$589,123.00

71.64

[illegible]

Material Purchase - Fiber		Other			\$5,082,320.00				\$5,082,320.00	In-Kind	100.00%	5,082,320.00	
Total Miscellaneous					\$25,703,798.15	0.00	0.00	\$25,703,798.15	0.00			25,703,798.15	
12. SUBTOTAL					\$74,270,478.44	\$36,761,973.85	\$11,804,706.44	\$25,703,798.15	\$0.00			\$74,270,478.44	
13. Contingencies													
*See note to financials - Contingencies for Engineering, Procurement, and Construction (3%)					\$1,423,284.04	1,077,338.01	345,946.03		Cash	24.31%		1,423,284.04	
Total Contingencies					\$1,423,284.04	1,077,338.01	345,946.03	\$0.00	0.00			1,423,284.04	
14. SUBTOTAL					\$75,693,762.48	\$37,839,311.86	\$12,150,652.47	\$25,703,798.15	\$0.00			\$75,693,762.48	
15. Project (Program) income *See note to financials													
Total Project (Program) income													
16. PROJECT TOTAL					\$75,693,762.48	\$37,839,311.86	\$12,150,652.47	\$25,703,798.15				\$75,693,762.48	



Middle Mile Grant Program Bi-Annual Performance Report Form

This form will serve as a tool to capture the Middle Mile Grant Program Bi-Annual performance Report.

The report for the Middle Mile Grant Program is due on a biannual basis for the periods ending March 31 and September 30 of each year. Reports will be due within 30 days after the end of the reporting period.

Technical reports shall contain information as prescribed in 2 C.F.R. § 200.329 (<http://go.usa.gov/xkVgP>) and Department of Commerce Financial Assistance Standard Terms and Conditions (dated November 12, 2020), Section A.01.

If you have any further questions, or require technical assistance, please reach out to your assigned Federal Program Officer.

Click on the link below to view the report form.

[MMG Bi-Annual Performance Report](#)

National Telecommunications and Information Administration (NTIA)
Middle Mile Grant Program
Bi-Annual Performance Report



Note: Form instructions and definitions will be created to support the report. Instructional guidance and training will be developed. Numbering to be updated based on final approved form.

RECIPIENT NAME:

MidAmerican Energy Company

OMB Control No.

Expiration Date:

Middle Mile Grant Program Bi-Annual Performance Report						
A. GENERAL INFORMATION						
GENERAL	1a. Recipient Organization:	MidAmerican Energy Company		1h. Award Identification Number:	19-40-MM519	
	1b. Recipient Street Address:	106 E 2nd St		1i. Report Date (MM/DD/YYYY):	10/30/2023	
	1c. City, State, and Zip Code:	Davenport, IA 52801-1502		1j. Final Report:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	1d. Unique Entity Identification (UEI) Number:	EMNUPCW6N84		1k. Report Period Start Date (MM/DD/YYYY):	7/1/2023	
	1e. Award Start Date (MM/DD/YYYY):	7/1/2023		1l. Report Period End Date (MM/DD/YYYY):	9/30/2023	
	1f. Award End Date (MM/DD/YYYY):	6/30/2025				
	1g. Name of Person Completing Report:					
	B. PROJECT NARRATIVE					
PROJECT NARRATIVE	Please use the section below to provide a project narrative of the project(s). This section aims to help reviewers better understand what project is being proposed and steps taken to achieve this goal.					
	2a. A brief description of the recipient's organization and scope of work/project priorities:	MEC is a regulated utility that provides electric and gas service across four states in the Midwest, operating billions of dollars' worth of energy infrastructure assets. As part of its infrastructure, MEC owns and operates almost 1,400 miles of command and control fiber optic cable. To address energy infrastructure security, MEC has been developing plans to ensure that all of its major facilities are connected by fiber. This effort offers an opportunity to leverage MEC's energy infrastructure management needs to provide a high quality, cost-effective middle mile fiber route that can facilitate last mile service. In addition to building new routes to connect its remaining infrastructure and making that fiber available for middle mile broadband, MEC will be offering unused capacity its existing command and control fiber as new open access middle mile.				
	2b. An overview of the significant outputs and outcomes to be accomplished in the project:	MEC has designed a fiber route that meets both its energy infrastructure needs and rural Iowa's broadband challenges. Six sub-routes comprising 775 miles of new build traverse 25 counties in central and western Iowa, facilitating last mile access in 59 communities. Opening approximately 1,365 miles of MEC-owned fiber to public access will facilitate last mile connections for an additional 130+ communities. Within one mile of the new build route, approximately 5,250 locations are unserved and approximately 4,600 locations are underserved based on national data available. Along the existing dark fiber route that will be made open-access, approximately 7,380 locations are unserved and approximately 1,760 are underserved based on national data available. The total project could potentially allow for more than 12,600 unserved locations and 6,360 underserved locations affordable high speed internet from last mile providers through low cost dark fiber leasing provided by MEC.				
	2c. How would the project meet the recipient's business and/or administrative need(s)?	One of the unique and compelling aspects of MEC's proposed project lies in the different economic drivers for its business, when compared to traditional telecoms. Since MEC is a regulated utility, only a specific rate of return can be attained by the company unlike many other unregulated competitors. Any additional revenue generated from internet service providers leasing middle mile broadband will reduce overall revenue requirement from retail utility customer rates. MEC has developed a pricing structure that will allow for dark fiber lease rates below market value based on current market research.				
	2d. Provide an overview of key accomplishments achieved for this reporting period on the MM infrastructure project.	Six-month expenditure plan submitted, environmental review process started, contractor coordination. Contractor procurement was initiated pre-award (contingent on funding) following a competitive process compliant with 2 CFR 200.318-327.				
	2e. Provide any roadblock experienced during this reporting period impacting the expansion of the MM infrastructure project (i.e., supply chain, availability of labor).	Environmental review process may potentially delay construction				
	2f. Provide any barriers to improving job quality experienced during this reporting period.	NA				

National Telecommunications and Information Administration (NTIA)
Middle Mile Grant Program
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C. INFRASTRUCTURE MILESTONE CATEGORIES AND PROJECT TIMELINE

INFRASTRUCTURE MILESTONE CATEGORIES AND PROJECT TIMELINE

Please use the chart below to provide the start date and end date of your project.

OVERALL PROJECT	PROJECT DURATION	3a. PROJECT START DATE	3b. PROJECT END DATE										
	730	July 1, 2023	June 30, 2025										

Please provide the duration for each milestone category of your project. The duration should be based on the start and end dates of each category. For example, if you expect to complete a particular milestone within two weeks, fill in the total days (14) in the duration field.

Please use the table provided to indicate your EXPECTED percentage of completion on a bi-annual basis for each year of your project. Year 1 begins with your award start date.

The percentage of completion should be based primarily on the expenditure of your project budget and should be reported cumulatively from award inception through the end of each semi-annual reporting period. For example, if you expect to complete a particular milestone within the first three periods of your project, the third period and all subsequent periods should state 100%.

