Montana Grid Resilience Workshop

Welcome and Introductions

Kyla Maki – Energy Planning Section Supervisor, DEQ

Jessi Finstad – Energy Resource Professional, DEQ

Karyn Boenker – Resilience Principal Investigator, PNNL

Devyn Powell – Energy Policy Analyst, PNNL

Participant Introductions

DEQ Role

Energy Security Plan

Lead agency to implement grid resilience formula funding

Coordinate with DES, agencies, stakeholders: Planning for and responding to energy emergencies

Convene energy sector stakeholders

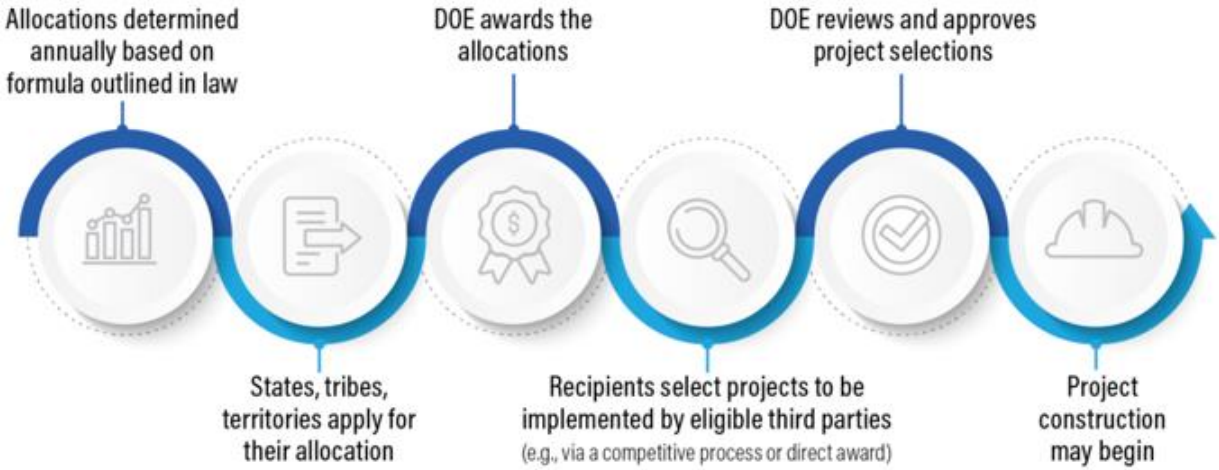
Today's Agenda

- Session 1 (DEQ) – overview of funding opportunity, application process details, and tutorial

- Session 2 (PNNL) – reliability vs. resilience, justifying resilience investments, and investment prioritization for application

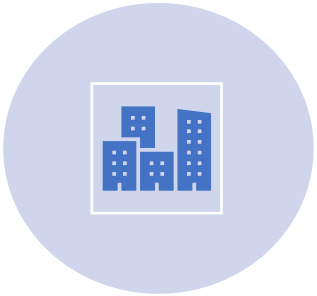
Grid Resilience Formula Grant

- Under BIL Section 40101(d), the Grid Resilience State and Tribal Formula Grant Program distributes up to $2.5 billion in provisional funding over a period of five years to states, territories, and Federally recognized Indian Tribes.
- As part of the 40101(d) effort, the MT Grid Resiliency and Reliability Grant Program is designed to strengthen and modernize the power grid against wildfires, extreme weather, and other natural disasters.



Montana Program Objectives

Improve reliability and resilience of Montana's electric transmission and distribution (T&D) system during disruptive events (wildfire, flooding, etc.)



Reduce likelihood and consequences of outages affecting community facilities and critical infrastructure

Limit potential for wildfire ignition from T&D equipment and reduce scope/consequence of public safety power shutoffs

Increase skilled workforce within Montana

Applicant Eligibility

- Electric grid operators
- Electricity storage operators
- Electricity generators
- Transmission owners or operators
- Distribution providers
- Fuel suppliers
- Other relevant entities as determined by the Secretary of the U.S. DOE

Subaward Cost Match

- Any eligible entity that sells >4,000,000 MWh of electricity per year must match 100% of the amount of the subaward value.

- Eligible entities with ≤4,000,000 MWh of electricity per year match is 1/3 of the amount of the subaward value.

- Montana requires subawardees provide an additional 15.5% match
  - Covers State match and administrative costs

Project Eligibility

- Weatherization technologies and equipment;
- Fire-resistant technologies and fire prevention systems;
- Monitoring and control technologies;
- Undergrounding of electrical equipment;
- Utility pole management;
- The relocation of power lines or the reconductoring of power lines with low-sag advanced conductors;
- Vegetation and fuel load management;

Project Eligibility (continued)

- The use or construction of distributed energy resources for enhancing system adaptive capacity during disruptive events, including: (a) microgrids; and (b) battery-storage subcomponents;
- Adaptive protection technologies;
- Advanced modeling technologies;
- Hardening of Power lines, facilities and other systems;
- Replacement of old overhead conductors and underground cables.

