

I&M Exhibit: _____

INDIANA MICHIGAN POWER COMPANY

PRE-FILED VERIFIED DIRECT TESTIMONY

OF

SCOTT S. OSTERHOLT

Cause No. 45933

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**DIRECT TESTIMONY OF SCOTT S. OSTERHOLT
ON BEHALF OF
INDIANA MICHIGAN POWER COMPANY**

Introduction of Witness

1 **Q1. Please state your name and business address.**

2 My name is Scott S. Osterholt. My business address is 1 Riverside Plaza,
3 Columbus, Ohio 43215

4 **Q2. By whom are you employed and in what capacity?**

5 I am employed by the American Electric Power Service Corporation (AEPSC) as
6 Managing Director of Federal Grants and Broadband. AEPSC supplies
7 engineering, financing, accounting, planning, advisory, and other services to the
8 subsidiaries of the American Electric Power (AEP) system, one of which is
9 Indiana Michigan Power Company (I&M or the Company).

10 **Q3. Briefly describe your educational background and professional**
11 **experience.**

12 I received a Bachelor of Business Administration from Mount Vernon Nazarene
13 University. Following employment with an electric cooperative and serving AEP
14 under a contracting arrangement, I joined AEP Ohio in 1996 in the Distribution
15 Region Engineering Group. In 1997, I transferred to Appalachian Power
16 Company to lead the engineering activities for its Lynchburg, Virginia district. In
17 1999, I joined AEP Communications, a non-regulated competitive telecom
18 company owned by AEP, as Manager of Network Projects. I was responsible
19 for the engineering, construction, and project management of new fiber optic
20 and telecommunication infrastructure deployments. In 2002, I joined the AEP IT
21 Telecommunication team and managed fiber maintenance and customer
22 support. I returned to AEP Ohio in 2006 as Work Scheduling Supervisor, and

1 between 2006 and 2009, I led a transformational project where we moved
2 routine utility service scheduling from a local work scheduling group to the call
3 center through a software program called eScheduler. In 2009, I was promoted
4 to Manager – Incremental Distribution Infrastructure, and for approximately ten
5 years, I managed all aspects of advanced distribution technology deployment. I
6 was promoted to the position of Director – Distribution Risk and Project
7 Management in 2016 and became Director – Grid Modernization in 2018. In
8 August 2021, I was promoted to the position of Director of Broadband and
9 Telecom Business Development. In April 2023, I was promoted to my current
10 position. I have more than thirty years of experience in the electric utility
11 industry, including substantial experience in implementing telecommunications
12 and other new technologies, and much of my thirty years at AEP have been
13 focused on implementing new technology.

14 **Q4. What are your responsibilities as Managing Director of Federal Grants and**
15 **Broadband?**

16 I am responsible for the development of the Company's strategy for seeking,
17 securing, and administering federal and state grant funding for AEPSC and the
18 AEP operating companies. This includes the Infrastructure Investment and Jobs
19 Act (IIJA) for distribution, transmission, and generation projects. I am also
20 responsible for AEP's rural broadband initiatives. I coordinate with the
21 Telecommunications Teams to help design, construct, and maintain the rural
22 fiber infrastructure and associated electronics.

23 **Q5. Have you previously testified before any regulatory commissions?**

24 Yes. I testified before the Public Utilities Commission of Ohio in Case No. 13-
25 1939-EL-RDR and submitted testimony in Case Nos. 19-1475-EL-RDR, 23-23-
26 EL-SSO, and 16-1852-EL-SSO. Additionally, I submitted testimony to the

1 Virginia State Corporation Commission in Case Nos. PUR-2022-00020 and
2 PUR-2023-00028.

Purpose of Testimony

3 **Q6. What is the purpose of your testimony in proceeding?**

4 The purpose of my testimony is to describe the Company's efforts to identify and
5 secure federal grants that offset the cost of needed investments that underlie the
6 Company's efforts to address the affordability of electric service. I explain the
7 structure of the IIJA program and the federal grant funding opportunities the
8 Company is pursuing across the various elements of the program.

9 **Q7. Are you sponsoring any attachments?**

10 Yes, I sponsor the following attachments:

- 11 • Attachment SSO-1 – Indiana Rural Broadband (RBB) Project Map
- 12 • Attachment SSO-2 – “DG MMC” Project Route Map
- 13 • Attachment SSO-3 – “DG MMC” Project Capital Cost Estimate
- Attachment SSO-4 – Summary of I&M's IIJA Grant Applications

14 **Q8. Were the attachments you sponsor prepared or assembled by you or**
15 **under your direction and supervision?**

16 Yes.

17 **Q9. Please summarize your testimony.**

18 Federal grant programs like IIJA, provide the Company with opportunities to
19 both reduce the cost of projects in current work plans, and advance emergent
20 technology projects at a reduced cost to deliver benefits to customers earlier.

1 In my testimony, I provide an overview of structure of the IIJA program, the
2 projects the Company is eligible to pursue as a utility to improve the reliability
3 and resiliency of the power grid, and specific projects the Company is currently
4 pursuing. I also explain I&M's engagement with the State of Indiana to pursue
5 funding opportunities that will be allocated at the state level.

6 I also support I&M's proposal to install fiber optic cable in two counties of I&M's
7 distribution system. Fiber optic cables installed by the Company in these areas
8 will serve a dual purpose: utility service and rural "middle mile" broadband. I will
9 explain the dual benefits of I&M's proposed Fiber/Rural broadband project with
10 respect to the provision of reliable and affordable electric service to I&M's
11 customers while facilitating rural broadband opportunities to those in unserved
12 areas of the State.

13 I will also discuss the need for a timely regulatory process for the Company to
14 bring forward grant opportunities for review and approval by the Commission.
15 The timelines imposed on the Company by the grantor that are required take
16 advantage of grant opportunities do not align well within current regulatory
17 review timelines for cost recovery. The Company's proposal for a more
18 expedited review process will allow the Company to better support compliance
19 with grant requirements for project funding commitments and obligations, and
20 timely incorporate grant funds into cost recovery for the benefit of our
21 customers.

22 I&M is requesting cost recovery of the broadband project as well as the other
23 grant-eligible projects through a new Grant Projects Rider that would recover
24 costs for projects eligible to receive federal and state grant funds. The proposed
25 Grant Projects Rider is further explained by Company witness Seger-Lawson.

Grants and Cost Offsets

1 **Q10. What federal and state grant opportunities are available to help improve**
2 **local infrastructure?**

3 The Bipartisan Infrastructure Law (BIL), also known as the Infrastructure
4 Investment and Jobs Act (IIJA) is a law that authorized nearly \$1.2 trillion dollars
5 in federal spending (this includes \$550 billion dollars in new spending) over the
6 course of fiscal years 2022 through 2026. Grant dollars are available to use
7 toward investment in infrastructure projects in the following categories:

- 8 • Transportation funding
- 9 • Roads, bridges, and related programs
- 10 • Energy, power, and electric grid reliability
- 11 • Freight and passenger rail
- 12 • Broadband
- 13 • Water and wastewater infrastructure
- 14 • Public transportation
- 15 • Airports
- 16 • Natural disaster prevention and mitigation
- 17 • Cleaning-up abandoned sites
- 18 • Army Corps of Engineers
- 19 • Highway and pedestrian safety
- 20 • Ports and Coast Guard
- 21 • Cybersecurity and other infrastructure programs

22 Many of the new programs funded by this law would provide resources that are
23 needed to address many infrastructure issues at the local level.

1 **Q11. Can you please briefly describe the structure of the IJJA program and the**
2 **entities eligible to receive grant funding for the different elements of the**
3 **program?**

4 IJJA created dozens of programs open to electric utilities to bolster grid
5 investment worth tens of billions of dollars. Many of the directly applicable
6 programs fall under the purview of the Department of Energy (DOE). In some
7 instances, utilities may act as sub-recipients for dollars awarded to state or local
8 governments, or tribal nations. The Grid Deployment Office is administering a
9 \$10.5 billion Grid Resilience and Innovation Partnerships (GRIP) Program to
10 enhance grid flexibility and improve the resilience of the power system against
11 growing threats of extreme weather and climate change. This program will
12 accelerate the deployment of transformative projects that will help to ensure the
13 reliability of the power sector's infrastructure, so all American communities have
14 access to reliable, affordable, and environmentally sustainable electricity
15 anytime, anywhere.

16 **Q12. What components are included in the GRIP Program?**

17 The GRIP program is composed of three funding mechanisms (Topics):

18 **Topic 1: Grid Resilience Utility and Industry Grant**

19 Grid resilience utility and industry grants support activities that will modernize
20 the electric grid to reduce impacts due to extreme weather and natural disasters.
21 This program will fund comprehensive transformational transmission and
22 distribution technology solutions that will mitigate multiple hazards across a
23 region or within a community, including wildfires, floods, hurricanes, extreme
24 heat, extreme cold, storms, and any other event that can cause a disruption to
25 the power system. This program provides grants to electric grid operators,
26 electricity storage operators, electricity generators, transmission owners or
27 operators, distribution providers, and fuel suppliers. There are \$2.5 billion
28 dollars in grant funds available for this program.

1 **Topic 2: Smart Grid Grants**

2 Smart Grid Grants increase the flexibility, efficiency, and reliability of the electric
3 power system, with particular focus on increasing capacity of the transmission
4 system, preventing faults that may lead to wildfires or other system
5 disturbances, integrating renewable energy at the transmission and distribution
6 levels, and facilitating the integration of increasing electrified vehicles, buildings,
7 and other grid-edge devices. Smart grid technologies funded and deployed at
8 scale under this program will demonstrate a pathway to wider market adoption.
9 This grant program has broad eligibility, open to domestic entities including
10 institutions of higher education; for-profit entities; non-profit entities; and state
11 and local governmental entities, and tribal nations. There are \$3 billion dollars in
12 grant funds available for this program.

