

National Offshore Wind Research and Development Consortium (NOWRDC)
Up to \$8,000,000 Available

NOWRDC reserves the right to extend and/or add funding to the Solicitation should other program funding sources become available. Round and Challenge Area topics, as well as submission due dates are subject to change. For the most up-to-date solicitation documentation and submission schedule, please refer to the NOWRDC website at nationaloffshorewind.org.

***National Offshore Wind Research and Development Consortium
Innovation in Offshore Wind Solicitation 2.0
(Via NYSERDA PON 4854) Rev. 1.11.22
Program Opportunity Notice
Proposal submissions accepted until:***

Completed: Round 1 – Supply and Logistics, Operations & Maintenance:

Concept Paper Submissions Due: September 16, 2021

Full Proposal Submissions Due: November 10, 2021

Open: Round 2 – Facilitation Ocean Area Co-Existence, Electrical and Grid Challenges Unique to Offshore Wind Transmission:

Concept Paper Submissions Due: March 9, 2022

Full Proposal Submissions Due: April 28, 2022

3:00PM EST as designated by Round due date

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I. INTRODUCTION

In June 2018, the U.S. Department of Energy (DOE) announced the selection of the New York State Energy Research and Development Authority (NYSERDA), the Renewables Consulting Group (RCG), the Carbon Trust (CT), and the Advanced Energy Research and Technology Center (AERTC) at Stony Brook University to form a nationwide research and development organization for the offshore wind industry. The National Offshore Wind Research and Development Consortium (NOWRDC) is a nationally focused, independent, not-for-profit consortium of key offshore wind industry stakeholders and research institutions. NOWRDC is dedicated to managing industry-prioritized research and development of offshore wind to maximize economic benefits for the United States. The U.S. DOE award is for \$20.5 million. This award was matched by NYSERDA, for a total of \$41 million to support offshore wind research projects. In addition, five states (MD, MA, ME, VA, NJ) offer cost share programs for applicants. NOWRDC completed its first and second solicitations for offshore wind research and development technology projects in 2020 and 2021, respectively, from which forty projects were selected for contract negotiation to receive funding from NOWRDC. Total funding commitments for awarded projects is approximately \$28 million.

NOWRDC seeks to fulfill, in part, a long-term vision for offshore wind energy in the United States that is supported by current policy for an all-inclusive energy strategy. To achieve this vision, NOWRDC supports identification of the technology innovations needed to address challenges and lower costs in each of the five U.S. offshore regions (North Atlantic, South Atlantic, Great Lakes, Gulf Coast, and Pacific Coast). The necessary cost reductions can be realized in part through targeted research and development (R&D) that removes or reduces technological and supply chain barriers to deployment and lowers development risk to investors. NOWRDC envisions this research being conducted through desktop studies, design development, and computer analysis, as well as hardware development with supporting demonstration and validation activities.

In June 2021, NOWRDC released its Research and Development Roadmap 3.0 (Roadmap) to advance offshore wind technology, drive wind technology innovation and combat climate change. Incorporating industry-led feedback, the Roadmap presents a long-term vision for innovative offshore wind technology development in the United States and identifies key priorities for establishing the industry as a leading national clean energy sector. Proposers are encouraged to review the Roadmap which is posted on NOWRDC's website at: <https://nationaloffshorewind.org/toolbox/>.

Focusing on the research and development priorities identified in the Roadmap, available research funds are distributed through a series of competitive solicitations over four years. These competitive solicitations address challenges associated with the three Research Pillars described in the original U.S. DOE funding opportunity announcement (DOE FOA 1767):

Pillar #1: Offshore Wind Plant Technology Advancement

Pillar #2: Offshore Wind Power Resource and Physical Site Characterization

Pillar #3: Installation, Operations and Maintenance, and Supply Chain

This Solicitation seeks proposals that fall within Pillar #1, Pillar #2, and Pillar #3 to address the specific Technical Challenge Areas outlined in Section II of this document. Future solicitations or revisions of this Solicitation may add additional Challenge Areas, or update or remove existing ones. Proposals for research on topics other than those identified in Section II, in accordance with the current revision of the Solicitation at the time the proposal is submitted, are not within the scope of this Solicitation and will be considered non-responsive.

NOWRDC intends to support projects in partnership with the best research organizations to achieve maximum impact. Proposals are welcomed from all geographic locations. It should be noted that, as a condition of the award, a waiver from the U.S. DOE will be required for any project with work that will be undertaken outside of the United States.

All prospective proposals for this challenge are encouraged to seek inputs from, or partner with, an offshore wind developer or a U.S. offshore wind materials or services supplier, or include an advisory group of industry experts to ensure the direction of the project and outcomes can be commercially applied. Additionally, proposals should demonstrate knowledge of prior research, and/or identify partners who have been working on this challenge in order to demonstrate that the proposed research will further the overall state-of-the-art.

Proposal Submission: Proposers may submit up to three unique proposals as a prime applicant provided that each proposal concerns a separate and distinct topic. Online submission is preferred. Proposers may submit Word, Excel, or PDF files (file formats include: csv, doc, docx, gif, jpeg, jpg, pdf, png, ppt, pptx,

pps, ppsx, tif, txt, xls, xlsx, and zip). Individual files should be 100MB or less in file size. Proposal PDFs should be searchable and should be created by direct conversion from MS Word, or other conversion utility. Files should not be scanned. For ease of identification, all electronic files must be named using the proposer's entity name in the title of the document. NOWRDC will also accept proposals by mail or hand-delivery if online submission is not possible. For detailed instructions on how to submit a proposal (online or paper submission), click the link "[Application Instructions and Portal Training Guide \[PDF\]](#)" located in the "Current Opportunities" section of NYSERDA's website (<https://www.nyserda.ny.gov/Funding-Opportunities/Current-Funding-Opportunities.aspx>).

No communication intended to influence this procurement is permitted. For technical questions about this proposal please email info@nationaloffshorewind.org. Emails will be reviewed daily, and responses provided as warranted.