Please write "0" in the duration field if your project does not include an activity. If necessary, please insert additional milestones at the end.

ANTICIPATED PROJECT MILESTONES				Year 1 Baseline		Year 2 Baseline		Year 3 Baseline		Year 4 Baseline		Year 5 Baseline	
3c. MILESTONE CATEGORIES	3d. DURATION (Days)	3e. START DATE	3f. END DATE	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2
Overall Project	730	July 1, 2023	June 30, 2025	13%	41%	68%	93%	100%					
Environmental Assessment	181	October 1, 2023	March 30, 2024	0%	75%	100%	100%	100%					
Network Design	120	September 1, 2023	December 30, 2023	0%	100%	100%	100%	100%					
Rights Of Way				N/A	N/A	N/A	N/A	N/A					
Construction Permits And Other Approvals	301	May 30, 2024	March 27, 2025	0%	50%	75%	100%	100%					
Site Preparation				N/A	N/A	N/A	N/A	N/A					
Equipment Procurement	395	January 1, 2024	January 30, 2025	50%	50%	75%	100%	100%					
Network Build (all components - owned, leased, Infeasible Rights of Use, etc.)	365	June 15, 2024	June 15, 2025	0%	0%	40%	80%	100%					
Equipment Deployment	335	July 15, 2024	June 15, 2025	0%	0%	50%	95%	100%					
Network Testing	512	February 4, 2024	June 30, 2025	0%	0%	25%	80%	100%					
Status of Procurement	730	July 1, 2023	June 30, 2025	50%	50%	75%	90%	100%					
Other (please specify):				N/A	N/A	N/A	N/A	N/A					

% OF PROJECT COMPLETION

Please use the table provided to indicate your ACTUAL percentage of completion on a bi-annual basis for each year of your project. Year 1 begins with your award start date.

The percentage of completion should be based primarily on the expenditure of your project budget and should be reported cumulatively from award inception through the end of each semi-annual reporting period. For example, if you expect to complete a particular milestone within the first three periods of your project, the third period and all subsequent periods should state 100%.

Please provide a brief description of the primary activities involved in meeting each milestone (a single description should be provided for each milestone, covering all periods in years one through N). Please write "N/A" if your project does not include an activity. If necessary, please insert additional milestones at the bottom of the chart. Please add additional milestones as applicable.

ACTUAL PROJECT MILESTONES		Year 1		Year 2		Year 3		Year 4		Year 5	
		Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2
4a. MILESTONE	4b. DESCRIPTION	Actual Milestone Completion (Cumulative)									
Overall Project		19%									
Environmental Assessment	The work through 9/30/23 has consisted of project initiation, internal team meetings, MidAmerican team meetings, and an NTIA meeting.	2%									
Network Design	Route Engineering for buried fiber placement and locations of interconnect points based on most benefit to meet project objectives	50%									
Rights Of Way		N/A									
Construction Permits And Other Approvals		0%									
Site Preparation		N/A									
Equipment Procurement	Approximately half of the fiber was procured	50%									
Network Build (all components - owned, leased, Infeasible Rights of Use, etc.)		0%									
Equipment Deployment		0%									
Network Testing		0%									
Status of Procurement	Completed RFP's for environmental, engineering, procurement, and construction services	50%									
Other (please specify):		N/A									

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Subrecipient and Subawards	List of Subrecipient(s) that received a subaward or subcontract from the eligible entity and a description of the specific project for which grant funds were provided.									
	Associate projects names to any subrecipient or subaward associated with grant, approved grant funds, and expenditures to date.									
	5a. Project Name	5b. Project Description	5c. Subrecipient	5d. Minority Business Enterprise (MBE)	5e. Women's Business Enterprise (WBE)	5f. Labor Surplus Area Firm	5g. Awarded Funds	5h. Expenditures to Date	5i. Remaining Grant Balance	5j. % of work complete
	N/A			Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>				
				Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>				
			Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>					
D. INFRASTRUCTURE BUDGET EXECUTION DETAILS										
INFRASTRUCTURE BUDGET EXECUTION DETAILS	Please provide details below on your total budget and total fund expended to date for each budget element, including detailed disbursements of both matching funds approved and federal funds obligated from project inception through end of this reporting period. Figures should be reported cumulatively from award inception to the end of the applicable reporting period.									
	6a. Projected Budget Element	6b. Federal Funds	6c. Non-Federal Funds	6d. Total Project Budget	6e. Total Federal Funds Expended to Date	6f. Total Non-Federal Funds Expended to Date	6g. Total Funds Expended	6h. Percent of Federal Funding Expended to Date (Cumulative)		
	Administrative and legal expenses	\$ 678,352.09	\$ 217,826.91	\$ 896,179.00	\$ -	\$ 35,909.33	\$ 35,909.33	0%		
	Land, structures, rights-of way, appraisals, etc.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%		
	Relocation expenses and payments	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%		
	Architectural and engineering fees	\$ 2,436,725.80	\$ 782,461.60	\$ 3,219,187.40	\$ -	\$ -	\$ -	0%		
	Other architectural and engineering fees	\$ 172,354.82	\$ 55,345.18	\$ 227,700.00	\$ -	\$ -	\$ -	0%		
	Project inspection fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%		
	Site work	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%		
	Demolition and removal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%		
	Construction	\$ 33,474,541.14	\$ 10,749,072.75	\$ 44,223,613.89	\$ -	\$ -	\$ -	0%		
	Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%		
	Miscellaneous	\$ -	\$ 25,703,798.15	\$ 25,703,798.15	\$ -	\$ 1,684,274.93	\$ 1,684,274.93	0%		
	Subtotal	\$ 36,761,973.85	\$ 37,508,504.59	\$ 74,270,478.44	\$ -	\$ 1,720,184.26	\$ 1,720,184.26	0%		
	Contingencies	\$ 1,077,338.01	\$ 345,946.03	\$ 1,423,284.04	\$ -	\$ -	\$ -	0%		
	Totals	\$ 37,839,311.86	\$ 37,854,450.62	\$ 75,693,762.48	\$ -	\$ 1,720,184.26	\$ 1,720,184.26	0%		
	E. COMMUNITY BENEFIT AGREEMENT									
COMMUNITY BENEFIT AGREEMENT	As stated in the MM Grant Program NOFO a Community Benefit Agreement (CBA) is an agreement signed by community benefit groups and a developer, identifying the community benefits a developer agrees to deliver, in return for community support of the project.									
	Please use the fields below to state the Community Benefit Group and Developer Name and describe the activities in how this partnership has supported with the Middle Mile Infrastructure project (i.e. wage agreements, targeting hiring of apprentices and disadvantaged groups in labor marker, education and training opportunities, sub-contracting to local small business for construction, services, and supply chain needs).									
	Description of Community Agreement									
	7a. Community Benefit Group Name: Please provide the name of the Community Benefit Group									
	Not available at this time.									
	7b. Developer Name: Please provide the name of the Developer									
	TBD									
7c. Community Benefit Group and Developer Partnership: Please describe in the space below the nature of the partnership and how the MM grant funds being used are assisting to provide community support for the infrastructure project.										
TBD										