Ineligible Activities and Projects

- Planning only projects
- Construction of new electric generation
- Construction of large-scale battery storage that is not intended for enhancing system adaptive capacity during disruptive events
- Cybersecurity

Funding Update

- Montana allocated $21 million to date
- $13.7 million first Request for Applications released in May 2024
- *At least $7 million to be dispersed in upcoming opportunity*
- Projects selected from first RFA include…
  - Transmission line rebuilds
  - Substation breaker replacements
  - Line upgrades
  - Smart meter installation

Two-Phase Application Process

*To be eligible for funding, entities must submit a **draft application** for DEQ's review and comment.*

1. Prior to draft project application due date, there will be an opportunity to correspond with Energy Office staff to ask questions, receive assistance, and discuss draft applications.
2. A month after draft application due date, DEQ feedback will be posted, and final solicitation will open. Questions must be posted to Q&A board in eMACS thereafter.
3. Following draft application due date, there will be formal deadline for final application

Federal Reporting and Compliance Requirements

- Compliance with applicable Federal Requirements including:
  - NEPA
  - Davis-Bacon
  - Build America Buy America (BABA)
- Quarterly and annual report on project progress and resilience metrics
- All awards subject to written notice and approval by the U.S. Department of Energy
- Montana may not proceed with subaward/subcontract until the DOE determines and provides Montana written approval notification

NEPA

- Completion of an Environmental Questionnaire for National Environmental Policy Act (NEPA) review and approval by U.S. DOE is required
- Prospective applicants should review the Environmental Questionnaire in advance
- Consider projects that are more likely to receive categorical exclusions from NEPA to expedite DOE approval process
- Environmental Questionnaires can be found at: https://www.netl.doe.gov/sites/default/files/2024-09/451-1-1-3_8-27%20update.pdf

Davis-Bacon Act

- Applies to federally funded construction
- Must pay prevailing wages (set by U.S. DOL)
- Requires certified payroll reporting
- For successful applicants, signup, training, and submission of weekly certified payroll through LCPTracker is required by DOE

(1) U.S. Department of Labor
(2) U.S. Department of Energy (DOE)
(3) U.S. DOE

Build America, Buy America

- Requires U.S.-made iron, steel, manufactured products, construction materials
- Waivers possible (nonavailability, unreasonable cost, public interest)
- Waiver process: submit request → state review → DOE approval & public comment
- Waivers take time, not guaranteed
  - **Process:** Submit waiver, DEQ review, DOE Project Officer review, public comment period, vendor market analysis, decision on approval/rejection of waiver
- **Tip:** Contact vendors early to confirm U.S. sourcing

(1) U.S. Office of Management and Budget
(2) U.S. DOE

Quarterly Reporting

- Montana DEQ is required to report quarterly to DOE on project implementation.
- Subrecipients will submit quarterly reports to Montana Energy Bureau and participate in quarterly meetings.

Quarterly Reporting Schedule

Federal Fiscal Year Quarter	Date Range	Report Due to DEQ	Quarterly meeting with DEQ
Q1	Oct 1 – Dec 31	Jan 10	By Jan 17
Q2	Jan 1 – Mar 31	Apr 10	By Apr 17
Q3	Apr 1 – Jun 30	Jul 10	By Jul 17
Q4	Jul 1 – Sept 30	Oct 10	By Oct 17

Annual Reporting Information

- DEQ required to report annually on project impact to DOE.
- Impact (*how did project improve x over baseline*):
  - Outages (Type, Includes Major Event Day, Coverage)
  - Damages
  - Customers benefitted
- Job Creation and Training
- Workforce Demographics
- Reporting template: National Energy Technology Laboratory's Annual Program Metrics and Impact Report.

