Fiscal Year 2024 National Environmental Information Exchange Network Grant Program Solicitation Notice

Agency Name and Office:
U.S. Environmental Protection Agency (EPA)
Office of Mission Support – Environmental Information

Funding Opportunity Title:
FY 2024 National Environmental Information Exchange Network Grant Program

Announcement Type:
Initial Request for Applications

Funding Opportunity Number:
EPA-OMS-24-01

Assistance Listing:
66.608

Key Information Dates:
Thursday, May 23, 2024 – Deadline for submitting applications to EPA.
Tuesday, October 1, 2024 – Period of performance (project) start date for successful applicants.

ACTION: Request for Applications (RFA), Amendment No. 1

DATE: April 30th, 2024

SUMMARY: This Notice revises the grant application submission deadline.

Accordingly, the Exchange Network Grant Program has extended the application due date *by one business day* to Thursday May 23rd, as reflected on pages 1, 16, 17, E1, and E14 of this Solicitation Notice. The FY24 application due date was modified from the original date of Wednesday May 22nd, 2024, following an announcement of scheduled system maintenance by Grants.gov from May 18th – 21st, 2024.

Applicants for the FY24 Exchange Network Grant program must submit an application package to EPA through the Grants.gov <u>on or before Thursday, May 23, 2024, 11:59 PM Eastern</u>.

Please note that applications cannot be submitted during the Grants.gov maintenance period of May 18th – May 21st, 2024.

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Appendices

Note: A User's Guide to the Appendices

- **Appendices A – C:** In the context of the Exchange Network Grant Program, the phrase 'EN project opportunities' refers to specific project write-ups that provide potential applicants with the information needed to design a proposal for a particular data exchange, data service, or project type. These write-ups contain essential descriptions and background information, suggested project activities and estimated costs, and helpful links and resources. Applicants can apply under one or multiple EN project opportunities or propose projects that do not have a specific EN project opportunity write-up (see I-B. EN Assistance Activities and Funding Areas).

- **Appendix D-G:** These appendices provide additional guidance on reusability, technical approaches, budgeting, attachments, agency application submission policy, an optional checklist tool, and a glossary of key terms used within this solicitation. Applicants should review and visit the resources listed in these appendices to ensure their submissions are accurate and complete.

I. Funding Opportunity Description

The EPA Exchange Network Grant Program is soliciting project applications to support the Environmental Information Exchange Network (EN) to:

- Facilitate sharing of environmental data, especially through shared and reusable services.
- Reduce burden and avoid costs for co-regulators and the regulated community.
- Streamline data collection and exchanges to improve its timeliness for decision making.
- Increase the quality and access to environmental data through discovery, publishing, outbound and analytical services so it is more useful to environmental managers.
- Increase data and IT management capabilities needed to fully participate in the EN.

Section I-B summarizes the Fiscal Year (FY) 2024 EN Funding Areas and provides links to activities (as detailed in Appendices A, B, and C) which are eligible for funding.

FY 2024 is the twenty-second year EPA will award competitive funding to eligible recipients for projects through the Exchange Network Grant Program. Between FY 2002 and FY 2023, EPA provided approximately $271 million for state, tribal, and territorial awards and associated program support through the grant program. As of February 1, 2024, all 50 states and the District of Columbia, 90 tribes, and 5 territories have received EN assistance agreements. For descriptions of previously awarded EN assistance agreements, please see:
https://www.epa.gov/exchangenetwork/previous-exchange-network-grant-projects.

I-A. Background

The Exchange Network (EN) was launched in 2002 as an inter-governmental, collaborative partnership of EPA, states, territories, and tribes to foster better environmental management and decision-making through increased access to timely, high quality environmental information. This was achieved through a standards-based approach to facilitate environmental data sharing among EPA, states, tribes, and territories. The framework adopted allows organizations to exchange data over the Internet regardless of the specific information technology used. For more information on the EN, see https://www.epa.gov/exchangenetwork and http://www.exchangenetwork.net/.

Over the last two decades, the EN has adapted approaches to reflect evolving technologies and programmatic needs. See the E-Enterprise Digital Strategy (EEDS) guidance in Appendix D for more information.

I-B. EN Assistance Activities and Funding Areas

This EN Grant Program Solicitation Notice requests states, tribes, inter-tribal consortia, and territories submit applications with goal(s) supporting one or more of the three (3) FY24 EN funding areas listed below. Applicants should note that all three EN funding areas are of equal priority and that there is no preference given for applications which support more than one.

Please note that the phrase 'EN project opportunities' in the context of the EN Grant Program refers to the specific EPA data flow/project write-ups in Appendices A-C that fall under one of the three EN Funding Areas below. These project opportunity write-ups (which are listed and hyperlinked below) include a project description, relevant program status and plans, suggested project activities and estimated costs, and additional links and resources. Applicants are encouraged to use the suggested potential activities as project goals or objectives, as applicable.

The Funding Areas described below are open to either individual applicants, EN partnership applicants, or both. An individual applicant is a single eligible organization that submits a project proposal that includes work that will be managed and completed by that organization. An EN partnership entails the submission of a coalition proposal by an eligible lead organization who will share in the work, coordination, and benefit of the proposed project with one or more partnering organizations. The lead applicant organization may distribute a portion of awarded funds to their partner(s) through subaward(s); see Section IV-B for requirements and further information.

The FY24 EN Funding Areas and associated EN project opportunities include:

- ***Funding Area 1:*** **Increased Data Access and Innovative Business Processes.**
  - EN project opportunities under EN Funding Area 1 are detailed in Appendix A and include:
    - **EN Services**

    - **Innovative Business Processes**

  - EN project opportunities under EN Funding Area 1 are open to both individual applicants (up to $300,000) and eligible EN partnership applicants (up to $500,000).

  Beginning in FY24, Virtual Exchange Services (VES) is no longer an EN project opportunity within Appendix A. VES provides foundational EN capabilities for exchanging data, comparable to physical nodes. VES continues to be a supported capability that can be leveraged to deliver on many of the data exchange opportunities outlined in Appendices A-C. EPA encourages applicants to consider the options under the 'Open Data Modernization and Digital Transformation Projects including Geospatial Data' project opportunity to support foundational activities (e.g., ICIS Digital Services projects, eBeaches projects, Drinking Water State Revolving Fund & Clean Water State Revolving Fund projects). Projects under EN project opportunities appropriately utilizing VES capabilities in their implementation can be considered for funding in FY24.

- ***Funding Area 2:*** **Eliminate paper submittals and expand e-reporting.**
  - EN project opportunities under EN Funding Area 2 are detailed in Appendix B and include:
    - **Air**

    - **Enforcement and Compliance**

    - **Waste**

    - **Water**

- EN project opportunities under EN Funding Area 2 are open to both individual applicants (up to $300,000) and eligible EN partnership applicants (up to $500,000).

➢ ***Funding Area 3:*** **Augment the information management capacity of EN partners.**
- EN project opportunities under EN Funding Area 3 are detailed in Appendix C and include:

        - Individual applicant opportunity (up to $300,000)

        - Individual applicant opportunity with mentorship support and optional mentor funding (up to $315,000)

        - EN Partnership opportunity (up to $500,000)
- *Note:* The "EN project opportunities" within Appendix C are only available to U.S. Territories, federally recognized Indian tribes and Alaska Native Villages, and inter-tribal consortia of federally recognized tribes (e.g., the Northwest Indian Fisheries Commission).
    - State applicants or applicants who are instrumentalities of the state or a tribe (see section III-A Eligible Applicants) are not eligible for projects under Funding Area 3.

Applicants should specifically state which EN funding area(s) and EN project opportunities they are applying under within the 'Project Description' section of their project narrative. For example, an applicant who proposes a project incorporating both the EN project opportunities 'Water Quality Exchange (WQX)' and 'Individual Capacity Building' should explicitly name both of these EN project opportunities and state that these opportunities support EN Funding Area 2 (WQX) and EN Funding Area 3 (Individual Capacity Building).

Applicants may also propose projects other than the potential options listed in Appendices A, B, and C, provided they conform to EN technologies, services, and specifications. If an applicant is proposing a project which does not correspond to a specific EN project opportunity, this should be clearly stated in the project narrative within the 'Project Description' section. The applicant should also note which EN Funding Area(s) would be supported by the proposed project. For example, a Toxic Release Inventory (TRI) data exchange project (which doesn't relate to a specific EN project opportunity described in this RFA) supports the elimination of industry paper reporting and expansion of e-reporting. Therefore, this proposed project would fall under Funding Area 2: Eliminate paper submittals and expand e-reporting.

EPA will determine the eligibility of each applicant (see Section III-A). EPA will then evaluate applications from eligible applicants based on the evaluation criteria in Section V-A. **Applicants are responsible for reading and complying with the instructions and criteria described in this solicitation.**

Before naming any entity as an "EN partner" or otherwise identifying any entity that will receive EPA funding through subaward (aka "subgrants"), procurement contracts, or any other financial transaction, **EPA strongly recommends that applicants carefully review the 'Contracts and**

Subawards' clause in the EPA Solicitation Clauses, as well as other information in this Notice regarding financial relationships. See Section II-B for further information on subawards and contracts.

I-C. Environmental Results Supported by Assistance Activities
This program is authorized by the Consolidated Appropriation Act, 2024, H.R. 4366

The activities to be funded under this announcement support multiple goals and objectives under **EPA's FY 2022-2026 Strategic Plan.** Applicants are encouraged to read the full text here.

Applicants must identify in the 'project description' section of their project narrative which goal(s) and objective(s) from the EPA Strategic Plan are supported by their proposed project. Proposed projects may support more than one strategic goal and objective. Include both the number and title of each supported goal and objective (e.g., 'Goal 1: Tackle the Climate Crisis, Objective 1.2 Accelerate Resilience and Adaption to Climate Change Impacts'), and briefly describe for each how they will support the proposed project.

Applicants should list and describe all that apply from the following list:

- **Goal 1: Tackle the Climate Crisis**
  - Objective 1.1 - Reduce Emissions that Cause Climate Change
  - Objective 1.2 - Accelerate Resilience and Adaptation to Climate Change Impacts
  - Objective 1.3 - Advance International and Subnational Climate Efforts
- **Goal 2: Take Decisive Action to Advance Environmental Justice and Civil Rights**
  - Objective 2.1 - Promote Environmental Justice and Civil Rights at the Federal, Tribal, State and Local Levels
- **Goal 3: Enforce Environmental Laws and Ensure Compliance**
  - Objective 3.2 - Detect Violations and Promote Compliance
- **Goal 4: Ensure Clean and Healthy Air for All Communities**
  - Objective 4.1 - Improve Air Quality and Reduce Localized Pollution and Health Impacts
  - Objective 4.2 - Reduce Exposure to Radiation and Improve Indoor Air
- **Goal 5: Ensure Clean and Safe Water for All Communities**
  - Objective 5.1 - Ensure Safe Drinking Water and Reliable Water Infrastructure
  - Objective 5.2 - Protect and Restore Waterbodies and Watersheds
- **Goal 6: Safeguard and Revitalize Communities**
  - Objective 6.1 - Clean Up and Restore Land for Productive Uses and Healthy Communities
  - Objective 6.2 - Reduce Waste and Prevent Environmental Contamination
  - Objective 6.3 - Prepare for and Respond to Environmental Emergencies
- **Goal 7: Ensure Safety of Chemicals for People and the Environment**
  - Objective 7.1 - Ensure Chemical and Pesticide Safety
  - Objective 7.2 - Promote Pollution Prevention

Applicants should also identify which EPA strategic goal and objective from the list above is most supported by each project goal as identified in the 'Project Goals, Outputs, and Outcomes' section of the project narrative. Applicants should only list one strategic goal and objective per project goal; if there are multiple options, applicants should choose the best fit. Please note that the same strategic goal and objective may be listed for multiple project goals.

Additionally, the project narrative should include specific statements describing the environmental results of the proposed project. EPA requires that applicants adequately describe the environmental outputs and outcomes to be achieved under their assistance agreements (see EPA Order 5700.7A1) to demonstrate how funded projects will contribute to the EPA strategic goals and objectives above. An example of how applicants might capture supported strategic goals, objectives, and environmental results is available in the optional project narrative template.

I-D. Additional Provisions For Applicants Incorporated Into The Solicitation

Additional provisions that apply to sections III, IV, V, and VI of this solicitation and/or awards made under this solicitation, can be found at EPA Solicitation Clauses. These provisions are important for applying to this solicitation and applicants must review them when preparing applications for this solicitation. If you are unable to access these provisions electronically at the website above, please contact the EPA point of contact listed in this solicitation (see Section VII) to obtain the provisions.

II. Award Information

II-A. General Information

In FY24, EPA expects to award approximately $10,500,000 in 25-35 assistance agreements of up to $500,000 each, depending on Agency funding levels, the quality of applications received, agency priorities, and other applicable considerations.

EPA expects most awards to be in the $200,000 to $300,000 range. Applicants applying under **an individual opportunity may request up to $300,000** in funding. Applicants applying **under a partnership opportunity may request funds up to $500,000 if** the partnership eligibility criteria outlined in Section III-D is met. Applicants specifically applying under the **Individual Capacity Building with Mentorship opportunity as described in Section I-B may request up to $315,000 if** all requirements are met. Please see Section I-B for additional details about funding ranges.

EPA remains committed to awarding tribal assistance agreements equal to at least 20 percent of the appropriated funds. The actual award amounts and number of tribal assistance agreements awarded under this set-aside may differ from the estimated amounts for many reasons including the number of meritorious applications received, agency priorities, and funding availability. In addition, EPA reserves the right to increase or decrease (including decreasing to zero) the total number and amount of awards under this set-aside or change the ratio of assistance agreements awarded.

The expected period of performance for each assistance agreement is three years.

Additional Awards: EPA reserves the right to make additional awards under this solicitation, consistent with Agency policy and guidance, if additional funding becomes available after the original selections are made. Any additional selections for awards will be made no later than 6 months after the original selection decisions.

Partial Funding: In appropriate circumstances, EPA reserves the right to partially fund applications by funding discrete portions or phases of proposed projects. If EPA decides to partially fund an application, it will do so in a manner that does not prejudice any applicants or affect the basis upon which the application, or portion thereof, was evaluated and selected for award, and therefore maintains the integrity of the competition and selection process.

Performance Partnership Grants (PPGs) and Consolidated Grants (CGs):
In 1996, Congress authorized EPA to award Performance Partnership Grants (PPGs). As a result, states, certain interstate agencies, and tribes can choose to combine two or more environmental program grants into a single PPG. An applicant whose organization has an existing Performance Partnership Grant (PPG) with EPA may request that any new grant recommended for funding be incorporated into the PPG. Applicants interested in combining grants into a PPG as described above should clearly state this within their cover letter and project narrative and include the PPG number. An applicant may also request to create a new PPG that includes the project proposed under this solicitation. Absent a request from the recipient for inclusion in or creation of a PPG, EPA will award the grant in a stand-alone vehicle. See Section III-F for additional information on PPGs.

Territories interested in combining grants may consolidate their various grants through a single Consolidated Grant (CG).

In-Kind Services:
EPA will consider grant recipient requests to use all or a portion of awarded grant funds to provide in-kind services to the recipient through an EPA contract vehicle. Interested applicants should request and justify project efficiencies they expect from this approach. EPA reserves the right to decide whether in-kind services will be provided. The recipient may not direct the work provided through in-kind services. These services are managed by EPA.

Indirect Costs:
Indirect costs (IDCs) may be budgeted and charged by award recipients in accordance with 2 CFR Part 200. Indirect costs help ensure that grant recipients are compensated for costs incurred for allowable, allocable, and reasonable facilities and administrative costs that benefit EPA assistance agreements. These costs are for functions that are necessary to the general operations of the organization, such as space costs, utilities, accounting services, human resource services, etc. as well as other activities recipients carry out that may or may not be federally funded.

To charge indirect costs, an indirect cost rate agreement must be used according to 2 CFR 200.414 and must be valid until at least 9/30/2024.

Subawards and Contracts: EPA will consider applications where all or a portion of awarded assistance agreement funds will be distributed as a subaward or procurement contract. EPA strongly recommends that applicants interested in these funding mechanisms carefully review EPA's Best Practice Guide for Procuring Services, Supplies, and Equipment Under EPA Assistance Agreements. Applicants that intend to distribute all anticipated EPA funding through subaward(s) and/or procurement contracts must explain how they will manage these transactions in compliance with applicable Federal requirements without EPA funding applied to personnel. EPA also reminds applicants that they remain accountable to EPA for proper expenditures of EPA funding, even in cases where they pass-through all funding to third parties. **Applicants should not identify contractors, subrecipients or program participants unless they demonstrate that applicable requirements have been met.**

- **Subawards:** Under 2 CFR 200.1, a subaward is an award provided by a pass-through entity to a subrecipient for the subrecipient to carry out part of a Federal award received by the pass-through entity. It does not include payments to a contractor or payments to an individual that is a beneficiary of a federal program. A subaward may be provided through any form of legal agreement, including an agreement that the pass-through entity considers a contract. Appendix A of EPA's Subaward Policy provides detailed guidance on distinguishing between subawards and procurement contracts.
    - Like grant recipients, subrecipients measure performance against program objectives, comply with award requirements, use funds to carry out program activities, and make programmatic decisions.
    - Funds that are distributed to partnering organizations through eligible EN partnership awards to carry out assistance agreement activities for, and in coordination with, the lead applicant should be distributed as a subaward.
    - For-profit firms and individual consultants are not eligible for subawards without prior EPA approval, which is rarely provided. For-profit firms and individual consultants are procurement contractors subject to state or Federal competitive procurement requirements.
    - **Subawards should be captured under the budget category 'other';** see Appendix D for further information on including subaward(s) in a proposed project budget.
- **Contracts:** A contractor operates in a competitive environment, with contractors providing goods and services to the assistance agreement recipient that are ancillary to program operations. Contractors are not subject to compliance requirements of the assistance agreement and must be selected in compliance with competition requirements specified in 2 CFR Part 200 as interpreted in EPA's Best Practice Guide for Procuring Services, Supplies, and Equipment Under EPA Assistance Agreements.
    - As provided in 2 CFR 200.317, state agency applicants follow their own laws and policies with regard to competition requirements for procurement contracts, but other applicants are subject to the Procurement Standards in 2 CFR Part 200.
    - Non-competitive procurement is not allowable without EPA approval, which is provided only in select cases. Applicants must provide a detailed justification when using this procurement method. See 2 CFR 200.320(c) for more information.

      Note: An existing relationship or a history of prior work completed by a contractor or vendor does not justify the use of non-competitive procurement. Similarly, proximity of a contracting firm to an applicant's organization is not sufficient reasoning. One example of a valid non-competitive procurement rationale is that software required for the proposed project is proprietary and developed by the contractor; therefore, the item is available only from a single source.
    - **Contractor/vendor costs should be captured under the budget category 'contractual'** and calculated by multiplying the estimated projected hours by the estimated contractor rate. See Appendix D for further contract budget guidance.
        - Note: Individual consultants are subject to an hourly wage cap of $91.95.

II-B. Award Types

EPA may award assistance agreements under this announcement as grants or cooperative agreements. Applicants should identify their preferred assistance agreement type (grant or cooperative agreement) in both their cover letter and project narrative. EPA will consider an applicant's preferences when the

Agency decides what type of assistance to award.

- **Grant:** Grants represent direct funding to a recipient to support an identified project with defined environmental results. If the recipient does not identify a preference, EPA's default award will be a grant.
- **Cooperative Agreement:** A cooperative agreement is an assistance agreement that is used when there is substantial federal involvement with the recipient during the performance of an activity or project. EPA awards cooperative agreements for those projects in which it expects to have substantial interaction with the recipient throughout the recipient's performance of the project. EPA will negotiate the precise terms and conditions of "substantial involvement" as part of the award process. Federal involvement may include close monitoring of the recipient's performance; collaboration during the performance of the scope of work; in accordance with 2 CFR 200.317 and 2 CFR 200.318, as appropriate, review of proposed procurements, reviewing qualifications of key personnel, and/or review and comment on the content of printed or electronic publications prepared. EPA does not have the authority to select employees or contractors employed by the recipient. The final decision on the content of reports rests with the recipient.

III. Eligibility Information

Note: Additional provisions that apply to this section can be found at EPA Solicitation Clauses.

All applications will be reviewed for eligibility and must meet the eligibility requirements described in Sections III-A and III-B to be considered eligible. Applicants deemed ineligible for funding consideration as a result of the threshold eligibility review will be notified within 15 calendar days of the ineligibility determination.

III-A. Eligible Applicants

Consistent with the Assistance Listing for 66.608, eligible applicants for the Exchange Network Grant Program include states, U.S. Territories (i.e., American Samoa, the Commonwealth of the Northern Mariana Islands, the District of Columbia, Guam, Palau, Puerto Rico, the U.S. Virgin Islands), federally recognized Indian tribes and Alaska Native Villages and inter-tribal consortia of federally recognized tribes (e.g., the Northwest Indian Fisheries Commission).

Other entities, such as regional air pollution control districts and some public universities may apply for assistance if they are agencies or instrumentalities of a state or tribe under applicable laws. Entities asserting they are agencies or instrumentalities of a state must provide a letter from the appropriate state Attorney General (AG) certifying the applicant is an agency or instrumentality of the state. Entities asserting they are instrumentalities of a tribe must provide a certification and supporting documentation from the tribal council or other appropriate tribal government official certifying they are an instrumentality of the tribe. EPA will not accept or review an application which does not include the required documentation.

The EPA recognizes that environmental programs and associated reporting obligations are sometimes delegated to local governments. Local governments are eligible to apply for EN assistance agreements if they can demonstrate that they are an instrumentality of the state by providing the documentation described in the preceding paragraph. However, most local governments implementing EPA programs are not agencies or instrumentalities of the state and therefore not eligible to apply. EPA encourages such entities to partner with an eligible lead applicant (e.g., a state applicant) to allow for their data to be reported and shared through the EN (see Section III-D for more information on EN partnership applications). Interstate commissions and other interstate entities, likewise, are not eligible to apply and are encouraged to partner with a state applicant.

EPA will only evaluate applications from eligible entities. Applicants should direct eligibility questions to ENGrantProgram@epa.gov. Interested parties not meeting the eligibility criteria should consider partnering with eligible applicants (see examples below).

Examples of Eligible Applicants:

- State Department of Environmental Quality
- Territorial Environment Division
- Tribal Council on behalf of two or more tribal environmental and/or health agencies
- Tribal Water Quality Administration
- State university formally designated as an instrumentality of the state.

III-B. Threshold Eligibility Criteria for Applications

Applications from eligible applicants (see Section III-A) are only eligible to be evaluated for Exchange Network funding if they meet the requirements listed below.

a. An application must include goal(s) leading to completion of activities listed in Appendix A, B, or C, or others consistent with the EN funding areas. Applicants must also clearly state the anticipated outputs and outcomes which will result from the completion of their goals and objectives. *Examples include but are not limited to*: any data flow(s) brought into production, any API service(s) brought into production, and the creation of any new API documentation, data management plan(s), data standards or schema, open data portals, web applications, etc.

b. An application must substantially comply with the application submission instructions and requirements set forth in Section IV of this announcement or else they will be rejected. However, where a page limit is expressed in Section IV with respect to the application, or parts thereof, pages in excess of the page limitation will not be reviewed. Applicants are advised that readability is of paramount importance and should take precedence in application format, including selecting a legible font type and size for use in the application.

c. Applicants may submit more than one application; however, applicants are not eligible to receive more than one award under this Solicitation. This restriction applies both to single applicants and, in the case of a EN partnership (coalition) application, to applicants applying either as the lead applicant or as an eligible formal partner. See Sections III-D and IV-B.

d. Initial applications must be submitted through Grants.gov as stated in Section IV and Appendix E of this announcement (except in the limited circumstances where another mode of submission is specifically allowed for as explained in Section IV) on or before the application submission deadline noted in Section IV of this solicitation.

Applicants are responsible for following the submission instructions in Section IV and Appendix E: Detailed Instructions for Submitting Applications through Grants.gov of this solicitation to ensure their application is timely submitted. Please note that applicants experiencing technical issues with submitting through Grants.gov should follow the instructions provided in Section IV, which include both the requirement to contact Grants.gov and email a full application to EPA prior to the deadline.

e. Applications submitted after the submission deadline will be considered late and deemed ineligible without further consideration unless the applicant can clearly demonstrate it was late due to EPA mishandling or because of technical problems associated with Grants.gov or SAM.gov. An applicant's failure to submit their application on time through Grants.gov because they did not allow enough time to properly register in SAM.gov or Grants.gov will not be considered an acceptable reason to consider a submission received outside of Grants.gov.

f. An application must not have:
   - Budgets greater than $300,000 for single applicant applications (except eligible applicants under the Individual Capacity Building with Mentorship opportunity as described in Section I.B., which can request up to $315,000.)
   - Budgets greater than $500,000 for eligible EN partnership applications.

g. Applicants must not have more than four active Exchange Network assistance agreements with the Agency as of **as of December 31, 2023**. EPA considers an assistance agreement active if the Agency has not yet approved the final technical report. EPA will consider an agreement inactive if the Regional Project Officer (RENC) approves the applicant's final technical report on or before this date.

   Note: Applicants that are applying under an EN partnership but are not the lead recipient will not be considered as having an active assistance agreement. Also, agencies within a state are treated as separate applicants under this criterion (e.g., Alabama Department of Environmental Quality and Alabama Department of Public Health).

h. Applications must not request funds for activities or deliverables for which the applicant has previously received funds. If a proposed goal is similar to one previously funded, the application must describe how previously funded activities differ from those currently proposed or how the current application will complement past or ongoing work.