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F. CLIMATE RESILIENCE				
CLIMATE RESILIENCE	Recipients must demonstrate that they have sufficiently accounted for current and future weather and climate related risks to new MM infrastructure projects. At present, weather and climate related risks to broadband networks include wildfires, extreme heat and cold, inland and coastal flooding, and the extreme winds produced by weather events such as tornadoes, hurricanes, and other weather events. Because retrofitted and new infrastructure for broadband might be expected to have a lifetime of 20 years or more, recipients must account not only for current risks but also for how the frequency, severity, and nature of these extreme events may plausibly evolve as our climate continues to change over the coming decades.			
	Climate Resiliency Risk Mitigation			
	This purpose of this section is for the recipient to demonstrate that they have sufficiently accounted for current and future weather and climate-related risks to new MM infrastructure projects. In particular, each recipient should demonstrate how they've addressed the known and identifiable risks of current and future projected weather and climate conditions through measures such as (but not limited to) choice of a technology platform suitable to the climate risk of the region, reliance on alternatives siting of facilities (i.e., underground construction where appropriate), retrofitting, or hardening of existing assets, and use of network redundancy to safeguard against threats to infrastructure.			
	8a. Were any geographic areas identified for this reporting period subject to an initial and/or updated hazard screening for future weather and climate related risk? If so, please provide the date of the screening and provide related documentation as an attachment to this report.			
	No			
	8b Climate Resilience Category	8c. Date of Most Recent Hazard Screening	8d. Name and Title of Representative Completing Most Recent Hazard Screening	8e. Date of Report Completion®
	NA	NA	NA	NA
	8f. Identified Risk: For your MM project, what are the potential weather and climate hazards that may be most important to be addressed that could impact the resiliency of the middle mile infrastructure deployed (i.e. wildfires, extreme heat and cold, inland and coastal flooding, extreme winds: tornadoes, hurricanes and other weather events)?			
	Precipitation varies widely across Iowa, with the southeastern portion of the state receiving around 38 inches annually compared to only 26 inches in the northwest. Much of Iowa's precipitation falls in summer, averaging about 14 inches in the central part of the state. The frequency of 2-inch extreme precipitation events has increased, with the highest number occurring during the past 16 years. From 1955 to 1997, Iowa was ranked first in state losses due to flooding. In 2008, 83 of 99 Iowa counties were declared disasters from flooding and in 2011 flooding occurred along the entire length of the Missouri River (the western border of Iowa). In addition to flooding, winter storms can cause damage, including heavy snows, high winds and low temperatures. Tornadoes also affect Iowa, along with violent thunderstorms and derecho winds.			
	8g. Weather and Climate Hazards: Were any significant climate or weather hazards experienced during this reporting period (i.e., floods, tornados) impacting infrastructure buildout or service? Briefly describe how you monitored for weather and climate caused issues for the reliability of the system. If so, please provide the date of the disaster, location and backup documentation related (i.e., news articles).			
	No			
	8h. Risks to Deployment of New Infrastructure: Has the team identified any risks impacting the deployment of new or repaired infrastructure due to current and future weather and climate-related threats during this reporting period?			
	No			
	8i. Risk Mitigation: How will the project avoid and/or mitigate the risk identified? If not applicable, please explain why.			
	Underground placement of most of the lines is the primary construction method to manage for future climate change. Underground construction would protect from increased precipitation and flooding, with underground structures either using watertight cases or designed to drain quickly. Adaptation for potential energy outages due to cooling demand from hot summer days would be facilitated by MEC's utility status. Because the fiber endpoints would be co-located with MEC electric distribution and transmission infrastructure, MEC would be able to quickly respond to outages and interruptions with the same speed and urgency that is undertaken to restore electric service for distribution and transmission assets. This is in keeping with MEC's reliability responsibilities as a rate regulated electric and gas utility.			
8j. Additional Information: Is there any additional information you would like to share during this reporting period that the grant team should be aware of regarding the management of sustainable climate resiliency for your MM project?				
For specific construction practices meant to minimize impacts from increased precipitation and localized and riverine flooding, the fiber would either be attached to a bridge crossing or bored using best professional judgement for engineering design that allows for adequate cover at a reasonable bore depth given the streambed characteristics and potential for scour at each individual crossing (e.g. soil substrate type/cohesiveness etc.).				
8k. Additional Resources Has the team utilized the available resources to assist with mitigation and long-term planning efforts for this reporting period? If so, which resources? 2018 National Climate Assessment NOAA's 2022 State Climate Summaries NOAA Disaster and Risk Mapping Tool NOAA's Storms Event Database NOAA Climate Explorer and Digital Coast FEMA National Risk Index Consulted FEMA-approved Hazard Mitigation Plans prepared by states in which they propose to build middle mile infrastructure to help identify key risk and hazards				
No				

