Wyoming BUSINESS COUNCIL

BEAD SUBGRANTEE APPLICATION: TECHNICAL REQUIREMENTS

September 2024

INTRODUCTION

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TECHNICAL REQUIREMENTS

BEAD NOFO Section IV.D.2.c

Prospective subgrantees must submit a network design, diagram, project costs, build-out timeline, and milestones for project implementation, as well as a capital investment schedule.

These items must be certified by a Professional Engineer, stating that the proposed network can deliver broadband service that meets the requisite performance requirements to all locations served by the project.

An Eligible Entity shall not approve any grant unless it determines that the materials submitted to it demonstrate the prospective subgrantee's technical capability with respect to the proposed project.

TECHNICAL REQUIREMENTS

Wyoming Broadband Office (WBO) BEAD Application – Section 2.4.13.2: Network Design

Subgrantee applicants shall submit a project plan to demonstrate their technical capability with respect to the proposed project. The submission must include the following components:

- Technical narrative
- Network design
- Logical network design drawing
- Project costs
- Project timeline with milestones
- Professional Engineer certification
- Fixed wireless design spreadsheet (*non-priority applications only*)

Regarding the capital investment schedule:

- NTIA has issued a Conditional Limited Programmatic Waiver and Clarification of Professional Engineer Certification.
- Wyoming's Initial Proposal Volume 2 (IPV2) states: "Applicants will be required to complete a template pro forma model…in each of their proposed project areas."

Source: Wyoming IPv2 (July 2024), pp. 72, 75, 122

TECHNICAL REQUIREMENTS

Technical narrative – *submitted as a .pdf*

The technical narrative shall provide a description of the proposed project and detail how the proposed infrastructure will deliver service that reliably meets or exceeds the required speeds and latency for all broadband serviceable locations (BSL) and proposed community anchor institutions (CAI) in the project area. The narrative must include:

- A detailed description of how the network will be connected to sufficient backhaul infrastructure to support the program performance requirements.
- An explanation of the projected subscriber take-rate and the anticipated level of oversubscription based on the proposed network capacity.
- A discussion of network scalability.
- A detailed description of how the proposed network will be deployed using industry best practices.

TECHNICAL REQUIREMENTS

Network design – *submitted as shapefiles*

The network design shall include all proposed BSLs and CAIs served by the project, all proposed broadband infrastructure routes to be constructed via the project, and project area boundary polygons encompassing all infrastructure routes, BSLs, and CAIs.

- The official BSL and CAI data will be made available by WBO.
- The proposed routes shall be provided as a singular line feature representative all broadband infrastructure (conduit, fiber, etc.) and shall be attributed to convey associated details.
- The project area boundary polygons shall be drawn so that all proposed BSLs, CAIs, and proposed infrastructure routes are encompassed within the boundaries.

TECHNICAL REQUIREMENTS

Logical network design drawing – *submitted as a .pdf*

The logical network design drawing shall illustrate the logical connectivity for the proposed network; depict the desired architecture of the network in terms of hardware placement and hardware redundancy; and indicate the types of network platforms/technologies to be utilized in each layer of the network.

Existing infrastructure present on the diagram should be identified as existing so as to clearly delineate new infrastructure proposed as part of the project.

A sample drawing will be provided as part of the application guide materials.

TECHNICAL REQUIREMENTS

Project costs – *submitted as a spreadsheet*

The project costs estimate shall offer sufficient granularity to demonstrate an understanding of the proposed project and its associated estimated costs.

The cost estimate must include a detailed itemization of each cost and sufficient description to verify the eligibility of each proposed cost item.

The project costs shall be submitted in spreadsheet format using the template provided by WBO.

An example spreadsheet with sample costs and supporting details will be provided by WBO.

TECHNICAL REQUIREMENTS

Project costs template

The project costs template will include instructions on how to fill out the spreadsheet. Subgrantee applicants shall enter individual cost items into the spreadsheet. For each proposed cost item, the subgrantee applicant must fill out the following information fields:

- Cost description – A simple description of the cost item
- Cost category – A selectable field that assigns to the cost to a specific program reporting category
- Unit type – The unit of measurement for each cost item quantity *(feet, each, hours, etc.)*
- Unit quantity – The Subgrantee applicant's estimated quantity of each cost item that will be required to complete the project
- Unit cost – The Subgrantee applicant's estimated cost per unit for each cost item
- Cost details and justification – The Subgrantee applicant's narrative supporting the estimated unit quantities and cost

Subgrantee applicants shall be afforded the flexibility to determine their individual cost items.