Contractual questions or questions about NOWRDC's processes and policies regarding this Solicitation should be directed to info@nationaloffshorewind.org. Contacting anyone other than the Designated Contacts (either directly by the proposer or indirectly through a lobbyist or other person acting on the proposer's behalf) in an attempt to influence the procurement: (1) may result in a proposer being deemed a non-responsible offerer, and (2) may result in the proposer not being awarded a contract.

Scoring Rounds:

Proposal submissions (either Concept Papers or Full Proposals) will be accepted at any time up until the due dates noted for each of the two Scoring Rounds described in Section II. Both Concept Papers and Full Proposals will be evaluated by Scoring Committee. There will be one or more Scoring Committees per Round. NOWRDC reserves the right to change the interval of Scoring Rounds. Any, all, or none of the available program funds may be awarded in any Scoring Round. Applicants who do not receive an invitation for a Full Proposal Submission can update their Concept Papers and resubmit in later solicitations if appropriate under that later solicitation. Similarly, Full Proposals not selected for award can be updated based on feedback and can be resubmitted in later solicitations if appropriate under that later solicitation.

All Proposals must be received by 3 p.m. Eastern Time on the dates noted, via the means indicated above. **Late, faxed, or emailed proposals will not be accepted.** Incomplete proposals may be subject to disqualification. It is the proposer's responsibility to ensure that all pages have been completed/included in the application. Please note: for online submission, there are required questions that you will have to answer in addition to uploading attachments and you should allot at least 60 minutes to enter/submit applications. The online application system closes promptly at 3 p.m. Files in process or attempted edits or submission after 3 p.m. Eastern Time will not be accepted. If changes are made to this Solicitation, notification will be posted on the "Announcements" section of NOWRDC's website at <https://nationaloffshorewind.org/> and NYSERDA's website <https://www.nyserda.ny.gov/Funding-Opportunities/Current-Funding-Opportunities.aspx>.

Guidance for Federally Funded Research and Development Centers (FFRDCs):

Federally Funded Research and Development Centers (FFRDCs), including but not limited to U.S. DOE national laboratories, are eligible to receive awards under this Solicitation as either a prime recipient or

subrecipient. Except where noted below, all requirements for proposal submission and project execution apply equally to FFRDCs and to other applicants.

Proposals from or including FFRDCs will be evaluated and selected for award according to the procedures and criteria described in this Solicitation. No preference in evaluation and selection of awardees will be given to proposals from or including FFRDCs. FFRDC funding may not exceed 25% of the total of DOE's and NYSERDA funding for projects awarded in response to NOWRDC Solicitations. As of the date of this Solicitation, up to approximately \$3.3M of project funding remains available for potential awards to FFRDCs as prime or sub-recipients, in response to this or future solicitations. There is, however, no obligation to award any of this amount beyond the established guidelines of the merit-based process by which all applications will be evaluated.

Additional Proposal Submission instructions are provided in Section III, Proposal Requirements.

II. SOLICITATION TOPICS AND REQUIREMENTS

The following Scoring Rounds (see Table 1 below) and Challenge Area descriptions include examples of projects that would address the challenge as a guide for prospective proposers. Guidelines for quantifying the benefits of proposed projects to the U.S. offshore wind industry are also provided.

Proposals for research on topics other than the Challenge Areas described are not in scope for this Solicitation and will be considered non-responsive. However, in future Solicitations, Challenge Areas may be added, deleted or modified. Similarly, the Roadmap, on which solicitation topics are based, will be periodically revised in response to progress in research and commercialization, as well as needs voiced by industry.

Construction of new research facilities or capital-intensive modification of existing facilities will not be funded under this Solicitation. However, this Solicitation may support research and equipment related to such facilities. For example, if testing and validation of an innovative technology are included in the scope of a proposed project, certain costs such as fabrication of test articles, procurement or upgrading of state-of-the-art instrumentation, data collection labor, and established facility usage fees may be funded. However, funds may not be used to, for instance, build or upgrade facility structures or infrastructure, or to erect instrumentation towers.

All prospective proposals for this challenge are encouraged to seek inputs from, or partner with, an offshore wind developer, a U.S. offshore wind component supplier, or include an advisory group comprising developers and/or suppliers to ensure the direction of the project and outcomes can be commercially applied. Additionally, proposals should identify research that can be leveraged and/or partners who have been working on this challenge to demonstrate that the research will clearly further the overall state-of-the-art and will not duplicate or approximate other studies, products, or R&D projects.

The offshore wind industry is trending toward installing larger turbines (12MW - 15MW) in the next decade, with ultra-large (>15MW) turbines likely in the future. Therefore, proposals under all rounds are encouraged to propose technical innovations consistent with the design specifications of these larger turbine classes. NOWRDC encourages references to the NREL/IEA 15MW reference turbine (information provided below), or another set of 12MW – 15MW turbine specifications provided by a turbine manufacturer, in order to credibly establish the applicability and cost effectiveness of the proposed innovations to future turbines of that scale or larger.

Some innovations may be applicable to any size of commercial offshore turbine planned for installation in U.S. waters. However, concepts should use the 15MW reference turbine, or another set of manufacturer-provided specifications, where needed to establish credibility of assumed design parameters and to justify cost/benefit analyses. Further, proposals should recognize and attempt to address trends toward ultra-large turbines.

Table 1

Challenge Area	Round 1: Supply and Logistics, Operations & Maintenance	Round 2 – Facilitating Ocean Area Co-Existence, Electrical and Grid Challenges Unique to Offshore Wind Transmission:
	Concept Paper Submissions Due: September 16, 2021 Full Proposal Submissions Due: November 10, 2021	Concept Paper Submissions Due: March 9, 2022 Full Proposal Submissions Due: April 28, 2022
1	R1c1: Supply Chain Efficiency and Industrialization	R2c1: Facilitating Ocean Area Co-Existence
2	R1c2: Asset Monitoring and Inspection	R2c2: Electrical and Grid Challenges Unique to Offshore Wind Transmission
3	R1c3: Solutions to Reduce or Improve at-sea Maintenance and Repair	