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G. Workforce																										
DAVIS-BACON ACT CERTIFICATION	For projects receiving over \$5,000,000 (based on expected total cost), as determined by the U.S. Secretary of Labor by subchapter IV of chapter 31 of title 40, United States Code (commonly known as the "Davis-Bacon Act"), all laborers and mechanics employed by contractors and subcontractors in the performance of such project are paid wages at rates not less than those prevailing.																									
	Davis-Bacon Act Certification																									
	9a. Does the recipient have access to the information requested (all laborers and mechanics employed by contractors and subcontractors in the performance of such project are paid wages at rates not less than those prevailing?)				Yes <input checked="" type="checkbox"/>		No <input type="checkbox"/>																			
LOCAL HIRE PRIORITIZATION AND IMPACT	Local Hire Prioritization and Impact																									
	Local hiring is a goal or requirement to hire people who live close to the place of work. This aim is often more specifically structured as a requirement for contractors awarded certain types of publicly funded projects to recruit a certain proportion of the people working on the project from a particular area. Please provide all direct hires and contractors supporting the MM Infrastructure project.																									
	Please use the table below to describe how the project prioritizes local hiring.																									
	Hires by Race, Ethnicity and Gender	Number of Hires																						Totals		
		Race/Ethnicity																								
		9b. Hispanic or Latino			9c. Non-Hispanic/Non-Latino																					
					9c-1. Men						9c-2. Women						9c-3. X									
		9b-1. Men	9b-2. Women	9b-3. X	White	Black or African American	Native Hawaiian or Pacific Islander	Asian	Native American or Alaska Native	Two or More Races	White	Black or African American	Native Hawaiian or Pacific Islander	Asian	Native American or Alaska Native	Two or More Races	White	Black or African American	Native Hawaiian or Pacific Islander	Asian	Native American or Alaska Native	Two or More Races				
	Number of Local Direct Hires	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0		
	Number of Non-Local Direct Hires	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0		
Percentage of Local Direct Hires on Award	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				
Number of Local Subcontractors	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
Number of Non-Local Subcontractors	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
Percentage of Local Subcontractors on Award	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				
DAVIS-BACON WAGES	Davis-Bacon Act Wages																									
	Please confirm if wages are at least prevailing*																									
	*As stated in the MM NOFO as determined by the U.S. Secretary Labor in accordance with subchapter IV of chapter 31 of title 40, United States Code (commonly known as the "Davis-Bacon Act"), for the corresponding classes of laborers and mechanics employed on projects of a character similar to the contract work in the civil subdivision of the State (or the District of Columbia) in which the work is to be performed.																									
	10a. Are wage rates at least the Davis-Bacon prevailing wage for all laborers?				Yes <input type="checkbox"/>		No <input type="checkbox"/>		10c. Are wage rates at least the prevailing wage for all mechanics?								Yes <input type="checkbox"/>		No <input type="checkbox"/>							
	10b. Please cite your source of how this information was gathered (for 10a).			Contracts are not final at this time						10d. Please cite your source of how this information was gathered (for 10c).								Contracts are not final at this time								
	10e. If you answered "No" to either 10a. or 10c., please provide an attachment reporting the wages and benefits of workers on the project by job classification, and whether those wages are less than the prevailing wage.																									
WORKFORCE DEMOGRAPHICS	Workforce Demographic Data																									
	Jobs by Race, Ethnicity and Gender	Number of Jobs																						Totals		
		Race/Ethnicity																								
		11a. Hispanic or Latino			11b. Non-Hispanic/Non-Latino																					
					11b-1. Men						11b-2. Women						11b-3. X									
	11a-1. Men	11a-2. Women	11a-3. X	White	Black or African American	Native Hawaiian or Pacific Islander	Asian	Native American or Alaska Native	Two or More Races	White	Black or African American	Native Hawaiian or Pacific Islander	Asian	Native American or Alaska Native	Two or More Races	White	Black or African American	Native Hawaiian or Pacific Islander	Asian	Native American or Alaska Native	Two or More Races					
Jobs Created	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
Jobs Retained	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
UNIONIZED WORKFORCE	12-a. Does this project include some workforce elements that are unionized?				Yes <input type="checkbox"/>		No <input checked="" type="checkbox"/>		12-c. Does your MM project utilize a project labor agreement?								Yes <input type="checkbox"/>		No <input checked="" type="checkbox"/>							
	12-b. Are workers provided access to union educators/organizers on employer property or during the work day?				Yes <input type="checkbox"/>		No <input checked="" type="checkbox"/>		12-d. Did workers receive additional information or training about their workplace rights in addition to already required notice postings?								Yes <input type="checkbox"/>		No <input checked="" type="checkbox"/>							

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H. Workforce Continuity Plan
National Labor Relations Act (29 U.S.C. 158 (f))

As stated in the MM NOFO, if a recipient has not provided a certification that a project either will use a unionized project workforce or included a project labor agreement, meaning a pre-hire collective bargaining agreement consistent with section 8(f) of the National Labor Relations Act (29 U.S.C. 158 (f)), then the recipient must provide a project workforce continuity plan.

Workforce Continuity Plan

13a. Please describe the steps taken to ensure the project has ready access to a sufficient supply of appropriately skilled and unskilled labor to ensure construction is completed skillfully throughout the project's life (as required in Section III.B of the MM NOFO). As stated in the MM NOFO, the middle mile grant recipient is capable of carrying out the proposed project in a competent manner, including a plan to attract or retain an appropriate skilled and credentialed workforce.

For your MM project, please provide a brief description of efforts made to attract, train or retain a skilled and credentialed workforce.

Has the team offered any of the following resources to assist with maintaining a sufficient supply of appropriately skilled labor force for this reporting period? If so, which resources (please provide a brief description of any of the following that apply)

- In-House Training
- Registered Apprenticeships
- Labor-Management Partnerships

Partnerships with entities like unions, community colleges, or community-based groups.

MEC practice is to directly employ its workforce (rather than subcontracting) and will utilize this model for its broadband project, where its own employees develop and implement the broadband project. The only components of the project that will be contracted are for environmental compliance, fiber optic cable design and the fiber optic cable installation, all of which will be competitively procured. Within this framework, MEC has specific positions that are represented by unions, without requiring that employees join those unions. MEC utilizes a system of union partnerships, its CBO partnerships, internal training programs and transparent job classifications to ensure that its workforce in developing and maintaining a high level of skills appropriate to the technical work required to develop and manage a middle mile fiber optic system. Working with the IBEW Local 109 and 499 (electrical) and USW local 738 (steel workers), MEC has 21 Registered Apprenticeship programs. We collaborate with community colleges, including a recent collaboration with Des Moines Area CC, Iowa Assoc. of Municipalities and Alliant Energy to establish the Electric Utility Technology Program. MEC also works with IAG (Iowa Jobs for America's Graduates) to provide educational and career connections in the industry by participating and providing industry events such as career fairs, lunch and learns, and internships.

Continuing professional development is provided through a tuition support program with an annual benefit that was increased by over 40% effective May 2022 to \$7,500. To ensure appropriate credentials, MEC maintains detailed job descriptions with periodic reviews to ensure employees are in the appropriate DOT testing pools and that the positions are appropriately classified as exempt or nonexempt under the FLSA. Some positions require pre-employment skills testing and education and license requirements are documented by background checks.

13b. Please describe below, the steps taken to minimize risks of labor disputes and disruptions that would jeopardize the timeliness and cost-effectiveness of completing the MM project.

A robust training and professional development program for its employees, and appropriate certification and licensure maintenance of worker classifications, MEC has separated the project into 6 different routes with different contractors responsible for building separate routes to ensure timely completion of each route and to mitigate risk of delays associated with a single contractor. All contractors working on the middle mile project have a long standing successful and high standard history working on MEC telecommunication expansion projects. Our standard procurement contracts are utilized for the middle mile project and all contractors are familiar with the standard contract terms from previous projects they have successfully completed for MEC.

13c. Please describe below the steps to ensure a safe and healthy workplace that avoids delays and costs associated with workplace illnesses, injuries, and fatalities

MEC will utilize workplace safety committees that will be authorized to raise health and safety concerns in connection with network construction. MEC provides quality jobs with full benefits packages (health, dental, vision, PTO, family leave) and robust training programs.

13d. For your MM project, please provide a brief description below of efforts made to ensure a safe and healthy workplace.

Has the team offered any of the following resources to assist with maintaining a safe and healthy workplace for this reporting period? If so, which resources (please provide a brief description of any of the following that apply)

Safety Training

Certifications and/or Licensure Requirements for all relevant works (e.g., OSHA 10, OSHA 30, confined space, traffic control, or other training required of workers employed by contractors)

Issues raised by workplace safety committees and their resolutions

MEC will utilize workplace safety committees that will be authorized to raise health and safety concerns in connection with network construction. MEC provides quality jobs with full benefits packages (health, dental, vision, PTO, family leave) and robust training programs. MEC holds high standards of safety and requires all contractors to pass safety and security grading based on their OSHA incident history.