13 **Topic 3: Grid Innovation Program**

14 The Grid Innovation Program provides financial assistance to one or multiple
15 states, Tribes, local governments, and public utility commissions to collaborate
16 with electric sector owners and operators to deploy projects that use innovative
17 approaches to transmission, storage, and distribution infrastructure to enhance
18 grid resilience and reliability. Broad project applications are of interest including
19 interregional transmission projects, investments that accelerate interconnection
20 of clean energy generation, utilization of distribution grid assets to provide
21 backup power and reduce transmission requirements, and more. Innovative
22 approaches can range from use of advanced technologies to innovative
23 partnerships to the deployment of projects identified by innovative planning
24 processes to many others. There are \$5 billion dollars in grant funds available
25 for this program. It is important to note that AEP would have to apply for GRIP
26 Topic 3 through a partnership with a state, tribe, or government entity. Utilities
27 cannot directly apply for Topic 3 grants. Utilities may act as sub-recipients but
28 must be included by either a state or local government entity or by a tribal

1 nation.

2 *Figure SSO-1* illustrates GRIP Topics 1, 2, and 3 and the amount of funds that
3 are available for each topic.

4 **Figure SSO-1: Grid Resilience Funding Available through BIL**

Topic Area	GRIP Program	Total Funding Amount (FY 22-26)	Approximate Total Federal Funding For All Awards- 1 st Issue of FOA 2740	BIL Provision and Purpose
1	Grid Resilience Grants (Utility and Industry)	\$2.5 billion	\$918 million	Preventing Outages and Enhancing the Resilience of the Electric Grid / Hazard Hardening (Sec. 40101(c))
2	Smart Grid Grants	\$3 billion	\$1.08 billion	Deployment of Technologies to Enhance Grid Flexibility (Sec. 40107)
3	Grid Innovation Program	\$5 billion	\$1.82 billion	Program Upgrading Our Electric Grid and Ensuring Reliability and Resiliency (Sec. 40103(b))
	TOTAL	\$10.5 billion	\$3.82 billion	

1

5 Additionally, there is a separate non-competitive formulaic program known as
6 the Grid Resilience State and Tribal Formula Grants Program (40101D, often
7 referred to as Topic 4). This program is authorized by the BIL and administered
8 through the Grid Deployment Office. The program is designed to strengthen
9 and modernize America's power grid against wildfires, extreme weather, and
10 other natural disasters that are exacerbated by the climate crisis. The program
11 will distribute funding to states, territories, and federally recognized Indian Tribes
12 over five years based on a formula that includes factors such as population size,
13 land area, probability and severity of disruptive events, and a locality's historical

¹ <https://www.energy.gov/sites/default/files/2022-12/DOE%20GDO%20GRIP%20Program%20Webinar%20Presentation%2011.29.22-%20CORRECTED%2012.14.pdf>

1 expenditures on mitigation efforts. Priority will be given to projects that generate
2 the greatest community benefit providing clean, affordable, and reliable energy.
3 Utilities cannot directly apply for this program since states, Indian Tribes, and
4 territories can use these funds or further allocate the funds as they see fit.

5 **Q13. How does I&M and AEPSC manage the grant efforts of reviewing and**
6 **selecting grant opportunities to pursue?**

7 AEPSC has created a new Federal Grants group to focus on reviewing grant
8 opportunities, matching the grant opportunities with projects, submitting the
9 grant applications, and managing associated grant compliance requirements.
10 The Federal Grants group works with all AEP Operating Companies and
11 business units such as I&M to pursue grant opportunities, including the ones
12 referenced in this testimony.

13 **Q14. Did I&M apply for any specific grants that are related to grid resilience?**

14 Yes. I&M is committed to modernizing the power grid with a focus on improving
15 reliability and resiliency, especially in remote and rural areas, and securing as
16 much funding as possible to reduce the cost impact, while realizing the benefits
17 these technologies offer. I&M has applied for Topic 1 and Topic 2 grants under
18 the GRIP program associated with Distribution Automation Circuit
19 Reconfiguration (DACR), Advanced Distribution Management System (ADMS),
20 Distributed Energy Management System (DERMS), and Underground
21 Distribution (UD). All of these are distribution-related projects that would
22 strengthen the power grid and facilitate grid reliability and resiliency when new
23 technologies, such as Distributed Energy Resources (DERs), are installed, to
24 the benefit of I&M's customers.

25 Additionally, I&M has applied for Indiana Topic 3 grants under the GRIP
26 program associated with DACR, Reliability-focused Non-Wires Alternative
27 (Reliability NWA), Renewable-paired Non-Wires Alternative (Renewable NWA),

1 Distribution Line Sensors, and a vendor-specific AMI-based distribution planning
2 software tool called Sensewaves.

3 **Q15. Please describe the process that Company is required to follow to obtain**
4 **grant funding through the GRIP program.**

5 For Topics 1, 2, and 3 programs, the DOE issues Funding Opportunity
6 Announcements (FOAs), which are detailed documents that govern a federal
7 grant process creating clarity around grant program goals, required
8 documentation, and other mandated information requests. The DOE also
9 provides required due dates for responses to the FOAs. In response to the
10 FOAs, the Company is required to present concept papers.

11 A concept paper is essentially a letter of inquiry that allows the reviewer to
12 quickly assess what a project entails, the resources that are needed, and
13 whether the project is a good match between the proposer's project and the
14 funder's interests.² After concept papers are submitted, the DOE provides
15 feedback to the Company in the form of an encouragement or discouragement
16 letter. This feedback helps organizations understand if a concept is likely to
17 meet DOE's application criteria and if there is some level of likelihood of an
18 award. Based on this feedback, organizations can then decide whether to
19 proceed with a grant application. It should be noted though that, regardless of
20 the DOE's encouraging or discouraging feedback, organizations can still move
21 forward with submitting a grant application if they so choose.

22 Grant applications are due to the DOE shortly after concept papers are
23 submitted, so organizations typically must work on grant applications while they
24 are awaiting concept paper feedback. After the application window has closed,
25 the DOE establishes timelines for award announcements, negotiations, and

² <https://stockton.edu/research-sponsored-programs/documents/proposals/ConceptpapersandLOIguidance.pdf>

1 other requirements. The DOE can change these timelines at its own discretion.
 2 *Figure SSO-2* provides a list of grant application submittal dates.

3 Topic 3 programs follow the same process as Topic 1 and Topic 2 programs.
 4 The only exception is that a utility cannot directly apply for Topic 3 programs but
 5 must be included in a states, or other eligible parties, concept paper and grant
 6 application as a subgrantee.

Figure SSO-2: Grant Application Submittal Dates

GRIP Program	Project Name	Grant Application Date
GRIP Topic 2 (tranche 1)	ADMS DERMS	3/17/2023
GRIP Topic 2 (tranche 1)	DACR	3/17/2023
GRIP Topic 1 (tranche 1)	DACR	4/4/2023
GRIP Topic 1 (tranche 1)	Underground Distribution	4/4/2023
GRIP Topic 3	DACR	5/17/2023
GRIP Topic 3	Reliability Non Wires Alternatives (NWAs)	5/17/2023
GRIP Topic 3	Renewable Coupled Non Wires Alternatives (NWAs)	5/17/2023
GRIP Topic 3	Distribution Line Sensors	5/17/2023
GRIP Topic 3	Sensewaves	5/17/2023

7 **Q16. What level of funding is the Company eligible to receive for the projects**
 8 **submitted through the GRIP program?**

9 The DOE's grant application requirements state that an entity that applies for a
 10 project grant must be responsible for a percentage of a project's costs. This is
 11 known as an entity's cost match/share requirement. While submitting grant
 12 applications, the Company, through our corporate partners in AEPSC, was
 13 required to state the amount of project costs that it would be responsible for if a

1 grant is awarded. If AEPSC is selected for award negotiations, then it will be
 2 bound by the cost share that AEPSC proposed in its full grant applications.
 3 Figure SSO-3 shows the DOE’s cost match/share requirements for Topics 1, 2,
 4 and 3.

Figure SSO- 3: GRIP Topic Cost Share Requirements

Topic Area	Topic Area Title	Cost Match/Share Requirement
1	Section 40101(c) – “Grants to Eligible Entities on Preventing Outages and Enhancing the Resilience of the Electric Grid (Grid Resilience Grants)”	An eligible entity that receives a grant under this section shall be required to match 100% of the amount of the grant (at least 50% of the Federal funds only, rather than the Total Project Cost). Exception for small utilities: An eligible entity that sells not more than 4,000,000 megawatt hours of electricity per year shall be required to match 1/3 of the grant.*
2	Section 40107 – “Deployment of Technologies to Enhance GridFlexibility (Smart Grid Grants)”	The cost share must be at least 50% of the total project costs. The cost share must come from non-federal sources unless otherwise allowed by law.
3	Section 40103 (b) – “Program Upgrading Our Electric Grid and Ensuring Reliability and Resiliency (Grid Innovation Program)”	Section 988 of the Energy Policy Act of 2005 (42 U.S.C. 16352) shall apply. The cost share must be at least 50% of the total project costs. ^{44,45} The cost share must come from non-federal sources unless otherwise allowed by law.

*Cost matching: “Cost matching” for the non-federal share is calculated as a percentage of the Federal funds only, rather than the Total Project Cost. ³

5 Additionally, *Figure SSO-4* provides a listing of AEPSC’s Topic 1 and Topic 2
 6 grant application amounts and proposed cost share for specific projects, as well
 7 as I&M’s proposed allocation. All grant applications were submitted by AEPSC
 8 on behalf of its operating companies (OPCOs).