III-C. Additional Threshold Eligibility Criteria

Applicants must not use EN funding for the following functions:

- **Construction costs**;
- **Operations and maintenance** including previously developed or implemented EN projects;
- **Workshops and Conferences** not initiated, advertised, and conducted for the benefit of the recipient and other state, tribal, territorial, or local representatives or public participants or are conducted primarily for EPA's benefit;
- **Pre-Award Costs** not previously requested to cover pre-award costs incurred 90 days or less before the award date;

- **Management Fees** more than the direct costs and indirect costs at the rate approved by the applicant's cognizant audit agency or at the rate provided for by the terms of the agreement negotiated with EPA. See Section IV.C. of EPA Solicitation Clauses for more information;
- **Development and deployment of physical nodes** implementing the Exchange Network protocol and specification;
- **Operations and maintenance of flows,** including minor schema updates for existing flows;
- **Statutory Prohibition on Certain Telecommunications & Video Surveillance Equipment Services.** Unless an exception or waiver applies, Section 889 of the National Defense Authorization Act for Fiscal Year 2019, Public Law 115-232 (section 889), prohibits the use of Federal funds by recipients and subrecipients to procure (enter into, extend, or renew contracts) or obtain equipment, systems, or services that use "covered telecommunications equipment or services" as a substantial or essential component of any system, or as critical technology as part of any system. Section 889 also prohibits the use of Federal funds by recipients and subrecipients to enter into a contract with an entity that "uses any equipment, system, or service that uses covered telecommunications equipment or services" as a substantial or essential component of any system, or as critical technology as part of any system.

  The Office of Management and Budget's implementing regulations at 2 CFR 200.216 provide additional information on the prohibitions in section 889. These regulations state, among other things, that "[A]s described in Public Law 115-232, section 889 covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities)." Other prohibitions may also apply. Certain prohibited equipment, systems, or services, including equipment, systems, or services produced or provided by entities identified in section 889, are recorded in the System for Award Management exclusion list.

If an application includes any ineligible tasks or activities (e.g., does not fall within the EN Funding Areas, has been previously funded, falls under the above funding restrictions), that portion of the application will be ineligible for funding and may, depending on the extent to which it affects the application, render the entire application ineligible for funding.

III-D. Eligibility Criteria for EN Partnership Applications

EPA will consider the higher funding limit ($500,000) for projects including one or more qualifying Exchange Network partners, as defined below, to form an EN partnership (coalition) application. Lead applicants may provide subawards (see Section II-A) to eligible subrecipients (see Section IV-B). The lead applicant must meet the eligibility requirements under the EN Grant Program (see Section III-A). The lead applicant, or prime recipient, of a partnership application must also demonstrate how the proposed project supports the identified EN priorities and **explain how the partnership components justify additional funding**. Partnership applications that do not demonstrate this will be deemed ineligible. EPA will limit funding for intrastate projects to $300,000, the maximum funding for a single applicant for EN awards in FY24. Intrastate projects that request more than $300,000 may be deemed ineligible.

Eligible partners are separate units of government (e.g., a state partnering with another state, a state partnering with a non-federally recognized tribe, a federally recognized tribe partnering with a state university, or a territory partnering with a non-profit). Examples of ineligible partnerships include an eligible lead applicant partnering with a local government as defined by 2 CFR 200.1 within the same state jurisdiction (e.g., a state and a city within the state's boundaries), an eligible lead applicant partnering with a university (public or private) within the state's boundaries, or an eligible lead applicant partnering with a for-profit firm or individual consultant.

EPA will not consider partnerships formed from within a single state, territorial, or tribal government as eligible.

III-E. Cost Sharing or Matching

Assistance agreements for Exchange Network projects do not require applicants to share cost or match funds. Applicants may elect to offer voluntary cost shares in their project budgets. Please note that voluntary cost shares are binding as provided in 'voluntary committed cost sharing' at 2 CFR 200.1. Voluntary cost shares offered by applicants for competitive assistance agreements must be included in an applicant's SF-424A Budget Information for Non-Construction Programs form (see Appendix E). Additionally, the distinction between Federal and Non-Federal funds in an applicant's budget must be clearly expressed in both the SF-424A form and budget narrative attachment form.

III-F. Performance Partnership Grants (PPGs)

Funds for assistance agreements awarded under this solicitation may be included in a PPG. Applicants should indicate in their application submission if they anticipate incorporating the proposed project, if selected for funding, into an already existing PPG or if they intend to create a new PPG that would include the project proposed under this solicitation. The PPG should be in place before the time of award or created concurrently with the award of the assistance agreement funds. The proposed project under this grant solicitation must have a project period that is within the PPG project period. It cannot be longer than the PPG project period. A PPG enables entities to combine funds from more than one environmental program assistance agreement into a single assistance agreement with a single budget. Under this competition, state and interstate agency applications must first be selected under the competitive grant process described in this solicitation and, in accordance with 40 CFR 35.138, the work-plan commitments that would have been included in the work-plan must be included in the PPG work-plan. After the funds have been included in the PPG, the recipient does not need to account for these funds in accordance with the funds' original program source as long as all the competitive work plan components are completed.

Similarly, tribal and intertribal consortia applications must first be selected under this competitive grant process in accordance with 40 CFR 35.535. If a proposed PPG work-plan differs significantly from the work-plan approved for funding under this competition, the Regional Administrator must consult the National Program Office (see 40 CFR 35.535). The purpose of this consultation requirement is to address the issue of ensuring that a project which is awarded funding under this competition is implemented as proposed once combined with other grant programs in a PPG.

For further information, see the final rules on Environmental Program Grants for state and interstate agencies at 40 CFR Part 35, Subpart A and tribes and intertribal consortia at 40 CFR Part 35, Subpart B. The rules are also available on the EPA's website at: (state) and (tribal).

Territories may apply for Consolidated Grants (CGs). Local governments are generally not eligible for PPGs. See Section II-A 'General Information' for additional information on both PPGs and CGs.

IV. Application and Submission Information

Note: Additional provisions that apply to this section can be found at EPA Solicitation Clauses.

Applicants for the FY24 Exchange Network Grant program must submit an application package to EPA through the Grants.gov (or by an alternative method for those applicants with an approved Grants.gov Exception) on or before **Thursday, May 23, 2024, 11:59 PM Eastern**. Instructions for application package submittal through grants.gov can be found on page E13.

Applicants must review Appendix E for detailed information about application package requirements, as well as required attachments and detailed Grants.gov submission instructions:

- **Additional guidance tools are available to applicants:**
  - Appendix D provides guidance on how to identify tools/resources available for reuse, additional guidance on the EEDS, and a helpful guide to composing a budget.
  - Appendix F provides a pre-submission checklist tool to help applicants avoid common application errors and to ensure a complete application package.

- Optional templates for an applicant's cover letter, project narrative, and budget narrative attachment form are available on the EN website at www.epa.gov/exchangenetwork/exchange-network-grant-program#Resources.

IV-A. Submission Date and Time

Completed application packages as described in Appendix E: Detailed Instructions for Submitting Applications through **Grants.gov** must be sent electronically via **Grants.gov** (or by an alternative method for those applicants with an approved Grants.gov Exception) no later than **Thursday, May 23, 2024, 11:59 PM Eastern**. If applicants wish to confirm receipt of their application from EPA (not from Grants.gov) please contact: ENGrantProgram@epa.gov.

IV-B. EN Partnership (Coalition) Application Submissions

As noted in Section III–D. of this announcement, groups of two or more eligible applicants may choose to form an EN partnership to submit a single coalition application under this Notice; however, one entity must be responsible for the grant. EN partnerships must identify which eligible organization will be the recipient of the grant and which eligible organization(s) will be subrecipients/subawardees. Subawards must be consistent with the definition of that term in 2 CFR 200.1 and comply with EPA's Subaward Policy. A recipient which issues subawards, (and thereby becomes a pass-through entity), will be accountable to EPA for proper expenditure of the funds and reporting and will be the point of contact for the partnership. As provided in 2 CFR 200.332, subrecipients are accountable to the pass-through entity for proper use of EPA funding. For-profit organizations are not eligible to receive subawards under this grant program but may receive procurement contracts.

Any contracts for services or products funded with EPA financial assistance must be awarded under the competitive procurement procedures of 2 CFR Part 200 and/or 2 CFR Part 1500, as applicable. The regulations at 2 CFR 1500.10 contain limitations on the extent to which EPA funds may be used to compensate individual consultants. Refer to the Best Practice Guide for Procuring Services, Supplies, and Equipment Under EPA Assistance Agreements for guidance on competitive procurement requirements and consultant compensation. Applicants are advised not to name a procurement contractor (including a consultant) in their application unless the contractor has been selected in compliance with competitive procurement requirements.

V. Application Review Information

Note: Additional provisions that apply to this section can be found at EPA Solicitation Clauses.

V-A Evaluation Criteria

EPA will review applications submitted by eligible entities that meet the threshold eligibility criteria in Section III according to evaluation criteria below. The EPA Selection Official makes final funding decisions based on an applicant's score and other factors detailed in Section V-B.

EPA will score and rank applications, with the highest possible score of 100. The possible point totals for the five major evaluation criteria are listed in the "Points" column in the table below. Point values for each sub-component within the five criteria are listed in bold text before the relevant criterion. Applicants should explicitly address all these criteria in their project narrative as part of their application package submittal. **The Review Panel will not review any page over the 10-page limit of the project narrative**.

Examples of how an applicant might address the evaluation criteria within their project narrative is available in the optional, fillable project narrative template on the EN website. Applicants may also refer to guidance provided in Appendix E – under Mandatory Attachment 2: The Project Narrative.

<table>
<tr><th>Criteria</th><th>Points</th></tr>
<tr><td colspan="2">1. Project Outputs and Outcomes Leading to Environmental Results</td></tr>
<tr><td>A. Supporting EPA Strategic Goals/Environmental Results (5 Points)
Applicants will be evaluated on the quality and extent to which their application: (1) sufficiently details and describes how projects will support specified EPA strategic goal(s) and objective(s) (see Section I-C) and (2) adequately describes how projects at the time of their completion will achieve anticipated environmental results.</td><td rowspan="2">10</td></tr>
<tr><td>B. Tracking, Evaluating, and Measuring Progress (5 points)
Applicants will be evaluated on the quality and extent to which their approach, procedures, and controls for ensuring that awarded grant funds will be expended in a timely and efficient manner. Applicants will also be evaluated on their plan for tracking, evaluating, and measuring progress over the project's period of performance, and on how the associated output scheduled completion dates were selected/deemed appropriate to accomplish the proposed work.</td></tr>
<tr><td colspan="2">2. Project Feasibility and Approach</td></tr>
<tr><td>A. Project Roles and Responsibilities (5 points)
Applicants will be evaluated on the extent and quality to which their application identifies applicable project roles <u>and</u> provides the name, current job title, current organization, and anticipated project role(s) and responsibilit(ies) as described in Appendix E, for the following roles:
- the project manager;
- at least one programmatic contact (if applicable);
- at least one formal partner (if applicable); and
- at least one mentor (if applicable).

If the contact in any of these roles is not yet known (e.g., a portion of this assistance agreement will be used to hire key personnel), the applicant will be evaluated on the statement of skills, knowledge, abilities, and qualifications from the position's recruitment package, and future project role(s) and responsibilit(ies).
Applicants utilizing a contractor/vendor should explicitly state this and detail the anticipated project role(s) and responsibilit(ies) of said contractor/vendor.</td><td rowspan="2">12</td></tr>
<tr><td>B. Programmatic Involvement (5 points)
For applications that involve the management of, transport of or access to programmatic data, applicants will be evaluated on the extent and quality to which their application states and explains if their project will include programmatic involvement (planning and implementation input from the program owning the data).

For applications that include programmatic involvement, applicants should detail the programmatic office's relation to the applicant organization and how they will be involved in the planning and implementation of the proposed project to ensure programmatic requirements are met.

For applications that do not include programmatic involvement, applicants will be evaluated based on how well their application explicitly states and explains why programmatic involvement is not applicable.</td></tr>
</table>

C. Commitment to Registering [2] New and/or Reused Resources (2 points) Applicants will be evaluated based on the extent to which their application explicitly states their commitment to register any new resource they develop and explicitly states their commitment to register the reuse of any existing EN resource(s) in their project.	
3. Alignment with Exchange Network Funding Areas	
A. Defining Project Goals, Outputs, and Outcomes (5 points) Applicants will be evaluated on the extent and quality to which their application clearly states project goals and associated project outputs and outcomes in sufficiently detailed language and provides at least one output and at least one outcome for each goal.	**50**
B. Project Alignment with EN Program Funding Areas (5 points) Applicants will be evaluated on the extent and quality to which their application names the EN Grant Program Funding Areas (Section I-B) and specific EN project opportunit(ies) (if applicable) they are applying under in their proposed project.	
C. Connecting Goals to Business and Administrative Needs (5 points) Applicants will be evaluated on the extent and quality to which their application identifies business and/or administrative needs which will be met by proposed project and clearly connects at least one of these needs to each project goal.	
D. Demonstrating Technical Understanding (12 points) Applicants will be evaluated on the extent and quality to which their application names/identifies each of the project's proposed solution(s), describes why each of the proposed solution(s) are necessary and appropriate to complete the project's scope of work, identifies the business and/or administrative need(s) met by the proposed solution(s), and describes why the applicant feels confident in their ability to successfully implement and maintain the proposed solution(s). If specific solutions and/or technological aspects of the project are not yet known (e.g., a contactor will be used), applicants will be evaluated on the extent and quality to which they clearly state who will make the project's technical decisions, describe why they are the qualified/the appropriate party, and identify which business/administrative needs the selected technology or solutions will need to address.	
E. Enhancing Data Sharing and Availability (8 points) Applicants will be evaluated on the extent and quality to which their application explains how the knowledge, data, or technology outputs developed during the proposed project will enhance data sharing and data availability in the applicant's own organization, for any formal partners (if applicable), and for other organizations across the Exchange Network.	
F. Supporting the E-Enterprise Digital Strategy (EEDS) (7 Points) Applicants will be evaluated on the extent and quality to which their application explains how the project's proposed technology solution(s) support and align each of the three principles of the E-Enterprise Digital Strategy (EEDS) [1], how the proposed solution(s) reflect the EEDS's API-first approach, and how the proposed solution(s) enhance data sharing and availability for the applicant's organization specifically in the context of the first principle of EEDS and/or an API-first approach.	

G. Commitment to Reuse Existing Resources (8 points) Applicants will be evaluated on the extent and quality to which their application demonstrates a commitment to reuse existing resources by naming and describing project-appropriate EN tools, resources, services, widgets or applications developed by other EN partners which will be incorporated in the project. If none will be incorporated, applicants will be evaluated on the extent and quality to which their application clearly states this and justifies why no tools, resources, services, widgets, or applications have been identified for reuse in the proposed project.	
A. Clearly Outlining a Detailed Budget (*6 points*) Applicants will be evaluated on the extent to which their application budget is clearly stated in sufficient detail within the project narrative, including budget amounts for each proposed goal and output and a sufficiently detailed overview of other project costs.	**20**
B. Appropriate Budgeting (8 points) Applicants will be evaluated on the extent to which the goals and outputs costs in the application budget are appropriate to accomplish the proposed project. For each project output, applicants should provide a clear and detailed rationale for how they estimated this cost and why these funds are necessary to accomplish the work. *EPA may consult with Subject Matter Experts on budget appropriateness to ensure reasonable costs.*	
C. Qualifications of the Project Manager/Contractors/Vendors (6 points) Applicants will be evaluated on how well their application demonstrates that the qualifications of the project manager and contractors/vendors (if applicable) are sufficient to complete the proposed work. Applicants should include an overview of the project manager's past experiences working in project and financial management (e.g., working with a set budget). If the project manager is not yet hired, applicants should include a statement of project/financial management experience from the position's recruitment package. Applicants utilizing contractors or vendors for their proposed project should indicate the planned procurement method and the planned vetting method to ensure they are qualified to complete work as assigned.	
5. Past Performance	
EPA will evaluate the past performance of an applicant with previous Exchange Network Grant Program assistance agreements as a prime recipient based on: ➢ The overall percentage of progress reports submitted by their due date as required in the terms and conditions of prior assistance agreements **(4 Points).** ➢ Whether recipients with past assistance agreements funded since 2011 have registered [2] tools, resources, services, data flows and/or the reuse of existing resources, per the terms and conditions of EN assistance agreements **(4 Points)**. Please note in evaluating applicants under the Past Performance criteria, the Agency will consider the information provided by the applicant in the 'Past Performance' section of the project narrative as well as semi-annual and technical report submissions. The Agency may also consider relevant information from other sources including agency files and prior or current grantors (to verify or supplement the information supplied by the applicant).	8

If an applicant does not have any previous EN Grant Program assistance agreements and **the application explicitly states this**, they will receive a neutral score of **4 points**. If an applicant has no past performance with the EN Grant Program and does not explicitly state that this is their first EN assistance agreement, they will receive a score of **0 points**.	
Total:	**100**
[1] The first principle of EEDS is the 'Information Centric Approach', the second principle of EEDS is the 'Shared Platform Approach', and the third principle is the 'Customer Centric Approach'; see the EEDS guidance in Appendix D for more details. [2] As of March 2023, all new registrations should be captured using the 'IT Component and Project Registration Form' as described under VI-B. Administration and National Policy. At the time of grant close-out, grantees should work with their RENCs to complete this form, which is then uploaded to the EN website and tagged for basic searchability. Past grantees who have not met this requirement can likewise submit these forms to their RENC to avoid point loss under evaluation criterion 5.	

V-B. Review and Selection Process

EPA will first evaluate all applications against the threshold eligibility criteria listed in Section III of this announcement. EPA review panels will then evaluate and rank eligible applications based on the criteria listed in Section V-A.

EPA review panels will have the opportunity to consult with Subject Matter Experts (SME) to inform their evaluations. **The Subject Matter Experts are not reviewers and will not score applications.** The EPA review panels will submit comments and rankings and make selection recommendations to the selection official, the Principal Deputy Assistant Administrator of the Office of Mission Support (OMS) or his or her designee, who will make the final funding decisions.

Applicants may submit more than one application; however, applicants are not eligible to receive more than one award under this Solicitation.

Other Evaluation Factors:

The EPA selection Official will make final funding decisions based on the rankings and preliminary recommendations of the EPA review panel as discussed above. In making the final funding decisions, the EPA selection official may also consider one or more of the following factors:

- Geographic distribution of funding.
- Selection of priority activities over other assistance activities.
- Ensuring participation in the Exchange Network by federally recognized Indian tribes, inter-tribal consortia and Alaska Native Villages.
- EPA's capacity to provide any requested in-kind services.
- Excessive unliquidated obligations (ULOs).
- Previous funds awarded to the applicant through the EN Grant Program for similar project goals and/or outputs.

Criteria for Identifying Excessive ULOs
EPA may include consideration of unliquidated obligations (ULOs) from past EPA-funded assistance agreements when making final funding decisions. ULOs, also known as unspent balances, are not a perfect indicator of assistant agreement progress, but they can serve as a useful proxy to indicate if there are performance problems. EPA may use the appropriate criterion below to determine if an applicant has excessive ULOs. For applicants with excessive ULOs, EPA will provide an opportunity to explain the excessively high ULO and EPA will consider whether the ULO is due to action or inaction on the part of the applicant (such as interruptions in the assistant agreement's project schedule resulting from delays on the part of EPA or other unforeseen circumstances out of the applicant's control.)

Period of Performance Milestone	Criteria – Unspent Balance as % of Awarded Funds
End of year two	Greater than or equal to 95 percent
End of year three	Greater than or equal to 70 percent
End of year four	Greater than or equal to 40 percent
End of year five	Greater than or equal to 10 percent

V-C. Anticipated Award Dates
EPA anticipates it will announce selection decisions in or around July 2024. EPA tentatively plans to issue the awards by September 30, 2024.

VI. Award Administration Information
Note: Additional provisions that apply to this section can be found at EPA Solicitation Clauses.

VI-A. Award Notification
EPA anticipates notification to successful applicants will be made via telephone or electronic or postal mail by August 2024. The notification will be sent to the original signer of the application or the project contact listed in the application. This notification, which informs the applicant its application has been selected and is being recommended for award, is not an authorization to begin work. The official notification of an award will be made by the Grants and Interagency Agreement Management Division (GIAMD). Applicants are cautioned only a grants officer is authorized to bind the Government to the expenditure of funds; selection does not guarantee an award will be made. For example, statutory authorization, funding, or other issues discovered during the award process may affect the ability of EPA to make an award to an applicant. The award notice, signed by an EPA grants officer, is the authorizing document and will be provided through electronic or postal mail. The successful applicant may need to prepare and submit additional documents and forms (e.g., work plan), which must be approved by EPA, before the assistance agreement can officially be awarded. The time between notification of selection and award of an assistance agreement can take 90 days or longer.

EPA may require applicants to submit missing or updated documents to complete the funding package of an application selected for award. Key contacts for a submitted application are requested to check their email inboxes and voicemail frequently in the months of April - September, as EPA may reach out with further instructions for the submittal of updated or additional documents.

VI-B. Administration and National Policy Requirements

Each assistance agreement will include a set of Administrative Terms and Programmatic Conditions, such as requirements for electronic funding transfers, additional financial status reporting, limitations on payments to consultants and application of indirect cost rates. These terms and conditions form the basis for the final award of Exchange Network assistance agreement funding. **Failure to concur with the included terms and conditions will invalidate the award.**

EPA will include a grant condition requiring the recipient of an award to contact their EPA Regional Exchange Network Coordinator (RENC) within 60 days of the award issuance date to ensure applicable Quality Assurance (QA) requirements are understood and implemented by the grantee. A current list of RENCs can be found on the EN website on the 'contact us' page (https://www.epa.gov/exchangenetwork/forms/contact-us-about-environmental-information-exchange-network).

Please note that if an EN grantee's project includes environmental information operations such as collection and/or data monitoring, etc., a Quality Assurance Project Plan (QAPP) and/or Quality Management Plan (QMP) may be required. The RENC will work with an EPA Regional QA Manager to review and determine appropriate QA documentation for each project, which will be communicated back to the grantee. Grantees are responsible for submitting and implementing any identified QA documentation.

RENCs may reject semi-annual progress reports (see Section VI-C, below) for grantees who fail to contact them within 60 days of award issuance date to discuss applicable QA requirements or grantees who fail to implement QA documentation if applicable. More information about current QA requirements is available on the EN website.

In accordance with the Exchange Network Interoperability Policy, applicants must commit, in writing within their application's project narrative, to reuse existing data flows, EN services, and other IT resources such as widgets and RESTful web services. Please see Appendix D for further information on the Exchange Network's emphasis on reusability and to access applicant resource links for exploring prior EN projects and identifying components appropriate for reuse.

Applicants must also commit to register any newly developed resources and the reuse of existing resources within their project narrative (see Appendix E). At the time of grant close-out, EN grantees must work with the Regional Exchange Network Coordinator (RENC) in the region that their organization is located to complete this registration using the 'IT Component and Project Registration Form'.

EPA requires all assistant agreement recipients issued under this solicitation notice to meet these terms and conditions. EPA reserves the right to withhold or rescind awarded funds if the administrative policy requirements as described above are not met.

VI-C. Reporting

Semi-Annual Performance Progress Reports:

Reporting is an important obligation award recipients agree to undertake when they sign an assistance agreement. Both EPA and recipients are accountable to Congress and to the public for the proper and effective use of Exchange Network assistance funds. All grantees, regardless of the funding vehicle, are expected to submit semi-annual progress reports in a timely fashion.

Award recipients will submit semi-annual and final technical reports electronically through EPA's Central Data Exchange (CDX). EPA Regional Exchange Network Coordinators (RENC) will provide successful applicants with detailed instructions for registering with and reporting through CDX at the time of award.

Applicants should note that the timely submission of semi-annual progress reports contributes to an applicant's past performance score in future assistant agreement applications (see Section V-A).

VII. Agency Contact

The primary EPA Headquarters point of contact is:

Erin McGown
EN Grant Program Manager
Data Interoperability Partnership Branch
Office of Information Management
Email: ENGrantProgram@epa.gov
Secondary Email: mcgown.erin@epa.gov

Mailing Address:	**Physical Address** *(for overnight or courier deliveries)*:
Erin McGown U.S. Environmental Protection Agency 1200 Pennsylvania Ave., NW (2824T) Washington, DC 20460	Erin McGown U.S. Environmental Protection Agency 1301 Constitution Avenue, NW (Rm 6408J) Washington, DC 20004

Appendix A
EN Project Opportunities Under EN Funding Area 1

Increased Data Access and Innovative Business Processes.

Environmental agencies increasingly face pressure to meet their missions while reducing costs, increasing transparency, and delivering faster outcomes. These challenges require process innovation, modern technology solutions, and improved access to information. The opportunities under Funding Area 1 (captured in Appendix A) are designed to help agencies adopt innovative business processes and modernize the critical data services that power their systems and workflows.

The E-Enterprise Digital Strategy (EEDS) prioritizes building a modern environmental protection enterprise that is information-centric and based on shared platforms. As part of this strategy, the Exchange Network will evolve to keep pace with new business requirements and technologies (see Appendix D for more information on EEDS). As programs and systems modernize, agencies can take advantage of new technological capabilities and new patterns of data exchange. Large, infrequent data payloads may be replaced by smaller, real-time exchanges of data. The next generation of the Exchange Network will make use of REST-based Application Programming Interfaces (APIs) to help make this transition possible.

Applicants are encouraged to use existing data standards wherever possible;
see: https://www.exchangenetwork.net/data-standards/ and https://www.epa.gov/data-standards.

The cost estimates that appear in this appendix were developed by the Subject Matter Experts (SMEs) who manage the featured service. Acknowledging that each state, tribe, and territory has different IT configurations and solutions for the programs they manage, it is permissible for application cost estimates associated with any individual suggested activity to differ from the estimates included in this appendix. If your estimate exceeds the estimate in this notice, you must provide an appropriate justification for the variation in costs (see Evaluation Criteria 4B and the 'Overview of Project Budget' section of the project narrative). Similarly, a detailed cost rationale should also be included for any project goals which are not included in the cost estimates, explaining how the costs were estimated and deemed appropriate for the work.

Each of the EN project opportunities found within this appendix can be applied for as an individual assistance agreement or an EN partnership assistance agreement.