13e. Please provide the name(s) below of any subcontracted entities performing work on the project, and the total number of workers employed by each entity.

13e-1. Name of Subcontracted Entity Performing Work	13e-2. Total Number of Workers within this Subcontract	13e-3. Job Categories of Workers Supporting Project within this Subcontract
	15	Senior Staff Scientist, Group Manager, Field Scientist, Environmental Regional Services Manager, Office Manager, NEPA Program Manager, Environmental Department Manager, Cultural Resources Program Manager
	50	Field Supervisors, GIS Mapping, Engineering Designer, Construction Managers, Project Manager, Construction Administrator,
	30	Field Supervisors, GIS Mapping, Engineering Designer, Construction Managers, Project Manager, Construction Administrator,
	20	Field Supervisors, GIS Mapping, Engineering Designer, Construction Managers, Project Manager, Construction Administrator,
	9	Field Supervisors, GIS Mapping, Engineering Designer, Construction Managers, Project Manager, Construction Administrator,

13f. Please describe below the steps taken to ensure that workers on the project receive wages and benefits sufficient to secure an appropriately skilled workforce in the context of the local and regional labor market.

The resources listed are planned and did not perform work during the performance period

I. ANCHOR INSTITUTIONS

Please provide Anchor Institution (AI) data for the current period only (not cumulative). Please add rows as needed.

[illegible]

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J. BROADBAND ACCESS KEY INDICATOR: SUBSCRIBERS AND SPEED												
PROJECTED NUMBER OF SUBSCRIBERS AND SPEED	Please use the following table to provide anticipated key indicators with the projected totals for each beneficiary category, access type and speed category for your infrastructure service or project. Except as indicated, information should be reported cumulatively from award inception through the end of the semi-annual period for Semi-Annual Indicators. Please write "N/A" if your project does not include this indicator.											
	PROJECTED NUMBER OF SUBSCRIBERS AND SPEED		Year 1		Year 2		Year 3		Year 4		Year 5	
	SUBSCRIBER TYPE	ACCESS TYPE	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2
	15a. Anchor Institutions (AIs)	15a-1. Total number of AIs passed	0	0	0	114	287					
		15a-2. Number of AIs within 1,000 feet of the middle mile infrastructure	0	0	0	114	287					
		15a-3. Total number of AIs served	0	0	0	0	0					
		15a-4. AIs with new access	0	0	0	0	TBD					
		15a-5. AIs with improved access	0	0	0	0	287					
		15a-6. Total number of AIs served with speeds of at least 1/1Gbps	0	0	0	0	0					
	15b. Broadband Wholesalers or Last Mile Providers	15b-1.Total number of broadband wholesalers or last mile providers served	0	0	0	3	5					
		15b-2. Broadband wholesalers or last mile providers with new access	0	0	0	3	5					
		15b-3. Broadband wholesalers or last mile providers with improved access	0	0	0	3	5					
		15b-4. Total number of broadband wholesalers or last mile providers offering speeds of at least 25/3 Mbps	0	0	0	TBD	TBD					
15b-5. Total number of broadband wholesalers or last mile providers offering speeds of at least 100/20 Mbps		0	0	0	TBD	TBD						
15b-6. Total number of broadband wholesalers or last mile providers offering speeds of at least 1/1 Gbps		0	0	0	TBD	TBD						
K. BROADBAND ACCESS KEY INDICATOR: NETWORK BUILD PROGRESS												
NETWORK BUILD PROGRESS	Please use the following table to provide anticipated key indicators and progress of your Infrastructure project. Except as indicated, information should be reported cumulatively from award inception through the end of the semi-annual period. Please write "N/A" if your project does not include this indicator.											
	NETWORK BUILD PROGRESS		Year 1		Year 2		Year 3		Year 4		Year 5	
	KEY INDICATOR	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	
	16a. Total of new fiber miles (aerial or buried)	0	0	310	620	775						
	16b. Total of fiber miles leased	N/A	N/A	N/A	N/A	N/A						
	16c. Total of existing fiber miles upgraded	N/A	N/A	N/A	N/A	N/A						
	16d. Total of new microwave links	N/A	N/A	N/A	N/A	N/A						
	16e. Total of new towers	N/A	N/A	N/A	N/A	N/A						
	16f. Total of new interconnection points	0	0	60	121	151						
	16g. Total of signed agreements with broadband wholesalers or last mile providers	0	0	0	0	2						
16h. Total of potential agreements (i.e., agreements currently being negotiated) with broadband wholesalers or last mile providers (This Total should NOT be reported cumulatively)	0	0	0	2	3							
L. QUANTIFIABLE METRICS												
FIBER OPTIC BASED	Quantifiable Metrics - Section designed to assist with reporting and audit purpose to quantify how much progress was made and track the location of where the progress was made.											
			Year 1		Year 2		Year 3		Year 4		Year 5	
	17a. Fiber Optic Based	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	
	17a-1. Is the fiber a buried/aerial or undersea application?	Buried/Aerial	Buried/Aerial	Buried/Aerial	Buried/Aerial	Buried/Aerial						
	17a-2. Number of strands deployed	0										
	17a-3. Number of miles of buried fiber deployed	0										
	17a-4. Number of miles of aerial fiber deployed	0										
	17a-5. Estimated capacity of fiber (i.e. throughput)	0										
	17a-6. Deployment cost per mile of buried fiber optics	0										
	17a-7. Deployment cost per mile of aerial fiber optics	0										
	17a-8. Total Spent on Buried Fiber Deployment this reporting period	0										
	17a-9. Total Spent on Aerial Fiber Deployment this reporting period	0										
	17a-10. Total spent on Fiber Deployment this reporting period	0										
	17a-11. Please provide any additional information about the Fiber Optic deployment (200 words or less)											
17a-12. Please provide the digital mappings (e.g., CAD, Revit, KMZ, KML) for the microwave nodes created during this reporting period.												

National Telecommunications and Information Administration (NTIA)
Middle Mile Grant Program
Bi-Annual Performance Report