³ <https://www.fedconnect.net/FedConnect/default.aspx?doc=DE-FOA0002740&agency=DOE#:~:text=DE-FOA0002740%2C%20titled%20BIL%20Grid%20Resilience%20and%20Innovation%20Partnerships.Announcement%20for%20a%20full%20description%20of%20the%20amendment.>

Figure SSO-4: I&M's Proposed Grant Cost Share

GRIP Program	Project Name	Grant Applicant	AEPSC Total Grant-Eligible Project Budget	AEPSC Grant Application Amount	AEPSC Proposed Cost share	I&M Project Cost	I&M's Proposed Grant Allocation	I&M's Proposed Cost Share Allocation
GRIP Topic 2 (tranche 1)	ADMS DERMS	AEPSC	\$55,699,525	\$27,849,763	\$27,849,762	\$6,126,948	\$3,063,474	\$3,063,474
GRIP Topic 2 (tranche 1)	DACR	AEPSC	\$101,490,111	\$50,000,000	\$51,490,111	\$4,173,769	\$2,056,244	\$2,117,525
GRIP Topic 1 (tranche 1)	DACR	AEPSC	\$202,137,408	\$100,000,000	\$102,137,408	\$8,426,347	\$4,168,623	\$4,257,724
GRIP Topic 1 (tranche 1)	Underground Distribution	AEPSC	\$210,980,976	\$100,000,000	\$110,980,976	\$5,152,475	\$2,442,151	\$2,710,324

1 For projects such as ADMS and DERMS, the planned allocation of dollars will rely
2 on the OPCO's retail customer percentage of the overall AEP retail customer base
3 compared to the amount of funding requested by each operating company for
4 each grant application. If an operating company chose to participate in an area
5 of interest and requested a portfolio equal to its prescribed allocation, that
6 operating company will receive 100 percent of its calculated allocation per grant.
7 If an operating company requested an amount less than that of the prescribed
8 estimated allocation, any dollars left over were re-allocated to other operating
9 companies requesting more than its allocated share.

10 **Q17. Can you please provide additional information on how AEPSC selected the**
11 **projects to include the GRIP applications?**

12 GRIP Program Topics 1 and 2 are competitive. Consequently, AEPSC and its
13 subsidiaries (including I&M) are directly competing against numerous other
14 utilities and non-profit entities to secure grant funding.

15 AEP has employed the expertise of well-respected consultants who have an
16 esteemed experience in the industry and success in securing federal grants on
17 behalf of clients. These resources, combined with a vast array of talent
18 representing multiple business units across AEPSC, have resulted in several
19 high level concept paper encouragements from the DOE thus far.

1 Regarding Grip Topics 1 and 2 pursuits, AEP made the strategic decision to
2 apply for federal funding in this category using an enterprise or all OPCO
3 approach to maximize the chance of award based on AEP's interpretation of the
4 FOA scoring criteria. AEP's enterprise application strategy packages up to ten
5 states into a single application for DOE's consideration for both GRIP Topic 1
6 and GRIP Topic 2 among multiple areas of interest, instead of submitting
7 applications that are much more limited in geographic scope, customer reach,
8 and federal funding deployment. Additionally, a larger territory allows AEP to
9 maximize deployments in the Justice40 Initiative regions. The Justice40
10 Initiative is "the goal of delivering 40 percent of the overall benefits of relevant
11 federal investments to disadvantaged communities."⁴

12 Project portfolios were created by surveying operating company business units
13 for proposed projects that were primarily derived from long-range workplans and
14 integrated resource plans but incremental to what is done today. Scoring criteria
15 metrics were used to identify which projects had the highest likelihood of
16 securing a grant award. To narrow the list, the proposed projects of the
17 operating company business units were measured against the scoring criteria.
18 Based on these findings, concept papers were drafted for each technology area
19 pursued, with the goal of maximizing value.

20 Project lists were further narrowed to ensure a high percentage of projects
21 (more than 40% to meet the Biden Administration's Justice40 goal) fall into
22 disadvantaged communities (DACs).

⁴ <https://www.whitehouse.gov/briefing-room/statements-releases/2021/01/27/fact-sheet-president-biden-takes-executive-actions-to-tackle-the-climate-crisis-at-home-and-abroad-create-jobs-and-restore-scientific-integrity-across-federal-government/>

1 **Q18. What specific projects did the Company include in the GRIP application**
 2 **related to DACR and Undergrounding?**

Figure SSO-5 provides a listing of the specific DACR and Undergrounding projects that I&M included in the GRIP applications that were submitted by AEPSC.

Figure SSO-5: I&M DACR & Undergrounding Projects included in Topic 1 and
Topic 2 GRIP Applications

Technology Area	District	Number of Sites
DACR	Fort Wayne	4
DACR	Muncie	5
DACR	South Bend/Elkhart	6
Undergrounding	Fort Wayne	4
Undergrounding	South Bend/Elkhart	2
Undergrounding	Muncie	1

3
 4 **Q19. Are the DACR and Undergrounding projects included in the GRIP**
 5 **applications included in the Capital Forecast Period presented in this**
 6 **case?**

7 No. The Company used an incremental approach to DACR and
 8 Undergrounding project selection. The DACR and Undergrounding projects that
 9 were included in grant applications are not included in the forecast test year.
 10 Company witness Seger-Lawson discusses the Company's cost recovery
 11 approach for grants through the proposed Grants Projects Rider.

12 **Q20. Please describe the federal and state needs to ensure these projects go**
 13 **forward.**

14 Since federal funding is dependent upon cost share matching from the Company
 15 which is subject to review and approval by the Commission, I&M requests the
 16 Commission to adopt an expedited regulatory review process for projects so that
 17 I&M can accept grant dollars within the grantor's required time frame. This
 18 would allow I&M the ability to leverage federal funds while lowering project costs

1 to provide these investment benefits to customers. As I mention later in my
2 testimony, GRIP Topics 1, 2, and 3 only have a short negotiation window to
3 accept a grant award. I&M does not want to reject grant awards that would
4 provide benefits to customers, where I&M could commit to its cost share with
5 Commission approval for projects in a timely and responsive manner. The grant
6 awards offset customer costs, while allowing I&M to implement projects that will
7 improve reliability. This proposed regulatory review process is discussed in
8 further detail by Company witness Seger-Lawson.

9 **Q21. Please describe the ADMS and DERMS application GRIP funding.**

10 To support the deployment of ADMS and DERMS, AEPSC applied for
11 \$27,849,763 in GRIP funding towards the total eligible project cost of
12 \$55,699,525. It is important to note that AEPSC's total project budget for ADMS
13 DERMS is \$102,388,587 but only \$55,699,525 is grant-eligible. The DOE
14 stipulates which project costs are grant eligible. As previously mentioned, if a
15 grant award is received for ADMS and DERMS, I&M would receive its allocated
16 share of the grant award amount. Company witness Brenner discusses the
17 ADMS and DERMS systems in more detail and Company witness Isaacson
18 discusses the value of ADMS and DERMS to the distribution system.

19 **Q22. Are the capital costs for the ADMS and DERMS systems included in the**
20 **GRIP application also included in the Capital Forecast Period presented in**
21 **this case?**

22 Yes, but the capital forecast does not include a capital offset for the grant
23 application because a completed grant application does not guarantee an award
24 of the requested amount or of any amount. If AEP is successful in receiving
25 grant funding for the ADMS and DERMS systems, these funds will be provided
26 to customers through the Grant Projects Rider as proposed by Company
27 witness Seger-Lawson. Company witness Brenner provides more details
28 regarding the Capital Forecast for ADMS and DERMS.

1 **Q23. Will the Company complete the ADMS and DERMS projects if it does not**
2 **receive GRIP funding?**

3 Yes. As explained further by Company witnesses Brenner and Isaacson, the
4 ADMS and DERMS projects are strategically important for the Company. The
5 GRIP grant funding opportunity is an opportunity for the Company to reduce the
6 cost of a project that is a necessary investment for the Company.

7 **Q24. Is I&M working with the State of Indiana to pursue any Topic 3 or Topic 4**
8 **grant opportunities?**

9 Yes. For Topic 3 grant opportunities, the Indiana Office of Energy Development
10 (OED) reached out to I&M through the Indiana Energy Association (IEA) to
11 inquire for interest from any IEA utility members. I&M identified several projects
12 to include in its submittal to the OED, along with cost, location, potential
13 environmental impact, local community impacts, and benefits information. The
14 OED then included I&M in its concept paper, which was submitted in mid-
15 December 2022. OED received a letter of encouragement back from DOE in
16 January 2023. OED submitted its final application to DOE in May 2023.

17 **Q25. What projects has the Company identified for inclusion in the state's**
18 **Topic 3 and Topic 4 grant application?**

19 *Figure SSO-6* provides a listing of the specific projects that I&M included in the
20 state's Topic 3 GRIP application. There are currently no Topic 4 submissions.

21 **Figure SSO-6: I&M Projects Included in Topic 3 Grip Application**

Technology Area	IIJA GRIP Topic Area	Number of Sites
Reliability Non Wires Alternatives (NWA)	Topic 3	11
Sensewaves	Topic 3	System Wide
Sensors	Topic 3	Various
DACR	Topic 3	9
Renewable Non Wires Alternatives (NWA)	Topic 3	2

1 **Q26. Are the potential projects the Company could participate in for Topic 3 and**
2 **Topic 4 grant applications included in the Capital Forecast Period included**
3 **in this case?**

4 No. Like Topic 1 and Topic 2 utility direct application projects, the Company
5 used an incremental approach to Topic 3 project selection.