EN Services

Innovative Business Processes

VES has been removed as an EN Project Opportunity in FY24 but remains supported in current and new FY24 projects *if appropriate*; please see additional information in Section I-B.

Shared CROMERR Services (SCS)

Description:
EPA's Cross Media Electronic Reporting Rule (CROMERR) sets technology-neutral and performance-based standards for systems used by states, tribes, and local governments to receive electronic reports and documents from entities regulated under EPA-authorized programs. These standards cover a variety of system functions (e.g., user identification, data integrity, security) designed to make electronic reports as legally defensible as paper submittals. EPA has implemented a suite of services supporting CROMERR requirements.

States and tribes can select the range of services they need and implement them to meet their organizational and system needs. Categories of the SCS services available include:

- **Online Registration and Help Desk** – Centralized web/mobile platform services for shared user registration building upon shared CROMERR web services for user management and identity- proofing to offer administrative tools for credential management, role-based access and CROMERR sponsorship.
- **Identity Management** – Identity-proofing individuals to meet CROMERR minimum criteria and at minimal cost to co-regulators.
- **User Management** – Creating, validating, and maintaining accounts of reporting entities.
- **Electronic Signature** – Validating user credentials, verifying user intent, and electronically signing submissions from regulated entities equivalent to being legally defensible as a paper-based approach.
- **Copy of Record (COR) Management** – Storing, maintaining, and retrieving data submissions at the level of legal integrity required by CROMERR.
- **Advanced CROMERR Services** – Single sign-on authentication and web user redirects between regulated entity websites and https://encromerr.epa.gov/ to support navigation to advanced CROMERR registration, e-signature functions, administration, and record-keeping.
- **Organization Management Services** – Creating and updating Organization profiles for Advanced CROMERR Registration.

SCS is made available to EPA co-regulators to reduce their cost to develop and maintain many aspects of an E-Reporting solution, leverage expertise across the SCS partner community, streamline their CROMERR review and approval process and integrate all services while maintaining the look and feel of their own agency web site presence.

Many co-regulators have established plans for implementing the necessary business processes and technical environments to consume these services.

Potential Activities Under This Opportunity:

Project Activity	**Est. Cost Range**
Integrate a single set of service functions (e.g., user registration)	$11,000 - $27,500
Integrate the entire suite of service functions	$27,500 - $44,000
Document technical and security requirements associated with SCS (based on using all services)	$11,000
Testing and deployment of SCS	$11,000
Project planning and management	$11,000
Administrative process to coordinate procurement of third-party vendor identity-proofing	$5,500
Note: If the EN applicant proposes to implement the third-party identity-proofing service, the applicant will enter into agreement directly with the service vendor prior to production release and be responsible for fees associated with the ongoing identity-proofing of users. EPA will provide the necessary information for completing this process.	
Note: Applicants can propose costs which exceed the estimates above (if within their funding threshold); however, this should be detailed within the project output(s) budgeting rationale as required in section seven of the project narrative.	

More Information:

- More information is available on the status of the services at the EN website.
- Detailed information on SCS may be located at https://www.exchangenetwork.net/shared-cromerr-services-ipt/ and https://encromerrdev.epacdxnode.net/about.

Substance Registry Services (SRS)

Description:
SRS is EPA's centralized service for sharing basic information about chemicals, biological organisms, and other substances EPA and/or other organizations (e.g., state agencies, tribal agencies, other federal agencies) track or regulate. SRS:

- Enables data integration by substances (chemicals and biological organisms).
- Increases data quality of substance names and other identifiers in systems and online forms.
- Helps manage information about substances and regulatory substance lists.
- Helps users discover which systems and programs have data for a substance and under which substance name.

This opportunity is to improve the quality of chemical and biological identification data across the EN and shared among states, tribes, territories, and other organizations, and to increase its discoverability by the public.

Status and Plans:
There are several services available for use by partner systems. To improve management of chemical identification, SRS can register state and tribal programmatic lists. Organizations can use multiple lists to manage how certain substances are applicable to various reporting requirements for specific reporting years. This relieves state and tribal organizations from having to manage specific business rules per chemical in their own systems. SRS also stores unique names for substances used by states or tribes. SRS contains additional synonym properties and identifier types and values that can be added to a substance synonym that can be stored in SRS, rather than managed in a partner system. States and tribes also can improve public access to health and safety information by creating links from their websites to individual SRS records. SRS also has a search widget that partners can incorporate into their web pages.

By integrating SRS REST services, other organizations can enable substance (chemical or biological) lookup by multiple identifiers or synonyms, utilize autocomplete features and reduce redundant data storage for substance-specific data. By managing substance data in SRS, organizations can facilitate data-driven business logic within their applications.

Web services are available for use in partner systems to pull information from SRS for integration into online reporting forms or other tools or for displaying substance lists on their websites. The Toxics Release Inventory and the Chemical Data Reporting (CDR) are two examples of programs having incorporated SRS web services into their online reporting forms. When entering chemical names on the reporting forms, a submitter searches for a chemical using a synonym or other identifier. The submitter then selects the appropriate chemical, which the service retrieves from SRS. Integration of SRS web services into the online reporting form saved the CDR program hundreds of thousands of dollars in reduced data quality errors. SRS can be accessed at: https://cdxapps.epa.gov/oms-substance-registry-services/search.

Potential Activities Under This Opportunity:

Project Activity	Est. Cost Range
Add SRS identifiers to state or tribal systems to promote the ability to link across datasets by substance, regardless of which synonyms are used.	$5,000
Integrate SRS web services into the online reporting form of a state or tribal system or other tool to improve the data quality and/or help submitters report correct substance information.	$15,000 - 20,000
Note: Applicants can propose costs which exceed the estimates above (if within their funding threshold); however, this should be detailed within the project output(s) budgeting rationale as required in section seven of the project narrative.	

Shared Services/Reusable Components Available:
The SRS REST Services allow the use of web services to access data from SRS. Single substance queries pull standardized information about a substance, as well as the environmental statutes and data systems tracking or regulating the substance and the synonym(s) used by those lists. Multi-substance queries are also available, as well as services facilitating auto-complete functionality for substance names.

Find them at: https://cdxapps.epa.gov/oms-substance-registry-services/automated-services

More Information:

- https://cdxapps.epa.gov/oms-substance-registry-services/about-srs

Advanced Water Quality Monitoring Using Sensor Technologies

Description:
Long term deployments of *in situ* water quality sensors that can measure a particular parameter or suite of parameters automatically at frequent set intervals (e.g., every 15 minutes, 1 hour, 4 hours, etc.) are becoming more common. Sensors can be deployed for a single day, week, month, or for multiple years depending on the project, and collected data may support water quality or quantity assessments and research on changes that are occuring in the waterbody at different time scales. This project supports EPA's goal to promote the use of innovative technology in the sharing and use of sensor data (*see:* Data Standards for Continuous Monitoring Data, EPA Office of Water's (OW) Continuous Monitoring Strategy, EPA Office of Water's Technology Blueprint and E-Enterprise Digital Strategy).

Today, data from sensors can be retrieved from the monitoring device at the end of a deployment or can be accessed in real time if the device is web enabled. If a device is web enabled, the data can be accessed and made available for use within web applications through the development of web services and Application Programming Interfaces (APIs). For example, the United States Geological Survey (USGS) developed a customized Open Geospatial Consortium (OGC) SensorThings API and FROST docker deployment to make sensor data available for use within web applications – today, both USGS's National Water Dashboard and EPA's How's My Waterway leverage this service to make sensor data available to the public in real-time. At the local level, the City of Newburgh, New York, is using their web enabled sensors for real-time notification of sewage overflow (More Information).

Status and Plans:
EPA is working with data partners to evaluate real time sensor data sharing standards, and options for collating real time data together for public consumption. For example, OGC's Sensor Things API (https://www.ogc.org/standard/sensorthings/) is a promising data publishing standard for real-time sensor data that USGS uses for their Instantaneous Values Service. The agency invites data partners to make data from web enabled sensors available via web services that are compatible with Sensor Things API and/or WQP services and consumable by web applications including EPA's How's My Waterway. Grant recipients may be expected to share any real time web services developed so they can be made searchable and discoverable through a central data catalog or web application. Finally, all grant recipients may be expected to publish sensor data (collected by real time web enabled and non-web enabled sensor deployments) in the WQP through WQX annually or more frequently (for example within 90 days). Guidelines for submitting continuous data through WQX can be found at https://www.epa.gov/waterdata/water-quality-exchange-web-template-files. Note that this is not a real-time data solution, because it takes about one week for data to become available in the WQP after it is submitted to WQX.

Given the advancements being made, EPA invites grant applicants to propose developing open-source tools to help format, quality control, and submit continuous data to WQX, and assess continuous data in the WQP. Tools being developed should build on, and not re-create, functionality that can be leveraged from existing tools such as EPA's ContDatSumVis (code available on GitHub: https://github.com/USEPA/dmap-ContDataQCSumViz) and ContDataQC (code available on GitHub: https://github.com/USEPA/ContDataQC) R Shiny applications and R package. These tools include QC enhancements for water quality results - such as calculation of relative percentage variance with blanks and replicates, creation of reports, graphs or Excel exports of QC data, and ability to compare discrete and continuous data.

Grant recipients under this opportunity are expected to share new approaches, findings, and tools for sensor data management back with the community; see the registration requirement under Section VI-B. Administration and National Policy Requirements for further details on this requirement.

Potential Fundable Activities Under This Opportunity:

Project Activity	Est. Cost Range
Publish Sensor Data via Public Web Services and Web Applications Make real time data from web enabled sensors available via web services that are compatible with an OGC data standard such as Sensor Things API and/or WQP services, and consumable by web applications including EPA's How's My Waterway. After real time use is complete, all data should be archived in the WQP through WQX. Develop approaches for integrating sensor data from both real time services and the WQP web services (discrete sensor data summaries – daily statistics).	(Individual Applicant) $50,000 - $100,000 (Partner Applications) $100,000 - $300,000
Develop Open-Source Tools for Sharing, Integrating and Analyzing Sensor Data from Multiple Sources including WQX/WQP Develop tools to assist with quality control, formatting, and submitting continuous sensor data to WQX; and with retrieving, quality control, and analysis of continuous data from the WQP. Tools may also be designed to retrieve and harmonize continuous or discrete data from other compatible, publicly available continuous data sources. Tools and their associated code repositories must be made available and shared with the community via GitHub.	$50,000 - $80,000
Note: Applicants can propose costs which exceed the estimates above (if within their funding threshold); however, this should be detailed within the project output(s) budgeting rationale as required in section seven of the project narrative.	

Shared Services/Reusable Components Available:

- EPA's Water Quality eXchange and Water Quality Portal
- OGC's Sensor Things API (https://github.com/opengeospatial/sensorthings)
- EPA's ContDatSumVis (code available on GitHub: https://github.com/USEPA/dmap-ContDataQCSumViz) and ContDataQC (code available on GitHub: https://github.com/USEPA/ContDataQC) R Shiny applications and R package

More Information:

You may reach out to the WQX helpdesk (WQX@epa.gov) with questions and to share findings back with the community.

Open Data, Data Modernization, and Digital Transformation Projects incl. Geospatial Data

Description:
Environmental protection agencies rely on data for every aspect of their work — from environmental monitoring to permitting and enforcement. Nearly every mission-critical workflow and management decision depends on ready access to quality information. Agencies also face increasing demand for data from the public, the regulated community, co-regulators, and other stakeholders. Meeting these demands requires new investments in interoperable technology platforms and services to promote collaboration and facilitate the integration of data needed to improve environmental management among partner agencies and organizations. This EN project opportunity promotes applications for projects that will improve environmental decisions by making data more open, interoperable, and readily usable. Projects should support (1) the development of environmental data catalogs to serve as the foundation for the larger development of environmental data hubs and (2) the promotion of sustainable data integration practices by working with external partners to cultivate modern environmental data infrastructure and address the difficult and universal challenge of legacy data.

Potential Activities Under This Opportunity:

Project Activity	Est. Cost Range
Identifying and prioritizing environmental data to be held and/or served 1. Conduct an environmental data inventory. The purpose of a data inventory is to catalog available environmental data, identify areas for improved accessibility and discoverability, and usability. 2. Develop criteria to identify the most important datasets, and rank and prioritize them for inclusion in data/data exchange standardization processes.	(Individual Applicant) $25,000 – 100,000 (Partner Applications) $50,000 - 500,000
Designing the technical framework for the creation of accessible environmental data collections 1. Define the system for publishing and sharing data collections including usability, standardization of metadata, data discovery, data access, security, metadata, and scalability requirements. Data delivery will comply with open data standards to maximize interoperability. 2. Develop or adopt data and metadata standards for each data type to be represented in the data collection, such as those published by the Open Geospatial Consortium (e.g., TimeSeriesML for time series sensor data, groundwaterML for groundwater observations, WQX for water quality samples, etc.). Data content standards, where possible, should reference controlled vocabularies to be developed and published by the agency or referenced to existing ones. Identify or develop tools for creating, editing, and curating metadata that advance standardization. 3. Develop a conceptual framework for ingesting or integrating data from each contributing data source into systems capable of sharing data in standard formats and APIs. This could involve establishing systems for automated uptake of data, where appropriate (e.g., data preparation and development of intrastate exchanges and Centers for Disease Control (CDC) upload for radon).	(Individual Applicant) $25,000 - 75,000 (Partner Applications) $50,000 - 200,000
Developing an environmental data catalog platform 1. Acquire and/or develop software for data storage, cataloging, and dissemination through APIs. 2. Develop the data ingestion process conceptualized pilot with 2-5 identified data streams.	(Individual Applicant) $25,000 - 100,000 (Partner Application) $50,000-500,000

Developing use cases to demonstrate the utility of the standardized data and data exchange 1. Convene stakeholders to identify and develop personas and use cases of value to environmental policy and planning. 2. Select and develop conceptual frameworks for use cases based on stakeholder feedback. 3. Identify potential data visualizations and tools for selected use cases and develop wireframes for data visualizations. 4. Develop pilot data tools and visualizations	(Individual Applicant) $25,000 - 50,000 (Partner Application) $25,000 - 75,000
Promote sustainable data modernization and integration within and across state agencies 1. Compile and disseminate best practices for data management. 2. Create supporting and educational materials to build knowledge about and capacity for integrated data management.	(Individual Applicant) $25,000 - 75,000 (Partner Application) $50,000 - 300,000
Note: Applicants can propose costs which exceed the estimates above (if within their funding threshold); however, this should be detailed within the project output(s) budgeting rationale as required in section seven of the project narrative.	

More Information:
Projects should maximize the use of REST-based web application programming interfaces (APIs) as the foundation for creating interoperability and openness. All applications or platforms, whether desktop, mobile, web app, or dashboards, should follow an API- first design methodology. Project deliverables could include, but are not limited to:

- APIs, microservices and platforms for data access that include accessing records, querying, filtering, aggregating, and analyzing data and other data access services. Example platforms may include API-driven commercial Software as a Service/ low code/ no code platforms (e.g., ArcGIS Online, Microsoft Powerapps, QlikSense, Tableau,), open source platforms, or applicant-developed platforms.
- Geospatial or remote sensing technology (including Unmanned Aircraft Systems), tools and data services to address environmental problems (including use of geocoding and field methods to improve locational accuracy of environmental interests).
- Desktop, laptop, and tablet/smartphone applications enabling access, analysis, and display of environmental data.
- Dashboards or other analytical tools providing real-time program status and decision support information to program managers and executives. Wherever possible dashboards should be built upon open APIs to connect directly to source data rather than one time/one off data collections.
- Sharing of documentation and project lessons learned with exchange network partners.

Grantees should publish data in open machine-readable formats through standards-compliant data services that are accessible through REST APIs. Data should be available in:

- JavaScript Object Notation (JSON); eXtensible Markup Language (XML) format; Comma Separated Values (CSV or flat file); or
- As business needs or data complexity dictate, another machine-readable format (e.g., GeoJSON for vector spatial data, GeoPackage for vector or raster data, COGTIFF for imagery, NetCDF for multidimensional data).

Grantee's REST APIs should strongly consider using established, open API, or industry supported standards appropriate for data types rather than building completely custom APIs if practicable. Examples of such standards include:

- Geospatial vector data: OGC API - Features (OAF), Web Feature Service (WFS).
- Geospatial raster data: OGC API - Coverages components are available to use with this opportunity.

Appendix B
EN Project Opportunities Under EN Funding Area 2
Eliminate paper submittals and expand e-reporting

States, territories, tribes, and the EPA exchange large quantities of environmental data to analyze problems, make policy and tactical decisions, implement programs, and comply with statutory and regulatory requirements. Traditionally these reports have been submitted by regulated entities and states in paper form. Over the last twenty years, EPA and its partners have increasingly opted to eliminate paper submittals and move towards standardized electronic reporting approaches based on EN data standards and technology. This evolution has included streamlining and modernizing multiple data collection processes through the web-based applications and portals, shared platforms, and the use of EN services/APIs to enable interoperable exchange and access to data.

The opportunities under Funding Area 2 are designed by EPA National Program Offices to help their stakeholders submit and share programmatic data for twelve EPA programs.

Each EN project opportunity within this appendix contains a table of suggested activities and their associated costs. These cost estimates were made by the Subject Matter Experts (SMEs) who manage the featured data flow. Acknowledging that each state, tribe, and territory has different IT configurations and solutions for the programs they manage, it is permissible for application cost estimates associated with any individual suggested activity to exceed the estimates included in this appendix. If your estimate exceeds the estimate in this notice, you must provide an appropriate justification for the variation in costs (see Evaluation Criteria 4B and the 'Overview of Project Budget' section of the project narrative). A detailed cost rationale should also be included for any project goals which are not included in the cost estimates, explaining how the costs were estimated and deemed appropriate for the proposed work. Please note that applicants are encouraged to use existing data standards wherever possible; see: https://www.exchangenetwork.net/data-standards/ and https://www.epa.gov/data-standards.

Each of the EN project opportunities found within this appendix can be applied for as an individual assistance agreement or an EN partnership assistance agreement.

Emissions Inventory System (EIS)

Description:
The Emissions Inventory System (EIS) is the system for storing all current and historical emissions inventory data. EPA uses it to receive and store emissions data and generate annual and triennial National Emissions Inventory.

The National Emissions Inventory (NEI) is EPA's compilation of estimates of air pollutants discharged on an annual basis and their sources. EPA uses the NEI to track emissions trends over time, develop regional pollutant reduction strategies, set, and analyze regulations, perform air toxics risk assessments including inhalation risks and multi-pathway exposure, model air pollutant dispersion and deposition and measure environmental performance as required by the Government Performance and Results Act.

Potential Activities Under This Opportunity:

Project Activity	Est. Cost Range
Develop Services that Facilitate Online Collection of Emissions Inventory Data	$50,000 - 100,000
Support the transition to CERS v2 schema, including control path definition	$20,000 - 100,000
Note: Applicants can propose costs which exceed the estimates above (if within their funding threshold); however, this should be detailed within the project output(s) budgeting rationale as required in section seven of the project narrative.	

More Information:
- Environmental Information Exchange Network - Emissions Inventory System

Combined Air Emissions Reporting (CAER)

Description:
The Combined Air Emissions Reporting System (CAERS) system seeks to streamline air emissions reporting processes whereby regulated entities can report shared data once, and have that data made available to other programs and systems where that shared data is also required to be reported. Currently, air emissions information is collected by EPA and state/local or tribal air agencies (SLTs) through numerous separate regulations, in a variety of formats per different reporting schedules and using multiple routes of data transfer. CAERS is the reporting system that was created towards shared data reporting for industry and SLTs.

CAERS is expected to reduce the cost to industry and government for providing and managing important environmental data, and to improve decision-making capacity for SLT partners through more timely availability of data. Current SLT CAERS users are reporting the ability to spend more time on advanced QA of their data, reduced corrections needed for industry reports after they have been submitted to EIS, and the ability to finish their point source submissions before EPA's deadline for annual reports.

Currently, CAERS addresses electronic reporting of both facility and emissions data, which includes the National Emissions Inventory (NEI), and Toxics Release Inventory (TRI), and plans to include data reported to the Compliance and Emissions Data Reporting Interface (CEDRI), and the Greenhouse Gas Reporting Program (GHGRP) and potentially others in the short to medium term. More information can be found at: Combined Air Emissions Reporting | US EPA. In addition, a suite of webservices have been or are being created for use with CAERS as part of a broader CAER effort. These include websites and webservices for SCCs, and emission factors from WebFIRE, and eventually, QA and QC checks and potentially others, that will be available to support SLTs to use with their own systems. CAERS also allows SLTs to retrieve their data via CAERS' API webservices. Finally, some SLTs have developed code to retrieve their data using the CAERS API that may also be reusable by other SLTs with some adjustments.

Status and Plans:
EPA builds the backbone of features needed by EPA or multiple SLT agencies, and SLT agencies can use this base of CAERS if they do not need custom features. In addition, CAERS can be used by SLTs in multiple ways depending on the Case the SLT falls into (whether the SLT wants to adopt CAERS for reporting, or prefers to keep their reporting system but would like to use the ability of CAERS to share data with or from other EPA federal air emissions reporting programs.

Potential Activities Under This Opportunity:

Project Activity	Est. Cost Range
Collect SLT Data Program Requirements: The CAERS design ensures that all participating *federal* air program requirements will be met through CAERS. In addition, SLTs may have requirements of their own that must be gathered so that they can also be implemented in their own data system or to allow their data to be reported to CAERS. This activity funds SLTs to obtain support for gathering requirements such as how an existing data system will interact with CAERS, additional QA checks and additional required or optional data fields.	\$25,000 - \$55,000

Define SLT IT Requirements: This activity would be needed for any SLT that intends for their existing emissions data system to interact directly with CAERS or with a module within CAERS. This activity funds SLTs to obtain support to define the IT design and requirements to implement in the SLT data system or to develop a module to allow their data to be reported to CAERS, depending on the nature of the SLT program requirements.	$40,000 - $80,000
Upgrade, Customize and/or Test SLT System to Work with CAERS: This activity would be needed for any SLT that intends for their existing emissions data system to interact directly with CAERS. The activity funds SLTs to update and test an existing data system based on program requirements, IT requirements, and CAERS design for connection to CAERS. Cost estimates for this activity outside of the range provided might suggest SLTs should consider a different integration approach with CAERS.	$40,000 - $100,000
Train Users and Deploy CAERS to the SLT: This activity includes time and effort in the development and delivering of SLT-specific training materials for SLT system or process updates (such as user guides, training materials, video webinars, and or video tutorials) to allow facilities that use CAERS to report data to SLTs. SLTs will have access to EPA-developed training about the base CAERS software to build custom training.	$15,000 - $25,000
Note: Applicants can propose costs which exceed the estimates above (if within their funding threshold); however, this should be detailed within the project output(s) budgeting rationale as required in section seven of the project narrative.	

Shared Services/Reusable Components Available:

- **SCC searches:** https://epa.gov/scc
- **SCC websevices:** https://sor-scc-api.epa.gov/sccwebservices/
- **WebFIRE emission factors searches:** https://cfpub.epa.gov/webfire/
- **WebFIRE webservices:** https://cfpub.epa.gov/webfire/efwebservices/efwebservice.html

More Information:

EPA will be flexible in working with SLTs and their specific timelines. Interested states should consider discussing a potential timeline of work with EPA even if funds are not yet available. It may be possible to begin some aspects of the work even if the SLT has not been fully funded.

ICIS (Integrated Compliance Information System) Digital Services

Description: State, tribal, and local partners send data to ICIS to meet reporting requirements. The data are used to support Clean Water Act National Pollutant Discharge Elimination System (CWA NPDES) wastewater discharge program functions (e.g., permitting, compliance monitoring, enforcement, and special regulatory programs), as well as compliance and enforcement programs related to Clean Air Act (CAA) stationary sources. State, tribal, and local partners provide data to ICIS for which they have authority via node and node client technology. This includes XML formatted submissions of CWA NPDES and CAA data via physical nodes on the Exchange Network, and Virtual Exchange Services (VES), which is a cloud-based platform for creating data exchanges on the Exchange Network.

Status and Plans: EPA has completed a concept of operations (CONOPS) to inform the long-term modernization of how compliance and enforcement data are managed at EPA. This will be used to launch stakeholder engagement sessions to identify use cases and system requirements. The CONOPS is the first step to ensure business requirements for the national CWA NPDES and CAA stationary source programs are supported now and in the future. Through the CONOPS initiative, the Agency explored ways to expand data sharing capabilities and advance digital strategies to reduce operational costs with states, local agencies, tribes, and territories. The Agency will continue to work with stakeholders to complete the transition to digital services on which a modernization of ICIS will be based. The Agency anticipates a minimal viable product in Q3 of FY25 for states, tribes, and local agencies to begin testing.

States, tribes, and local partners can contribute to advancing digital strategies by considering shared platforms that allow regulators to work together using consistent data standards for information related to facility, permit, compliance, and enforcement data. The Agency will continue to grow its efforts to establish support for shared services. However, recognizing the investment to transition to digital services, activities to operate and maintain existing nodes on the Exchange Network will continue to be supported. <u>Grant applicants should consider participating in future planned stakeholder engagements sessions.</u>

Potential Activities Under This Opportunity:

Project Activity	Service	Cost Range
Upgrades to meet NPDES Electronic Reporting Rule Activities might include support for states to modify their NPDES systems to ensure that they can capture, store, and transmit to EPA all necessary data elements that are required or are in support of the NPDES eReporting Rule as described in 40 CFR part 127.	ICIS-NPDES	$35,000 - $200,000
Develop Application Programming Interfaces (APIs) Develop the capability to exchange structured and unstructured information through APIs. Develop APIs that send, receive and process notifications and data related to CWA NPDES or CAA-stationary source programs, such as: list of forms, documents, user registration information and functionality, confirmation codes from user registration, email availability, email notifications to regulated entities, and account confirmation emails. Expose data and content that describes the data to other computers in a machine-readable format (i.e., provide web APIs).	ICIS-NPDES or ICIS-Air	$25,000 - $200,000

Modify System to Provide or Consume Shared Services Develop, modify, or consume shared services that support environmental business processes, including but not limited to user registration process, user authorization and authentication, enable entering data and viewing human readable data, facilitate search functions, and create, maintain, and archive a copy of record. Develop and implement a framework that results in reference table shared services for data and data standards related to, for example: states, counties, permit types, permit status, chemicals, pollutants, form status, form types, titles, and roles/user types.	ICIS-NPDES or ICIS-Air	$25,000 - $200,000
Enhance Compliance and Enforcement Dataflow Extract and convert the data from State NPDES and air systems into the XML format needed to submit data to ICIS electronically; modify state/tribal/territorial systems to accommodate the data requirements for ICIS-NPDES and ICIS-Air and related e-reported compliance data; and install and configure ICIS-NPDES and ICIS-Air plug-ins available on the Exchange Network.	ICIS-NPDES or ICIS-Air	$35,000 - $200,000
Prepare for Transition to Modernized System Prepare for the transition to the modernized ICIS system by implementing transition activities intended to address findings documented in the ICIS Modernization CONOPS document (please see the link in "More Information").	ICIS-NPDES or ICIS-Air	$35,000 - $200,000
Note: Applicants can propose costs which exceed the estimates above (if within their funding threshold); however, this should be detailed within the project output(s) budgeting rationale as required in section seven of the project narrative.		