Round 1: Supply and Logistics, Operations & Maintenance

Challenge Area 1: Supply Chain Efficiency and Industrialization

Challenge Area 2: Asset Monitoring and Inspection

Challenge Area 3: Solutions to Reduce or Improve at-sea Maintenance and Repair

Background

On January 27, 2021, President Biden signed an Executive Order to double the capacity of offshore wind by 2035. Following this order, on March 29, 2021, the Biden Administration also released a detailed plan to “jump-start” offshore wind energy projects and create domestic jobs. The new plan identifies, for the first time, a U.S. deployment target, which calls for 30 GW of offshore wind in the United States by 2030. This aggressive target is achievable through appropriate coordination between the public and private sectors, and if met, will enable a longer-term target of 110 GW by 2050. (Tankersley, 2021)

In order to support this aggressive deployment target, the U.S. domestic supply chain must rapidly adapt and scale to support the simultaneous production and installation of large-scale offshore wind farms, inclusive of all associated infrastructure. While this industry ramp-up introduces many unprecedented

challenges, it also presents an opportunity for R&D solutions that improve manufacturing and assembly efficiencies, strategies that convert existing supply chain capabilities to support OSW, and transportation innovations to more effectively handle larger-than-ever componentry and raw material loads.

Concurrently, the announcement of federal targets and accelerated project permitting activities indicate that operational site challenges in U.S. waters are a near-term priority for active leaseholders. The long-term success of offshore wind hinges on the industry's ability to generate power predictably and reliably. Additionally, compared to onshore wind, component or infrastructure damage/failure and associated operations and maintenance (O&M) operations at sea are significantly more expensive and entail additional risk to personnel. Accordingly, in order to reduce unplanned downtime and the frequency of required maintenance/repair, there is an industry-wide need for R&D-derived solutions that enable or improve offshore asset health assessment through asset monitoring and inspection. Furthermore, in the inevitability that offshore infrastructure repairs or maintenance are required, R&D-derived innovations or strategies that reduce the cost, schedule, or safety risk associated with traditionally challenging repair/maintenance procedures are of critical importance to the industry.

Challenge Area 1: Supply Chain Efficiency and Industrialization (R1c1)

As the industry installs the first wave of offshore wind projects, a more mature U.S. supply chain is needed. Rising demand can be partially met through technology innovations that encourage domestic production (e.g., increase utilization of U.S. materials and equipment), transportation innovations that improve functionality and efficiency, and adaptation of existing manufacturing capabilities to accommodate offshore wind infrastructure (e.g., support structures, electrical balance of plant, turbine components, etc.).

Proposals in this challenge area will utilize innovative technologies or strategies:

- to develop or adapt designs, processes, and capabilities to enable cost-effective serial production;
- or
- to develop or adapt designs, processes, and capabilities to enable increased domestic production.

Ideal projects will be innovative, offer near term benefits, and address arrays using turbines sizes 12MW and up. Proposals in this challenge area will ensure that the expected economic benefits are realized by local communities, developers, ratepayers, and state governments.

Examples of projects that may be considered under this topic area include:

- Design studies and innovations that assess the logistics, tooling, and cost to adapt a prototype concept to full-scale serial production.
- Design studies and innovations that assess the feasibility and cost of converting existing fabrication facilities for the serial production of specific offshore components or infrastructure.

- Innovations or strategies that result in improved logistics and reduced transportation costs to, from, and at the marshalling site, such as:
 - Quayside manufacturing and assembly
 - Quayside laydown and storage of components and raw materials
 - Solutions to eliminate or mitigate port transportation challenges such as water drafts, air drafts, hurricane barriers
- Innovations that enable or improve assembled or partially assembled turbine/platform float-out concepts.

Challenge Area 2: Asset Monitoring and Inspection (R1c2)

As a result of accelerated U.S. offshore wind deployment targets, considerations around operational asset health and reliability are of increasing importance to project developers and operators. Work at sea, whether planned maintenance or stemming from faults or equipment failure, is inherently costly and higher-risk than land-based operations. Additionally, the system downtime (planned or unplanned) associated with such occurrences or remedial activities negatively affects project revenue and may lead to increased burden on the interconnected grid. In order to address these operational challenges, there is a need for O&M solutions that enable offshore asset health assessment through remote monitoring and/or inspection to reduce system downtime or the need for at-sea corrective maintenance activities.

Proposals in this challenge area will utilize innovative technologies or strategies:

- to more effectively quantify the general condition or extent of damage to at-sea assets/systems; or
- to inform the prevention or minimization of damage/failures to at-sea assets/systems.

Ideal projects will be innovative, offer near term benefits, and address arrays using turbines sizes 12MW and up. Proposed solutions may interface with OEM wind turbine componentry but may not directly modify standard OEM wind turbine designs in the target size range.

Examples of projects that may be considered under this topic area include, but are not limited to:

- New technologies or strategies that enable or improve upon existing remote monitoring and inspection capabilities, for example:
 - Novel blade inspection solutions, whether integrated or by autonomous vehicle.
 - Platform/Mooring/Anchor monitoring/inspection solutions, whether integrated or by autonomous vehicle.
 - Subsea cable monitoring solutions to detect “hot-spots”, assess cable cover and scour protection, evaluate splice and termination health.
- Innovative sensor arrangements to enable predictive analytics or health assessments.

Challenge Area 3: Solutions to Reduce or Improve at-sea Maintenance and Repair (R1c3)

While it is generally advantageous to minimize at-sea O&M work through engineering controls and remote operations strategies, the complexity of offshore wind farms combined with the extreme offshore environments in which they operate means that manual intervention will inevitably be required for asset maintenance or repair. While at present many offshore wind system damage/failure modes are reasonably well understood, due to the remote nature of offshore wind assets corrective actions (both major and minor) present significant cost, risk, and in the event of major failures, downtime. There is currently an industry-wide need to identify innovative technologies and strategies that meaningfully reduce the need, cost, timeframe, and associated personnel risk for at-sea maintenance and repair.

Proposals in this challenge area will utilize innovative technologies or strategies:

- to enable remote maintenance or repair activities that reduce the need for at-sea human labor, thereby reducing costs, risk to personnel, or repair timeline.
- to develop new or improved methods of addressing maintenance or repair activities requiring at-sea human intervention, and are traditionally associated with high costs, or generator outages.

Ideal projects will be innovative, offer near term benefits, and address arrays using turbine sizes 12MW and up. Proposed solutions may interface with OEM wind turbine components but may not directly modify standard OEM wind turbine designs in the target size range.