MICROWAVE BASED	17b. Microwave Based	Year 1		Year 2		Year 3		Year 4		Year 5		
		Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	
	17b-1. How many microwave nodes have been deployed?	N/A	N/A	N/A	N/A	N/A						
	17b-2. How many microwave nodes are operating for reporting period?	N/A	N/A	N/A	N/A	N/A						
	17b-3. Installation cost per microwavable node	N/A	N/A	N/A	N/A	N/A						
	17b-4. Number of new towers built to support microwave structure	N/A	N/A	N/A	N/A	N/A						
	17b-5. If applicable, what type of tower was constructed (a) Monopole (b) Self-Support, or (c) Guyed during this reporting period?	N/A	N/A	N/A	N/A	N/A						
	17b-6. Average cost per tower installed	N/A	N/A	N/A	N/A	N/A						
	17b-7. Total spend on Tower deployment this reporting period	N/A	N/A	N/A	N/A	N/A						
	17b-8. Total spend on microwave deployment this reporting period	N/A	N/A	N/A	N/A	N/A						
	17b-9. If you answered "other" to question 5a.6 or if it is a combination of multiple types, please provide a detailed narrative description detailing what type of tower or what combination of towers is used for the project and the their associated costs. (200 words or less).											
	17b-10. Please provide the digital mappings (e.g., CAD, Revit, KMZ, KML) for each new aerial fiber and buried fiber equipment installed during this reporting period.											
SATELLITE	17c. Satellite	Year 1		Year 2		Year 3		Year 4		Year 5		
		Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	
	17c-1. What satellite provider is being used?	N/A	N/A	N/A	N/A	N/A						
	17c-2. What is the estimated capacity of the satellite link (i.e. throughput)?	N/A	N/A	N/A	N/A	N/A						
	17c-3. What is the associated cost to use this satellite service?	N/A	N/A	N/A	N/A	N/A						
	17c-4. Please provide any additional information about the Satellite deployment (200 words or less)											
17c-5. Please provide the digital mappings (e.g., CAD, Revit, KMZ, KML) for each new aerial fiber and buried fiber equipment installed during this reporting period.												
CERTIFICATIONS	Certifications											
	18. Please provide certification evidencing compliance with Federal labor and employment laws along with the requirements of Infrastructure Investment and Jobs Act and Middle Mile Grant Program, for the bi-annual period for which this report is being filed.											
	Contracts are not final at this time.											
	19. Please provide certification evidencing compliance with the Build America, Buy America Act. The Build America, Buy America Act requires that all of the iron, steel, manufactured products (including but not limited to fiber-optic communications facilities), and construction materials used in the project or other eligible activities are produced in the United States unless a waiver is granted.											
	MidAmerican is exempt as a for profit entity.											
MM/ GRANT PROGRAM BI-ANNUAL REPORT CERTIFICATION	20. I certify to the best of knowledge and belief that this report is correct and complete for performance of activities for the purposes set forth in the award documents.											
	20a. Typed or Printed Name and Title of Authorized Certifying Official:						20c. Telephone (area code, number and extension):					
	Abigail Bucheit, Senior Project Analyst											
	20b. Signature of Certifying Official:						20d. Email Address:					
							20e. Date:		30-Oct-23			

MidAmerican Energy Company

Iowa Middle Mile Fiber Project

NTIA Middle Mile Grant (MMG)

Budget Narrative (V6 as of 6/2/23)

Applicant Name: MidAmerican Energy Company (MEC)

Applicant Type: SIC code is 4931 - Electric and other Services Combined (equivalent is NAICS code 221115 Wind Electric Power)

Proposed Period of Performance: April 1, 2023 - March 31, 2025

Total Project Costs: \$75,693,762.48

Total Federal Grant Request: \$37,839,311.86

Total Matching Funds (Cash): \$12,150,652.47

Total Matching Funds (In-Kind): \$25,703,798.15

Total Matching Funds (Cash + In-Kind): \$37,854,450.62

Total Matching Funds (Cash + In-Kind) as Percentage of Total Project Costs: 50.01%

1. Administrative and Legal Expenses: \$896,179.00

The administration and legal expenses are broken out into five areas including Project Manager, Construction Manager, Grant Governance and Compliance, Accounting Associate and Project Analyst/PMA. Additionally, MEC has extensive in-house talent that can assist with these requirements, more specifically within each of these categories:

Project management will be completed by a program manager of energy infrastructure and telecom, a telecommunications engineer, and the manager of energy infrastructure and telecom has included his resume as part of this application. The project manager represented by MEC will oversee the EPC contractors for each of the six segments that are part of the construction budget. Responsibilities include design review, change order approvals, coordinating weekly construction meetings, tracking project expenditures and managing the associated contracts. This area is budgeted [REDACTED] for [REDACTED] [REDACTED]. (\$199,474.00)

The construction manager is responsible for project tracking and will be heavily involved onsite in the construction process. This person will serve as a project liaison between contractors and MEC to make sure the project implementation runs smoothly. This includes drafting progress reports, implementing appropriate safety protocols, ensuring contractors follow MEC installation standards and contract specifications, daily field inspections, and monitoring project schedules.

This position is budgeted [REDACTED]
(\$520,000.00)

Grant governance and compliance ensures that the grant reporting requirements are fulfilled, and milestones are complete. Grant compliance will be implemented by [REDACTED] and [REDACTED] has served as proposal development lead and is familiar with the stipulations and requirements of the notice of funding opportunity. [REDACTED] will lead the labor compliance activities in his current role as project development engineer. With collective experience across multiple MEC business functions, they will work with [REDACTED], who will be the fiscal compliance lead to establish and oversee fiscal controls compliance with federal regulations. This is budgeted for [REDACTED] (\$25,905.00)

The accounting associate is within the MEC accounting department. This role will verify invoices, follow contractor rate sheets in the associated contracts, track expenditures that are part of the grant compliance, and track internal labor that is part the administrative and legal expenses. This position also makes sure MEC is meeting project forecasts, that all the engineering and applicable internal costs are accurate and determines whether MEC is over or under budget, including contractor expenses and revenue. This is budgeted [REDACTED]
[REDACTED]

Project Analyst/PMA creates purchase orders after receiving invoices and the accounting associate will further verify. The PA will be processing invoices and working with payroll and accounts payable to verify invoices are paid on time and within contract requirements. This area is budgeted at [REDACTED]
(\$104,000)

2. Land, Structures, Rights-of-Way, Appraisals, etc.: \$0.00

This project is in public right of way; therefore, zero dollars are budgeted.

3. Relocation Expenses and Payments: \$0.00

The scope of this project doesn't include relocating any facilities, as it is all new construction of buried fiber optic facilities.

4. Architectural and Engineering Fees: \$3,219,187.40

Architectural and engineering fees include the design and permitting of the proposed fiber optic routes. This includes field data collection and engineering, mapping, and identifying utilities and other obstacles in order to determine the most efficient route. Includes securing all work in right of way permits. Includes early identification of geotechnical and environmental considerations and working with the environmental contractor in conducting geotechnical and environmental surveys as needed. Includes managing subcontractors and verifying all work complies with grant requirements as well as MEC's design and construction specifications. The engineering consultant's team will be responsible for all design work, permitting and any other technical requirements for the project prior to the start of construction.

The engineering and design of the routes will require field assessments for identifying river and creek crossings, work in major state and federal highway right of ways, dense buried utility corridors and some rocky soil conditions requiring more aggressive excavations. The identification of locations to place fiber in multiple types of right of way including cities, counties

and state highways requires various degrees of permitting detail and coordination. Routes will need to be designed as such that they have minimal impact on the environment and adjacent landowners or community institutions. Directional boring will be utilized in areas where traditional plowing would negatively affect the landscape, including tree roots and other utilities. Finally, as-built drawings will be required, including electronic GPS files for updating utility locate maps.