6 **Q27. Please describe the federal and state needs to ensure these projects go**
7 **forward.**

8 As previously mentioned, since federal funding is dependent upon cost share
9 matching from the Commission, I&M requests the Commission to adopt an
10 expedited regulatory review process for projects so that I&M can accept grant
11 dollars within the grantor's time frame, which is discussed further by Company
12 witness Seger-Lawson. If the Commission does not adopt an expedited
13 regulatory process, then I&M may have to reject grant awards due to the
14 timelines imposed by the grantor. Furthermore, it is not reasonable for I&M to
15 bear full project costs without timely cost recovery if grant awards cannot be
16 accepted because current regulatory cost recovery authority timelines do not
17 align with grantor timelines.

18 **Q28. When does the Company expect to know whether it will receive grant**
19 **funding for the Topic 1, 2, 3?**

20 The DOE anticipates providing award notifications for Topic 1 and Topic 2
21 applications in the summer of 2023, and for Topic 3 in the fall of 2023. It is
22 important to note that award notifications are followed by a negotiation period
23 that lasts approximately 30 days. For Topic 1 and 2 grant awards during the
24 negotiation period, AEPSC, with input from the Company on I&M specific
25 projects, will negotiate with the DOE, as well as sign the grant contract. It is also
26 important to note that upon accepting a grant award, AEPSC and the Company
27 will be subject to reporting, inventory, records, retention, audit, close out, and
28 administrative requirements as required by the granting entity. Topic 3 grant

1 awards (where I&M acts as a subrecipient) follow a similar awarding process as
2 Topics 1 and 2.

3 **Q29. Has I&M applied for any other IIJA grant opportunities?**

4 Yes. I&M applied for a Federal IIJA National Telecommunications and
5 Information Administration (NTIA) Middle Mile Grant for the Delaware and Grant
6 Middle Mile Connect (DG MMC) project. One billion in federal dollars have been
7 earmarked for middle mile deployments, and I&M was eligible to apply for the
8 portion of the project that would enable broadband connectivity. On June 16,
9 2023, the Company was notified that it will be awarded this grant. I discuss this
10 project further later in my testimony.

11 **Q30. Is the Company continuing to evaluate further funding opportunities?**

12 Yes. It is becoming a part of the Company's routine business practices to
13 continually look for new grant opportunities for its projects. The Company will
14 evaluate and pursue future grant opportunities if applicable. Since the Company
15 is continuing to look for ways to provide safe, secure, and more reliable electric
16 service without increasing costs to its customers, this further necessitates the
17 Company's need for the Commission to adopt an expedited regulatory approval
18 process, so that the Company can commit to, and timely fund, grant projects
19 with the appropriate cost recovery for any grant awards that it applies for and
20 receives.

21 **Q31. Can you please provide the Company's costs to date to prepare and
22 submit the IIJA grant applications?**

23 As of March 2023 month-end financial closing, I&M has incurred \$337,303 in
24 costs to prepare, submit, and respond to questions related to the Delaware &
25 Grant Middle Mile grant application to the NTIA. For the DOE GRIP
26 applications, AEP has incurred \$4,135,469 in costs to prepare and submit grant
27 applications as of March 2023 month-end financial closing. I&M will be allocated
28 a portion of AEPSC's costs to prepare the GRIP applications, equal to the

1 allocation factor that I&M will receive for any grants applied for. Company
2 witness Seger-Lawson discusses the Company's proposal to use a new Grant
3 Projects Rider to address grant application preparation costs, grant funding and
4 associated capital costs.

Utility Fiber Infrastructure and Rural Broadband

5 **Q32. What is Fiber Optic Infrastructure and what is it used for?**

6 Fiber optic technology is designed for long-distance, high-performance data
7 networking and telecommunications. It can be used to provide multiple
8 communications services, including high-speed broadband service. A fiber optic
9 cable is comprised of multiple individual strands of extremely thin, transparent
10 glass fibers inside an insulated casing. The cable transmits data by converting
11 electric signals to light and then sending the light through the glass fibers. Fiber
12 optic is used for long-distance and high-performance data networking. It is also
13 commonly used in communications services, such as internet, and for remote
14 sensors.

15 **Q33. Does the deployment of Fiber Optic Infrastructure provide benefits to** 16 **I&M's customers?**

17 Yes. Fiber optic deployment would allow I&M to leverage fiber for its grid
18 modernization efforts. Fiber also provides certain enhancements such as lower
19 latency and more bandwidth. Additionally, using a private fiber network would
20 further mitigate cyber security risks to the Company's distribution system.

21 Fiber optic has significantly higher bandwidth capabilities than wireless. By
22 contrast, cellular is constrained due to available frequency bandwidth. While
23 cellular Long-Term Evolution (LTE) is marketed to have high download speeds,
24 actual network speed is generally dependent upon how far the user is from the
25 cellular site and how much capacity the cellular site may have to connect back
26 to an internet location. Most rural areas do have some LTE coverage. But the

1 coverage is often limited, and the speed is most likely lower than the advertised
2 speed due to limited bandwidth at the cellular tower site. The speed of Radio
3 Frequency (RF) mesh technology is even more limited than cellular, due to how
4 much bandwidth is allocated by the Federal Communications Commission
5 (FCC).

6 In addition to enhancing grid modernization technologies, the dark fiber (unlit
7 strands within the cable) can be utilized to provide expanded access to high-
8 speed broadband in unserved communities.

9 **Q34. What is Broadband and why is it important**

10 Broadband is the transmission of wide bandwidth data over a high-speed
11 connection. Internet Service Providers (ISPs) provide high-speed broadband
12 services using technologies such as fiber optic cable, wireless, cable, digital
13 subscriber line (DSL), and satellite. According to the (FCC), the definition of
14 broadband is a minimum of 25 megabits per second (Mbps) download and three
15 Mbps upload speeds.⁵ Fiber optic has the capacity to offer upload and
16 download speeds exceeding 1,000,000 Mbps, as well as the capacity to
17 increase its bandwidth speeds. Given fiber optics' incredibly high rate of data
18 transmission, it is ideally suited to provide broadband services.

19 High-speed broadband service is important because it is one of the primary
20 methods by which Americans access the internet. The use of the internet is
21 fundamental to the lives of all Americans. It is crucial to how Americans work,
22 learn, shop, receive healthcare, and connect socially. High-speed broadband
23 enables more diverse and distributed energy sources to connect to the grid
24 while facilitating more cyber-secure communications.⁶ Louis Finkel, the National

⁵ [https://broadbandusa.ntia.doc.gov/about-us/frequently-asked-questions/how-fast-broadband#:~:text=The%20Federal%20Communications%20Commission%20\(FCC,See%20the%20BroadbandUSA%20Glossary.](https://broadbandusa.ntia.doc.gov/about-us/frequently-asked-questions/how-fast-broadband#:~:text=The%20Federal%20Communications%20Commission%20(FCC,See%20the%20BroadbandUSA%20Glossary.)

⁶ <https://www.commerce.senate.gov/2022/8/cantwell-capito-propose-broadband-buildout-along-americas-electricity-grid>

1 Rural Electric Cooperative Association (NRECA)'s president has stated that
2 "building out middle mile broadband infrastructure is a critical step that will serve
3 two important purposes: enhancing the resiliency of the electric grid and
4 connecting rural communities to high-speed internet service."⁷ Broadband offers
5 additional customer and community benefits that will be further explained by
6 Company witness Davis.

7 **Q35. Do all Americans, including those in I&M's service territory, currently have**
8 **access to quality broadband services?**

9 No. The FCC reports that 17% of rural Americans lack access to broadband
10 services.⁸ When looking at Delaware and Grant counties within I&M's service
11 territory, 4,396 customers do not have access to broadband services.

12 The Indiana Office of Community and Rural Affairs has recognized that "access
13 to broadband and other communication services is critical for a functioning 21st
14 century economy. Rural broadband is vital to ensuring our rural areas can
15 continue to thrive, and when rural Indiana communities have quality broadband,
16 they are able to keep pace with the rest of the state."⁹

17 **Q36. What is "Middle Mile" Infrastructure?**

18 "Middle Mile" infrastructure "is any broadband infrastructure that does not
19 connect directly to an end-user location."¹⁰ Furthermore, middle mile
20 infrastructure supports last mile service by connecting ISPs, anchor institutions,
21 and other eligible entities to the mid-section of Internet, providing access to the
22 internet backbone. I discuss "middle mile" infrastructure in greater detail later in

⁷ <https://dailyenergyinsider.com/policy/36251-grid-broadband-act-seeks-to-build-out-middle-mile-infrastructure-along-existing-electric-grid/>

⁸ <https://www.fcc.gov/reports-research/reports/broadband-progress-reports/fourteenth-broadband-deployment-report>

⁹ <https://www.in.gov/ocra/additional-resources/rural-broadband/>

¹⁰ https://broadbandusa.ntia.gov/sites/default/files/2022-09/Middle_Mile_FAQs_Version_5.0.pdf.

1 my testimony. The lack of “middle mile” infrastructure is a major barrier to the
2 provision of broadband service in rural areas.