Shared Services/Reusable Components Available: Identified below is a list of shared services or reusable components available to applicants as they implement the opportunities:

- Shared CROMERR Services, incl. two-factor authentication, signature service, identity proofing.
- Copy of Record (COR) captured in CDX CROMERR Repository - The Copy of Record (COR) category of services addresses all activities and functions for storing, maintaining, and retrieving the COR and associated notifications.
- Common reference tables and codes
- Impaired Waters and TMDLs (ATTAINS) – Exchange Network Service
- Pollutant/Parameter Lists (reference tables)
- NPDES ID Lookup/creation services
- ICIS Data Access ("ICISDA") dataflow - provides the ability for any participating EN partner or node (e.g., a state agency node, EPA Regional node, etc.) to request and receive ICIS data in XML format. ICIS currently holds data from various EPA programs such as NPDES, FE&C (Federal Enforcement and Compliance), and RCRA (Resource Conservation and Recovery Act).

More Information:

ICIS Support Portal	ICIS Modernization CONOPS	NPDES eReporting Tool Help
CWA-NPDES Electronic Reporting website	Further information on ICISDA	

Electronic Reporting of National Pollutant Discharge Elimination System (NPDES)

Description:
Electronic reporting of Clean Water Act National Pollutant Discharge Elimination System (NPDES) general permit forms, program reports, and Discharge Monitoring Reports (DMRs) lowers burden for permittees and regulators; improves data quality, availability, and timeliness; and ultimately improves compliance. In support of these goals, EPA published the National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule ("NPDES eRule") on 22 October 2015. The 2015 rule required EPA and states to modernize Clean Water Act (CWA) reporting for municipalities, industries, and other facilities and to share these NPDES program data with EPA (see 40 CFR 127.23). The rule divided implementation into two "Phases." The deadline for Phase 1 implementation passed on December 21, 2016. Most states and permittees have successfully implemented Phase 1 of the NPDES eRule, which includes electronic submission of DMRs and the Federal Biosolids Annual Report where EPA is the Regulatory Authority. On November 2, 2020, EPA published its NPDES eRule Phase 2 Extension rule, which provides states and EPA additional time to implement electronic reporting for certain Clean Water Act discharge permitting requirements, notably general permit information and program reports other than the Federal Biosolids Annual Report. [85 FR 69189]. In this final rule, EPA extended the compliance deadline for implementation of Phase 2 of the eRule by five years to December 21, 2025.

EPA currently has two tools to accomplish NPDES electronic reporting and implement the NPDES eRule: NetDMR for DMRs and the NPDES eReporting Tool (NeT) for general permits and program reports.

Status and Plans:
NeT is available to states as a multi-tenant platform that uses PaaS. This cloud approach manages the infrastructure, operating system, run time and middleware allowing EPA to focus on developing, deploying, and using applications rather than managing infrastructure.

Current deployments of NeT include the following sectors:

- Construction Stormwater (general permit)
- Industrial Stormwater (general permit)
- Oil and Gas Extraction (general permit)
- Aquaculture (general permit)
- Biosolids Annual Program Report (program report)
- Urban Stormwater – MS4 (general permit and program report)
- Pesticide Application (general permit and permit-specific annual report)
- Groundwater Remediation, Dewatering, and Hydrostatic Testing (general permit)
- Sewer Overflow/Bypass Report (program report)

EPA is expanding use of the NeT platform over the next few years to include the following sectors:

- Domestic Wastewater and Drinking Water Treatment (general permit)
- Miscellaneous Discharges (general permit and 316(b) program report)
- Pretreatment program reports (POTW annual report and SIU/CIU semi-annual report)

Deployments of NeT for general permits and program reports are documented on the "NPDES eRule Phase 2 Implementation Dashboard."

Potential Activities Under This Opportunity:

Project Activity	Est. Cost Range
State Use EPA's NeT Solution Where needed and appropriate, new web services and application program interfaces (APIs) will be developed and made available to states, tribes, and territories to support electronic reporting of NPDES permits and program reports. States that elect to use the EPA's NeT platform may need to use APIs or develop shared services that can be invoked by EPA applications in order to integrate with the NeT platform. For example, states may consider how they might access or collect the data or information provided by permittees through the NeT application.	$25,000 - $50,000
States Develop Own NPDES eReporting Solution Development, testing, and implementation of a CROMERR compliant system for reporting electronic NPDES permit forms (e.g., Notices of Intent (NOI)) for individual or general permit coverage or program reports. The solution should leverage shared services, APIs, and contribute to the establishment of consistent data standards for the NPDES permit, compliance, and enforcement program.	$35,000 - $200,000
States Develop eDMR System Development, testing and implementation of an eDMR system within the state computing environment that is fully CROMERR compliant.	$35,000 - $200,000
Note: Applicants can propose costs which exceed the estimates above (if within their funding threshold); however, this should be detailed within the project output(s) budgeting rationale as required in section seven of the project narrative.	

Shared Services/Reusable Components Available:
See Appendix B ICIS Digital Services and Appendix A Shared CROMERR Services for a list of shared services or reusable components, including (but not limited to):

- Shared CROMERR Services: User Management, Identity Management, Signature Device, Signature, Sign and Store Copy of Record. See Appendix A – Shared CROMERR Services.
- CDX Registration
- Common reference tables and codes (e.g., Pollutant/Parameter Lists)
- Federated Identity Management
- Impaired Waters and TMDLs (ATTAINS) – Exchange Network Service
- NPDES ID Lookup / creation service
- ICIS Data Access ("ICISDA") dataflow - provides the ability for any participating Exchange Network partner or node (e.g., a state agency node, EPA Regional node, etc.) to request and receive ICIS data in XML format.
- Searchable IT Component and Project Registration Forms : https://www.epa.gov/exchangenetwork/searchable-it-component-and-project-registration-forms

More Information:

- Integrated Compliance Information System (ICIS) Support Portal : https://usepa.servicenowservices.com/oeca_icis?id=icis_homepage
- NPDES eReporting Tool Help Center: https://usepa.servicenowservices.com/oeca_icis?id=net_homepage
- CWA-NPDES Electronic Reporting website: https://www.epa.gov/compliance/npdes-ereporting
- More information on ICISDA can be found at the ICIS Customer Support Portal.

Resource Conservation and Recovery Act Information (RCRAInfo)

Description:
RCRAInfo is a national, web-based system which provides data entry, data management and data reporting functions used to support the implementation and oversight of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984 as administered by EPA (through its regions) and authorized states. RCRAInfo identifies and categorizes hazardous waste handlers and includes high quality information about regulated activities, permit/closure status, compliance with federal and state regulations and cleanup activities. It also tracks the shipments and receipts of hazardous waste data through the e-manifest module pursuant to the Hazardous Waste Electronic Manifest Establishment Act, enacted into law on October 5, 2012. Only those with a delegated authority under RCRA Subtitle C can submit data to RCRAInfo, however, non-delegated states or tribes can receive data from RCRAInfo via RCRAInfo outbound services.

Upcoming Changes for FY24:
Although the current technology of exchanging data with RCRAInfo is performed via SOAP-based Exchange Network Node technology, RCRAInfo is now introducing the ability to use REST API services. REST APIs provide a much more direct implementation and use of lightweight modern technology. The Node technology is not being sunset quite yet, however as the SOAP with MTOM are getting older, we wanted to provide a more modern alternative.

The first set of REST APIs for interacting with RCRAInfo will support the RCRAInfo Handler Module. The first set of APIs will allow our partners to search and pull data from our national lookup tables. Subsequently we will provide REST APIs for submitting a full set of handler data to RCRAInfo, this will implement the complete set of edit checks and our standard business rules.

Following the Handler module REST API we will implement Compliance, Monitoring and Enforcement (CM&E) Module APIs.

Status and Plans:

Exchange Network Program Office Activities	
Milestone	Target Date
RCRAInfo Handler API implementation	FY24 – 3rd quarter
RCRAInfo CM&E API implementation	FY24 – 4th quarter

EPA encourages grant recipients to use REST API services for:

- Retrieving lookup values for dropdowns within their state systems (i.e., NAICs codes, federal waste codes, etc.).
- Keeping data updated in their state system.
- Keeping data updated in RCRAInfo in a timely and accurate fashion.
- Eliminating double data entry.

Potential Activities Under This Opportunity:

Project Activity	**Est. Cost Range**
Handler API implementation Handler API services include RCRAInfo handler module inbound & outbound services, which share the same handler database data structure as	$50,000 - $100,000

the node-based services but be more efficient, cheaper to maintain have less overhead.	
CM&E API implementation CM&E API services provide RCRAInfo CM&E module inbound & outbound services, which share the same CM&E database data structure as the node-based services but be more efficient, cheaper to maintain and have less overhead.	$50,000 - $100,000
Note: Applicants can propose costs which exceed the estimates above (if within their funding threshold); however, this should be detailed within the project output(s) budgeting rationale as required in section seven of the project narrative.	

More Information:

- RCRAInfo EN Resources (http://www.exchangenetwork.net/data-exchange/rcrainfo/)
- E-Manifest for Hazardous Waste (https://www.epa.gov/e-manifest)
- GitHub Information – (https://github.com/USEPA/e-manifest)
- RCRAInfo Swagger – (https://rcrainfo.epa.gov/rcrainfoprod/secured/swagger/)

eBeaches

Description:
eBeaches is the electronic data transmission system that allows EPA to securely receive and display jurisdiction (state, tribe, territory) beach water quality and swimming advisory data two hours after state and local agencies send the data. eBeaches supports the Beaches Environmental Assessment and Coastal Health (BEACH) Act requirement to collect, store, and display beach public right-to-know pollution occurrence data. Jurisdictions should consider submitting spatial representations of the beaches reported in the Beach Notification (PRAWN) and monitoring stations in Beach Monitoring (WQX) submissions.

Status and Plans:
For both Beach Notification and Beach Monitoring the Version Status is "Supported" and the Data Exchange Status is "Flowing". There are no plans to modify the Beach Notification schema, however the Beach Monitoring flow uses the WQX schema which has been revised to version 3.0

Potential Activities Under This Opportunity:

Project Activity	Est. Cost Range
Read all support documentation at: https://www.epa.gov/beach-tech/submitting-data-epa.	This activity not eligible for funding
Check with other internal jurisdiction offices for existing VES access & Node capability before developing Node capability for each beach data flow.	This activity not eligible for funding
Implement eBeaches data exchange	\$40,000 - \$80,000
Publish Beach closure data in real time, even though the EPA currently updates data on a two-hour cycle.	\$10,000 - \$20,000
Map systems to the approved national XML schemas: http://www.exchangenetwork.net/data-exchange/beach-notification/.	\$10,000 - \$30,000
Validate XML instance documents prior to submission via CDX (node or ENSC)	\$10,000 - \$20,000
Verify in WQX/WQP (formerly STORET) organization name (org_id) to sample station (station_id) to beach name (project _id aka beach_id and national project id (EPABEACH) relationship/links to ensure correct stations are linked to corresponding beach.	\$20,000 - \$40,000
Participate in biweekly/monthly Beach conference calls	This activity not eligible for funding
Note: Applicants can propose costs which exceed the estimates above (if within their funding threshold); however, this should be detailed within the project output(s) budgeting rationale as required in section seven of the project narrative.	

More Information:
- See the following Beach Program websites for Data-related information: https://www.epa.gov/beach-tech/submitting-beach-data-epa
- See general Beach Program information including BEACH Act Grants: https://www.epa.gov/beaches and https://www.epa.gov/beach-tech/beach-grants
- Also see: http://www.exchangenetwork.net/communities-of-interest/water/

Safe Drinking Water Information System (SDWIS) Program

Description:
The SDWIS Program provides systems (SDWIS State, the Compliance Monitoring Data Portal (CMDP), and Drinking Water State-Federal-Tribal Information Exchange System (DW-SFTIES)) designed to assist primacy agencies (states, tribes, US territories with primacy over their drinking water programs; and EPA Regions) in managing their Public Water System Supervision (PWSS) programs under the Safe Drinking Water Act (SDWA).

- SDWIS State is the current system used by 51 of 65 drinking water primacy agencies. Primacy agencies use XML files (SDWA Schema v3.6) to submit drinking water data to EPA for quarterly reporting.
- CMDP is a centralized, CROMERR- compliant web-based application, for electronic reporting of water samples data, compliance, and non-compliance data from laboratories and water systems to primacy agencies.
- DW-SFTIES will be a cloud-hosted program management and reporting system for primacy agencies; a sustainable long-term replacement for the SDWIS State suite of applications. Like SDWIS State, the objective of DW-SFTIES is to support primacy agency drinking water program implementation—taking advantage of new technologies and opportunities to do things better and more sustainably in the DW-SFTIES product than they currently are done in SDWIS State.

Status and Plans:
- SDWIS State's 3.6 update was released in August 2023 and is available to drinking water primacy agencies.
- CMDP has been operating since October 2016. As of December 2023, twenty-three (23) primacy agencies have adopted CMDP.
- Development of DW-SFTIES commenced January 9, 2023, and most recently released version 0.07.

Grant applicants should consider:
- Participating in monthly All Things SDWIS calls (send an email to aderosa@asdwa.org if not already on the contact list.)
- Joining the SDWIS User Community Discussion Forums managed by the Association of State Drinking Water Administrators (ASDWA): https://www.asdwa.org/data-management/

Potential Activities Under This Opportunity

Project Activity	Est. Cost Range
Tribal Utilities: **Implementing data systems to manage water systems to enable electronic reporting of Tribal water system data to CMDP, SDWIS State (via Lab-to-State), or Direct Implementation Management Environment (DIME)** or similarly updating of existing data systems to enable electronic reporting. Tribal applicants without primacy status should confirm compliance system requirements with their respective EPA region prior to applying for this opportunity to ensure that the proposed solution can successfully flow information between the tribal drinking water system and applicable Regional Tribal Direct Implementation (DI) drinking water compliance system(s). 1. Tribal Utility implementation of new data system for managing and reporting to EPA information on Tribal drinking water systems	 1. $20,000 - $65,000

2. Tribal Utility improvement of existing data systems to facilitate drinking water system data sharing with EPA (or NNPWSSP in the case of Navajo Nation)	2. $6,000 - $20,000
Tribal Utilities: **Improving data quality of existing systems that are used to facilitate drinking water system data sharing with EPA** (or NNPWSSP in the case of Navajo Nation) by reporting data to CMDP, SDWIS State, or DIME.	$30,000 - $65,000
Modernizing existing interfacing applications or developing replacements for existing interfacing applications that are used by/shared with other primacy agencies or implemented as a shared service/application (only multi-state applications will be considered for funding).	$65,000 - $500,000
Note: Applicants can propose costs which exceed the estimates above (if within their funding threshold); however, this should be detailed within the project output(s) budgeting rationale as required in section seven of the project narrative.	

Shared Services/Reusable Components Available:

- CMDP ReST APIs: https://usepa.servicenowservices.com/sdwisprogram
- Available APIs for DW-SFTIES can be found in the release notes; https://usepa.servicenowservices.com/sdwisprogram?id=kb_search&kb_knowledge_base=4251afe41b9705547b16ea04bc4bcbd2&spa=1&kb_category=571cfdf51baea1508e946311f54bcbd2

More Information:

- Public Water System Supervision (PWSS) program overview: https://www.epa.gov/tribaldrinkingwater/tribal-public-water-system-supervision-program
- Current list of Regional PWSS Tribal DI Coordinators:
    - https://www.epa.gov/tribaldrinkingwater/regional-tribal-drinking-water-coordinators
- SDWIS Program documents including DW-SFTIES CONOPS and release notes, and transition resources:
    - DW-SFTIES CONOPS
    - DW-SFTIES Release Notes
    - DW-SFTIES Transition Resources

Water Quality eXchange (WQX)

Description:
The Water Quality eXchange (WQX) defines the framework by which EPA accepts and compiles water quality monitoring data (physical, chemical, biological, habitat, metrics, and index). Network Partners collect water quality monitoring data and submit it to EPA utilizing the WQX format and a node or node client. http://www.exchangenetwork.net/data-exchange/wqx/

All partner data submitted to EPA is made publicly available and can be queried using the Water Quality Portal (WQP), a cooperative service by EPA and USGS under the National Water Quality Monitoring Council. The Water Quality Portal provides standard REST services, allowing interoperable access to water quality monitoring data. These services provide data to the user in tab, comma separated, Excel and WQX formats. More information on the WQP and WQX can be found at:
https://www.epa.gov/waterdata/water-quality-data-wqx

Status and Plans:
The WQX team is currently enhancing and evaluating a submission quality checks service for the WQX schema results and locations to promote data consistency and quality. These QAQC services are available for data submitters to provide additional submission processing reports aligning data consistent with guidance documents. WQX Web is traditionally a way to submit excel, text, or xml files manually. Now, WQX Web can also be used to automate data submission via REST (API) web services from a local database or application.

EPA continues to explore approaches for sharing continuous monitoring data. Demonstration projects and internal agency reviews of data sharing standards are underway. For more information on this effort, see example data for recommendations and best practices using the WQX Web templates found at: https://www.epa.gov/waterdata/water-quality-exchange-web-template-files

Exchange Network Program Office Activities	
Milestone	**Target Completion Date**
Publicly accessible REST URL to retrieve QA/QC reports and submission documents for inbound WQX via transaction id.	September 2023
System readiness to support full WQX 3.0 schema via WQX Web Tool and WQP outbound services. Developing a new WQP web site re-design, domain value services, and data download reports.	January 2024
Performance Tuning of WQX Web in the Azure cloud for enhanced data submission, review reports, efficient access to web services, scalability, and increased computing efficiency.	September 2024
Develop WQX 3.0 outbound profiles to support full WQX 3.0 schema.	December 2024
QA/QC shared web services for utilization in outbound Water Quality Portal (WQP).	December 2025

Potential Activities Under This Opportunity:

Project Activity	Est. Cost Range
WQX data submission Mapping state/tribal/territorial data system to WQX Schema and/or collaborate with eligible entities collecting monitoring data.	$40,000 - $80,000
Water Quality Portal (WQP) application services • Integrating data from Water Quality Portal using outbound REST Services (attribute and/or spatial) for data integration and analysis. • This could include collaborating with EPA on the development of open- source tools for discovering data and performing water quality analyses (e.g., establish links to water impairment, water permit facilities, watershed resource planning).	$40,000 - $80,000
WQX automated data submission services Utilize recently developed inbound RESTful web services for WQX to publish data collected using a mobile application.	$40,000 - $80,000
Quality Assurance and Quality Check reports Development of shared services such as QA/QC checks & reports and assessment services to improve data consistency.	$40,000 - $80,000
Partner with eligible entities collecting monitoring data (e.g., local governments, watershed groups) to assist them in putting the WQX data flow into production.	$40,000 - $80,000
Note: Applicants can propose costs which exceed the estimates above (if within their funding threshold); however, this should be detailed within the project output(s) budgeting rationale as required in section seven of the project narrative.	

Shared Services/Reusable Components Available:

- WQX exchange network data flow: https://www.epa.gov/waterdata/wqx-flow-configuration-30
- Water Quality Portal Web Services Guide: https://www.waterqualitydata.us/webservices_documentation/
- WQX Web RESTful web services: https://www.epa.gov/waterdata/wqx-web-application-programming-interface

More Information:

- WQX schema and documentation: http://www.exchangenetwork.net/data-exchange/wqx/ (WQX last released April 2020)
- About WQX and more information: https://www.epa.gov/waterdata/water-quality-data-wqx
- Water Quality Portal Homepage: https://www.waterqualitydata.us/
- WQX Web User Guide: https://www.epa.gov/waterdata/user-guide-version-30-water-quality-exchange-web

Assessment TMDL Tracking And Implementation System (ATTAINS) (Integrated Reporting (303(d)/305(b))

Description:
The Assessment, Total Maximum Daily Load (TMDL) Tracking and Implementation System (ATTAINS) is an online system for accessing information about the conditions in the Nation's surface waters. ATTAINS transitioned Integrated Reporting (IR)—the integration of Clean Water Act (CWA) Sections 303(d) and 305(b)--to a paperless process as envisioned by EPA's E-Enterprise initiative. The data available in ATTAINS reside in a web-based application that states, territories, tribes[1] and EPA can use to track water quality assessment decisions, TMDLs, and priority areas, as well as report on performance measures. ATTAINS also includes the capability to publish IR data via web services, which can be used by other data systems.

The ATTAINS data exchange allows Exchange Network (EN) Partners to submit CWA Sections 106, 303(d)/ 305(b)/ Integrated Reporting (IR) water quality decision data as well as TMDL information and supports program goals aligned with both submission processes. The ATTAINS data flow allows states/territories/tribes to:

- Identify and describe Assessment Units (portions of waterbodies used for tracking water quality), including size and extent
- Report water quality assessment information (including use support, causes of impairment, and probable sources of impairment)
- Provide and receive TMDL information
- Provide references to water quality monitoring location data relevant to the water quality Assessments (submitted via the Water Quality Exchange [WQX])
- Identify activities that states/territories/tribes are performing leading to water quality restoration

States, territories, and tribes can use either the Exchange Network ATTAINS data flow or the web-based ATTAINS data system (or some combination of the two). Organizations may begin as a web-based ATTAINS user and transition to an Exchange Network flow for future cycles as they build out capability and are seeking to gain efficiencies. As states/territories/tribes implement the ATTAINS flow, they should consider reusing existing components where appropriate (i.e., ATTAINS node plug-ins or Virtual Exchange services).

Potential Activities Under This Opportunity:

Project Activity	Est. Cost Range
Implement ATTAINS data flow for Assessment Units, Assessments or Actions. Partners can flow data to ATTAINS for one or more ATTAINS modules, including Assessment Unit definitions, Assessment decisions or Actions (such as TMDLs).	\$40,000 - \$100,000
Build capability to retrieve data from ATTAINS outbound web services. Partners can use the Exchange Network Query and Solicit services to retrieve Assessment Units, Assessments or Actions from ATTAINS.	\$40,000 - \$60,000
Develop capability for integrating WQX and ATTAINS workflows and making use of monitoring data for automated water quality analyses.	\$40,000 - \$80,000

Identify, develop, and implement innovative, reusable water quality assessment services and screening tools (e.g., web-based services and applications comparing monitoring data with standards or thresholds to automate an initial water quality assessment recommendation--the initial recommendation could then be reviewed and edited by the state, territory or tribal organization before final decisions are made).	
Build capability to consume outbound RESTful services from ATTAINS to incorporate data into state, tribal or territorial websites or applications. ATTAINS publishes public data with outbound RESTful services, which can be consumed by other applications. Partners can incorporate data from those outbound RESTful services, which do not require user logins, into customized websites or applications.	$40,000 - $80,000
Develop tools or services to integrate monitoring and nonpoint source data with water quality assessments. Identify, develop, and implement innovative services integrating monitoring and nonpoint source data with water quality assessments (e.g., web-based services accessing monitoring data or nonpoint source data from another system and relate them to water quality assessments in a useful way).	$40,000 - $60,000
Develop capacity for initiating e-reporting of assessments into ATTAINS. Develop procedures for performing assessments needed to begin e-reporting of assessments, including the development or adoption of automated assessment tools and standard operating procedures. (e.g., establishing an Assessment Methodology, use and expansion of the Tools for Automated Data Assessment (TADA))	$10,000 - $60,000
Provide Technical Assistance and/or Training to ATTAINS participating organizations. Support other organizations to establish ATTAINS data flow when they are onboarding to ATTAINS or help reestablish ATTAINS data flow when they are experiencing staff turnover.	$15,000 – $20,000
Note: Applicants can propose costs which exceed the estimates above (if within their funding threshold); however, this should be detailed within the project output(s) budgeting rationale as required in section seven of the project narrative.	

Shared Services/Reusable Components Available:

- ATTAINS uses Authentication Services to authenticate user's credentials via the Central Data Exchange (CDX).
- ATTAINS publishes data using services. The ATTAINS Flow Configuration Document (FCD) contains information about some ATTAINS REST-based query services. Additional ATTAINS JSON formatted REST-based services are documented on the ATTAINS website (https://www.epa.gov/waterdata/attains). More services are being developed, providing additional functionality.
- In addition, reusable components have been registered and are searchable from EPA's Shared Services Resource Catalog, by searching for ATTAINS or Assessment Total Maximum Daily Load Tracking and Implementation System (ATTAINS):
- https://sor.epa.gov/sor_internet/registry/sysofreg/home/overview/home.do

More Information:

- Information about the ATTAINS data flow can be found on this website: https://www.exchangenetwork.net/data-exchange/assessment-tmdl-tracking-and-implementation-system/

Drinking Water State Revolving Fund and Clean Water State Revolving Fund

Description:
The Drinking Water State Revolving Fund (DWSRF) program and Clean Water State Revolving Fund (CWSRF) program are federal-state partnership to provide communities a permanent, independent source of low-cost financing for a wide range of drinking water and wastewater infrastructure and other water quality projects. The State Revolving Fund (SRF) database will capture the range of activities that states pursue with their DWSRF and CWSRF funds. These funds are provided as assistance agreements to states to establish and capitalize (fund) infrastructure banks. The states primarily make loans to drinking water and wastewater systems from these state infrastructure banks. The new SRF system will capture project level data from each state's bank (what was the funding for, how much, etc.), as well as financial data about the flow of funds between the state bank and other entities, including but not limited to: disbursements of funds, repayment of funds, funds borrowed.