Reporting Impact Metrics (1/2)

Impact Categories	Possible Impact Metrics
Outages	Largest outage cause
	Number of outages
	Hours to repair outages
	System Average Interruption Duration Index (SAIDI)
	Customer Average Interruption Duration Index (CAIDI)
	System Average Interruption Frequency Index (SAIFI)
	Customer Average Interruption Frequency Index (CAIFI)
	Number of individual customers with more than 5 interruptions
	Number of individual customer outages that extend beyond 24 hours
	Number of critical services with outages that extend beyond 24 hours
	Hours of unmet load
	Average hours to restore 50% of customers
	Average hours to restore 90% of customers
	Average hours to restore 100% of customers
Damages	Outage recovery cost ($)
	Hours line loading exceeded normal rating
	Number of poles damaged (specify pole type in "Type" field")
	Feet of conductor replaced (specify conductor type in "Type" field)
	Number of electrical components damaged (specify in "Type" field)

Reporting Impact Metrics (2/2)

Impact Categories	Possible Impact Metrics
Customers Benefitted	Number of commercial customers benefitted by project
	Number of industrial customers benefitted by project
	Number of customers that provide community services/emergency centers benefitted by project (specify service in "Type" field)
	Number of customers that provide communication services benefitted by project (specify service in "Type" field)
	Number of customers that provide energy supply benefitted by project (specify service in "Type" field)
	Number of customers that provide transportation services benefitted by project (specify service in "Type" field)
	Number of customers that provide water services benefitted by project (specify service in "Type" field)
	Number of customers that provide food services benefitted by project (specify service in "Type" field)
	Other (insert necessary info in "Metric Type" field)

Project Evaluation

Criteria	Metrics
Resilience and Reliability Benefits	• Measurement of a system's ability to anticipate, withstand, adapt and recover from major events • Current measurements of system's performance pertaining to electrical service, asset damage during major events, and response/restoration • Current monetary impacts of major events such as post-event O&M restoration costs, value of assets damaged, customer restoration costs (estimated using ICE calculator: https://icecalculator.com/) • Estimated extent to which metrics will see improvement over time

Project Evaluation

Criteria	Metrics
Consumer and Community Benefits	• Benefits of the project to communities at high risk of the effects of extreme weather using FEMA's National Risk Index https://hazards.fema.gov/nri/map • Supplemented with historic instances and impacts of extreme weather events; explain how project will increase resilience against such events

Project Evaluation

Criteria	Metrics
Workforce and Economic Development Benefits	• Number of individuals who will receive training or apprenticeship directly related to construction, operations and monitoring of the project • Number of Montana-based employees that will be directly employed during project construction and operation • Number of jobs created by the project • Indirect economic impacts to community from the project

Project Evaluation

Criteria	Metrics
Advanced Grid Technology	• Technology investments to reduce wildfire ignition from utility assets (fast-trip systems, adaptive reclosers, advanced fire-safe devices for monitoring/controls, dynamic line ratings) • Projects that utilize distribution grid assets to provide backup power and reduce transmission requirements (e.g. microgrid investments)

Project Evaluation

Criteria	Metrics
Project Budget and Justification	• Budget Justification form is completely filled out • Detailed budget narrative is included to describe project costs and categories • Application includes project bids, estimates, quotes for services, materials, engineering reports

Project Evaluation

Criteria	Metrics
Project timeline	• Projects need limited NEPA review • Certification that the project will comply with BABA, and Davis-Bacon • Anticipated project completion date within five years from contract execution date

Budget – Key Cost Categories

Category	Details
Personnel	Salaries and wages for staff who will work on the project (project management, engineering, etc.)
Fringe Benefits	Benefits tied to personnel
Travel	Travel costs tied to project activities (site visits, stakeholder meetings, etc.)
Equipment	Purchase of capital equipment
Materials & Supplies	Consumables, components, small tools, project materials (not capitalized)
Contractual / Subawards	Work done by consultants, contractors, etc. (Note that a separate budget justification is needed if contractor cost exceeds $250,000.)

Source: NETL Budget Justification

Budget – Key Cost Categories

Category	Details
Contractual / Subawards	Work done by consultants, contractors, etc. (Note that a separate budget justification is needed if contractor cost exceeds $250,000.)
Construction	Costs directly tied to building (labor, site prep, excavation, etc.) (Needed if contractor cost > $250k)
Other Direct Costs	Permitting, regulatory fees, training, software, etc.

Source: NETL Budget Justification

Lessons Learned from Last Round

- Tell a story in the narrative
  - Hazards and outages experienced
  - How this project helps in the future?
  - Who does this project help?
- Tie everything back to resilience and data
  - How many outages have occurred in the area?
  - Duration of outages?
  - How many customers will benefit?
  - Benefits to critical/essential facilities
  - How does this improve grid resiliency, rather than just replace what is already there and at the end of its lifecycle?

Technical Assistance Needs

- DEQ has funding available for technical assistance for eligible applicants:
  - Prioritizing projects
  - Support to develop and analyze project metrics
  - Compliance with federal requirements

Next Steps

- Funding timeline
- Stay connected
  - Program Website: https://deq.mt.gov/energy/Programs/grid
- Sign up for Grid Resilience e-mail list

Questions?

Jessi Finstad: jessi.finstad2@mt.gov