3 **Q37. Are there any federal policy efforts that advocate for or assist customers**
4 **with obtaining access to high-speed broadband connectivity at their**
5 **homes?**

6 As discussed above, Congress has already encouraged electric utilities to
7 deploy middle mile fiber via the IIJA, which was enacted in 2021. The IIJA
8 includes a provision entitled “Enabling Middle Mile Broadband Infrastructure,”
9 which allocates \$1 billion in grant money for middle mile broadband
10 infrastructure projects.¹¹ Congress identified two key objectives of its middle
11 mile broadband program: “(A) to encourage the expansion and extension of
12 middle mile infrastructure to reduce the cost of connecting unserved areas to the
13 backbone of the internet (commonly referred to as the ‘last mile’); and (B) to
14 promote broadband connection resiliency through the creation of alternative
15 network connection paths that can be designed to prevent single points of failure
16 on a broadband network.”¹² The middle mile program explicitly prioritizes
17 projects that are able to, “leverage existing rights-of-way, assets, and
18 infrastructure to minimize financial, regulatory and permitting challenges.”¹³
19 Further, Congress specifically identified electric utilities as one category of
20 entities eligible for grants under the program.

¹¹ *Infrastructure Investment and Jobs Act*, P.L. No. 117-58, § 60401, 135 Stat. 429, 1231-38 (2021) (codified at 47 U.S.C. § 1741).

¹² 47 U.S.C. § 1741(b)(1).

¹³ *Id.* at § 1741(b)(2)(a)(i) (emphasis added).

1 **Q38. Are there any legislative efforts to continue to advance the efforts to**
2 **leverage grid deployments to assist in the efforts to solve the unserved**
3 **high-speed broadband challenge?**

4 On August 10, 2022, Senator Cantwell and Senator Capito proposed a new
5 federal bill for Grants to Rapidly Invest and Deploy (GRID) Broadband Act. The
6 GRID Broadband Act creates a national grant program to expand broadband
7 access by growing the middle mile network in unserved areas. The bill shares
8 many of the same goals of the Middle Mile Grant Program under the IIJA, except
9 that the GRID Broadband Act is focused on middle mile deployment only by
10 Electric Utility Companies. This program focuses on broadband projects that
11 are like the DG MMC project that I&M proposes in this case. The bill was
12 referred to the Committee on Commerce, Science, and Transportation for further
13 consideration.

14 Additionally, rural broadband is a priority in the State of Indiana, so much so,
15 that in 2021, the Indiana Office of Community and Rural Affairs launched the
16 Indiana Connectivity Program to provide greater access to broadband in rural
17 areas. In an interview with Indiana Business, Lieutenant Governor Suzanne
18 Crouch stated, “broadband providers typically determine the areas to which they
19 wanted to provide connections.”¹⁴ This is important because it is often cost
20 prohibitive for broadband providers to install middle mile broadband
21 infrastructure in rural areas, whereas I&M is able to leverage its distribution
22 infrastructure to provide middle mile access for its unserved customers.

23 **Q39. Is I&M well situated to assist in the effort to provide access to broadband**
24 **to homes in its service territory through the provision of “Middle Mile”**
25 **Infrastructure?**

26 Yes. Utilities, including I&M, are in a strong position to assist in the provision of
27 “middle mile” infrastructure in their service territories and the NTIA has stated

¹⁴ <https://www.insideindianabusiness.com/articles/state-launches-indiana-connectivity-program>

1 that utilities are eligible for the grants provided via the IIJA. I&M requires
2 communications infrastructure for efficient, reliable, and resilient electric service.
3 As such, the Company's investment in middle mile fiber optic infrastructure is
4 reasonable and necessary. Leveraging fiber optic for broadband service to rural
5 areas benefits customers with reduced cost from grant funding and offers other
6 economic development advantages to I&M's service territory. Approximately
7 ninety percent of the cost of installing fiber optic cable is in the engineering,
8 design, and construction; the actual size of the cable itself (144 strands, 288
9 strands, etc.) has a much less significant impact on the overall cost.
10 Accordingly, it is reasonable and appropriate for the Company to invest in fiber
11 optic in the proposed grant funding project areas. Commission support of I&M's
12 efforts to take advantage of the IIJA grants will benefit its customers.

Proposed Fiber Project

13 **Q40. Please describe the proposed fiber.**

14 I&M is proposing one fiber-based project: The Delaware and Grant Middle Mile
15 Connect. The fiber associated with the proposed deployment project will be
16 constructed to deliver electric grid benefits. The fiber is designed to connect
17 current or proposed smart metering access points, reclosers, capacitors,
18 regulators, and other similar devices to help advance current and future smart
19 grid deployments. The proposed fiber cable represents a unique opportunity
20 where a single fiber cable will be deployed but is being proposed to serve a dual
21 purpose that includes delivering electric grid operational benefits and community
22 benefits by allowing a participating Internet Service Provider (ISP) to lease fibers
23 within the cable to deliver new high speed internet service to surrounding
24 customers in the area. This project is developed in a way that allows the

1 company to pursue a NTIA Middle Mile Grant that would fund up to 50% of the
2 fiber deployment cost.

3 **Q41. Please detail the proposed fiber project.**

4 The Delaware and Grant Middle Mile Connect (DG MMC) project entails a total
5 of approximately 265 miles of a minimum of 144-strand fiber optic cable on
6 I&M's system in Delaware and Grant Counties. This project would provide the
7 middle-mile fiber infrastructure needed to extend broadband Internet service to
8 approximately 4,396 unserved customers in Delaware and Grant Counties,
9 which includes 56 anchor institutions. According to the FCC, community anchor
10 institutions are defined as "schools, libraries, medical and healthcare providers,
11 public safety entities, community colleges, and other institutions of higher
12 education, and other community support organizations and agencies that
13 provide outreach, access, equipment, and support services to facilitate greater
14 use of broadband service by vulnerable populations, including low-income, the
15 unemployed, and the aged."¹⁵ This project also provides a more secure
16 communications platform for I&M's distribution modernization technologies. The
17 DG MMC project serves I&M's core business by building fiber to I&M's
18 distribution stations and distribution line equipment and devices. All 88,200
19 (approximate) I&M customers in these counties would benefit from the project's
20 upgrades to the distribution grid, but as an added benefit, the DG MMC project
21 would also provide broadband access to I&M's unserved customers. A map
22 showing the rural broadband counties is attached as Attachment SSO-1- Indiana
23 RBB Project Map. Additionally, a map showing the route and the location of the
24 I&M distribution infrastructure that would be utilized for the DG MMC Project is
25 attached as Attachment SSO-2 – "DG MMC" Project Route Map.

26 The estimated capital investment for the DG MMC Project is approximately
27 \$41.1 million. This cost estimate includes the construction of approximately 265
28 miles of new 144-strand fiber optic cable, in addition to 484 miles of the

¹⁵ <https://geolinks.com/community-anchor-institutions/#:~:text=According%20to%20the%20Federal%20Communications,agencies%20that%20provide%20outreach%2C%20access>

1 available other fiber (fiber that is existing, funded, and scoped, and that I&M can
2 leverage for the purpose of this project), and all necessary hardware, right-of-
3 way work, permitting, easements, pole replacements (necessitated by fiber
4 loading/clearances), a telecommunication building in each county to hub the
5 electronics, and multiple cabinets to support community electronics,
6 engineering, and installation. A detailed cost estimate is contained in
7 Attachment SSO-3 – “DG MMC” Project Capital Cost Estimate. The estimated
8 annual operation and maintenance (O&M) costs are \$1.3 million for the DG
9 MMC project. The estimated annual O&M costs are based on a percentage of
10 the Project’s capital costs, and include the following:

- 11 Operations personnel
- 12 Engineering & design personnel
- 13 Operations center personnel
- 14 Contracts, ordering, billing, and invoicing personnel
- 15 Equipment, tools, and vehicles
- 16 Training
- 17 Materials for repair

18 **Q42. How many fibers does I&M typically utilize to support its electric grid**
19 **needs and how many fibers does I&M expect to be available to allow ISPs**
20 **to use to deliver high speed internet to customers in the area?**

21 Over the life of a fiber optic cable, I&M’s current standard is to deploy a
22 minimum of 144-count fiber with a minimum of 96 fibers being reserved for the
23 communication needs of the core business of delivering electricity to its
24 customers. I&M would consider increasing the fiber count if the participating ISP
25 needed additional fibers to support their effort of delivering new high speed
26 internet services to the surrounding community. The ISP would be required to
27 pay to lease the use of the contracted dark fibers in the proposed cable as well
28 as the incremental cost to increase the size of the fiber cable.

1 **Q43. What experience does I&M have with fiber optic projects?**

2 AEPSC helps manage all fiber projects, including I&M, and has over 30 years of
3 experience deploying fiber optic communications systems. Throughout that
4 time, the Company has also acquired significant experience operating and
5 maintaining these networks and working with ISPs to provide high-speed
6 broadband in unserved communities. In the past several years, AEPSC and
7 I&M have jointly designed, developed, and deployed over 2,600 line miles of
8 fiber optic cable throughout I&M's operating areas to improve and enhance
9 electric service delivery.

10 **Q44. What additional equipment, including upgrades, is required to deploy**
11 **Fiber Optics Infrastructure?**

12 A fiber optic cable infrastructure is best suited to provide a reliable and resilient
13 network. The fiber optic cable will be installed one foot below the distribution
14 power neutral and I&M will provide an attachment to the ISPs in the non-
15 energized area, so that the ISP(s) can connect the last mile portion to the
16 Company's middle mile infrastructure. The cable includes all the necessary
17 mounting hardware, splice enclosures, and fiber optic drop locations. I&M will
18 undertake a complete review of pole structures, rights-of-way, permits, and
19 easements. The ISP(s) will provide all the electronics needed to deliver Internet
20 services to customers in unserved areas of the project.