Most states already have state systems to track a subset of this data. Some of those states currently push data electronically to the present EPA system. States should be able streamline reporting to EPA by enabling a data bridge to maintain and expand the flow of data from those states. The new SRF system will use REST APIs and other opportunities to connect to existing state databases to import data. The new SRF system will also allow a user to upload an excel file and map data fields to batch upload to the New SRF system. The new SRF System will be developing an excel sheet model/template as a guide for states interested in that method of batch uploads. All imported data will include checks to ensure it meets Quality Assurance Requirements and it should allow users to edit or modify fields within the new SRF system after import. This data will be instrumental to reporting on SRF BIL grant progress.

Status and Plans:
The new SRF system was launched on 5/27/21.

Potential Activities Under This Opportunity:

Project Activity	Est. Cost Range
Mapping state SRF system to New SRF system	$125,000 - $175,000
Mapping state data files to upload to New SRF templates	$75,000 – $100,000
Modifying state applications to interact with New SRF system using REST API calls	$100,000 - $120,000
Develop checks of the data being downloaded from New SRF system to the state applications to ensure it meets state system needs.	$150,000 - $200,000
Note: Applicants can propose costs which exceed the estimates above (if within their funding threshold); however, this should be detailed within the project output(s) budgeting rationale as required in section seven of the project narrative.	

Shared Services/Reusable Components Available:
- EPA furnished mappings of the new SRF database and templates available August 2021.
- New SRF system REST APIs for data access and uploading data available Winter 2024.

More Information:
- Drinking Water State Revolving Fund: https://www.epa.gov/dwsrf ; Clean Water State Revolving Fund: https://www.epa.gov/cwsrf

Underground Injection Control (UIC) Data Availability Projects

Description:
In 2018, the national Underground Injection Control (UIC) program streamlined and modernized multiple data collection processes into the web-based UIC Data Application. The Application is the sole reporting mechanism for primacy programs and EPA to electronically report required injection well inventory, permitting, enforcement and compliance, inspections, and mechanical integrity testing data. Online reporting replaced the previous reporting system of submitting hardcopy 7520 forms.

EPA learned during UIC Data Application development and outreach that some UIC programs are faced with outdated, inefficient data management systems or no electronic data management system. These create a challenge for programs to meet regulatory reporting requirements. In the case of states, tribes, or territories in the process of requesting primary UIC enforcement authority, the potential program is particularly challenged because they are seeking approval to transfer the UIC program, including all the current and historical data collected on existing injection wells, from the EPA Regional office as well as developing a new data management system.

Potential Activities Under This Opportunity:

Project Activity	Est. Cost Range
Map data collected by the primacy or potential primacy program to data collected nationally in the UIC Data Application. Ensures that the program can collect and report all data fields found in the UIC Data Application. This may involve an assessment of the primacy program data system's ability to meet the regulatory reporting obligations and format required by the UIC Data Application.	\$20,000 - \$60,000
Streamline and modernize reporting of UIC program data for submission to the UIC Data Application. Develop and/or deploy technology that improves the efficiency of exporting data from the UIC primacy program data system to the UIC data application and increases quality control. This may involve the transfer of historical data to current data management systems, as well as the maintenance of and upgrades to UIC data management systems.	\$30,000 - \$190,000
Staff training on UIC data reporting requirements. Provide training to program staff on assessing UIC data quality, using the UIC primacy program data system, and preparing data for federal reporting in the UIC Data Application.	\$3,000 - \$10,000
Note: Applicants can propose costs which exceed the estimates above (if within their funding threshold); however, this should be detailed as part of the project's goal and output budgeting rationale in section seven of their project narrative.	

More Information:

- The target activity data for the Underground Injection Control program is available on the 7520 forms, please see: https://www.epa.gov/uic/underground-injection-control-reporting-forms-state-summary-information
- Applicants and reviewers can find a concise summary of the UIC regulations here: https://nepis.epa.gov/Exe/ZyPDF.cgi/P100ETDA.PDF?Dockey=P100ETDA.PDF
- The instructions on the Form 7520 also provide clarification on the data collected by EPA from primacy programs: https://www.epa.gov/uic/compliance-reporting-requirements-injection-well-owners-and-operators-and-state-regulatory

Facility Registry Service (FRS)

Description:
The Facility Registry Service (FRS) is EPA's centrally managed database integrating facility data across over 90 EPA and other federal systems, as well as numerous state, tribal, territorial, and local databases. FRS provides access to information about facilities subject to environmental regulations and for other sites of environmental interest, including the names, locations, associated program IDs, industrial classification, corporate and contact affiliation and other data.

These integrated facility identification records allow EPA, its state and tribal partners, web application owners and the public to access environmental information reported from and about facilities and sites. FRS data is available as web services, prepackaged downloads, and custom downloads. Applicants wishing to take advantage of FRS web services can find a listing of data resources here: https://www.epa.gov/frs/frs-data-resources.

FRS has two sets of RESTful web services available for EN projects. The FRS Submit web services enable a partner to submit facility information to FRS in real-time. The FRS Query web services can be leveraged to get FRS facility information in real-time and enables partners to integrate facility data into their systems. This can be used to provide a more comprehensive view of facility data in public or non-public facility applications. Assistance agreement applicants can obtain information about FRS Submit and Query web services at: https://www.epa.gov/frs/frs-exchange-network.

Status and Plans:
EPA is in the process of evaluating regulated facility business needs and facility data workflows. This assessment may impact future plans regarding the development of FRS's facility model and facility data collection processes. EPA intends to minimize the impact of future web service deployments to existing data exchanges leveraging the RESTFUL FRS web services in a production environment.

Potential Activities Under This Opportunity:

Project Activity	Est. Cost Range
Use FRS RESTful Web Services to add value Applicants can use this service to develop tools for retrieving value-added data fields into their facility records, including geocoded addresses, NAICS codes, applicable census information, hydrologic unit codes (HUC), and congressional boundary information.	\$25,000 - \$50,000
Use FRS Query Web Services to support facility data management Applicants can use this service to support data collection by state, tribal, territory and local entities, curation of facility data in facility data management systems, and display of integrated facility data on public-facing web applications. Partners integrating their facility information can also use this service to develop tools to retrieve FRS data for comparative analysis, in support of scientific objectives.	\$50,000 - \$75,000
Use FRS Submit Web Services to integrate data by FRS ID Applicants can use this service to submit their data to FRS. This activity can include integrating other state, tribe, territory, and local programs to incorporate additional environmental interests (e.g., air, water, waste, etc.) or sub-facility information for applicant use.	\$50,000 - \$75,000
Note: Applicants can propose costs which exceed the estimates above (if within their funding threshold); however, this should be detailed within the project output(s) budgeting rationale as required in section seven of the project narrative.	

Shared Services/Reusable Components Available:

- Assistance agreement applicants can obtain information about FRS Submit and Query web services at: https://www.epa.gov/frs/frs-exchange-network

More Information:

- Facility Registry Service: http://www.epa.gov/frs
- FRS Data Resources: https://www.epa.gov/frs/frs-data-resources

Appendix C
EN Project Opportunities Under EN Funding Area 3
Augment the Information Management Capacity of EN Partners.

The Exchange Network encompasses a diverse set of partners with a wide array of IT and data management capabilities. Being able to take advantage of the full range of the EN services depends on a partner's ability to create and maintain network data flows, to enable the discovery and publication of their information, and to take advantage of services and APIs that enable organizations to obtain, analyze and share data. Some existing and potential EN partners have limited experience with managing data, facilitating electronic reporting, and sharing those via services. They also often do not have an operational knowledge of the EN or the relevance it may have to their environmental management programs. This hinders them from taking advantage of the many EN features useful to their environmental program planning and decision making in more cost-effective ways.

Opportunities in this appendix are designed to enable applicants to build the IT and data management capacity necessary to effectively manage their environmental programs and to identify the most valuable ways for their programs to participate in the EN.

Please note that applicants are encouraged to use existing data standards wherever possible; see: https://www.exchangenetwork.net/data-standards/ and https://www.epa.gov/data-standards.

The opportunities found within Appendix C are only available to U.S. Territories, federally recognized Indian tribes and Alaska Native Villages, and inter-tribal consortia of federally recognized tribes (e.g. the Northwest Indian Fisheries Commission).

The cost estimates that appear in this appendix's EN project opportunities do not include specific cost estimates per fundable activity. Applicants must provide a detailed cost rationale explaining how costs were estimated and deemed appropriate for the proposed project (see Evaluation Criteria 4B and the 'Overview of Project Budget' section of the project narrative).

Interested applicants should apply for only one of the three Exchange Network (EN) project opportunities found within this appendix. However, these capacity building opportunities may be applied for in conjunction with opportunit(ies) listed in Appendices A and/or B.

Other resources for capacity building applicants include:

- An FAQ document for tribal applicants is available on the EN website at: https://www.epa.gov/exchangenetwork/exchange-network-grant-program#Resources
- Prior capacity building assistance agreements can be identified in two areas on the EN Website: https://www.epa.gov/exchangenetwork/previous-exchange-network-grant-projects and https://www.epa.gov/exchangenetwork/searchable-it-component-and-project-registration-forms
- The Tribes and the Exchange Network Website provides information for tribes on the EN and other innovative approaches for managing and sharing environmental data using modern technology tools and solutions: http://www.tribalexchangenetwork.org/.

EN Capacity Building:

Individual Capacity Building

Description:
Territories, tribes, and inter-tribal consortia are eligible to apply for capacity building assistance agreements enhancing the applicant's environmental program by increasing their ability to manage and share environmental data electronically across their organization, with EN partners and tribal citizens.

Applications must identify outputs which will increase the applicant's ability to share environmental information electronically with EPA and other EN partners and tribal citizens. Examples of a priority data system include the development of a backend database and tools for entering/moving/checking the included data or implementing an intra-tribal data exchange. Applications may include developing a data management plan, but the plan must lead to the development of a test or prototype system.

This opportunity is designed to provide applicants the flexibility to determine which project activities are key to building their organization's capacity for data collection, management, and reporting, as well as increased participation in the EN.

Please note that applicants are not limited to the potential project activities listed in the table below. For all activities, applicants must provide a detailed cost rationale explaining how costs were estimated and deemed appropriate for the proposed project in their project narrative (see Evaluation Criteria 4B and the 'Overview of Project Budget' section of the project narrative).

Potential Activities Under This Opportunity:

Project Activity	Est. Costs
Develop a strategic plan for collecting, managing, and assessing data and making the best use of available technology to support the business needs of the applicant's organization.	**Up To A Combined Total of $300,000**
Assessment of current systems and available tools/updates and comparing them against the business processes requirements for desired system updates/assessment tools.	
Preparing an Organization's Existing Systems and Tools for Participation in EPA National Program Data Flow(s) (see Appendix B).	
Planning and Implementation of Improved Database and Management Systems and Associated Tools.	
Develop website and user tool development to inform the public of critical environmental projects undertaken or issues monitored by the applicant organization.	
Develop and implement geospatial tools and technologies to improve monitoring, reporting, data visualization, analysis of environmental and public health problems and decision support (see Open Data).	
Increasing participation in the Exchange Network through associated trainings, webinars, and technical assistance activities.	
Building reporting capacity for the applicant's organization through other activities.	

Individual Capacity Building with Mentorship

Description:
Please reference the description under 'Individual Capacity Building' on the prior page (page C2).

Individual applicants who have never been awarded an Exchange Network (EN) assistance agreement may identify a mentor to help them with their capacity building project. If you have received prior EN grants and are ineligible to apply for this mentorship opportunity, please visit the Tribal Exchange Network Group (TXG) website supported by the Institute for Tribal Environmental Professionals (ITEP): Tribes and the Exchange Network for additional mentorship opportunities. This EN project opportunity allows up to $15,000 for mentorship support costs on top of the $300,000 threshold for individual capacity building assistance agreements (for a possible total of up to $315,000).

The identified mentor should be a tribe, state, or territory that has successfully completed an EN assistance agreement and that currently reports or publishes data for one or more environmental programs using an EN node, Virtual Exchange Services (VES), or APIs.

An applicant applying under this opportunity should include a commitment letter from the mentoring organization in their application package. Applicants must also identify their mentor within the project narrative (see project narrative section 'Identifying Key Personnel and Associated Roles, Responsibilities, and Qualifications') and outline their anticipated role, key contact name(s), and the affiliated budget for the mentoring activity. **Mentors will also be required to submit a mentor report during semi-annual reporting periods.**

This opportunity is designed to provide applicants the flexibility to determine which project activities are key to building their organization's capacity for data collection, management, and reporting, as well as increased participation in the EN. **Please note that applicants are not limited to the potential project activities listed under 'Individual Capacity Building' on page C2.**

For all activities, applicants must provide a detailed cost rationale explaining how costs were estimated and deemed appropriate for the proposed project in their project narrative (see Evaluation Criteria 4B and the 'Overview of Project Budget' section of the project narrative).

Potential Activities Under This Opportunity:

Project Activity (for Applicant Organization)	**Cost Estimates**
**Please see potential project activities in the table under 'Individual Capacity Building' on page C2.	**Up To A Combined Total of $300,000 (not including $15,000 for mentorship activities)**

Potential Support Activities for Mentoring Organization	**Est. Costs**
Demonstrating the Mentor's Implemented System	**Up To A Combined Total of $15,000**
Fine-Tuning/Providing Feedback on the Project Workplan Please note that this activity must follow assistance agreement award, as providing this feedback prior to application submission is not allowable in a competitive grant program.	
Providing Technical Assistance to Set Up Data Exchange(s)	
Providing Training on Data Entry, Data Analysis, and Report Generation	

Giving Ongoing Support after Installation/Implementation This may include addressing questions on data and the Exchange Network and/or providing guidance on submitting reports and completing close-out activities.	
Providing Guidance on EN and TXG Participation Offering guidance on how to actively participate in the Exchange Network, as well as Tribal Exchange Network Group (TXG) trainings and assistance.	
NOTE: Mentoring activities may take place by phone, over web conferencing, or in person, as needed.	

****An applicant may request funding (up to $15,000) for the following mentorship activities:**

- Personnel costs to compensate mentoring organization for staff support in carrying out mentorship activities;
- Travel costs for mentoring organization employees authorized by 2 CFR 200.475 to include, but not limited to, lodging, per diem and incidentals, rental car, mileage, airfare, etc.

The 'up to $15,000' for mentoring is only available for subawards to the mentoring tribes (including intertribal consortia meeting the requirements of 40 CFR 35.504), states or territories and the total amount of subaward funding must be placed in the "Other" budget category in the Standard Form 424 budget table. The project budget narrative for the application should provide detailed information on anticipated subrecipient costs (e.g., amounts for personnel compensation and travel) for mentoring by budget category. Additionally, mentoring subrecipients should provide the successful applicants with assurances that controls are in place to ensure that the costs charged to subawards are not borne by other funding sources including grants from EPA and other Federal agencies.

Subawards must comply with Federal requirements specified in 2 CFR 200.331 and 2 CFR 200.332 as well as EPA's Subaward Policy. The EPA Subaward Policy includes an optional template within the policy's Appendix D for agreements with subrecipients that successful applicants may, but are not required to, use. Additional information and resources on subawards are available in the policy's Section II-A. For information on capturing a subaward correctly within a proposed project budget, see SN Appendix D.

NOTE: To prevent unfair competitive advantages, no funds awarded under an Exchange Network (EN) assistance agreement may go towards reimbursing a mentor for assistance with writing an EN assistance agreement application.

- Additionally, successful applicants may not use the mentoring funding to hire consultants or other contractors.

More Information:

- For assistance in finding an appropriate mentor, applicants may consider contacting the:
  - For suggestions on potential state or territorial mentors, contact Kurt Rakouskas, Program Manager, Environmental Council of the States (ECOS), at krakouskas@ecos.org.
  - For suggestions on potential tribal mentors, contact Lydia Scheer, Project Manager, Institute for Tribal Environmental Professionals (ITEP), at lydia.scheer@nau.edu.
  - Or Visit the Tribal Exchange Network Group website: https://www.tribalexchangenetwork.org/ for more information about available resources.
- Applicants may also find the following websites helpful for identifying potential mentors:
  - E-Enterprise Community Inventory Platform (EECIP)
  - Previous Projects Page of the EN Website
  - Searchable IT Component and Project Registration Forms

Collaborative Capacity Building

Description:
Territories, tribes, and inter-tribal consortia are eligible to apply for capacity building assistance agreements enhancing the applicant's environmental programs and the applicant's ability to manage and share environmental data electronically with EN partners and tribal citizens. Applications must identify outputs which will increase the applicant's ability to share environmental information electronically with EPA and other EN partners and tribal citizens. Examples of a priority data system include the development of a backend database and tools for entering/moving/checking the included data or implementing an inter-tribal/intra-tribal data exchange. Applications may include developing a data management plan, but the plan must lead to the development of a test or prototype system.

Territories, tribes, and inter-tribal consortia are eligible to apply for partnership assistance agreements which include one or more partners. Eligibility requirements for partnership assistance agreements can be found in Section III-D.

This opportunity is designed to provide applicants and their partners the flexibility to determine which project activities are key to building organizational capacity for data collection, management, and reporting, as well as increased participation in the EN. **Please note that applicants are not limited to the potential project activities listed in the table below.**

For all activities, applicants must provide a detailed cost rationale explaining how costs were estimated and deemed appropriate for the proposed project in their project narrative (see Evaluation Criteria 4B and the 'Overview of Project Budget' section of the project narrative).

Potential Activities Under This Opportunity:

Project Activity	Est. Costs
Develop a strategic plan for collecting, managing, and assessing data and making the best use of available technology to support the business needs of the applicant's organization.	**Up To A Combined Total of $500,000**
Assessment of current systems and available tools/updates and comparing them against the business processes requirements for desired system updates/assessment tools.	
Preparing an Organization's Existing Systems and Tools for Participation in EPA National Program Data Flow(s) (see Appendix B).	
Planning and Implementation of Improved Database and Management Systems and Associated Tools.	
Develop website and user tool development to inform the public of critical environmental projects undertaken or issues monitored by the applicant organization.	
Develop and implement geospatial tools and technologies to improve monitoring, reporting, data visualization, analysis of environmental and public health. problems and decision support (see Open Data project opportunity in Appendix A).	
Increasing participation in the Exchange Network (EN) through associated trainings, webinars, and technical assistance activities.	
Building reporting capacity for lead applicant and partners through other activities.	

Appendix D: Reusability, EEDS, and Budget Guidance and Resources

Identifying Items for Reuse - Exchange Network Partner Products

The Exchange Network Community strives to improve the efficiency and effectiveness of environmental management by collectively learning about successful business processes, data management and technology approaches as utilized by past and current EN grantees. Applicants must research and consider available technologies and IT components prior to submitting a project proposal. As outlined in Section VI-B and reflected in application evaluation criteria (see Section V-A), applicants explicitly identify which EN data and technology management resources as developed by prior EN grantees will be reused or repurposed in their proposed project within the 'Commitment to Reuse' section of their project narrative. If no items are deemed appropriate for reuse, the applicant's project narrative should explicitly state this and provide a detailed justification explaining why available technologies/components will not be used.

Applicants may use several tools on the Exchange Network website (www.epa.gov/exchangenetwork) to discover opportunities to reuse or build on the work of prior Exchange Network grantees:

Searchable IT Component and Project Registration Forms

This web area, new in FY23, provides a table of prior EN assistance agreements which met the EN term and condition to complete an 'IT Component and Project Registration Form' at the time of grant close-out (see Section VI-B). These forms help to ensure that products and services continue to be available for use and/or collaboration in future EN projects. To reflect an understanding of this registration requirement, applicants must commit to register any newly developed resources (required since 2011) and must also commit to register the reuse of existing resources (required since 2018). Applicants should include these as two explicit commitment statements within the 'Commitment to Reuse' section of their project narrative.

Applicants are encouraged to view and explore previously completed IT Component and Project Registration Forms for project ideas and to identify IT components which can be reused in their proposed project. To view these forms:

- Visit the EN website at: https://www.epa.gov/exchangenetwork/searchable-it-component-and-project-registration-forms.
- Use the filters available on the page to search for projects that fit your interest area(s).
- View your results in the page's populated table, including the grantee organization name, grant number, award year, award amount, and a short project description.
- Click the hyperlinked grant number in the project table to view available IT Component and Project Registration Form PDFs that meet your search parameters.

Other Resources:

- Applicants can view all previously awarded Exchange Network assistance agreements, organized by fiscal year, in the PDF documents available through this link: https://www.epa.gov/exchangenetwork/previous-exchange-network-grant-projects
- Applicants may also find EECIP a helpful resource for identifying items available for reuse.

Alignment with the E-Enterprise Digital Strategy (EEDS)

The EN Grant Program awards points through its evaluation criteria to projects that align with the three principles of the E-Enterprise Digital Strategy (EEDS) (see criterion 3F in Section V-A 'Evaluation Criteria'). The EEDS is a shared vision to unlock the power of digital information, better coordinate IT systems and services, and deliver more responsive environmental protection. Applicants should provide specific information in the 'Project Alignment with the E-Enterprise Digital Strategy (EEDS)' section of their project narrative that addresses how their proposed project reflects the three principles of EEDS. Minimal additional points are also awarded to applications that reflect an API-first methodology.

1. Build with an Information-Centric Approach: Environmental protection depends on access to quality information. The EEDS calls on state and tribal environmental agencies to invest in their data as a mission-critical asset that is accurate, available, and secure. Projects with an information-centric approach strive to make data FAIR: Findable, Accessible, Interoperable, and Reusable. Data that are FAIR can be more easily integrated across agencies and programs and can be adapted to meet a variety of business needs. Information-centric projects treat data as a discrete product that can be accessed and reused in different contexts and for different purposes.

Information-centric projects should embrace **an API-first approach** whenever possible. APIs or Application Programming Interfaces are powerful connectors that make data available in machine-readable formats. When data are made openly and securely available through APIs, they can be tagged, shared, secured, mashed up and presented to data consumers in an unlimited number of ways. Well-designed APIs can deliver the information needed to support a range of agency business needs including programmatic workflows, management and policy decisions, and public data access.

An **API-first approach** seeks to follow these industry best-practices: (1) the API is the first user interface of an application; (2) the API comes first, followed by implementation; and (3) the API is described in usable documentation, enhancing searchability and functionality.

The emphasis on an API-first approach, as reflected increasingly throughout the global technical community, is a development ethos that moves away from time-intensive, 'code first' development work to a more streamlined and integrated approach. Leveraging an API-first strategy, when coupled with a low-code/no-code development platform, minimizes the likelihood of slow development cycles, removes the need to recreate existing software, and enables developers to focus on innovation and improved core functionalities for users. This API-first method helps decouple the internal dependencies of a given workflow while minimizing the underlying complexities of connecting data/services to external parties. Organizations who adopt this approach are likely to experience faster project implementation, more adaptable products, and an overall reduction of organizational costs and labor burdens.

Examples activities (1st EEDS Principle & API-First Approach): This principle broadly emphasizes the importance of data access and availability, and there are various ways proposed EN projects can demonstrate alignment with this component of the strategy. As an example, projects that implement elements of the FAIR principle are considered information-centric. Specific examples of projects and project activities that reflect the FAIR principle include:

- Findable: A project that connects data across legacy and cloud native systems via webservices and makes the data more discoverable. Another example is a project to develop a data catalog including metadata standards that enable users to find the right data sets for conducting environmental analyses.

- Accessible: A project that uses REST API enabled systems connected via webservices, providing REST endpoints to improve data accessibility. The data catalog project referenced above also can provide a common point of access for navigating to important data sets.
- Interoperable: A project that leverages APIs to enable or expand data sharing or exchanges across internal or external systems. Similarly, a project to adopt and implement data standards across multiple tribes or state agencies will improve their ability to more seamlessly share and exchange data.
- Reusable: A project which adopts an existing API (e.g., a federal or industry API) and adapts it to meet organizational business needs, or a project which develops a new API to provide access to environmental data across multiple programs.

2. Adopt Shared Platforms: Agencies that share platforms and adopt a "build once, use many times approach" can reduce costs, accelerate innovation, eliminate wasteful duplication, and more easily share information. Taking a shared platform approach may include using common standards and practices, implementing collaborative technology solutions, reusing existing services and contracts, building for multiple use cases, participating in open-source communities, and leveraging public crowd- sourcing. Cloud-based platforms, in particular, create transformative opportunities to share data more seamlessly, collaborate on interactive modeling initiatives, and match computing resources with workloads.

Example activities (2nd EEDS Principle):

- A state or tribe proposes to modify an existing application to accept data from a different environmental media (e.g., expanding an air data collection and reporting application to collect and report water quality data).
- An applicant proposes to expand an application's functionality to enable field inspectors to access and utilize data from a system that was originality developed to store permit data.
- A state environmental agency proposes to develop a new application by leveraging the state's centrally provided cloud-based development platform.

3. Adopt Customer-Centric Approaches: Customer voices should always drive the design of technology projects and process streamlining activities. Projects that use a customer-centric approach take the time at the outset to fully understand and document the customers' business needs. Customer-centric projects make content, data, and services more broadly available, accurate, accessible, and usable.

Example activities (3rd EEDS Principle):

- An applicant proposes to develop a data catalog and repository to make data more accessible to multiple tribes for conducting water quality analyses. The application describes an agreement reached among the tribes to establish a Stakeholder Review and Product Acceptance Team. This Team is tasked with reviewing and approving the catalog and repository's conceptual and final designs as well as its functionality and usability.
- A state or tribe proposes a project to develop a new environmental application using an Agile Development Methodology. Agile Development emphasizes active customer involvement in short, focused development sprints designed to create a more cohesive, quality application.