Examples of projects that may be considered under this topic area include, but are not limited to:

- Technical innovations or novel strategies to enable turbine and balance of system repairs or maintenance at reduced cost, human labor requirement, or repair timeframe. For example:
 - Improved technologies or methodologies to repair or replace submerged components, including platforms, moorings, anchors, or electrical infrastructure.
 - Improved technologies or methodologies to facilitate turbine blade repair or replacement in-situ.
- Novel technologies or strategies to facilitate the rapid dispatch of tools, parts, and/or O&M personnel to and from the wind farm.

Round 2: Facilitating Ocean Area Co-Existence, Electrical and Grid Challenges Unique to Offshore Wind Transmission

Challenge Area 1: Facilitating Ocean Area Co-Existence (R1c1)

Challenge Area 2: Electrical and Grid Challenges Unique to Offshore Wind Transmission (R1c2)

Background

The Biden Administration’s target of 30 GW of offshore wind in the United States by 2030 will result in the largest scale of offshore wind development yet seen in the U.S. This development will require upgrades in accompanying infrastructure, such as electric transmission, as well as innovation in offshore development practices that facilitate thoughtful co-use with ocean users and marine mammals, fish, and turtles. Innovative research and development, as well as appropriate coordination between the public and private sectors, can help support safe, reliable, and low-cost offshore wind development.

In order to support the Biden Administration’s deployment target, offshore wind installation and operation must work in balance with other marine users and marine mammals, fish, and turtles, aiming for minimal disturbance and maximal mutual benefits. While co-existence in offshore wind ocean areas presents challenges, it also presents an opportunity for improved techniques and innovative technologies to assist in developing proactive communication and coordination amongst commercial fisheries, recreational ocean users, and landside stakeholders – as well as improving offshore wind developer capabilities to mitigate the impacts of their activities on marine mammal, fish, and turtle species.

Concurrently, the rapid deployment of offshore wind that is planned for the U.S. land-based electric grid creates significant challenges for utilities, developers, regulators, and policy makers to introduce this offshore wind energy to the existing infrastructure with minimal disruptions at the lowest cost. The higher penetrations of offshore wind that the planned deployments will bring also puts increasing pressure on the offshore wind arrays to have accurate power forecasts, provide more grid support services, and operate in a manner that prioritizes reliability and resilience in the face of extreme weather. As such, innovations in the electrical power system design, forecasting, and comparative evaluation can play a significant role in lowering system cost.

Challenge Area 1: Facilitating Ocean Area Co-Existence (R2c1)

Proposals in this challenge area should focus on technical and strategic innovation that facilitates co-existence within ocean areas used for offshore wind amongst marine mammals, fish, and turtles as well as commercial, recreational, and landside stakeholders. Innovations to improve co-existence within ocean areas would help reduce potential siting conflicts, offshore wind system componentry interaction with marine mammals, turtles, and fish, and lower construction and operation costs at U.S. offshore wind installations. Successful proposals in this area will not duplicate existing technologies or projects. Rather, they will propose novel technologies or commercially or technically advance technology development that has already been conducted in this field. Please note, NOWRDC is not seeking biological or baseline environmental or seabed surveys.

Specifically, NOWRDC seeks the following:

1. Novel technical tools that improve shared use within offshore wind ocean areas amongst commercial fisheries, recreational ocean users, and land-side stakeholders.
 - Examples of projects that could fall under this category include:

- i. New technologies that streamline communication and coordination of activity amongst ocean users within offshore wind ocean areas.
 - ii. New technologies that reduce the interference of floating or fixed-bottom wind projects with commercial fishing.
 - iii. New technical solutions that aid in safe navigation and vessel operation for commercial and recreational fishing vessels.
 - iv. Solutions that reduce conflicts with landowners for export cable beach crossings and land-side transitions.
2. Technical or strategic innovations that provide offshore wind developers and operators the information and capabilities they need to shape their activities to mitigate the ecological impacts of offshore wind facility development and operation on marine mammals, fish, and turtles.
 - As an example, one project within the NOWRDC project portfolio that falls under this category is the project titled “Right Wind: Resolving Protected Species Space-Use Conflicts in Wind Energy Areas” with Cornell University. This project is developing a prognostic tool to predict the presence of right whales.
 - Other examples of projects that could fall under this category include:
 - i. Offshore wind turbine design and installation techniques that contribute to real-time mitigation of noise impacts during construction and O&M.
 - ii. Technology solutions that mitigate and reduce interactions with federally managed, protected, and endangered species and their habitats.
 - iii. Technology solutions that protect marine mammals, fish, and turtles during construction windows while avoiding curtailment.

Challenge Area 2: Electrical and Grid Challenges Unique to Offshore Wind Transmission (R2c2)

Proposals in this area should focus on innovations and strategies that increase OSW generation forecasting or improve system reliability and resilience. This can be done by addressing offshore wind infrastructure needs and evaluating impacts, such as extreme weather, to reliable offshore and onshore grid operation. This Solicitation seeks proposals that improve the evaluation of vulnerability in and increase the resiliency of onshore transmission infrastructure required to integrate offshore wind power to the broader onshore grid. This infrastructure may include substations, point of interconnections (POIs), and coastal transmission and distribution assets.

Specifically, NOWRDC seeks the following:

1. Strategic and technical innovations to improve offshore wind forecasting including wind power forecast at the turbine system level, at offshore wind plant level, and the forecast for provision of grid services by offshore wind. Techniques to improve wind power forecasting have historically been based on physical, statistical, AI-based, and hybrid approaches. Project focus need not be limited to deterministic forecast with refined spatial and temporal granularity. Data set collection, standardization, and forecast validation are highly encouraged.
 - Examples of projects that could fall under this category include:
 - A proposed methodology for improving power forecasting that combines superior physics and statistics based techniques to create multiple power forecasts including uncertainty quantification– ultimately using visualization to shape the final forecast displayed.