21 **Q45. Please describe the level of IIJA grant funding the Company is pursuing**
22 **for the DG MMC project.**

23 The Company initially determined that \$33 million of the DG MMC's project
24 costs would be eligible for NTIA grant funding. Based on that determination, the
25 Company submitted an NTIA grant application to request grant funds in the
26 amount of \$16.4 million for the DG MMC project. The NTIA reviewed the
27 application and requested that the Company remove non-broadband costs, and
28 also reduce the number of interconnection points in the grant application by two-

1 thirds. Therefore, the Company revised the grant application to remove costs
2 for substation entrances, and to remove costs associated with terminals,
3 splitters, and administrative costs. The Company's removal of these costs
4 ultimately resulted in a revised NTIA grant application in the amount of \$11.7
5 million for the DG MMC project. If awarded, this \$11.7 million represents a
6 significant cost reduction and benefit to customers.

7 **Q46. Are the capital costs for the DG MMC project included in the Capital**
8 **Forecast Period being presented in this case?**

9 No. The capital cost for the DG MMC project is not included in the Capital
10 Forecast period presented in this case. Company witnesses Seger-Lawson and
11 Ross discuss accounting and cost recovery of the broadband project.

12 **Q47. Does the Company envision fiber deployments beyond middle-mile?**

13 No, I&M does not plan to offer last mile or end-user broadband service. The
14 Company believes that it is critical to secure last-mile broadband providers to
15 offer the opportunities to lease these last mile services prior to initiating the
16 construction. Partnering with the community to find and select these last-mile
17 broadband providers is an important piece of the proposed middle mile fiber
18 expansion as further described below.

Additional Benefits of Utility Fiber Optic In The Community

19 **Q48. Does the proposed deployment of fiber provide opportunities for rural**
20 **broadband expansion initiatives?**

21 Yes. Rural America is suffering economically due, at least in part, to a lack of
22 adequate broadband connectivity, despite the recognized benefits high-speed
23 service can provide to rural communities. As part of the American Jobs Plan,
24 the White House stated in 2021 that "Broadband internet is the new electricity. It

1 is necessary for Americans to do their jobs, to participate equally in school
2 learning, health care, and to stay connected.”¹⁶

3 The Company believes that electric utilities are well positioned to deploy fiber
4 infrastructure to support broadband expansion. Electric utilities are modernizing
5 their electric grid and adding more communications infrastructure to existing
6 utility assets. Given the existing infrastructure and the ongoing deployment of
7 fiber for utility communications purposes, electric utilities are in a unique position
8 to leverage this existing work to support a second use by unused fiber along
9 existing routes to expand access to high-speed broadband.

10 As discussed by Company witness Davis, the DG MMC project offers significant
11 benefits for I&M’s customers in the area and is widely supported by federal and
12 state political figures, local governments, educational institutions, and several
13 other organizations. From an Indiana state policy perspective, Governor
14 Holcomb included addressing broadband service gaps as a component of the
15 community development pillar of his 2023 Next Level Agenda.¹⁷

16 **Q49. What are the other community benefits of providing expanded access to**
17 **high-speed fiber?**

18 In addition to the electric service benefits noted above, there are other many
19 community benefits associated with increased access to broadband deployment
20 including equitable access to telehealth and education and economic
21 development. Company witness Davis explains additional community benefits
22 in her testimony.

¹⁶ [Fact Sheet: Bipartisan Infrastructure Framework Will Address Barriers Communities of Color Face to Economic Opportunity | The White House](#)

¹⁷ <https://www.wrtv.com/news/working-for-you/governor-holcomb-announces-2023-next-level-agenda>

1 **Q50. Does combining utility fiber projects with rural broadband serve the public**
2 **interest?**

3 Absolutely. Communication is necessary for grid modernization technologies
4 and for reliability. There are multiple forms of communication available, and
5 fiber is one of them. Installing fiber enables I&M to provide rural broadband to
6 unserved customers and it also offers I&M the communication that it needs for
7 its grid modernization technologies, while also providing enhanced security.
8 Fiber is expensive but coupled with the grant opportunities that I previously
9 discussed in my testimony and the fiber leasing component; fiber could
10 potentially end up costing less than wireless.

11 **Q51. Please describe the recent efforts other AEP Operating Companies are**
12 **undertaking to assist with the expansion of broadband to unserved**
13 **customers in the states where they operate.**

14 Appalachian Power Company, an I&M affiliate company operating in Virginia
15 and West Virginia, has five projects in various stages of design and construction
16 between both of its jurisdictions. In December 2021, the first of these projects
17 came to fruition when the Elk Creek Volunteer Fire Department became the first
18 customer to receive high-speed internet service in rural Grayson County,
19 Virginia. More than 6,000 customers identified in the Grayson County project
20 area are expected to gain access to broadband over the next year. Construction
21 is also underway in Logan and Mingo counties that will make broadband access
22 available to more than 15,000 unserved customers in West Virginia.

Fiber Leasing Program

23 **Q52. How will the Company account for the revenue from fiber leases to last-**
24 **mile broadband providers?**

25 I&M expects that revenue will be used to offset deployment costs for the specific
26 fiber asset. Company witnesses Seger Lawson and Ross discuss accounting

1 and ratemaking treatment for the DG MMC project including offsetting fiber
2 lease revenues.

3 **Q53. What is I&M's preferred choice in selecting an ISP partner and how will**
4 **that partner be selected?**

5 I&M strongly prefers that the ISP providers are chosen by the communities
6 where the projects are located. Absent direct community involvement, I&M will
7 select an ISP provider via Request for Proposals.

8 In Phase I of the bid evaluation process, ISP applicants will be evaluated based
9 on their financial, technical, and managerial qualifications to deliver on the last
10 mile deployment phase of the Project. In Phase II of the bid process, proposals
11 will be evaluated based upon the following criteria:

- 12 • The extent of service proposed for unserved areas of the Counties.
- 13 • The performance characteristics of the proposed last-mile service.
- 14 • The estimated total revenue that the ISP would provide to I&M through a
15 fiber lease agreement.
- 16 • The pricing of the ISP's proposed services.

17 **Q54. Does the Company expect that the fiber will deliver customer savings?**

18 Yes, it does. After excluding the costs associated with the Company's use of
19 the proposed fiber for items such as the electronics and station entrance/exit
20 costs, the fiber only Capital Cost Estimate associated with the DG MMC Grant
21 Application is \$23,415,007. The anticipated grant associated with the Middle
22 Mile Grant Program under the IIJA is \$11,684,088.90 resulting in a net cost after
23 grant award of \$11,730,918.92. While the Company has not yet worked with the
24 community to select the participating ISP, using historical revenue estimates
25 from similar broadband projects at I&M's affiliated company Appalachian Power,
26 the Company has developed an anticipated range for this dark fiber revenue:

27 **Figure SSO-7**

	High Case Revenue Model	Median Revenue Model	Low Case Revenue Model
Revenue Anticipated	\$19,319,984	\$13,595,984	7,341,984

1 Using the most likely / median revenue model, the net effect is a positive
2 customer savings of \$1,855,065.08 for deployment of this fiber after the grant
3 and dark fiber revenue is offset from the fiber only costs.