How to Correctly Calculate and Capture a Project Budget Across Application Attachments
Applicants are required to detail their proposed project budgets across multiple mandatory application attachments. It is critical that this information is appropriately detailed, correctly calculated, and consistent across all forms. This document provides an overview of where and how budget information should be captured, including specific guidance to help applicants correctly calculate and capture costs across direct and indirect budget categories. **All applicants are highly encouraged to read this guidance carefully.**

WHERE budget information should be captured in your application package:
- Project Narrative Attachment Form: Section Two and Section Seven
- Budget Narrative Attachment Form
- Application for Federal Assistance - Standard Form 424
- Budget Information for Non-Construction Programs - Standard Form 424A

WHAT: Applicants may propose EN project funding for costs associated with personnel salaries and fringe benefits, Intergovernmental Personnel Act Agreements (IPAs) travel, travel related to EN activities, equipment, supplies, contractual costs, in-kind services provided by EPA and indirect costs. Applicants may propose EN project funding for development, modernization, and enhancement activities. All proposed project costs must be necessary and reasonable and in accordance with Federal guidelines. Determinations of allowable costs will be made in accordance with 2 CFR 200 Subpart E - Cost Principles found in the Office of Management and Budget's Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. Cost restrictions are listed in Section III-C.

Budget and related information should be captured in each attachment, as listed above:

- **Information to include in the Project Narrative Attachment Form:**
  - Section Two: Provide the cost for each goal and each output.
  - Section Seven: Provide details on the following:
    - The appropriateness of each output cost;
    - In-kind funds (if applicable);
    - Subawards to partnering or mentoring organizations (if applicable);
    - Contractor/consultant/vendor costs (if applicable), with the procurement method and a rationale for using sole-source/non-competitive procurement (if applicable);
    - Indirect costs (if applicable), with the current IDC rate and expiration date;
    - Total travel costs (if applicable), with each travel destination, purpose, number of travelers, and cost per trip.

- **Information to include in the Budget Narrative Attachment Form:** Applicants should itemize and detail the following project costs, as applicable to the proposed project:
  - Personnel Costs: List cost per staff position and total (sum) personnel costs over the 3-year period of performance; also include the staff position, staff name (if known), annual salary, and percentage of staff time devoted to the project.
  - Fringe Costs: List cost per staff position and total (sum) fringe costs over the 3-year period of performance; also include the staff position, staff name (if known), 3-year personnel costs as calculated in the personnel budget category, and the applicable fringe benefit rate.
  - Travel Costs: List the cost per trip and total (sum) travel costs; for each trip, also include trip item (e.g., 'airfare', 'mileage', etc.), estimated cost per trip item, trip duration, number of travelers, trip destination, and purpose of travel.
  - Equipment Costs: List the cost per equipment item and total (sum) equipment costs; also include the item name, item quantity, and price per item.

- Supply Costs: List the cost per supply item and total (sum) supply costs; also include the supply category (e.g., 'laboratory supplies' or 'office supplies'), item name/description, item quantity, and price per item.
- Contractual Costs: List the contractor category (individual consultant, contracting firm, or vendor firm), the cost per contract, and total (sum) contractor costs; also include a contract description, duration (number of hours), hourly rate, contract purpose summary, and procurement method (e.g., 'sealed bid'). Provide a detailed justification for non-competitive/sole-source procurement, if applicable.
- Other Costs: List the cost per 'other cost' item and total (sum) 'other' costs; also include the item category (e.g., 'subaward' or 'participant support cost'); item name/description, item quantity, and price per item.
- Indirect Cost: List your organization's current indirect cost rate, base amount, and total (calculated) indirect cost amount; also include the effective period and description of base from your organization's Negotiated Indirect Cost Rate Agreement.

- **Information to include in the Application for Federal Assistance - Standard Form 424 (SF-424):**
  - Section 18: Estimated Funding: Provide the cost per budget cost category.

- **Information to include in the Budget Information for Non-Construction Programs - Standard Form 424A (SF-424A):**
  - Section A, Part 1: Provide total project cost in Column E and Column G.
  - Section A, Part 5: Provide total project cost in Column E and Column G.
  - Section B, Part 6, A-K: Provide cost per budget cost category in columns 1 & 5.
  - Section D*, Lines 13 & 15: Provide total annual cost for project year one and project costs per quarter (in that first year), as align with the project workplan.
  - Section E*, Line 16 & 20: Provide a breakdown of project costs over the 3-year period of performance (using columns b, c, and d), as align with the project workplan.
    - *Please Note: Grantees contributing a cost match or other non-federal funds must also fill out the appropriate sections in this form.

HOW to correctly capture and calculate budget costs across direct and indirect cost categories:

Important Notes for All Budget Categories:
- Use the exact formulas as described below to calculate your costs per budget category.
- Do not include penny amounts; round up or down to the nearest whole number for each step in the formulas below. Likewise, round unit costs or hourly rates to the nearest whole number.
  - For example, in the first row under 'personnel costs' below, the annual salary ($78,123) multiplied the percentage of time dedicated to the project (10%) is $7,812.30. Round this down to $7,812 before the next step (multiplying by 3 for the period of performance).

How to Calculate Personnel Costs: For each position, first multiply the annual salary for that position by the percent of their time dedicated to the project to get annual cost. Then, multiply this product by 3 (an EN grant's period of performance). Sum the personnel cost for each staff position to find the total personnel cost.

Staff Position (Project Role)	Staff Name (If Known)	Annual Salary	% of Time	Annual Cost	Period of Performance (Years)	3- Year Personnel Cost
Project Manager	Neal XXX	$78,123	10%	$7,812	3	$23,436

IT Specialist	Diana XXX	$64,322	15%	$9,648	3	$28,944
Environmental Specialist	Karen XXX	$53,992	15 %	$8,099	3	$24,297
Environmental Specialist	Carlos XXX	$49,982	10%	$4,998	3	$14,994
Total Personnel Costs						$91,671

<u>How to Calculate Fringe Benefits:</u> For each position, multiple the personnel cost calculated in the prior category by the fringe benefit rate. Sum the fringe cost for each staff position to find the total fringe cost.

Staff Position	Staff Name	3-Year Personnel Cost	Fringe Benefit Rate	3-Year Fringe Cost
Project Manager	Neal XXX	$23,436	22%	$5,156
IT Specialist	Diana XXX	$28,944	12%	$3,473
Env. Specialist	Karen XXX	$24,297	25%	$6,074
Env. Specialist	Carlos XXX	$14,994	17%	$2,549
Total Fringe Costs				$17,252

- *<u>Note:</u>* These costs are allowances and services that you provide to your employees as compensation in addition to regular salaries and wages; examples include cost of leave, employee insurance, pensions and unemployment, and holiday benefits.
- *<u>Note</u>*: Only include fringe benefits for the percentage of time devoted to the project.
- *<u>Note:</u>* EPA will compare listed fringe benefit rates against similarly situated recipients to reasonable rates. The Bureau of Labor Statistics website publishes average rates that can be used as a reference.

<u>How to Calculate Travel Costs:</u> For each trip, multiply the estimated cost of each trip item by the duration and number of travelers. Sum these costs to find the total cost per trip. Sum the total costs per trip to find the total travel cost.

Trip	Trip Item	Estimated Cost	Duration	# of Travelers	Travel Cost
1	Airfare	$550	N/A	2	$1,100
	Per Diem	$22 meals (x3 daily) + $124 lodging = $190	3 Nights	2	$1,140
	Rental Car	$60	4 Days	2	$480
	Mileage	80 miles x $0.50 per mile = $40	4 Days	2	$320
Trip Destination		San Francisco, California (EPA R9)			
Travel Purpose		Participation in Annual Regional Exchange Network Meeting			
Trip One Cost		$3, 040			
Total Travel Costs		$3, 040			

- *<u>Note:</u>* EPA recognizes that travel destinations may not be known at the time of application submittal; applicants should compose their travel to the best of their ability based on travel estimates to likely or comparable past destinations

<u>How to Calculate Equipment Costs:</u> For each equipment item, multiple the quantity by the price per unit to find the total cost per equipment item. Then, sum these costs to find the total equipment cost.

Item Name/Description	Quantity	Price Per Unit	Equipment Cost
Pix4Dmapper, Perpetual License	1	$5,050	$5,050
SLEIS Software Upgrade and License	1	$6,135	$6,135
Total Equipment Costs			$11,185

<u>How to Calculate Supply Costs:</u> For each supply item, multiple the quantity by the price per unit to find the total cost per supply item. Then, sum these costs to find the total supply cost.

Supply Category	Item	Quantity	Price Per Unit	Estimated Cost
Monitoring Supplies	Pressure Transducer	2	$723	$1,446
Computing Device	Laptop Computer	8	$672	$5,376
Total Supply Costs				$6,822

- *Note:* Supply items cost less than $5,000 (per individual item); items exceeding $5,000 should be categorized as 'equipment'.

How to Calculate Contractual Costs: For each contractor/consultant, multiple the estimated hours by the estimated hourly rate to find the total cost per contract. Then, sum these costs to find the total contractual cost.

Type	Brief Description	Hours	Hourly Rate	Contract Purpose	Procurement Method	Est. Cost
Contracting Firm	IT System Contractor	110	$107	Contractor will provide system access and support to new tribal users.	Competitive Proposals	$11,770
Individual Consultant	Tech Consultant	50	$75	IT solutions consultant to support project planning under goal 2.	Sealed Bid	$3,750
Non-Competitive Procurement Rationale			N/A – non-competitive/sole-source procurement is not being utilized.			
Total Contractual Costs						$15,520

- *Note*: The contract cost should exactly equal the duration in hours multiplied by the hourly rate.
- *Note:* 'Type' categories include 'individual consultant', 'contracting firm', and 'vendor firm'.
- *Note:* For individual consultants, the hourly rate may not exceed $91.95 per hour; this consultant hourly wage cap applies to "consultation services of designated individuals with specialized skills who are paid at a daily or hourly rate". That is, an individual paid directly by the grantee, rather than through a contractual body or vendor.
- *Note:* Non-competitive procurement is only allowable under certain conditions, see Section II-A General Information for more information; a detailed rationale must be provided for this method.

How to Calculate Other Costs: For each item, multiple the quantity by the price per unit to find the total cost per other item. Sum these costs to find the total other cost.

Category	Item	Quantity	Price Per Unit	Est. Cost
Light Food and Beverage	Coffee (Gallon)	6	$16	$96
Participant Support Cost	Training Fee for Community Members	10	$250	$2,500
Subaward	Subaward to (EN Partner Org. Name)	1	$9,000	$9,000
Total Other Costs				$11,596

- *Note:* Under 2 CFR 200.432, the costs of meals and light refreshments for conferences are allowable if the work continues during the meal, unless expressly restricted. See additional restrictions on the allowability of the costs for meals and light refreshments at: EPA's General Terms and Conditions.
- *Note:* Funds for eligible partnering and mentoring organizations should be distributed as a subaward.
- *Note*: This cost category includes only those types of direct costs that do not fit in any of the other specific budget categories.

How to Calculate Indirect Costs: Identify your organization's approved, current indirect cost rate and calculate the base amount from the allowable costs as outlined in the base description of your organization's Negotiated Indirect Cost Rate Agreement. Multiply the indirect cost rate by the calculated base amount to find your total indirect costs.

Effective Period	IDC Rate	Description of Base	Base Amount	Total
10/01/24 – 09/30/25	11.6%	Total direct costs excluding subawards.	$147,816	$17,147
Total Indirect Costs				$17,147

- *Note:* These are costs incurred to facilitate the general operations of your organization. They include, but are not limited to, space costs, utilities, accounting services, and services associated with human resources that are included in an applicant's indirect cost rate.
- *Note:* Applicants without a current indirect cost rate agreement may elect to charge indirect costs at a 10% de minimus rate (see Appendix E: Negotiated Indirect Cost Rate for more information).
- *Note:* Tribal applicants may also charge indirect costs using their draft rate as submitted to the Department of Interior (DOI); this draft agreement must be submitted with the application package.
- *Note:* An applicant can elect to charge less indirect costs than is allowable per their IDC rate.

Indirect Cost Example:

An applicant's rate, according to their Negotiated Indirect Cost Rate (IDC) agreement, is 19.6% and expires on 6/30/2025, making it valid through the period of performance start date of 9/30/2024:

TYPE	FROM	TO	RATE (%) LOCATION	APPLICABLE TO
FIXED	07/1/2024	06/30/2025	19.60	All Programs (On or Off Site)

The base, as written in the applicant's IDC rate agreement, states the following:

BASE: Total direct costs excluding capital expenditures (buildings, individual items of equipment, and alterations sand renovations), subawards, and pass-through.

The applicant's direct cost budget is as follows:

Cost Category	Amount
Personnel	$15,072
Fringe Benefits	$6,782
Travel	$4,500
Equipment	$118,035
Supplies	-
Contractual	-
Other	$20,804 (as a subaward to their partnering organization)
Total Direct Cost:	$165,193

- The base amount is then calculated as total direct cost MINUS unallowable costs (per the base):
  - $165,193 (total direct costs) – $20,804 (subaward cost) = $144,389.
- To calculate the allowable indirect cost, the applicant then multiples the base amount by their rate: 144389 (base amount) x 0.196 (rate) = $28,300.244.
- The applicant rounds this to the nearest whole dollar, for a total indirect cost amount of: $28,300.
- The total budget for this project (direct and indirect costs) is: $193,493.

Additional Budget Resources:

- More general information on Indirect Costs can be found in Section II-A.
- More information on Negotiated Indirect Cost Rate Agreements can be found in Appendix E under 'other attachments.'
- An optional project narrative template can be found here.
- An optional budget narrative template can be found here.
- An optional self-calculating cost per budget category sheet in Excel, found here.

Appendix E: Detailed Instructions for Preparing and Submitting Applications

Applicants for the FY24 Exchange Network Grant program must submit an application package to EPA by **11:59 PM Eastern on Thursday, May 23, 2024.** Except as noted on Page E13: 'Detailed Instructions for Submitting Applications', applicants must apply electronically through Grants.gov under this opportunity based on the Grants.gov instructions in this announcement.

Please allow for enough time to successfully submit your application and allow for unexpected errors that may require you to resubmit. Applications submitted through Grants.gov will be time and date stamped electronically. Please note that successful submission of your application through Grants.gov does not necessarily mean your application is eligible for award. Any application submitted after the application deadline time and date deadline will be deemed ineligible and not be considered.

The following forms and documents are required under this announcement (fillable forms can be obtained from https://www.epa.gov/grants/epa-grantee-forms.) All packages must contain a cover letter, project narrative, and the applicable forms and attachments listed below in the 'overview of application materials.' Please ensure all documents are final and unlocked prior to submittal through Grants.gov.

Overview of Mandatory Application Materials:

(1) Cover Letter (see optional template here)(submit with 'Other Attachments Form' from Grants.gov)
(2) Project Narrative Attachment Form (see optional template here)
(3) Budget Narrative Attachment Form (See optional template here)
(4) Application for Federal Assistance (Standard Form (SF-424)
(5) Budget Information for Non-Construction Programs (SF-424A)
(6) Key Contacts Form (EPA Form 5700-54)
(7) Pre-award Compliance Review Report (EPA Form 4700-4)(see tips for completing here)

Additional Attachments (Mandatory if Applicable to the Applicant/Proposed Project):

Note: Use 'Other Attachment Form' to submit applicable attachments in this category

(A) Negotiated Indirect Cost Rate Agreement
(B) Additional Information for Inter-Tribal Consortium
(C) Formal Project Partners:
- Support Letter(s)
- Roles & Responsibilities
- Distribution of Funds & Overview of Subaward Budget

(D) Formal Project Mentor(s):
- Support Letter(s)
- Roles & Responsibilities
- Distribution of Funds & Overview of Subaward Budget

(E) List of Prior Exchange Network Assistance Agreements
(F) Documentation Certifying Applicant Status as an Instrumentality of the State or Tribe

Note: Successful applicants requesting over $100,000 are required to submit the 'EPA Lobbying Form 6600-06' to ENGrantProgram@epa.gov upon notification of award selection. Applicants do not need to submit this form with their initial application.

Key contacts are requested to check their email inboxes frequently in the months of April – September, as EPA may need to contact you about this form and/or other aspects of your submitted application.

Additional guidance tools have been posted to the Exchange Network website at www.epa.gov/exchangenetwork/exchange-network-grant-program#Resources, including:

- An optional, fillable Cover Letter Template
- An optional, fillable Project Narrative Template
- An optional, fillable Budget Narrative Attachment Form Template
- An optional, fillable, and self-calculating Budget Tool

Though applicants are not required to follow these templates, they have been provided as a tool to help ensure that all required information is appropriately captured within each of these documents.

Mandatory Attachment 1: The Cover Letter

The application must include a cover letter signed by an authorized organizational representative (AOR) who, by virtue of their position, is able to obligate staff time on the proposed project, which includes:

- Applicant information;
- Project title;
- Type of assistance requested (Grant/Cooperative Agreement/PPG/CG)
  - If a Performance Partnership Grant (PPG) or Consolidated Grant (CG) is preferred, state this clearly in the cover letter and include the relevant grant number if possible;
- Proposed amount of grant (broken down into direct funding and in-kind assistance if relevant);
- Partners on the assistance agreement (if applicable);
- Mentors on the assistance agreement (if applicable);
- Brief project summary including a statement of project goal(s);
- Contact information for the project lead; and
- Signature of executive level Authorized Organizational Representative (AOR).

An optional cover letter template is available on the EN website.

Mandatory Attachment 2: The Project Narrative

Applicants must include a project narrative or work plan which describes their proposed project in detail and clearly addresses each scoring criterion as outlined on Section V-A Evaluation Criteria. Review panels will score applications based on how well they meet these criteria.

Project Narrative Language and Formatting Tips:

- Do not exceed 10 single-spaced pages in length-
  Number each page of your workplan and note that EPA application reviewers will not review any work plan elements appearing after the tenth page.

- Strive for clear and succinct language-
  Applicants should address each section of the project narrative in detail using clear and concise language to ensure the best comprehension and scoring by EPA program staff and reviewers.

- Include headers for each of the eight project narrative sections-
  To help the review panel easily navigate through the project narrative, applicants are requested to include the section header in bold font above the section text in size 11 or 12 font.

- Use standard margins and fonts-
  Applications should use 11-point fonts, apart from section headers and the proposal title, which may be increased to size 12. Please use 1-inch margins and single line spacing.

- Use EN terminology as written in the Solicitation Notice and the project narrative guidance -
  For improved clarity and consistency, applicants are requested to use the language and terms as reflected in the Solicitation Notice. For example, use "goals", "outputs", and "outcomes" in place of synonyms such as "objectives", "targets", "tasks" or "milestones". This helps to ensure that application reviewers are able to identify met requirements and score your application correctly.

The following section lists the eight (8) required sections of the project narrative, in order, and provides a detailed description on the information to include within each:

Note: Where optional tables are provided below, blue text enclosed in brackets signifies sections of text to be edited/expanded upon by the applicant; change this text back to black before submission. For example, '[Enter Descriptive Output Title]' would become 'Output 1.2: Implement User Testing'.

Note: Where optional tables are provided below, add rows and/or expand the table as necessary to capture all relevant information.

1. Project Description

The purpose of this section is to help reviewers better understand what is being proposed. Include a brief description of the applicant's organization, describe its scope of work, and identify the general organizational business and/or administrative need(s) which will be supported by the proposed project. In addition, name the specific EN Funding Area(s) and EN project opportunit(ies), if applicable, that they are applying under. 'EN project opportunities' in this context refers to specific project write-ups that provide the information needed to design a proposal for a particular data exchange, data service, or project type (as listed in Appendices A, B, and C).

In this section, establish project alignment with the **EPA's FY 2022-2026 Strategic Plan** by stating which specific strategic goals and objectives as listed in Section 1-C are supported by the proposed project. Include both the number and title of each supported goal and objective (e.g., 'Goal 1: Tackle the Climate Crisis, Objective 1.1 Reduce Emissions that Cause Climate Change'), and briefly describe for each how they will be supported. In addition, list specific anticipated environmental outputs and outcomes as associated with the supported EPA strategic goals and objectives.

Use of the following table format to capture the above information is recommended, but not required:

Table 1. Supported EPA Strategic Goals and Objectives			
Strategic Goal	**Strategic Objective**	**Project Support Description:**	**Associated Environmental Output(s) and/or Outcome(s)**
Goal [#]: [Enter Full Title]	Objective [#]: [Enter Full Title]	[Briefly describe how this goal & objective is supported by the proposed project.].	[List associated environmental output(s) and/or outcome(s)].

2. Project Goals, Outputs, and Outcomes

The purpose of this section is to provide a detailed project plan for tracking, evaluating, and measuring progress over the proposed project's period of performance. The project plan should contain the following:

(1) **each** project goal and its cost;
(2) a descriptive title for all output(s) associated with that project goal;
(3) **each** output cost;
(4) a scheduled completion date for **each** output;
(5) anticipated outcome(s) affiliated with each project goal;
(6) the business and/or administrative need(s) which will be supported by each project goal;
(7) the (one) EPA strategic goal and objective which is most supported by each project goal[1]; and
(8) a brief general rationale for how output dates were selected and deemed appropriate.

Note[1]: Applicants must only list one strategic goal and objective per project goal; if there are multiple options, applicants should choose the best fit. Please note that the same strategic goal and objective may be listed for multiple project goals.

Note: If a proposed goal and/or output is similar to one(s) previously funded, the applicant should describe in detail how the previously funded activities differ from those currently proposed or how the current application will complement past or ongoing work.

Use of the following table format to capture the above information is recommended, but not required:

Table. 2 Goals, Outputs, and Outcomes (Project Workplan)			
Goal:	**Output Cost:**	**Output(s):**	**Completion Date**
Goal 1: [Enter Descriptive Title] **Goal 1 Cost:** $[Enter]	$ [Enter]	**1.1:** [Enter Descriptive Title]	[mm/dd/yyyy]
	$ [Enter]	**1.2:** [Enter Descriptive Title]	[mm/dd/yyyy]
	$ [Enter]	**1.3:** [Enter Descriptive Title]	[mm/dd/yyyy]
Anticipated Outcome(s):	[Enter outcome(s) from this goal].		
Admin./Business Need(s):	[Enter admin. and/or business needs supported by this goal].		
EPA Strategic Goal & Objective:	[Enter EPA strategic goal & objective most supported by this goal].		
- Expand Table to Include More Goals as Applicable to the Proposed Project -			
Rationale for Selected Output Completion Dates:	[Provide a general rationale for how the proposed completion dates were selected and deemed appropriate for the project].		
a. Total Budget for (All) Goals:	$ [Enter Sum of Goal Costs]		
b. Personnel Costs not otherwise included in Goal Costs:	$ [Enter, if applicable to the project]		
c. Fringe Costs not otherwise included in Goal Costs:	$ [Enter, if applicable to the project]		
Total Direct Costs:	$ [Enter Total Direct Costs (Sum of A-C)]		
Total Indirect Costs:	$ [Enter Total Indirect Costs, if applicable]		
Total Project Budget:	$ [Add Total Direct Costs & Indirect Costs]		

3. Identifying Key Personnel and Associated Roles, Responsibilities, and Qualifications

The purpose of this section is to explicitly identify which project roles are applicable to the proposed project and to provide the required additional information for that role, including (as applicable) identifying information, project roles and responsibilities, and qualifications.

(A) If a role is applicable to a project and that position has been hired, please explicitly state this, and provide the following for at least one key contact in that role:

- Full name*;
- Current job title;

- Current organization;
- Anticipated role and responsibilities; and
- Key contact organization and relationship to applicant (for roles held by outside parties).
  * Please note that this should not be provided for any project contractor/consultants.

(B) If a role is applicable to a project but it has not yet been hired/is not yet known, the following information should instead be provided:
- Statement of skills, knowledge, abilities, and qualifications necessary for the role; and
- Future project role(s) and responsibilit(ies).

Applicants should explicitly state whether each of the following roles are applicable to the project and if so, provide the information from either bullet list (A) or bulleted list (B). Please note that some roles also require additional information, as detailed below:

- **Project Manager**: This role is applicable to all projects and, in the case of EN partnerships, must be held by a staff member from the lead organization.
  - Provide the information from bulleted list A or list B, above.
  - Additionally, provide an overview of the project manager's qualifications in project and financial management, including relevant past work experience.

- **Programmatic Contact:** Any proposed project that involves the management, transport of, or access to programmatic data must substantially involve the program that owns said data in project planning and implementation. The role of programmatic contact is applicable to projects whose work is being carried out by an office that does not own or manage the data (e.g., a central IT office). The involvement of program office through this role ensures that data and IT management requirements are sufficiently met.
  - State if this role is or is not applicable to the proposed project and:
    - If applicable: provide the information from bulleted list A or list B, above.
    - If not applicable: explain in detail why programmatic involvement was deemed not applicable or unnecessary for the proposed project.

- **Formal Partners**[1]**:** The role of formal partner is applicable to any project applying as an EN Partnership. Applications which involve more than one partnering organization need only list these details for one contact from one partnering organization. (Additional partners should be detailed in the attachment titled: 'Formal Project Partners - Roles and Responsibilities and Distribution of Funds' attachment (see 'Additional Attachments' in Appendix E).
  - State if this role is or is not applicable to the proposed project and:
    - If applicable: provide the information from bulleted list A or list B, above.

- **Formal Mentor:** The role of formal mentor is applicable to any project applying under the 'Individual Capacity Building with Mentorship' EN project opportunity.
  - State if this role is or is not applicable to the proposed project.
  - If applicable:
    - Provide the information from bulleted list A or list B, above;
    - Describe the mentoring organization's involvement with the EN;
    - List at least one EN assistance agreement successfully completed by the mentoring organization; and

- Provide a statement verifying that the mentor currently reports or publishes one or more environmental programs using an EN node, VES, or APIs.