- A replicable methodology that processes localized offshore wind power forecasts as inputs and determines the value of associated grid services as an output.
 - A methodology based on long historical weather data, combined with offshore wind power conversion, that identifies time and duration of critical time periods for grid service needs (both high wind, low load and low wind, high load).
2. Technical innovations that evaluate extreme weather impacts to offshore and onshore grid, solutions to reduce offshore wind curtailment and maintain overall system reliability, and valuation strategies to allow for comparative analysis of solutions to improve offshore wind grid reliability and resilience.
- Examples of projects that could fall under this category include:
 - A proposed technology that enables offshore black-start capability for an offshore grid, as well as a valuation strategy that allows for comparative evaluation of this technology from a regulatory and energy infrastructure planning perspective.
 - Extreme weather impacts, such as polar vortex and icing, to offshore wind in northeast Atlantic and the grid in the region.
 - Cable and offshore substation designs that can sustain harsh ocean environments.
 - A novel co-located energy storage system design or planning process that can dispatch during outages and store power during periods of curtailment.

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B. Funding Categories

Three (3) categories of research will be considered for funding:

- A. **Technical Feasibility Studies:** Category A is for feasibility studies that conduct preliminary research into the concepts underlying new products, systems, strategies or services as a first stage of development. These studies are necessary precursors to ultimate product development and commercialization. Feasibility studies may include conceptual design, technology and market assessments, and similar early-stage studies. Funding for projects in this category will be limited to \$300,000. It is expected that all proposals will include a budget that is commensurate with the proposed project plan and proposers will justify their proposed budget in terms of reasonable costs and scope.
- B. **New Product, Systems, Service or Strategy Development:** Category B includes efforts that are crucial to the development of a marketable product, system, strategy or service and any testing or validation of an innovation that is not already commercially available. Funding for projects in this category will be limited to \$800,000. It is expected that all proposals will include a budget that is commensurate with the proposed project plan and proposers will justify their proposed budget in terms of reasonable costs and scope.
- C. **Demonstration of Technologies, Systems or Services:** Category C is aimed at demonstrating and testing innovative offshore wind technologies, systems, strategies or services that have undergone product development and require testing to reach commercialization or are already commercially available but have not yet been sufficiently demonstrated in the U.S. to gain industry acceptance. This includes hardware, software, and market development initiatives. Funding for projects in this category will be limited to \$1,500,000. It is recognized that some demonstration projects, particularly large-scale demonstrations, may require additional funding. As such, proposers are encouraged to seek additional funds, in-kind contributions or access to facilities from various offshore wind stakeholders. It is expected that all proposals will include a budget that is commensurate with the proposed project plan and proposers will justify their proposed budget in terms of reasonable costs and scope.

Proposers must select at least one (1) funding category per proposal, which must be indicated in the proposal. Proposals that do not identify a funding category may not be reviewed. If the funding category selected does not match the scope of the project, NOWRDC may at its discretion evaluate the project in terms of a category that in its determination better matches the proposed scope. If such a proposal is selected for award, it will be subject to the requirements of the funding category to which it has been assigned.

Multi-phase project proposals (i.e. a single project that spans more than one funding category) will be considered. For example, a proposed project may include Category B Product Development (Phase I) followed by a Category C Product Demonstration (Phase II). Each proposed project Phase must adhere to the requirements of the appropriate funding category for that Phase including required documentation and recommended maximum funding levels. NOWRDC may, at its discretion, select one or more phases for award without selecting other proposed phases. With respect to the proposal requirements (see Section III), multi-phase project proposals must submit all required attachments and fill out all required sections of the Proposal Forms for each phase per the instructions of Attachment B.

All multi-phase projects must include Go/No-Go decision points following each Phase. To proceed to the next phase the Contractor must demonstrate its progress in meeting the technical and commercial milestones of the prior Phase. The Contractor will not be permitted to proceed to the next Phase or submit invoices for work performed in that Phase without written approval, which may be granted or withheld at NOWRDC's sole discretion.

Similarly, Go/No-Go decision points will be required within each project Phase or at one or more points within a single-phase project, typically after each approximate \$250,000 allotment of NOWRDC funding.

The proposed Statement of Work is subject to negotiation and NOWRDC may offer to fund any of the proposal's phases therein at a lower level than that requested, such as by offering to fund a feasibility study rather than a proposed prototype development effort.

C. Project Requirements

Project Scope. To qualify for funding, proposals must:

- Address issues essential for cost reduction, deployment, and industry expansion specific to offshore regions of the U.S. Proposals offering research topics already being addressed by other international projects must explain why further research is necessary.
- Adhere to the challenges identified in Section II of this Solicitation. Although the Technical Challenges and Roadmap will be updated in the future, it is expected that NOWRDC will continue to maintain an industry-focused, prioritized offshore wind R&D agenda that enables early U.S. offshore wind project development, LCOE reduction, and geographic industry expansion beyond the currently designated Wind Energy Areas.
- Provide benefits to multiple end users. R&D projects that benefit multiple end users are expected to have a greater impact toward achieving the NOWRDC's industry-wide cost reduction targets compared to R&D projects focused on a developer's specific commercial offshore wind project.

Proposer Candidacy. Any individual or entity qualified in the solicitation topic matter is welcome and encouraged to submit a proposal for consideration:

- Prior or current project awardees under prior NOWRDC solicitations are welcome to submit concepts intended to continue their awarded work to date, provided said concepts meet the general criteria of the solicitation, including subject matter.
- Proposers may only submit three proposals as prime applicant in any single NOWRDC solicitation round. There are no such limitations for project partners or sub-awardees (non-prime).

Project Schedule, Phasing and Teaming. The following guidelines should be considered when developing proposals:

- Projects are expected to begin as soon as is feasibly possible with a project schedule estimate of: 6 – 18 months for Category A; 18 - 30 months for Category B; and Category C will be negotiated based on the scope and goals of the project.
- Teaming Agreements which include an end user such as an offshore wind developer or a key member of the offshore wind supply chain are strongly encouraged, to enhance the likelihood of successful commercialization. Teams may include offshore wind developers, turbine manufacturers, supply chain members, research organizations, universities, national laboratories, end-users, or other stakeholders. It is expected that all team members named in proposal will be “work-ready”, with any requisite agreements in place no later than one month following award announcements.
- Proposals must state the existing Technology Readiness Level (TRL) of any technology being proposed and what the expected TRL of that technology will be at the end of the proposed project, as a direct result of having undertaken the project. See Attachment B3, Technology and Commercialization Readiness Level Calculator.