4 **Q55. Does this conclude your testimony?**

5 Yes, it does.

VERIFICATION

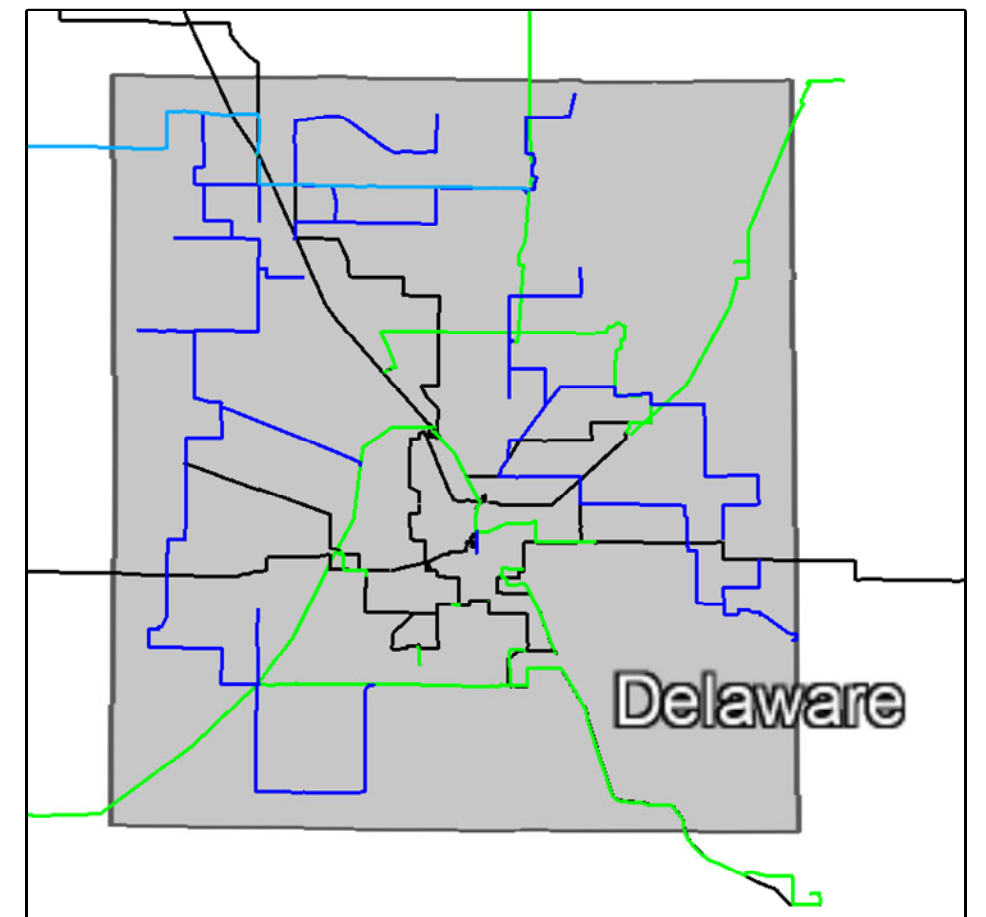
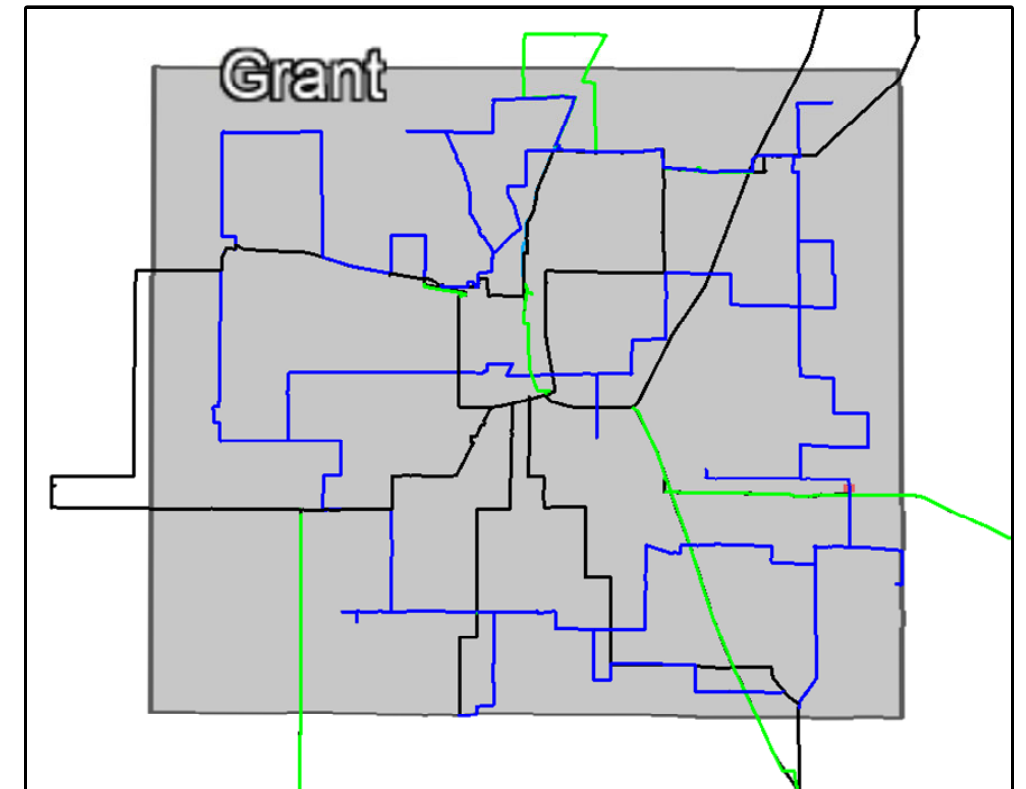
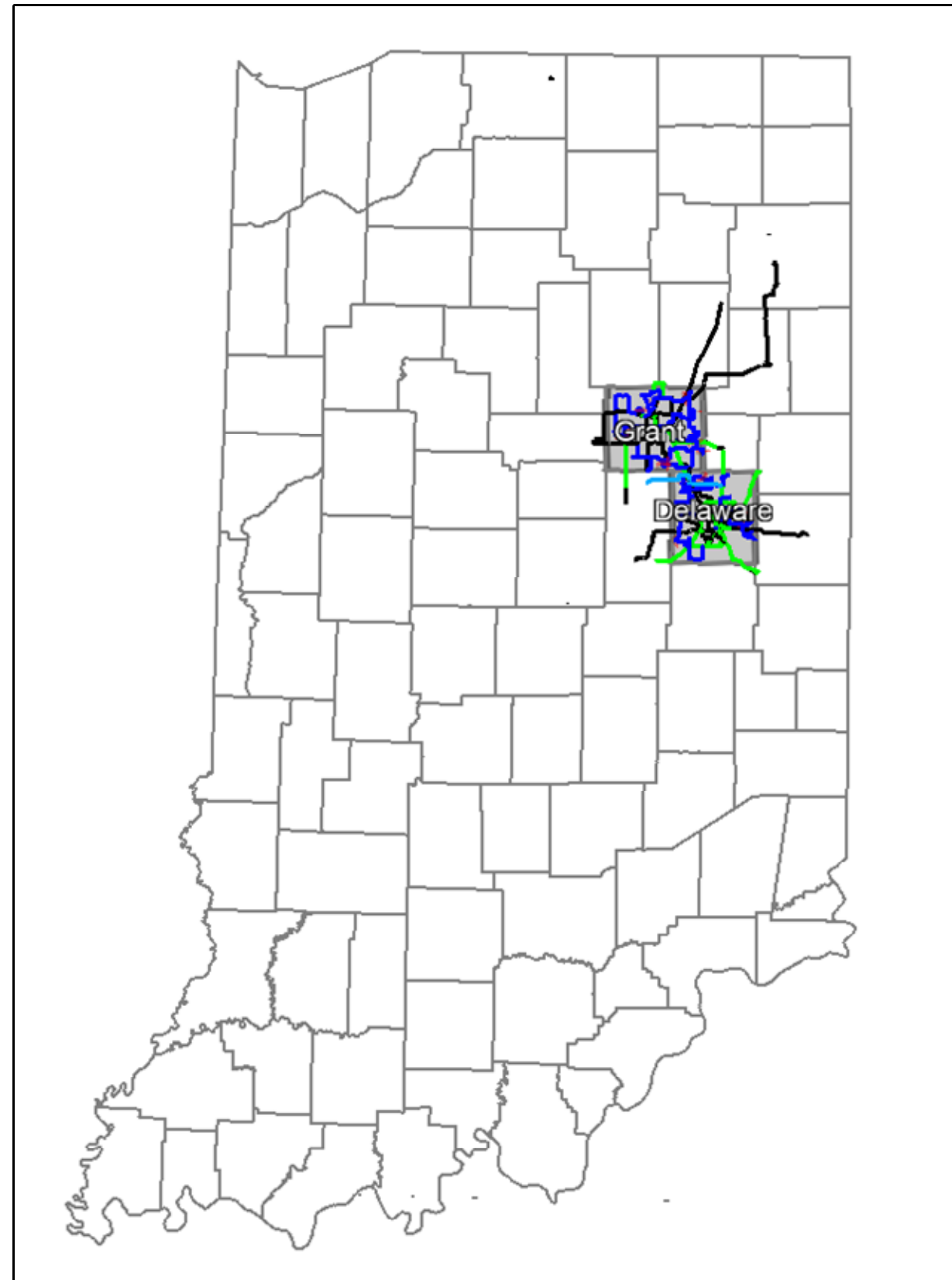
I, Scott S. Osterholt, Director of Broadband and Telecom Business Development of American Electric Power Service Corporation, affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information, and belief.








Date: 8/8/23

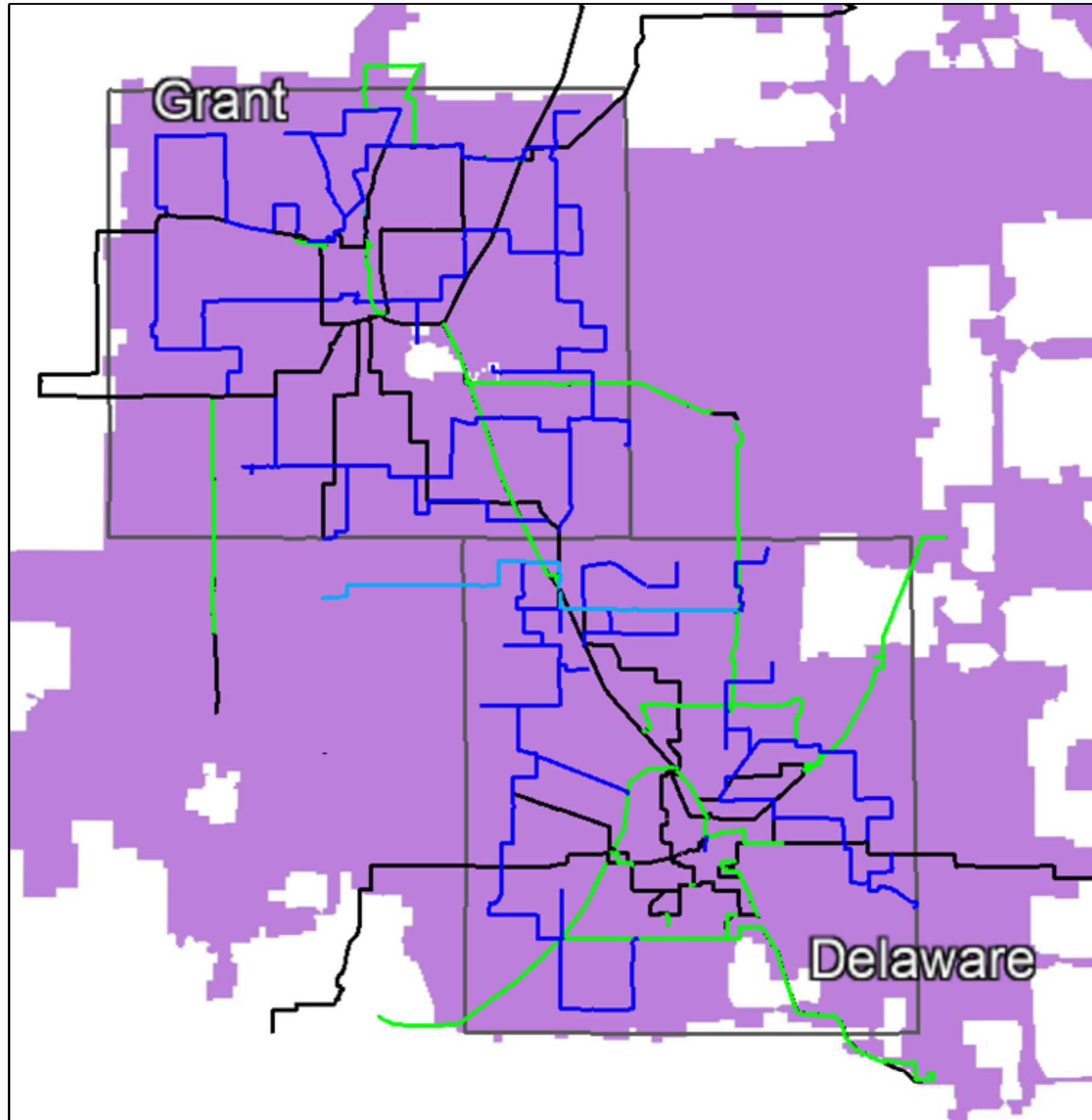
A handwritten signature in cursive script that reads "Scott S. Osterholt". The signature is written in black ink and is positioned above a horizontal line.