A team of engineers will be required and involved for this wide spectrum of responsibilities. Relevant positions include senior project manager, project manager, senior design engineer, design engineer associate, civil engineer, civil surveyor, GIS specialist and CAD designer.

This estimate is based on the six route proposals received from numerous Engineer, Procure and Construct (EPC) contractors. Elements of the engineering included in bids conducted earlier this year, which did include the Davis-Bacon wages requirement and material pricing current as of August 2022. The cost per foot varies slightly per route due to the presumed complexity of certain routes over the others. Such complexities include diverse geographical locations, additional permitting requirements for river and railroad crossings that include added time and expenses as well as permitting in more metropolitan areas requiring more detailed designs and permit print submittals. [REDACTED]

5. Other Architectural and Engineering Fees: \$227,700.00

This is a consulting position where greater or more specialized engineering expertise is needed, i.e., situations where the EPC contractor would need to subcontract services beyond their area of expertise. For example, in sensitive environmental areas, the EPC contractor may contract an environmental engineering consultant to carry out a more specific environmental evaluation and survey to satisfy a special permit. This may be for wetland areas or major navigable river crossings, requiring the Department of Natural Resource (DNR) or Army Corps of Engineers engagement and approvals. The environmental services are on an as needed basis. In the preliminary environmental assessment, a couple areas have been identified that would involve a more rigorous permitting process than other rural parts of the project. This work can require field investigations, testing, report development and coordination with multiple agencies or authorities. This budget figure is based on a request from MEC to an environmental and geotechnical consulting firm specializing in this area and familiar with MEC and the utility industry and their provided estimate for competitively bid services. Not all of the proposed routes may require the additional engineering and architectural support, but across the overall project, a cost of \$0.06 per foot is identified.

6. Project Inspection Fees - \$0.00

Included in the EPC contract bid proposals under category 9. Construction and/or in category 1 Administrative Costs.

7. Site Work: \$0.00

Not applicable to this project, which focuses on installing available dark fiber for leasing. MEC is not incorporating any new cell towers, fixed wireless towers, microwave towers or equipment sites along the route not related to MEC buildings and substations. All fiber optic cable and conduits are to be installed in public right of way and any work required at substations or other MEC facilities and buildings is considered separate from the scope of this project and will be managed separately as ineligible expenses covered by MEC..

MEC does not want any of the fiber strands that are to be leased connected to the critical electric grid locations for national security purposes. There will be minimal work needed to splice and separate leasable fiber strands so that those strands will not enter any of the substations or other critical structures. This aspect of the project work will be paid for by MEC and is not part of this budget request, in-kind or otherwise.

8. Demolition and Removal: \$0.00

This project does not contain demolition or removal within its scope. The proposed middle mile build will be completely new construction and connections to the existing infrastructure.

9. Construction - \$44,223,613.89

This project was broken into six routes to meet the 24-month construction schedule by allowing multiple contractors to be awarded different bids and creating the ability to have multiple routes in construction at the same time. The routes were separated by geographical region and size of build in a manner that has all routes fairly equal in size. There is a comparable amount of work for each route for each contractor. These smaller projects also allow for regional and smaller contractors to participate, increasing bidding competition that can result in more favorable pricing. Doing the entire 775-mile fiber project may be beyond the reach and capability of some smaller contractors. This paradigm increases competition while pulling resources from multiple companies to complete the project within shortened build schedule. Splitting the project into six lump sum bids also allows MEC to compare estimates amongst contractors on a more granular level, which boosts confidence in the overall project cost.

The construction estimates are based on the six route proposals received from numerous EPC contractors and elements of the construction are part of these bids conducted earlier this year, which did include the Davis-Bacon wages and material pricing current to August of 2022. The list of bidders that submitted pricing proposals for the six routes included contractors who have worked on MEC projects previously and many other similar projects for other clients. MEC has strict requirements for its construction contractors and is confident in the ability of these contractors to submit proposals reflective of the complex work involved since they have a strong background in industry best practices.


MEC procurement and supply chain department have a proven process for obtaining goods and services at the lowest total evaluated cost, consistent with business objectives including, but not limited to, environmental, safety, service, technical performance, sustainability, insurance requirements, bidder diversity and schedule requirements. MEC's objective is to obtain the maximum value for each dollar spent at the lowest "total cost of ownership." MEC requires all bidders and employees to comply with all applicable laws and regulations. All existing fiber has been installed utilizing competitive bidding and EPC contractors. MEC has created a culture in

which bidders have proven themselves to be able to complete projects of this nature on time and to the quality of industry standards or better.

Procurement utilizes an online system to update bidders simultaneously with information and requires questions and answers to be shared. All bids are sealed, and evaluations are completed by engineers without any knowledge of pricing. For this project, bidders were to breakout the engineering and construction costs and provide pricing per route mile. All federal regulated wages requirements were considered during the bidding process. Bidders must prove their safety record with OSHA and meet all other safety and technical requirements. They provide equipment, labor rates and a list of qualified staffing that will be working on the project.

These bids include all the procuring of material other than the armored fiber cable that is pre-purchased by MEC, all construction installation including directional boring, plowing and pulling fiber, and the installation of all access points, fiber splicing and testing for continuity along the entire route. The vast majority of fiber and conduit will be buried on this project, with only a few miles of over lashed aerial fiber to MEC owned poles.

The construction costs are broken down into material and labor. The material is figured as a lump sum price per route. The individual routes given the somewhat diverse location and route complexities prove to show varying cost per foot for material, so a lump sum material cost per route is presented for ease of calculations based on the initial takeoff estimates provided by preliminary pricing bids.



EPC contractors will be responsible for all safety requirements onsite. Contractors will be responsible for all traffic control, including land closures and other advanced signage for working along road rights of ways and making sure that the appropriate barriers are installed. This price also includes the equipment use costs such as the boring and plowing equipment, splicing equipment, excavators, backhoes and dump trucks. Staffing will include all onsite laborers, supervisors, foreman and equipment operators. Bids include required soft and hard surface restoration, such as reseeding and other requirements.

To meet the two-year construction schedule, MEC needed to procure fiber in advance in a supply chain marketplace for fiber that is currently in excess of a 52-week lead time. Otherwise, MEC would not have the ability to meet the two-year construction plan. Purchasing the fiber up front is counted as an in-kind contribution in the budget under the miscellaneous category.

Construction will start before the procurement date in the project schedule. MEC will be working in tandem with the lead time of the fiber by installing many of the conduits, handholes and splice cases prior to receiving all the fiber cable. Once fiber is procured and onsite, it can be pulled into the constructed conduit paths where splicing and final connections can be completed along with testing and turnup in order to meet the two-year construction period.

10. Equipment: \$0.00

Ineligible Expenses - The Equipment expenses listed under category 10. are ineligible and are not claimed as an in-kind or match contribution. They are on this spreadsheet to show MidAmerican's overall contribution to this project. This equipment is for items used for MEC's internal purposed only for relaying SCADA and EMS data substation to substation and data

centers including racks, routers, firewalls, modems, switches and electrical protection, power inverters and converters, and fuse blocks. However, it is not for ISPs to use who will bypass this and use MidAmerican's dark fiber as part of the open access middle mile network offering. This information is here solely for informational purposes only and not calculated into the budget totals elsewhere on this spreadsheet.