Project Benefit Quantification. The following guidelines should be considered when developing proposals.

Establish Potential Benefits Clearly and Credibly

All proposals will be evaluated on their perceived benefits to offshore wind energy development in the United States. Therefore, it is incumbent upon each applicant to provide a clear and credible case for their proposed R&D project that substantiates its value. Regardless of the TRL level of a proposed innovation, or the focus area of a proposed study, its potential to become a viable commercial product or otherwise be adapted for uses benefiting the offshore wind community must be articulated in a manner that conveys a practical understanding of the industry’s needs and a quantification of cost and/or risk reduction, to the extent possible. Representations of project benefits should include the timeframe within which those benefits are likely to be realized.

It is up to the applicant to decide how they can best make a credible case for the value of their proposed project. The paragraphs that follow provide information on potential approaches to consider. Regardless of the approach, validation of its methodology and conclusions through external references and/or supporting documents from potential users or development partners will be looked upon favorably in the proposal evaluation process.

Assess Potential Impact on LCOE

One of the most common metrics for judging the benefit of a specific innovation or technical advancement is to calculate its impact on the levelized cost of energy (LCOE). Applicants may seek to establish the value of their proposed project through an explanation of how it could reduce the LCOE of offshore wind projects in the United States, including an estimation of when that impact would be achieved. Explanations focusing on component level innovations should consider the overall system-wide effect on cost of energy rather than limiting the focus to the given component.

It is expected that all LCOE calculations will be justified with evidence and analysis. Any unsupported claims may be discounted or disregarded. A methodology for calculating LCOE based on the *2018 Cost of Wind Energy Review* (see <https://www.nrel.gov/docs/fy20osti/74598.pdf>) published by the National Renewable Energy Laboratory is provided below. For consistency, it is recommended that all proposers use this approach. Also, proposers, where applicable, should use the reference turbine as described in each Challenge Area and found here: <https://www.nrel.gov/docs/fy20osti/75698.pdf>. If a proposer has its own large turbine design, this may be used as an alternative reference baseline.

Recommended methodology for calculating LCOE:

The term levelized cost of electricity (LCOE) refers to the net present value of the unit-cost of electricity over the lifetime of a generating asset. The following equation is used in estimating the LCOE impact of a proposed innovation:

$$\text{LCOE} = \frac{(\text{FCR} \times \text{CapEx}) + \text{OpEx}}{\text{AEP}_{\text{net}}}$$

where:

<u>FCR</u>	=	<u>fixed charge rate (%)</u>
<u>CapEx</u>	=	<u>capital expenditures (\$/kW)</u>
<u>OpEx</u>	=	<u>average annual operational expenditures (\$/kW/year)</u>
<u>AEP_{net}</u>	=	<u>net average annual energy production (kWh/year).</u>

The Fixed Charge Rate (FCR) represents the annual revenue per dollar of investment required to pay the carrying charges on that investment, which include finance charges, income taxes, inflation and

depreciation. To ensure consistency of financial assumptions among project proposals, a real FCR of 6% should be assumed by applicants in their LCOE calculations.

Innovations that have the greatest impact could positively affect multiple elements of the LCOE equation. Certain innovations could lead to a higher cost of a given component that would be offset by greater cost reduction in another area. For example, an advanced control system may increase turbine cost but may enable higher capacity factors that decrease LCOE. As part of the LCOE analysis, proposers should specify which cost elements are affected, how they are affected and by what percentage they increase or decrease. Analyses should provide credible projections of when estimated cost reductions could reasonably be achieved, following a project award.

Reducing Offshore Wind Plant Risks

Where relevant, proposals may claim project benefits by providing an explanation of how their outcomes will reduce uncertainties and risks in wind plant development, installation, and/or operations and/or the costs associated with health and safety during the life cycle of a project.

Projects that claim to reduce uncertainties and risks related to project costs, revenue or installation timelines should substantiate and quantify those impacts to the extent possible. As applicable, LCOE calculations may be used.

Projects that seek to reduce health and safety risks should clearly describe, and wherever possible quantify, the direct and indirect positive effects of the project and provide or reference substantiating documentation.

Enabling Technologies

In certain cases, technology innovations may be seen as enabling a new business sector or type of commercial project. Any such claims should convey a thorough understanding of the sectors they would influence, indicate how they would be implemented, and be substantiated through credible cost benefit calculations.

Positive Impacts on the U.S. Supply Chain

All proposals shall provide an explanation of how the proposed project could have a positive impact on advancing the offshore wind supply chain to the benefit of U.S. companies. Positive impacts (direct or indirect) on the supply chain may be demonstrated in many ways such as (but not limited to) the potential for increased participation from U.S. companies, reduced U.S. market entry barriers, adaptation of existing technologies or processes to offshore wind energy, and reduced uncertainty for investors.

Commercialization Strategy

All proposals shall include a summary and explanation of foreseeable follow-on efforts that will be required to enable the commercial use of the outcomes of that project in offshore wind plants in the U.S. All proposals for an innovative or modified technology/ methodology are required to provide a

commercialization plan that details the expected path to commercialization or how the innovation will enable commercialization, and the necessary milestones in achieving it.

Thoroughness and credibility of the underlying commercialization analysis may be enhanced through:

- itemization of the rough order of magnitude costs to implement the proposed commercialization pathway;
- indication of key product performance and cost metrics that would need to be achieved for successful commercialization; and
- a high-level breakdown of the time required to undertake follow-on tasks within the commercialization strategy.

Any proposal for innovative designs, methods, or advanced systems must ensure that the resulting outcomes are compliant with U.S. regulations and best practices. Proposals should be thorough and realistic in indicating whether further engineering efforts, testing, field validation, or component and system certification will be required prior to commercial deployment.

It is recognized that for some projects, considerable stakeholder engagement may be required to achieve the desired dissemination and utilization of results. Proposals will be encouraged to highlight where industry buy-in is needed, who the key stakeholders are, and provide a brief summary of how this industry integration would be achieved.