- **Contractor/Individual Consultant/Vendor[1]:** This role is applicable to any projects utilizing a contracting firm, an individual consultant, and/or a vendor firm.
  - State whether this role is applicable to the proposed project; if multiple entities will be procured, provide this information for all.
  - If applicable, do not provide the contact name or current job title, but do:
    - Provide the entity type (contractor firm, vendor firm, or individual consultant);
    - Provide the anticipated project roles and responsibilities;
    - Name the planned method of procurement (and rationale, if applicable); and
    - Describe the planned method of vetting to ensure the selected candidate is qualified to complete assigned work.

Note[1]: In the case that 100% of requested funds will be distributed as a contract or subaward, applicants must also explain how these transactions will be managed in compliance with applicable Federal requirements without project funding for personnel costs.

Use of Table 3. Applicable Key Contacts and Table 4. Contractor/Individual Consultant/Vendor to capture the above information is recommended, but not required:

<table>
<tr><th colspan="5">Table. 3 Applicable Key Contacts</th></tr>
<tr><th>Personnel Role</th><th>Applicable(Y/N)</th><th>Name</th><th>Current Job Title</th><th>Organization</th></tr>
<tr><td>Project Manager</td><td>Y</td><td>[Enter Name]</td><td>[Enter Current Title]</td><td>[Enter Org. Name]</td></tr>
<tr><td colspan="2">Roles and Responsibilities:</td><td colspan="3">[Describe role's proposed project roles and responsibilities].</td></tr>
<tr><td colspan="2">Experience or Qualifications in Project and Financial Management:</td><td colspan="3">[Enter description of project manager's experience in project management and financial management].</td></tr>
<tr><td>Programmatic Contact</td><td>[Enter Y/N]</td><td>[Enter Name]</td><td>[Enter Current Title]</td><td>[Enter Org. Name]</td></tr>
<tr><td colspan="2">Project Role(s)/ Responsibilit(ies):</td><td colspan="3">[Describe role's proposed project roles and responsibilities].</td></tr>
<tr><td colspan="2">Programmatic Office's Relationship to the Applicant:</td><td colspan="3">[Enter brief description of relationship between programmatic office and applicant office].</td></tr>
<tr><td>Formal Partner</td><td>[Enter Y/N]</td><td>[Enter Name]</td><td>[Enter Current Title]</td><td>[Enter Org. Name]</td></tr>
<tr><td colspan="2">Project Role(s)/ Responsibilit(ies):</td><td colspan="3">[Describe role's proposed project roles and responsibilities].</td></tr>
<tr><td colspan="2">Partnering Organization's Relation to the Lead Applicant:</td><td colspan="3">[Enter brief description of relationship between lead applicant and the partner contact's organization]</td></tr>
<tr><td>Formal Mentor</td><td>[Enter Y/N]</td><td>[Enter Name]</td><td>[Enter Current Title]</td><td>[Enter Org. Name]</td></tr>
<tr><td colspan="2">Project Role(s)/ Responsibilit(ies):</td><td colspan="3">[Describe role's proposed project roles and responsibilities].</td></tr>
<tr><td colspan="2">Mentoring Organization's Prior Exchange Network Experience:</td><td colspan="3">[Enter brief summary of mentor organization's EN experience/history].</td></tr>
<tr><td colspan="2">Mentor's Most Recent EN Grant:</td><td colspan="3">[List grant number and fiscal year of at least one prior EN grant].</td></tr>
<tr><td colspan="2">Confirmation of Mentoring Data Reporting/Publishing Requirement:</td><td colspan="3">[This mentor currently [reports and/or publishes] data for [list one or more EPA environmental programs] using [EN Node, VES, or an API].</td></tr>
</table>

Note: Mark 'N' for no in the second column titled 'Applicable (Y/N)' for any role that is not applicable and write N/A in all other fields in that section.

Note: If the role has not yet been hired: (1) mark 'Y' for yes in the second column titled 'applicable(?)'; (2) write 'Not Yet Hired' in the third column titled 'Name'; (3) write 'Not Yet Hired' in the fourth column titled 'Current Job Title'; (4) write 'Not Yet Hired' in the fifth column titled 'Organization'; and (5) fill out the 'Project Role(s)/ Responsibilit(ies)' row. Then, (6) add and fill the following row below the 'Project Role(s)/Responsibilities' row:

Required Skills, Knowledge, Abilities, and Qualifications:	[Enter brief summary of necessary skills, knowledge, abilities, and qualifications as outlined in the position's recruitment package]

Note: If programmatic involvement will not be included in the project, replace the two rows titled 'Project Roles and Responsibilities' and 'Programmatic Office's Relationship to the Applicant' with this one row:

Rationale on Why Programmatic Involvement Is Not Applicable:	[Provide a detailed rationale on why this was not deemed applicable and/or necessary for the proposed project.]

Table 4. Contractor/Individual Consultant/Vendor		
Contractor Role Type	**Applicable(?)**	**Planned Procurement Method**
[Contracting Firm/Individual Consultant/Vendor Firm]	[Enter Y/N]	[Enter 'sealed bid', 'request for proposals', or 'non-competitive procurement'].
Method of Qualification Vetting:		[Describe method for how the applicant organization will vet the contractor to ensure they are qualified to complete assigned work.]
Roles and Responsibilities:		[Describe role's proposed project roles and responsibilities].

Note: Expand the table if more than one individual or firm will be utilized in the proposed project. If this role is not applicable (no contracting firm, vendor firm, or individual consultant will be utilized), mark 'N' in the second column and write N/A in all other fields.

Note: For any role(s) utilizing non-competitive (aka 'sole-source') procurement, add and fill the following row; see 'contracts' under Section II-A for more information on when this procurement type is allowable per EPA

'Non-Competitive' or 'Sole-Source' Procurement Method Justification:	[This method is allowable per EPA guidelines because [provide a detailed justification of why this method is allowable/appropriate].

4. Commitment to Reuse and Register Shared Tools and Services

Applicants should not spend assistance agreement funds on tools already developed and available from other EN partners. The purpose of this section is for the applicant to clearly name and describe which existing project-appropriate tools and shared services will be incorporated into their proposed project, as well as to provide two specific commitment statements confirming that the applicant will register their own project information to perpetuate the availability of reusable components for future grants.

Guidance for identifying tools and services for reuse is available in Appendix D on page D1.

- If the proposed project is reusing IT Components, the applicant should provide the component name/title(s), type, and a brief description.
- If the proposed project is not reusing IT components, the applicant should explicitly state this and provide a detailed justification for why no tools, resources, services, widgets, etc. were identified as appropriate for reuse.

Use of the following table format to capture the above information is recommended, but not required:

Table 5. Reused Components		
Name/Title	**Type**	**Description**
[Enter Component Name or Title]	[Enter Component Type]	[Provide a brief description of the component and why it is appropriate for the proposed project]

Note: IT Component types include: Software; Web-Based Service(s); Cloud-Based Service(s); Shared Platform; API; XML Schema; Monitoring Tool/Service; Mobile Data Collection Tool; Remote Sensing Tool; GIS; Data Sharing Tool; Data Flow; Data Exchange Template; Data Service and/or Download; Data Standards; Training Tools and Resources; Flow Configuration [Document]; Standard Exchange Protocols; or Other.

Applicants must also include two commitment statements as relate to a EN term and condition (see Section VI-B Administrative and National Policy Requirements). In the first statement, applicants must explicitly commit to register any new tools/IT components developed as part of the project at the time of grant close-out. In the second statement, applicants must explicitly commit to register the reuse of any tools/IT components at the time of grant close-out.

5. Technical Solutions and Data Availability

The purpose of this section is for the applicant to identify each technical solution that will be utilized in the project, detail why the solution(s) are appropriate for the proposed project and demonstrate that their organization and/or their partners have the requisite technical understanding to successfully perform the proposed work. Additionally, applicants must detail how the proposed project will enhance data sharing and data availability both for immediate stakeholders (their organization and any formal partners) and for other organizations across the Exchange Network.

Name or provide a descriptive title for each data/IT management/ technological solution that will be utilized in the proposed project and, for each, detail:
(1) why this technology is necessary and appropriate for the project;
(2) which business/administrative need(s) the technology helps meet; and
(3) describe why the applicant feels confident in their organization's ability to successfully implement and maintain the solution.

If specific solutions and/or technological aspects of the project are not yet known (e.g., if the applicant is utilizing a contractor to implement the technical solution), clearly state who will make the project's technical decisions, describe why they are the qualified/the appropriate party, and identify which business/administrative needs the selected technology or solutions will need to address.

Additionally, explain how the knowledge, data, or technology outputs developed during the proposed project will enhance data sharing and availability for (1) the applicant's own organization, (2) any formal partners (if applicable), and (3) for other organizations across the Exchange Network.

6. Project Alignment with the E-Enterprise Digital Strategy (EEDS)

The purpose of this section is for applicants to identify how the proposed technical solution(s) align with each of the three (3) principles of the E-Enterprise Digital Strategy (EEDS):
(1) 1st Principle; Build with an Information-Centric Approach;
(2) 2nd Principle: Adopt Shared Platforms; and
(3) 3rd Principle: Adopt Customer-Centric Approaches.

Additionally, identify: (1) how the proposed technical solution(s) reflect the EEDS's API-first approach and (2) how the proposed technical solution(s) enhance data sharing and availability for the applicant's organization and any project partners (if applicable), specifically in the context of the first principle of EEDS (Build with an Information-Centric Approach) and/or an API-first approach.

Note: More information on the EEDS and a link to the full text is available in Appendix D.

7. Overview of Project Budget

Applicants should have already clearly stated budget amounts for each goal and each output within the 'Project Goals, Outputs, and Outcomes' section of the project narrative. The purpose of this section (Section 7) is for applicants to establish the appropriateness of these budget amounts by providing a detailed, two-part cost rationale for each project output, as well as provide a detailed overview of other pertinent budgetary costs.

For each project output, a clear and detailed rationale should be provided which:

(1) describes how costs were estimated; and
(2) why these funds are necessary to accomplish the work.

Applicants who are applying under an EN project opportunity as listed in Appendices A-C may find it helpful to reference the estimated cost ranges within the relevant opportunity's 'Potential Activities Under This Opportunity' table.

Use of the following table format to capture the above information is recommended, but not required:

Table. 6 Project Output Budget Appropriateness	
Output Number	Project Output Title
[Goal #].[Output #](e.g., 1.1)	[Enter project output title, as listed in Section 2 of the project narrative]
How Were Costs Estimated:	[Enter a clear and detailed rationale].
Why Costs are Necessary:	[Enter a clear and detailed rationale].
Output Number	Project Output Title
[Goal #].[Output #](e.g., 1.2)	[Enter project output title, as listed in Section 2 of the project narrative]
How Were Costs Estimated:	[Enter a clear and detailed rationale].
Why Costs are Necessary:	[Enter a clear and detailed rationale].

In addition, provide the following if applicable to the proposed project:

- If using in-kind funding: provide a breakdown of direct grants funding vs. in-kind;
- If a partnership project: provide a breakdown of funds for lead grantee vs. funds for EN partner(s).
- If charging contractual costs: provide the total contractual costs and the procurement method;
- If utilizing an EN mentor: provide the sum total of mentorship costs (up to $15,000);
- If charging indirect costs: provide the sum total of indirect costs, the current indirect cost (IDC) rate, and the expiration date of the IDC rate agreement;
- If charging travel costs: provide the sum total of travel costs and each travel destination, purpose, number of travelers, and cost per trip.
    - *Note:* EPA recognizes that travel destinations may not be known at the time of application submittal; applicants should compose their travel to the best of their ability based on travel estimates to likely or comparable past destinations.

Use of the following table format to capture the above information is recommended, but not required:

Table 7. Project Travel			
#	**Destination and Travel Purpose**	**# of Travelers**	**Total Trip Cost**
1	[Enter trip location and purpose] (e.g., EN Regional Conference, NY)	[Enter #]	$[Enter amount]
2	[Enter trip location and purpose]	[Enter #]	$[Enter amount]
Total Travel Costs:			$[Enter amount]

8. Past Performance

Explicitly state how many prior EN assistance agreements the applicant (lead) organization has received or explicitly state that the lead organization has never received an EN assistance agreement.

Note: Applicants should not list prior EN grants in this section; this information should instead be included in the attachment titled 'List of Prior Exchange Network Assistance Agreements.'

Note: **An optional, fillable project narrative template is available on the EN Website at https://www.epa.gov/exchangenetwork/exchange-network-grant-program#Resources.**

Mandatory Attachment 3: The Budget Narrative Attachment Form

- This form is used to attach your budget narrative document.
- Please note that the document submitted under this form is separate from the Project Narrative.
- Please refer to the budget category guidance in Appendix D when completing this form and use the exact budget formulas as described.
- This budget narrative is required to help the grants office process the award, if selected.

NOTE: An optional, fillable budget narrative template is available on the EN Website at https://www.epa.gov/exchangenetwork/exchange-network-grant-program#Resources.

NOTE: An optional, self-calculating budget tool is available on the EN Website at https://www.epa.gov/exchangenetwork/exchange-network-grant-program#Resources.

Mandatory Attachment 4: Application for Federal Assistance (SF 424)

- Please note the organizational UEI number must be included on the SF-424.
  - Please see RAIN-2021-G01 for information about EPA's implementation of the Government-wide transition from DUNS to Unique Entity Identifier (UEI).
  - Entities can now obtain an SAM.gov generated Unique Entity Identifier (UEI) at https://sam.gov/content/entity-information.
- Please include the county/parish in the applicant address on line 8(d).
- Please note that congressional district should be 2-digit code on line 16(a); do not put 'all' unless there is no congressional district associated with the organization address (e.g., for a territory).
- Please list the project start date as October 1, 2024, and use the entire project period of performance, with an end date of September 30, 2027, on line 17(a & b).

Mandatory Attachment 5: Budget Information for Non-Construction Programs (SF-424A)

- Please refer to the budget category guidance in Appendix D when completing this form.
- Total amount of federal funding requested for the project period should be shown on line 5(e), 5(g), and on line 6(k) of SF-424A.
- Total amount of direct costs should be shown on line 6(i) and on line 21.
- The total amount of indirect costs should be indicated on line 22; please include the IDC cost rate (percentage) and the base line 23 under 'remarks'.
  - See the 'Negotiated Indirect Cost Rate Agreement' section for more details.
- Note that the numbers and totals depicted on this form **must** exactly match those depicted on the Budget Narrative Attachment form (see mandatory attachment 3 on page E10 above).
- Please do not include monetary amounts less than one dollar (round all budget items to the nearest whole number when calculating).

Mandatory Attachment 6: Key Contacts Form (EPA Form 5700-54)

- Please note the Authorized Representative and Payee cannot be the same person.

Mandatory Attachment 7: Pre-Award Compliance Review Report (EPA Form 4700-4)

Additional Attachment A: Negotiated Indirect Cost Rate Agreement

This is mandatory for any applicants charging indirect costs.

- To charge indirect costs, an indirect cost rate agreements must be included in accordance with 2 CFR 200.414 and **must be valid until at least 9/30/2024**.
- IDC rates are negotiated for each recipient by a cognizant Federal agency, which is the agency that typically provides the most direct funding to the recipient.
- Except for 'exempt' agencies[1] and Institutions of Higher Education[2], all recipients must have one of the following current (not expired) IDC rate types[3]:
  - Provisional; Final; Fixed rate with carry-forward; Predetermined; or 10% de minimus rate authorized by 2 CFR 200.414(f).

  [1]Exempt institutions are state or local governmental departments or agencies that receive up to and including $35,000,000 in Federal funding per the department or agency's fiscal year.
  [2]Institutions of Higher Education must use the IDC rate in place at the time of award for the life of the assistance agreement (unless the rate was provisional at time of award, in which case the rate will change once it becomes final).
  [3]Full definitions of each IDC rate agreement type can be found here.
- EPA Indirect Cost (IDC) Policy does not govern indirect rates for subrecipients or recipient procurement contractors under EPA assistance agreements.
  - Pass-through entities are required to comply with 2 CFR 200.331(a)(4) when establishing indirect cost rates for subawards. Indirect costs for subawardees (e.g., an EN partner) should be included in the overall subaward to that organization under the budget category of 'Other'. These costs must be calculated using the subawardee' s own current indirect cost rate.
- IDCs incurred during any period of the assistance agreement that are not covered by the provisions above are not allowable costs and cannot be drawn down by the recipient.
  - Tribal recipients may budget for IDCs pending approval of their IDC rate by the cognizant Federal agency (Department of Interior); however, recipients may not draw down IDCs until their rate is approved.
  - Similarly, exceptions may be granted by EPA according to EPA IDC Policy, but recipients may not draw down IDCs until this has been fully approved and processed.
- See the Indirect Cost Guidance for Recipients of EPA Assistance Agreements for additional information.

Additional Attachment B: Information for Inter-Tribal Consortium

This is mandatory for any inter-tribal consortia applying for an Exchange Network assistance agreement

- Inter-tribal consortia applicants must include attachment(s) showing:
  - A formal partnership exists among the tribal governments' members of the inter-tribal consortium and the majority of the members are federally recognized Indian tribes
  - The consortia federally recognized tribal members have authorized the consortium to apply for and receive assistance from the EN Grant Program.

Additional Attachment C: Formal Project Partners – Roles and Responsibilities, Distribution of Funds, and Overview of Subaward Budget

This is mandatory for any projects with formal partners

- If the proposed project involves formal project partners who will actively participate in implementing the project, provide a description of the roles and responsibilities of each partner in carrying out each of the project goals and the method of financing the partner's participation.

    - Provide letter(s) of support confirming partner participation in the proposed project.
    - Describe how the recipient would coordinate work among the partners using methods such as regular teleconferences, meetings, or written status reports.
    - If the recipient plans to distribute funding to partners:
        - Describe the method for doing so; and
        - Provide an overview of the proposed subaward budget.
- EN projects including one or more formal partners can have budgets up to $500,000 if the partnership eligibility criteria outlined in Section III-D is met.
- *Note:* Partnerships formed from within a single state, territorial or tribal government (e.g., a "partnership" limited to the Environment and Public Health Departments within a state) are not eligible partnerships and are limited to the $300,000 maximum funding.

Additional Attachment D: Formal Project Mentors – Roles and Responsibilities, Distribution of Funds, and Overview of Subaward Budget

This is mandatory for any projects with formal mentors applying under 'Individual Capacity Building with Mentorship'

- If the proposed project involves formal project mentors who will actively participate in the project, provide a description of the mentoring activities and support:
    - Provide a letter of support confirming project participation by the mentoring organization.
    - Describe how the recipient would coordinate with the mentor using methods such as regular teleconferences, meetings, or written status reports.
    - If the recipient plans to distribute funding to mentors, describe the method for doing so.
    - Provide an overview of the proposed subaward budget.
- *Note:* EN assistance agreements projects including a formal mentor can have budgets up to $315,000, of which up to $15,000 can be allocated to mentorship costs.
- *Note:* Applicants must meet all requirements as outlined in the *'Individual Capacity Building with Mentorship'* in order to apply under this opportunity and have mentorship funds awarded.

Additional Attachment E: List of Prior Exchange Network Assistance Agreements

This is mandatory for any applicants who have received prior Exchange Network assistance agreements.

- Provide a list in descending order of previously awarded EN assistance agreements to the primary applicant since 2002 listing the year the grant was awarded and the project title, if known.

Additional Attachment F: Documentation Certifying Applicants Status as an Instrumentality of the State or Tribe

This is mandatory for applicants applying as an instrumentality of the state or tribe.

- States and Territories: Provide a signed attorney general letter certifying this status.
- Tribes: Provide a certification and supporting documentation from the tribal council or other appropriate tribal government official certifying this status.

Detailed Instructions for Submitting Applications Through Grants.gov

A. Requirements to Submit Through **Grants.gov** and Limited Exception Procedures:

Applicants must apply electronically through Grants.gov under this funding opportunity based on the grants.gov instructions in this announcement. If your organization has no access to the internet or access is very limited, you may request an exception for the remainder of this calendar year by following the procedures outlined here. Please note that your request must be received at least 15 calendar days before the application due date to allow enough time to negotiate alternative submission methods. Issues with submissions with respect to this opportunity only are addressed in section c. Technical Issues with Submission below.

B. Submission Instructions:
SAM.gov (System for Award Management) Registration Instructions: Organizations applying to this funding opportunity must have an active SAM.gov registration. If you have never done business with the Federal Government, you will need to register your organization in SAM.gov. If you do not have a SAM.gov account, then you will create an account using login.gov (1) to complete your SAM.gov registration. SAM.gov registration is FREE. The process for entity registrations includes obtaining Unique Entity ID (UEI), a 12-character alphanumeric ID assigned an entity by SAM.gov, and requires assertions, representations and certifications, and other information about your organization. Please review the Entity Registration Checklist for details on this process.

If you have done business with the Federal Government previously, you can check your entity status using your government issued UEI to determine if your registration is active. SAM.gov requires you renew your registration every 365 days to keep it active. Please note that SAM.gov registration is different than obtaining a UEI only. Obtaining an UEI only validates your organization's legal business name and address. Please review the Frequently Asked Question on the difference for additional details. Organizations should ensure that their SAM.gov registration includes a current e-Business (EBiz) point of contact name and email address. The EBiz point of contact is critical for Grants.gov Registration and system functionality. Contact the Federal Service Desk for help with your SAM.gov account, to resolve technical issues or chat with a help desk agent: (866) 606-8220. The Federal Service desk hours of operation are Monday - Friday 8am - 8pm ET.

Grants.gov Registration Instructions
Once your SAM.gov account is active, you must register in Grants.gov. Grants.gov will electronically receive your organization information, such as e-Business (EBiz) point of contact email address and UEI. Organizations applying to this funding opportunity must have an active Grants.gov registration. Grants.gov registration is FREE. If you have never applied for a federal grant before, please review the Grants.gov Applicant Registration instructions. As part of the Grants.gov registration process, the EBiz point of contact is the only person that can affiliate and assign applicant roles to members of an organization. In addition, at least one person must be assigned as an Authorized Organization Representative (AOR). Only person(s) with the AOR role can submit applications in Grants.gov. Please review the Intro to Grants.gov-Understanding User Roles and Learning Workspace - User Roles and Workspace Actions for details on this important process.

Please note that this process can take a month or more for new registrants. Applicants must ensure that all registration requirements are met in order to apply for this opportunity through Grants.gov and should ensure that all such requirements have been met well in advance of the application submission deadline. Contact Grants.gov for assistance at 1-800-518-4726 or support@grants.gov to resolve technical issues with Grants.gov. Applicants who are outside the U.S. at the time of submittal and are not able to access the toll-free number may reach a Grants.gov representative by calling 606-545-5035. The Grants.gov Support Center is available 24 hours a day 7 days a week, excluding federal holidays.
Application Submission Process:

To begin the application process under this grant announcement, go to Grants.gov and click the red "Apply" button at the top of the view grant opportunity page associated with this opportunity. The electronic submission of your application to this funding opportunity must be made by an official representative of your organization who is registered with Grants.gov and is authorized to sign applications for Federal financial assistance. If the submit button is grayed out, it may be because you do not have the appropriate role to submit in your organization. Contact your organization's EBiz point of contact or contact Grants.gov for assistance at 1-800-518-4726 or support@grants.gov Applicants need to ensure that the Authorized Organization Representative (AOR) who submits the application through Grants.gov and whose UEI is listed on the application is an AOR for the applicant listed on the application. Additionally, the UEI listed on the application must be registered to the applicant organization's SAM.gov account. If not, the application may be deemed ineligible.

Application Submission Deadline: Your organization's AOR must submit your complete application package electronically to EPA through **Grants.gov** no later than **Thursday, May 23, 2024, at 11:59 PM ET.** Please allow for enough time to successfully submit your application and allow for unexpected errors that may require you to resubmit.

Applications submitted through Grants.gov will be time and date stamped electronically. Please note that successful submission of your application through Grants.gov does not necessarily mean your application is eligible for award. Any application submitted after the application deadline time and date deadline will be deemed ineligible and not be considered.

C. Technical Issues with Submission

If applicants experience technical issues during the submission of an application that they are unable to resolve, follow these procedures before the application deadline date:

1) Contact Grants.gov Support Center before the application deadline date.
2) Document the Grants.gov ticket/case number.
3) Send an email with the EPA-OMS-24-01 in the subject line to Erin McGown at ENGrantProgram@epa.gov before the application deadline time and date and must include the following:
   - Grants.gov ticket/case number(s)
   - Description of the issue
   - The entire application package in PDF format.

Without this information, EPA may not be able to consider applications submitted outside of Grants.gov. Any application submitted after the application deadline time and date deadline will be deemed ineligible and not be considered. Please note that successful submission through Grants.gov or email does not necessarily mean your application is eligible for award.

EPA will make decisions concerning acceptance of each application submitted outside of Grants.gov on a case-by-case basis. EPA will only consider accepting applications that were unable to submit through Grants.gov due to Grants.gov or relevant SAM.gov system issues or for unforeseen exigent circumstances, such as extreme weather interfering with internet access. Failure of an applicant to submit prior to the application submission deadline date because they did not properly or timely register in SAM.gov or Grants.gov is not an acceptable reason to justify acceptance of an application outside of Grants.gov.

D. Mandatory and Additional Attachment Documents: Please submit all the mandatory application materials and any applicable additional documents, see **IV. Application and Submission Information.**

Appendix F: Optional Pre-Submission Checklist

The below checklist was designed to help applicants ensure all required documents in their application package are included and to help applicants avoid common applicant errors and unnecessary point loss.

The successful completion of the checklist does not guarantee a high application score nor ensure funding.

Eligibility

- ☐ If applying under an EN partnership, are you and your partnering organization(s) separate units of government from distinct states, tribes, and/or U.S. territories?
- ☐ If applying under EN Funding Area 3 (as detailed in Appendix C), are you a tribe or U.S. territory?
- ☐ If applying specifically under the 'Individual Capacity Building with Mentorship' EN project opportunity, are you a tribe or U.S. territory who has never received an EN assistance agreement?
- ☐ If not a state, a U.S. territory, or a federally recognized tribe, Alaska Native Village, or consortia of federally recognized tribes, does your organization have status as an agency or instrumentality of a state or tribe under applicable laws?