11. Miscellaneous: \$25,703,798.15

Existing Fiber Infrastructure In-Kind Matching Contribution: \$20,621,478.15

MEC's in-kind contribution includes bringing 1365 miles of its existing buried fiber currently used only for utility internal command and control functions, a majority of its existing buried fiber optic infrastructure to open access middle mile capacity complementing the proposed new network build. There are two methods in which to appraise this: one is to calculate the cost to install the fiber optic facilities today, and the other is going back and evaluating the capital expenses incurred during the construction of the existing facilities and subtracting five years of depreciation. Most of MEC's existing network is 48-count fiber, in which 50% of the capacity would be made available for lease as part of its open access middle mile offerings. The average cost incurred to build a combination of rural and urban fiber was [REDACTED]

Pre-Award Fiber Purchase In-Kind Matching Contribution: \$5,082,320.00

[REDACTED] To meet the two-year construction schedule, MEC needed to procure fiber in advance in a supply chain marketplace for fiber that is currently more than a 52-week lead time. Otherwise, MEC would not have the ability to meet the two-year construction plan. Purchasing the fiber up front is listed as an in-kind contribution in the budget under the miscellaneous category.

12. Subtotal (sum of lines 1-11) - \$74,270,478.44

13. Contingencies - \$1,423,284.04

For contingency, MEC is assuming 3% for engineering and construction costs. This does not include environmental or administrative costs, or the miscellaneous costs. This is for typical contingency costs such as unforeseeable conflicts, natural disasters, adverse installation obstacles during construction and possible construction cost increases due to construction during winter in frozen ground as well as material cost fluctuations.

14. Subtotal (Sum of Lines 12-13): \$75,693,762.48

15. Project (Program) Income: [REDACTED]

16. Total Project Costs: \$75,693,762.48

Federal Financial Report

(Follow form instructions)

OMB Number: 4040-0014

Expiration Date: 02/28/2025

1. Federal Agency and Organizational Element to Which Report is Submitted <div style="background-color: black; height: 30px; width: 100%;"></div>		2. Federal Grant or Other Identifying Number Assigned by Federal Agency (To report multiple grants, use FFR Attachment) <div style="background-color: black; height: 30px; width: 100%;"></div>	
3. Recipient Organization (Name and complete address including Zip code) Recipient Organization Name: <div style="background-color: black; width: 100%; height: 20px;"></div> Street1: <div style="background-color: black; width: 100%; height: 20px;"></div> Street2: <div style="background-color: black; width: 100%; height: 20px;"></div> City: <div style="background-color: black; width: 30%; height: 20px;"></div> County: <div style="background-color: black; width: 30%; height: 20px;"></div> State: <div style="background-color: black; width: 40%; height: 20px;"></div> Province: <div style="background-color: black; width: 40%; height: 20px;"></div> Country: <div style="background-color: black; width: 45%; height: 20px;"></div> ZIP / Postal Code: <div style="background-color: black; width: 45%; height: 20px;"></div>			
4a. UEI <div style="background-color: black; width: 100%; height: 20px;"></div>	4b. EIN <div style="background-color: black; width: 100%; height: 20px;"></div>	5. Recipient Account Number or Identifying Number (To report multiple grants, use FFR Attachment) <div style="background-color: black; width: 100%; height: 20px;"></div>	
6. Report Type <input type="checkbox"/> Quarterly <input checked="" type="checkbox"/> Semi-Annual <input type="checkbox"/> Annual <input type="checkbox"/> Final	7. Basis of Accounting <input type="checkbox"/> Cash <input checked="" type="checkbox"/> Accrual	8. Project/Grant Period From: <div style="background-color: black; width: 100%; height: 20px;"></div> To: <div style="background-color: black; width: 100%; height: 20px;"></div>	9. Reporting Period End Date <div style="background-color: black; width: 100%; height: 20px;"></div>
10. Transactions			Cumulative
(Use lines a-c for single or multiple grant reporting)			
Federal Cash (To report multiple grants, also use FFR attachment):			
a. Cash Receipts			0.00
b. Cash Disbursements			0.00
c. Cash on Hand (line a minus b)			0.00
(Use lines d-o for single grant reporting)			
Federal Expenditures and Unobligated Balance:			
d. Total Federal funds authorized			37,839,311.86
e. Federal share of expenditures			0.00
f. Federal share of unliquidated obligations			0.00
g. Total Federal share (sum of lines e and f)			0.00
h. Unobligated balance of Federal Funds (line d minus g)			37,839,311.86
Recipient Share:			
i. Total recipient share required			37,854,450.62
j. Recipient share of expenditures			1,720,184.26
k. Remaining recipient share to be provided (line i minus j)			36,134,266.36
Program Income:			
l. Total Federal program income earned			0.00
m. Program Income expended in accordance with the deduction alternative			0.00
n. Program Income expended in accordance with the addition alternative			0.00
o. Unexpended program income (line l minus line m or line n)			0.00

11. Indirect Expense						
a. Type	b. Rate	c. Period From	Period To	d. Base	e. Amount Charged	f. Federal Share
g. Totals:				0.00	0.00	0.00

12. Remarks: Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation:

13. Certification: By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and objectives set forth in the terms and conditions of the Federal award. I am aware that any false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise. (U.S. Code Title 18, Section 1001 and Title 31, Sections 3729-3730 and 3801-3812).

a. Name and Title of Authorized Certifying Official

Prefix: First Name: Middle Name:
 Last Name: Suffix:
 Title:

b. Signature of Authorized Certifying Official	c. Telephone (Area code, number and extension)
Abigail Bucheit Digitally signed by Abigail Bucheit Date: 2023.10.30 11:05:43 -05'00'	<input type="text"/>
d. Email Address	e. Date Report Submitted
<input type="text"/>	<input type="text"/>

14. Agency use only:

MidAmerican Energy Company: Iowa Middle Mile Broadband Project - NTIA MMG Program Table of Funded Project Participants & Unfunded Collaborators									
Participant/Contributor	Role	Funding Type	Amount	Start Date	End Date	Notes	Comments	Other	Signature
MidAmerican Energy Company	Lead Sponsor	Funded	\$1,000,000	2023-01-01	2024-12-31	Initial funding for project development			[Signature]
Iowa Department of Transportation	Collaborator	Unfunded		2023-01-01	2024-12-31	Technical support and coordination			[Signature]
Local Government A	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government B	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government C	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government D	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government E	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government F	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government G	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government H	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government I	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government J	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government K	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government L	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government M	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government N	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government O	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government P	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government Q	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government R	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government S	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government T	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government U	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government V	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government W	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government X	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government Y	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]
Local Government Z	Collaborator	Unfunded		2023-01-01	2024-12-31	Local infrastructure support			[Signature]

[illegible]