Although a project award may support specific stages of product development, there should not be an expectation that NOWRDC or NOWRDC funding will support all stages required to reach commercialization.

Letters of Commitment or Interest.

If relying on any other organization to provide data, conduct a portion of the work, provide services, equipment, or facilities, or contribute funds, a letter from that organization describing its planned participation and financial commitment must be included. In particular, if the project is dependent on data being provided by an offshore wind developer(s), a letter of commitment from the developers must be provided clearly describing the authority for use of the data, how the data will be used and for what purposes.

Also include letters of interest or commitment from businesses or other organizations critical to the future commercialization, demonstration, or implementation of the project. This is especially critical when partnering with an offshore wind developer or offshore wind supply chain members.

The first letter type is actual involvement in the project work (e.g. by providing a validation site or being an advisor). To the extent that the proposer is relying on an NOWRDC Member Company to do work in order to complete the proposer's contractual responsibilities, then, like any other subcontractor (compensated or otherwise), the Member Company should provide a 'letter of intent' confirming the

Member/subcontractor's commitment to doing the work. Since the Member Company is participating in the proposal in such circumstances, NOWRDC's Conflict of Interest Policy (the "Policy") and the New York Not-for-Profit Corporation Law will require any employee of the participating Member serving on NOWRDC's Board of Directors or R&D Committee to make a disclosure regarding the Member's participation in the proposed work and to recuse from any vote to fund/not fund the specific proposal, as relevant. Please see the attached memo regarding Member Conflict Guidance for further discussion of the relevant rules.

The second type of support letter involves a request by a proposer for a letter indicating that a Member Company supports the project (a "letter of support"), which the proposer would submit in its response to a NOWRDC Solicitation as demonstration of industry support. Although letters of support from Member Companies are allowed and can provide some value to the Scoring Committee in its review process, caution should be observed with respect to such requests. Under applicable NYSERDA procurement rules (which apply to the current NYSERDA-managed Solicitation and NOWRDC solicitations that use funding received under the Funding Agreement between NYSERDA and the NOWRDC), such requests could be viewed as an "attempt to influence procurement by contacting anyone other than the Designated Contact," in violation of such rules. At this time, and to the extent of the limited facts described in this Program Opportunity Notice, NYSERDA has taken the position that such a letter of support, without more, would not be in violation of applicable rules. However, all Members should be aware of this concern and to interact with proposers accordingly. Further, NOWRDC policy prohibits proposers from lobbying individual Members or Directors outside of NOWRDC's formal review processes for purposes of securing votes for a proposal in Scoring Committee or R&D Committee decisions. This policy should also be kept in mind in interactions by proposers. In practice a letter of support would not be given much weight by the Scoring Committee and will never be a deciding factor in a decision whether to fund a proposal.

Given the considerations described above and NOWRDC's intent and obligations to maintain full transparency and integrity in the award review and approval process, if a proposer has communicated with a Member Company about a proposal, the proposer and the Member should disclose such communication^[A2] and any relevant related circumstances in the Solicitation response and related communications, as applicable, to ensure the proper management of the same. If an employee of the Member Company is serving on the Board of Directors, any Member participation in a proposal should be disclosed to NOWRDC's General Counsel in accordance with NOWRDC's Conflict of Interest Policy.

Absence of letters of commitment or interest may be interpreted as meaning that the proposer does not have support from the subject parties. Project awards will be contingent on the proposer securing the relevant committed data, work, services, equipment, facilities, or funds as required by the project.

III. PROPOSAL REQUIREMENTS

Concept Papers

NOWRDC invites proposals for applied research projects that address the topic areas and project requirements as defined in Section II. Applicants must initially submit a 4-page concept paper using the Attachment A0: Concept Paper Template format. Concept Paper template instructions are provided within the template file. Concept Papers that fail to follow the Concept Paper template instructions will be rejected as non-responsive. Concept Papers due dates are summarized below by Round:

Round 1 (All Challenge Areas): September 16, 2021

Round 2 (All Challenge Areas): March 9, 2022

Following a standardized scoring process utilizing the criteria provided in the Proposal Evaluation Criteria (Section IV), NOWRDC may invite an applicant whose project concept has been selected for further consideration to submit a more extensive “Full Proposal.” Planned NOWRDC schedule for Full Proposal invitations is summarized below by Round:

Round 1 (All Challenge Areas): October, 2021

Round 2 (All Challenge Areas): April, 2022

Full Proposal Submissions (By Invitation Only)

Full Proposals are subject to the requirements and Evaluation Criteria detailed below. The mandatory Full Proposal package, to be submitted only by NOWRDC’s specific invitation, must be submitted by 3:00PM EST on the Round due date, as defined below:

Round 1 (All Challenge Areas): November 10, 2021

Round 2 (All Challenge Areas): April 28, 2022

Incomplete proposals may be subject to disqualification. It is the proposer’s responsibility to ensure that all pages have been included in the proposal and have been timely submitted in accordance with appropriate due dates and times.

The proposer must submit a Full Proposal using the instructions and attachments listed below. The goal should be to concisely present the information needed to fully address the Proposal Evaluation Criteria (Section IV). Full Proposals that exceed the word limits or fail to follow the format guidelines will be rejected as non-responsive. If you believe proprietary or confidential information must be submitted to

provide an adequate proposal, please clearly indicate in your proposal which information is proprietary and confidential and mark that information accordingly. Attachments beyond those requested will not be considered. Each page of the Full Proposal should state the name of the proposer, the PON number, and the page number. All Full Proposals must include, at minimum, the following documents:

- Attachment A: Proposal Narrative (with required attachments)
- Attachment B1: Statement of Work
- Attachment B3: TRL/CRL Calculator
- Attachment C1: Milestone Payment Schedule
- Attachment C2: DOE Sub-Recipient Budget Justification
- Attachment 2: Applicant Assumption of Risk Form

Instructions for all Full Proposal attachments are provided in the Attachment A: Proposal Narrative file.

Required sections of the Proposal Narrative differ according to the Funding Category being proposed. Additional attachments may also be required based on the proposed Funding Category or Categories.