Scott S. Osterholt

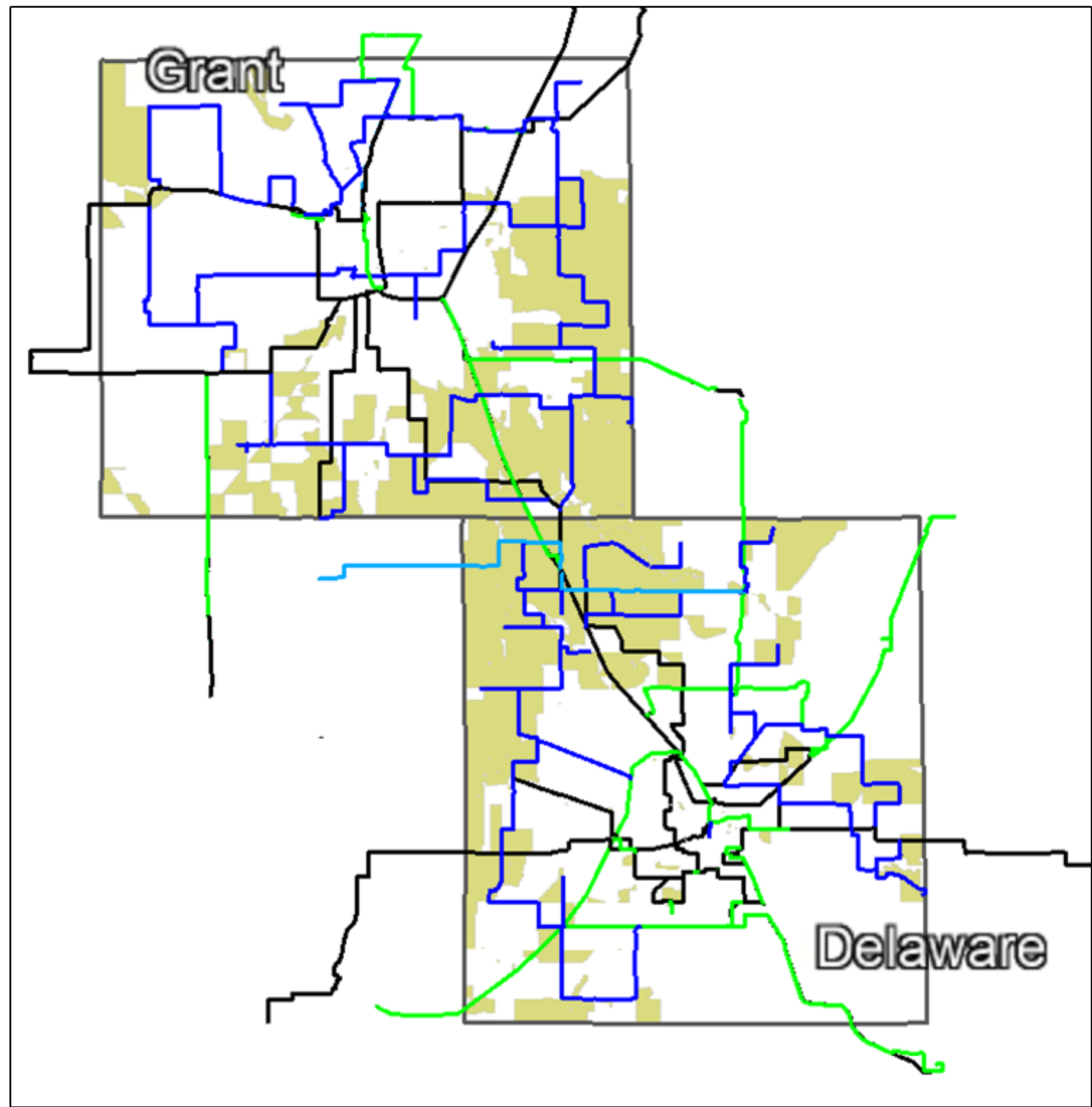
I&M RBB Projects – Project Counties










MAP LEGEND	
	County Boundary
	Existing Fiber
	Under Construction Fiber
	Other Proposed Fiber
	Proposed Project Fiber
	Unserved Area
	Service Territory



MAP LEGEND	
	County Boundary
	Existing Fiber
	Under Construction Fiber
	Other Proposed Fiber
	Proposed Project Fiber
	Unserved Area
	Service Territory



MAP LEGEND	
	County Boundary
	Existing Fiber
	Under Construction Fiber
	Other Proposed Fiber
	Proposed Project Fiber
	Unserved Area
	Service Territory

RBB - I&M Delaware & Grant MMC Functional rev0 30Mar2023

County	# I&M Customers	# Unserved (FCC RDOF Eligible)	Project Fiber - Scoped Mileage	Other Fiber - Existing, Funded Scoped Mileage	Functional Estimate Total Loaded Telecom & Dist ¹ (millions)	Total Project Fiber - Scoped Mileage	Functional Estimate Total Loaded Telecom & Dist ¹ (millions)
Grant	30,970	2,204	154	233	\$ 22.5	387	\$ 22.5
Delaware	57,261	2,192	111	251	\$ 18.6	362	\$ 18.6
All Counties	88,231	4,396	265	484	\$ 41.1	749	\$ 41.1

1 - Includes installing terminals on Existing/Proposed Fiber

Summary of I&M's IJA Grant Applications			
Grant Type	Project Title	Objectives	Grant Dollars Sought by I&M
GRIP Topic 2	ADMS DERMS	AEP intends to implement an Advanced Distribution Management System ("ADMS") with an operational Distributed Energy Resource Management System ("DERMS") module (the "Project"). As part of this implementation, the primary network assets would be installed at AEP's transmission control centers and would benefit AEP customers. The overall goal of the Project is to increase grid visibility and management of the Company's distribution capabilities in order to improve service for AEP customers.	\$3,063,474
GRIP Topic 2	DACR	AEP intends to implement advanced electric distribution infrastructure, Distribution Automation Circuit Reconfiguration ("DACR"). With the implementation of DACR, AEP would reduce the consequences of disruptive events through improved reliability and transform community, regional, interregional, and national grid resilience, with a focus on rural areas and disadvantaged communities DACs, which generally face frequent occurrences and long durations of outages. DACR is a direct modernization of today's smart grid and represents a state-of-the-art upgrade to the existing system. The greatest benefit gained from deploying DACR is the autonomous reconfiguration of the circuits, so the number of customers impacted by an outage is minimized as much as possible.	\$2,056,244
GRIP Topic 1	DACR	AEP intends to implement advanced electric distribution infrastructure, Distribution Automation Circuit Reconfiguration ("DACR"). With the implementation of DACR, AEP would reduce the consequences of disruptive events through improved reliability and transform community, regional, interregional, and national grid resilience, with a focus on rural areas and disadvantaged communities DACs, which generally face frequent occurrences and long durations of outages. DACR is a direct modernization of today's smart grid and represents a state-of-the-art upgrade to the existing system. The greatest benefit gained from deploying DACR is the autonomous reconfiguration of the circuits, so the number of customers impacted by an outage is minimized as much as possible.	\$4,168,623
GRIP Topic 1	Underground Distribution	AEP intends to convert stretches of electric distribution infrastructure from traditional overhead placement to underground placement in areas prone to electric grid reliability and resiliency issues to harden the grid and improve resiliency. The Company expects the Project would increase grid resiliency by shielding distribution grid infrastructure from severe weather, human intervention, and vegetation overgrowth.	\$2,442,151
NTIA	Delaware & Grant Middle Mile project	The D&G project will leverage I&M's existing power line structures that support its electric system throughout Delaware and Grant counties to provide a robust middle mile fiber communications network. As a utility, I&M can employ the use of its fiber network to improve the reliability and resiliency of the local electric power distribution system. Smart grid technology, used primarily to improve power outage restoration efforts, can also assist in identifying fiber optic line failure for rapid location and isolation of issues. The project will benefit the proposed service area by promoting carrier-neutral interconnection facilities and non-exclusive leasing agreements on a first come, first served basis to all eligible providers pursuant to its standard agreement. I&M will also facilitate the provision of broadband service to 56 anchor institutions within 1,000 feet of the proposed fiber route.	\$11,684,089