General

- ☐ Have you checked https://www.epa.gov/exchangenetwork/searchable-it-component-and-project-registration-forms for reusable components that can be incorporated into your proposed project (see Appendix D)?
- ☐ If using the optional templates (available on the EN website), have you changed all blue text to black after editing and deleted the template notes provided in black italicized text?
- ☐ Do the numbers captured in the 'Project Goals, Outputs, and Outcomes' section of your Project Narrative exactly match the numbers in your Budget Narrative Attachment Form AND the numbers in your project's SF-424A form?
- ☐ Have you checked the unallowable costs under Section III-C Funding Restrictions and ensured that your budget does include any of these restrictions (including operations and maintenance)?
- ☐ If you are charging indirect costs, have you followed all the indirect cost guidance on page E11 and ensured that your rate agreement does not expire prior to 9/30/2024?
- ☐ Have you ensured that all application documents are final and unlocked prior to submittal?
- ☐ Have you double-checked that you are including all seven (7) mandatory attachments?
    - ☐ Cover Letter
    - ☐ Project Narrative Attachment
    - ☐ Budget Narrative
    - ☐ Application for Federal Assistance
    - ☐ Budget Information for Non-Construction Programs (SF-424A)
    - ☐ Key Contacts Form (EPA Form 5700-54)
    - ☐ Pre-award Compliance Review Report (EPA form 4700-4)

- ☐ Have you included all additional attachments that are applicable to your project?
  - ☐ Current Negotiated Indirect Cost Rate Agreement (for projects charging indirect costs)
  - ☐ Additional Information for Inter-Tribal Consortium
  - ☐ Formal Project Partner(s): Support Letter(s), Roles and Responsibilities, and Method of Fund Distribution and Overview of Subaward Budget (for projects with EN partners).
  - ☐ Formal Project Mentor: Support Letter(s), Roles & Responsibilities, and Method of Fund Distribution & Overview of Subaward Budget (for projects with formal mentors).
  - ☐ List of Prior Exchange Network Assistance Agreements (in descending order)
  - ☐ Documentation Certifying Applicant Status as Instrumentality of the State or Tribe

Cover Letter:

- ☐ Has your cover letter been signed by an authorized organizational representative (AOR)?
- ☐ If you are requesting a PPG or CG does your cover letter note this and include the PPG or CG grant number?
- ☐ If you are working with any formal partners, have you noted them in your cover letter?
- ☐ If you are working with a formal mentor, have you noted this in your cover letter?

Project Narrative:

- ☐ Is your project narrative a maximum of 10 single-spaced pages?
- ☐ Does your project narrative include all eight of the sections noted in Appendix E's project narrative overview (see pages E3-E9), marked with bold section headers?
- ☐ Within the 'Project Description' section of the project narrative, have you stated which specific EPA strategic goals and objectives as listed in Section 1-C are supported by the proposed project, and provided a brief description of this support for each? Have you also included associated environmental outputs and outcomes?
- ☐ Have you named the one EPA strategic goal and objective most supported by each of your project goals within the 'Project Goals, Outputs, and Outcomes' section of your project narrative?
- ☐ Within the 'Project Goals, Outputs, and Outcomes' section of your project narrative, is the sum of your outputs equal to the total amount budgeted for that goal?
- ☐ Within the 'Commitment to Reuse' section of the project narrative, have you included two separate commitment statements? One which commits to registering new products developed as part of your project and one which commits to registering existing EN products reused in the project, at the time of grant close-out?
- ☐ Within the 'Overview of Project Budget' section of the project narrative, have you provided a clear and detailed rationale describing how each project output's cost was estimated and why these funds are necessary to accomplish the work?
- ☐ Within the 'Past Performance' section of the project narrative, have you clearly stated whether you have/have not received prior EN assistance agreements?

- *Note:* Prior EN assistance agreements should not be listed in the project narrative but listed in descending order in the attachment 'List of Prior EN Assistance Agreements'.

Budget Narrative Attachment Form:

☐ Have you followed the budget category guidance provided in Appendix D and used the exact formulas as described to calculate your budget amounts?

☐ Did you round up or down to the nearest whole number for each step of your budget calculations, and likewise use whole numbers for equipment and supply unit costs, contractor hourly rates, etc.?

☐ Check that the following (if applicable) are listed under the budget category of 'Other':
- Subaward(s);
- Participant support costs, such as registration fees or travel costs for outside participants;
- Light food and refreshments costs; and
- Training costs for internal staff that is not related to project travel.
  - *Note:* Training related to budgeted staff travel should be charged under the cost category of 'travel'.

☐ If applicable to your application, do you provide the itemized cost of supply and/or equipment according to price per unit and quantity?

☐ If applicable, does your travel cost include the number of travelers per event, trip destination, the purpose of travel, and associated trip items such as airfare, per diem, mileage, etc.?

☐ If utilizing a contractor, have you listed the procurement method?
- If utilizing a non-competitive or single-source procurement, have you ensured that you meet the eligibility requirements of this procurement method outlined here Best Practice Guide for Procuring Services, Supplies, and Equipment Under EPA Assistance Agreements?
- Have you provided your detailed justification for using non-competitive procurement?

☐ If utilizing an individual consultant, have you verified that their hourly rate does not exceed the current hourly wage cap of $91.95?

Standard SF-424 Form (Application for Federal Assistance):

☐ Does your SF-424 form show a project start date of 10/1/24 and an end date of 9/30/27?

☐ Have you included your county/parish on your SF-424 form (line 17 a & b)?

☐ Is the congressional district noted on your SF-424 form depicted as a 2-digit code (line 16 a)?

☐ Does the UEI number on the SF-424 form also belong to the organization listed on this form?

For Tribal Applicants:

☐ If you are charging indirect costs according to a draft rate agreement submitted to the Department of Interior (see Additional Attachment A: Negotiated Indirect Cost Rate Agreement), have you included this draft agreement as part of your application package?

Appendix G: Glossary of Terms, Phrases, and Acronyms

Application Programming Interface (API): When used in the context of web development, an API is a set of Hypertext Transfer Protocol (HTTP) request messages (SOAP or REST), along with a definition of the structure of response messages, which is usually in an Extensible Markup Language (XML) or JavaScript Object Notation (JSON) format. The term web API is virtually synonymous with the term web service.

Assessment Units: A waterbody or portion of a waterbody that is identified and used to track water quality.

Assistance Agreement: Assistance Agreement is an agreement with the primary purpose to provide appropriated funds to stimulate an activity, including but not limited to, grants and cooperative agreements.

Authorized Organizational Representative (C): An Authorized Organizational Representative (AOR) is the individual who is authorized to sign on behalf of the proposing organization.

CAA Stationary Source: Generally, any source of an air pollutant except those emissions resulting directly from an internal combustion engine for transportation purposes or from a nonroad engine or nonroad vehicle as defined in section 7550 of the Clean Air Act. Stationary sources of air pollution include, for example, factories, refineries, boilers, power plants, gas stations, and dry cleaners.

CEDRI: Compliance and Emissions Data Reporting Interface.

Central Data Exchange (CDX): CDX is the gateway through which environmental data enters the Agency and is EPA's point of presence on the Exchange Network and for many EPA services. CDX provides the capability for submitters to access their data using web services. CDX enables EPA and participating Program Offices to work with stakeholders - including state, tribal, and local governments, and regulated industries - to enable streamlined, electronic submission of data via the Internet.

Conference(s): Conference is defined as a meeting, retreat, seminar, symposium, workshop, or event whose primary purpose is the dissemination of technical information beyond the non-Federal entity and is necessary and reasonable for successful performance under the Federal grant award.

Consolidated Grant (CG): Territories may consolidate their various assistance agreements through a single Consolidated Grant (CG). A territorial applicant whose territory has a Consolidated Grant (CG) with EPA may request new awards be incorporated into the CG. An applicant should include the CG number in both their cover letter and project narrative. An applicant may also request to create a new CG that includes the project proposed under this solicitation. Absent a request from the recipient for inclusion in or creation of a CG, EPA will award the grant in a stand-alone vehicle.

Construction: Construction is the erection, building, alteration, remodeling, improvement, or extension of buildings, structures, or other property. Construction also includes remedial actions in response to a release, or a threat of a release, of a hazardous substance into the environment as determined by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980.

Contract: Contract is a legal instrument by which a non-Federal entity purchases property or services needed to carry out the project or program under a federal award.

Cooperative Agreement: Cooperative Agreement is a legal instrument of financial assistance between a Federal awarding agency or pass-through entity and a non-Federal entity that provides substantial involvement in carrying out the Federal grant award activities. See Section II-B for more information.

Cross-Media Electronic Reporting Rule (CROMERR): The Cross-Media Electronic Reporting Rule (CROMERR) provides the legal framework for electronic reporting under EPA's regulatory programs. The Rule sets performance-based, technology-neutral system standards and provides a streamlined, uniform process for Agency review and approval of electronic reporting. The CROMERR program ensures the enforceability of regulatory information collected electronically by EPA and EPA's state, tribal and local government partners. Both new and existing electronic reporting programs require EPA approval, and the regulation establishes a process for applying for and obtaining such approval. CROMERR also addresses electronic reporting directly to EPA. See the Shared CROMERR Services EN Project Opportunity.

CWA: Clean Water Act.

Data Access Services (Publishing): Data access services are a specific subset of the many possible types of web services. Network publishing is a term that refers to using Exchange Network technologies, services, and specifications for web services to make data available to Network users by running a query and returning environmental data in the form of XML or JSON documents. These services are also called data services. Once these data services are deployed, they can be used in a number of ways such as populating web pages, synchronizing data between sites, viewing data in a web service client, or building new sources of data into an integrated application. Other web service types include data submission, security, quality assurance, notification, and status. RESTful services are particularly useful for data publishing.

Data Appliance: A reusable component that can be used to ingest sensor data and publish that data using open standards.

Data Element: A data element is the smallest unit of information stored in, and exchanged among, Exchange Network partners' information systems. Examples of data elements are the facility name or inspection date.

Data Standard: A data standard documents an agreement on representation, format, and definition of common data exchanged. Exchange Network partners must use EN approved data standards. See more information here.

De Minimus: The **10%** *de minimis* indirect cost rate is a Federally-recognized rate that non-Federal entities may use to recover allowable indirect costs on grants or cooperative agreements.

Direct Funding: Direct funding is funding that is provided to an organization directly by a government entity.

Direct Costs/Charges: Direct costs are those costs that can be identified specifically with a particular final cost objective. Typical costs charged directly to a Federal grant award are the compensation (including fringe benefits) of employees who work on that award, and the costs of materials and other items of expense incurred for the Federal award.

Discharge Monitoring Report (DMR): The EPA uniform national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees.

DUNS: A Data Universal Numbering System or DUNS number is a unique, nine-digit series of numerals that identifies a business; please see RAIN-2021-G01 for information about EPA's implementation of the upcoming Government-wide transition from DUNS to Unique Entity Identifier (UEI).

E-Enterprise: E-Enterprise for the Environment is a collaborative partnership through which EPA, states, and tribes work together to improve the way we protect the environment and human health.

Equipment: Equipment is tangible personal property (including information technology systems) having a useful life of more than one year and a per-unit acquisition cost which equals or exceeds $5,000.

Exchange Network Discovery Services (ENDS): The Exchange Network Discovery Services (ENDS) is a set of directory services for all nodes in EN. This central catalog approach supports the automated consumption of services using tools such as the EN Browser and the EN Services Center via an XML document that contains the service metadata. ENDS automate both the discovery and retrieval of service metadata for the Network and supports the Administration and export of node services via the web and web Service interfaces. ENDS is composed of two main components: the first, is a set of services that allows EN partners to submit and query the service descriptions stored in the ENDS repository; the second, is a web interface that simplifies the data entry of service metadata into ENDS. The services all accept or return a common XML schema. This XML schema provides a structured, standard way to represent EN services across all EN Nodes. A second ENDS schema defines the Data Element Description Language (DEDL) that can be used by individual Exchange Network nodes for describing acceptable parameters and valid allowable values and making them available as services. DEDL further enhances the ability for EN partners to build rich, user-friendly applications using EN services. More information on ENDS is available at: http://www.exchangenetwork.net/exchangenetwork-discovery-service-ends/.

Exchange Network Services Center (ENSC): The ENSC is a browser-based portal that provides Exchange Network partners access to a broad range of Network services. Among the most notable features of the Service Center is the ability to submit data to EPA systems, monitor the status of data submissions, and access a variety of Network administrative data. Essentially, the ENSC offers most of the functionality of a Node, but it is not automated and cannot respond to data requests. It simplifies access to Network services because it requires no software to install or configure. It can be accessed from any computer with a browser and internet access. The ENSC is available here.

Environmental Information Exchange Network (Exchange Network; EN): The Exchange Network is an Internet and standards-based information network among EPA and its partners in states, tribes, and territories. It is designed to help integrate information, provide secure real-time access to environmental information, and support the electronic collection and exchange of high-quality data and information. The EN provides a more efficient way of exchanging environmental information at all levels of government. It significantly improves the way EPA and its state, tribal, and territorial partners send and receive information.

Environmental Information Operations: Defined in the context of the Exchange Network and Quality Assurance (QA) requirements as the collection, production, evaluation, or use of environmental information.

(EN) Project Opportunity: In the context of the Exchange Network Grant Program, the phrase 'project opportunities' refers to specific project write-ups that provide potential applicants with the information needed to design a proposal for a particular data exchange, data service, or project type. These write-ups contain essential descriptions and background information, suggested project activities and estimated costs, and helpful links and resources. Applicants can apply under one or multiple EN project opportunities or propose projects that do not have a specific project opportunity write-up (see I-B. EN Assistance Activities and Funding Areas). Applicants should explicitly state in the 'Project Description' section of their project narrative which EN Project Opportunit(ies) they are applying under.

Extensible Markup Language (XML): Extensible Markup Language is a flexible self-describing language for creating common information formats and sharing both the format and content of data over the Internet and elsewhere. XML is a formatting language recommended by the World Wide Web Consortium (W3C). For more guidance, see the Exchange Network website.

Geospatial Data: Geospatial data are data that identify, depict, or describe the geographic locations, boundaries, or characteristics of the Earth's inhabitants or its natural or human-constructed features. Geospatial data include geographic coordinates (e.g., latitude and longitude) that identify a specific location on the Earth and data that are linked to geographic locations or have a geospatial component (e.g., socio-economic data, land use records and analyses, land surveys, homeland security information, and environmental analyses). Geospatial data may be obtained using a variety of approaches and technologies, including things such as surveys, satellite remote sensing, Global Position System (GPS) hand-held devices, and airborne imagery and detection devices.

GHGRP: Green House Gas Program.

Goal: In EPA grant terminology, a goal is a self-contained project (e.g., implementing WQX, implementing an electronic reporting system using shared CROMERR services). This differs from the more common definition of goal—a desired end. An Exchange Network grant application must list one or more goals.

Grant(s): Grant is a legal instrument of financial assistance between a Federal awarding agency or pass-through entity and a non-Federal entity. See Section II-B for more information.

Indirect Costs/Charges: Indirect cost are those costs incurred for a common or joint purpose benefitting more than one cost objective, and not readily assignable to the cost objectives specifically benefitted. Indirect costs are sometimes referred to as 'Facilities and Administrative' costs.

Individual Consultant: An individual with specialized skills selected to provide consultation services at a daily or hourly rate that is subject to the consultant cap, as provided in 2 CFR 1500.10. See the information under 'Contracts' in Section II-A for additional information.

In-Kind Services: Services provided by EPA contractors and consultants on specific parts of the project for the recipient. The recipient can request this type of service as part of the assistance agreement application, if the in- kind work is directly related to the recipient's application and the applicant is the primary beneficiary of the work. However, EPA reserves the right to decide whether in-kind services will be provided. The recipient may not direct the work provided through in-kind services. These services are managed by EPA.

Instrumentality of the State or Tribe: An instrumentality is an organization created by or pursuant to state or tribal statute and operated for public purposes. Generally, an instrumentality performs governmental functions, but does not have the full powers of a government, such as police authority, taxation, and eminent domain.

Integrated Project Team: A group of individuals comprised of partner and EPA staff, support contractors, and technology vendors organized to design and implement a specific exchange.

Inter-Tribal Consortia: Inter-tribal consortium is a coalition of two or more separate Indian tribes that join for the purpose of applying for an assistance agreement. An intertribal consortium is eligible to receive a Cooperative Agreement from EPA only if the intertribal consortium demonstrates that all members of the consortium meet the eligibility requirements for the Cooperative Agreement, and all members authorize the consortium to apply for and receive assistance.

IR: Integrated Reporting combines Clean Water Act Sections 303(d) and 305(b).

JSON: JavaScript Object Notation is a lightweight data-interchange format.

Management Fees: When formulating budgets for applications, applicants must not include management fees or similar charges in excess of the direct costs and indirect costs at the rate approved by the applicant's cognizant audit agency, or at the rate provided for by the terms of the agreement negotiated with EPA. The term management fees or similar charges refers to expenses added to the direct costs in order to accumulate and reserve funds for ongoing business expenses, unforeseen liabilities, or for other similar costs that are not allowable under EPA assistance agreements. Management fees or similar charges may not be used to improve or expand the project funded under this agreement, except to the extent authorized as a direct cost of carrying out the scope of work.

Metadata: Metadata are data or information that describes other data. Examples include data that describe how or where the data were collected, whether or not the data comply with agreed-upon data standards, or how the data will be used.

Mileage: Mileage is an allowance for traveling expenses at a certain rate per mile.

Negotiated Indirect Cost Rate Agreement: Negotiated Indirect Cost Rate Agreement is the documentation that issues the reimbursement rate(s) negotiated between the Federal government and a grantee organization to substantiate its request for the establishment of an indirect cost rate.

NEI: National Emission Inventory.

Node: A Node is a web service enabled server (hardware and software) that provides a point for exchanging information over the Internet. Exchange Network Nodes can gain access to and transmit information using web services. In order to achieve interoperability among Nodes, all Nodes must be set up according to the EN specifications. Freely available Node software is available at http://www.exchangenetwork.net/exchange-network-products/. Specifications, protocols, tools, code, and documentation for building a functioning Exchange Network Node are available at http://www.exchangenetwork.net/knowledge-base/.

Node Client: A Node client is an application (software code) that can generate web service messages for using the Exchange Network. A Node client can do the following:

- Submit data in XML format to EPA or other partners using the Exchange Network and
- Request data in XML format from EPA or other partners using the Exchange Network.

Several Node clients that are very user friendly are available on the Exchange Network website already. More are on the way. A Node client software developer kit (SDK) is also available to help you integrate Node client requests into your applications. Unlike Nodes, Node clients *cannot* publish data on the Exchange Network (i.e., they cannot listen for or respond to data queries from other EN partners).

OGC: Open Geospatial Consortium.

Operations and Maintenance (O&M): During O&M an asset is in operation and produces the same product or provides a repetitive service. Maintenance is the activities necessary to keep an IT asset functioning as designed. This includes operating system upgrades, technology refreshes, and security patch implementations. **Maintenance excludes activities that expand the capacity of an asset or otherwise upgrade it to serve needs different from or significantly greater than those originally intended.** Operations are the day-to-day management of assets in the production environment and include activities to operate data centers, help desks, operational centers, telecommunication centers, and end user support services.

Outcome: The term "outcome" means the result, effect, or consequence of carrying out a project leading to an environmental or programmatic goal. Outcomes may be environmental, behavioral, health- related or programmatic in nature, may be quantitative or qualitative, and may not necessarily be achievable within an assistance agreement funding period.

Output: The term "output" means an environmental activity, effort, or associated work products leading to an environmental goal, that will be produced or provided over a period of time or by a specified date. Outputs may be quantitative or qualitative but must be measurable during an assistance agreement funding period.

Participant Support Costs: These costs include expenses that your organization pays on behalf of participants, including stipends, training fees, travel assistance for trainees and other program participants who are not employees of your organization, relocation expenses (with adequate justification), incentives paid to participants in research experiments, focus groups, surveys, or similar research activities, and/or rebates or other subsidies, as provided in EPA's Participant Support Cost Guidance (https://www.epa.gov/grants/rain-2018-g05). These costs should be listed under the 'other' budget category in an applicant's 424A form and budget narrative attachment form.

Per Diem: Per diem is the allowance for lodging (excl. taxes), meals and incidental expenses for each day.

Performance Partnership Grant (PPG): In 1996, Congress authorized EPA to award Performance Partnership Grants (PPGs). As a result, states, certain interstate agencies, and tribes can now choose to combine two or more environmental program assistance agreements into a single PPG. An applicant whose organization has an existing Performance Partnership Grant (PPG) with EPA may request that any new assistance agreement recommended for funding be incorporated into the PPG. applicant may also request to create a new PPG that includes the project proposed under this solicitation. See Section III-F for additional information on PPGs.

Period of Performance: The time interval between the start of a federal award and the planned end date. For Exchange Network grants, the period of performance is set at three years.

Pre-Award Costs: Pre-award costs are those incurred prior to the effective date of the Federal award directly pursuant to the negotiation and in anticipation of the Federal award where such costs are necessary for efficient and timely performance of the scope of work.

RENC Regional Exchange Network Coordinator: A Regional Exchange Network Coordinator, or RENC, acts as the coordinator and facilitator of the EN and the EN grant program for the region in which they work. In this role, the RENC's primary responsibility is to serve as the regional project officer for awarded EN assistance agreements, which includes providing necessary support and guidance for grantees, performing grant monitoring functions, and reviewing/approving grant reporting forms and extensions. See the current list of RENCs here.

Representational State Transfer (REST) / RESTful Web Service: Software system designed to support machine-to-machine interaction over a network. Representational State Transfer (REST) services do not require XML, SOAP, or WSDL (Web Services Description Language) but rely on the exchange of requests and responses between the resources and their corresponding states. REST-style services facilitate the aggregation of services into more complex services and the development of mashups. REST services are usually accessed via HTTP (like a web URL or link).

RESTful APIs: Representational state transfer (REST) is a software architectural style that defines a set of constraints to be used for creating Web services. Web services that conform to the REST architectural style, called RESTful Web services, provide interoperability between computer systems on the internet.

Shared Services Resource Catalog (SSRC): Retired in 2022, the Shared Services Resource Catalog (SSRC) was part of EPA's System of Registries. It was both a catalog of EPA, state, tribal and territory services and a registry of XML schema, widgets, plug-ins, web services and many other resources for reuse. Following the retirement of RCS, SSRC was temporarily used to host IT component registration records in accordance with the EN grant registration requirement. These records have since been migrated to the EN website and are available at the following link: https://www.epa.gov/exchangenetwork/searchable-it-component-and-project-registration-forms. Grantees should contact their RENC for the most up-to-date registration guidance in accordance with Section VI-B.

SLT: State, Tribal, and Local <agencies>.

Simple Object Access Protocol (SOAP): SOAP is a protocol specification for exchanging structured information for the implementation of web services on a computer network. It allows machines to interoperate in a loosely coupled manner using simple standard messages over the Hypertext Transfer Protocol (HTTP or others) and uses Extensible Markup Language (XML) as the mechanisms for information exchange.

Subawards: A subaward ("subgrant") is an award of financial assistance provided by a pass-through entity to a subrecipient to carry out part of a Federal award received by the pass-through entity. It does not include payments to a contractor or payments to an individual that is a beneficiary of a Federal program. See Section II-A for more information.

Subawardee: See subrecipient.

Subrecipient: Subrecipient is a non-Federal entity that receives a subaward from a pass-through entity to carry out part of a Federal program but does not include an individual that is a beneficiary of such program. In the context of the EN program, this word is synonymous with the term 'Subawardee.'

Subject Matter Experts (SMEs): A subject matter expert is an individual who exhibits the highest level of expertise in a specified topic or field of work.

Supplies: Supplies are all tangible personal property. A computing device is a supply if the acquisition cost per unit is less $5,000, regardless of the length of its useful life.

Supply Category: Supply costs should be categorized by major supply categories such as, but not limited to, office supplies, computing devices, and monitoring equipment.

TMDL: Total Maximum Daily Load is a calculation of the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant.

Unique Entity Identifier (UEI): Unique Entity Identifier (UEI) means the identifier assigned by SAM to uniquely identify business entities. This is the replacement identifier for a business's DUNS number. Beginning April 4, 2022, DUNS numbers will no longer be used as a UEI and only the SAM.gov created UEI will be accepted. All EPA competitive funding opportunities with a close date on or after April 1, 2022, will use UEI-compatible grant application packages. All entities applying for EPA competitive funding opportunities with a close date on or after April 1, 2022, will need to use their UEI to complete the UEI-compatible grant application packages and associated forms. See Appendix E and RAIN-2021-G01-R1 | US EPA for more information.

Unliquidated Obligations (ULOs): Unliquidated obligations are obligations incurred by the non-Federal entity that have not been paid (liquidated).

WaterML 2: Water Markup Language 2.

Web Services: Web services are a software system designed to support interoperable machine-to-machine interaction over a network. They make it easier to conduct work across organizations regardless of the types of operating systems, hardware/software, programming languages, and databases that are being used. The term web API is virtually synonymous with the term web service.

Widget: A software tool that uses a small (smaller than a page) graphical interface to provide a function or service and that can be added to a web application or to a web page.

Workshops: Workshop is defined as a meeting, retreat, seminar, symposium, conference, or event whose primary purpose is the dissemination of technical information beyond the non-Federal entity and is necessary and reasonable for successful performance under the Federal award.

XML Schema: An XML schema defines the structure of a XML document including data elements and attributes can appear in a document, how the data elements relate to one another, whether an element is empty or can include text, which types of data are allowed for specific data elements and attributes, and what the default and fixed values are for elements and attributes. A set of Network quality assurance web services is available to validate your XML documents against the schemas using a standard parser. A list of procedural and guidance documents related to schema development is available on the Exchange Network website at:
http://www.exchangenetwork.net/knowledge-base/.