The spreadsheet will automatically generate a project cost summary from the detailed cost information entered by the subgrantee applicant; that summary can be used to populate the CIW tab of the pro forma workbook.

TECHNICAL REQUIREMENTS

Project timeline – *submitted as a spreadsheet*

The project timeline shall articulate the subgrantee applicant's ability to complete the project within the four-year timeframe. The timeline shall include the key milestones for project implementation, including:

- Planning/engineering
- Permitting/make-ready
- Material and equipment procurement
- Network construction
- Subscriber activations
- Project closeout submission

The project timeline shall be submitted in spreadsheet format using the template provided by WBO.

TECHNICAL REQUIREMENTS

Professional Engineer certification – *submitted as a .pdf*

The Professional Engineer certification must confirm the accuracy and completeness of the Project Plan materials and attest that the proposed network can deliver broadband service that meets the requisite performance requirements to all proposed locations within the required four-year deployment timeline.

WBO will provide a template for this certification that includes fields for the following information:

- Name of the licensed Professional Engineer
- License number
- Licensed state (*does not need to be Wyoming*)
- License expiration data (*must be currently licensed PE*)
- Professional Engineer signature

TECHNICAL REQUIREMENTS

Fixed Wireless Design– *submitted as a spreadsheet*

For project plans that include a fixed wireless deployment component, subgrantee applicants must provide additional design details relating to the fixed wireless portion of the design

This additional information will allow the WBO to properly evaluate the subgrantee applicants' design.

Submissions must include detailed information for the following design components:

- Site RF Parameters
  - Site location information
  - Sector information
- BSL Parameters
- Network RF Parameters
  - Physical Equipment Information
  - Base Station
- Customer Premise equipment (CPE) information

TECHNICAL REQUIREMENTS

Satellite Design – *submitted as a Word or PDF*

For project plans that include a satellite component, subgrantee applicants must provide additional design details relating to the satellite portion of the design

This additional information will allow the WBO to properly evaluate the subgrantee applicants' design.

Submissions must include detailed information for the following components:

- Network performance capabilities
- Customer premises equipment
- Provisioning

TECHNICAL REQUIREMENTS

Additional technical compliance certifications

In addition to obtaining technical certification from a currently licensed Professional Engineer, the subgrantee applicant's Authorized Organizational Representative (AOR) must certify that the organization will comply with the following program requirements :

- At time of project closeout, all proposed BSLs shall be capable of receiving *Reliable Broadband Service* with speeds of not less than 100 Mbps for downloads and 20 Mbps for uploads with 95 percent of latency measurements during testing windows falling at or below 100 milliseconds round-trip time.

- At time of project closeout, grant-funded connections to proposed Eligible Community Anchor Institutions shall be capable of delivering service at speeds not less than 1 Gigabit per second for downloads and 1 Gigabit per second for uploads. Additionally, the applicant certifies that these grant-funded connections can be used to provide business data services, which refers to the dedicated point-to-point transmission of data at certain guaranteed speeds and service levels using high-capacity connections.

- Applicant will obtain all necessary federal, state, and local governmental permits and required approvals necessary for the proposed work to be completed.

QUESTIONS

https://wyomingbusiness.org/broadband/

broadbandoffice@wyo.gov

WEBINAR DATES

BEAD Grant Application Process
September 13, 2024
1:00 – 2:00 PM MT

BEAD Grant Project Plan (Technical Requirements)
September 19, 2024
1:00 – 2:00 PM MT

BEAD Grant Project Areas & Selection
September 23, 2024
1:00 – 2:00 PM MT

BEAD Application Scoring Criteria
September 30, 2024
1:00 – 2:00 PM MT

BEAD Application Financial Capability
October 7, 2024
1:00 – 2:00 PM MT

BEAD Application Portal Deep Dive
October 14, 2024
1:00 – 2:00 PM MT

BEAD Grant Application Q&A
November 4, 2024
1:00 – 2:00 PM MT