	Funding Category A	Funding Category B	Funding Category C
Att. A.I – Executive Summary	✓	✓	✓
Att. A.II – Problem Statement and Proposed Solution	✓	✓	✓
Att. B2 – Business Model Canvas (Funding Category B & C Projects ONLY)		✓	✓
Att. A.III – State of Research and Technology Targets	✓	✓	✓
Att. B3 – TRL/CRL Calculator	✓	✓	✓
Att. A.IV – Commercialization Potential of Proposed Solution (Funding Category B & C Projects ONLY)		✓	✓
Att. B4 – Three-Year Financial Projections Worksheet (Funding Category B & C Projects ONLY)		✓	✓

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Att. A.V – Demonstration Site and Product (Funding Category C Projects ONLY)			✓
Att. A.VI – Replication Potential of Proposed Demonstration (Funding Category C Projects ONLY)			✓
Att. A.VII – Feasibility Study Information (Funding Category A Projects ONLY)	✓		
Att. A. VIII – Statement of Work (Att. B1) and Schedule	✓	✓	✓
Att. A.IX – Additional Project Benefits	✓	✓	✓
Att A.X – Budget incl. Milestone Payment Schedule (Att. C1) & Sub Recipient Budget Justification (Att. C2)	✓	✓	✓
Att. A.XI – Proposer Qualifications	✓	✓	✓
Att. A.XII – Letters of Support	✓	✓	✓
Att. A.XIII – Applicant Assumption of Risk Form (Att. 2)	✓	✓	✓
Att. A.XIV – Attachments	✓	✓	✓

Proposers must carefully review the Attachment A, Proposal Narrative to ensure that all required sections and attachments are submitted. Failure to do so may result in the proposal being rejected as non-responsive.

A. Cost-Sharing

Proposers are not required to provide any form of cost-share. However, it is recognized that for projects such as demonstration projects, project team members may wish to provide additional funding or in-kind contribution to maximize the benefit of the project. Proposers are encouraged to provide an indication of any additional funding or in-kind contribution that will be used to support the delivery of a project. NOWRDC has several State Members (MD, MA, ME, VA, NJ) that may have cost share opportunities available for project awards under this solicitation. We encourage proposer to explore any such options. Cost share funding that is of federal origin is generally not eligible to serve as costs share funding for NOWRDC projects under this solicitation.

B. Compliance with New York State Finance Law

In compliance with Sections 139-j and 139-k of the New York State Finance Law , proposers will be required to answer questions during proposal submission, which will include disclosing any Prior Findings of Non-Responsibility.

C. Annual Metrics Reports

If awarded, the proposer will be required to submit to NOWRDC on an annual basis, a prepared analysis and summary of metrics addressing the anticipated energy, environmental and economic benefits that are realized by the project. All estimates shall reference credible sources and estimating procedures, and all assumptions shall be documented. Reporting shall commence the first calendar year after the contract is executed. Reports shall be submitted by January 31st for the previous calendar year's activities (i.e. reporting period). The Contractor shall provide metrics in accordance with a web-based form, which will be distributed by NOWRDC. NOWRDC may decline to contract with awardees that are delinquent with respect to metrics reporting for any previous or active NOWRDC agreement.

IV. PROPOSAL EVALUATION CRITERIA

Additional data or material to support applications/proposals may be requested. Proposers may also be requested to interview with all or part of the Scoring Committee to address any questions or provide clarification regarding information outlined in the proposals. Proposers will be notified if they are requested to participate in an interview.

A. Project Benefits and Value

All assumptions must be supported and justified using sources and evidence. Scoring will be based on the proposal team's ability to meet these criteria. For additional information see **Project Benefit Quantification**, Section IIC.

- The proposed solution addresses a core technical barrier that is not being addressed by others and has the potential for wide-scale replicability.
- The proposed solution will bring economic benefits to the U.S. offshore wind industry in the form of manufacturing capability, supply chain development or technical services. U.S. jobs are expected to be created and/or retained as a result of this project.
- The proposed solution quantifiably lowers development risk and/or represents an enabling technology likely to increase offshore wind deployment in the U.S.
- Timeframes for the offshore wind industry to realize the benefits of the proposed solution are realistic and appropriate.
- The implementation strategy is well-conceived, appropriate for the current stage of development, and there is a sound plan for measuring progress and success.
- The proposed project scope makes a clear case that it can deliver significant benefits. Where necessary and appropriate, the proposer has secured a commitment for additional cost share.
- The proposer exhibits strong market demand for this solution and has already identified one or more commercialization partners.
- The proposed solution has potential to significantly reduce LCOE. Components of LCOE include capital costs, operating costs and financing cost. Solutions that increase annual energy production without a commensurate increase in cost will also reduce LCOE.

B. Innovation, State of the Art and Technical Merit

- The proposal identifies a problem fully aligned and essential to the advancement, in the United States, of one of the identified Technical Challenge Areas.
- The proposer has demonstrated insightful understanding of the current state-of-the-art relative to the Challenge Area.
- The proposed project is technically sound, feasible, innovative, and superior to alternatives, and will make significant progress toward solving the identified problem.
- The proposed approach and scope of work are aimed at developing and commercializing a technology, as opposed to basic research and discovery.
- Technical assertions, such as assessments of performance relative to the state-of-the-art, are verified by rigorous analysis.

- The proposal demonstrates industry buy-in and validation of the proposed technical concept.
- The proposal has demonstrated why the innovation is uniquely relevant to the U.S. offshore wind industry or the development of its supply chain.

C. Project Plan, Scope, Risks and Challenges

- The proposed project plan is clearly defined, with fully developed tasks, subtasks, milestones and deliverables that will enable effective project management.
- The scope of work is fully appropriate to the selected problem and will be highly valuable towards meeting the goals of the Technical Challenge Area and the Roadmap.
- Technical and programmatic risks are clearly understood and fully disclosed, with well-considered mitigation plans that have a high probability of ensuring project success.
- The cost of the project is strongly justified with respect to the expected benefits and the potential market or deployment opportunity.
- The proposal outlines a detailed plan for pursuing additional funding and development support, if necessary, to bring the proposed solution to full commercialization.
- The proposed work can be accomplished within the amount of time, effort, and resources proposed.
- The selected Funding Category is appropriate for the proposed solution.
- The proposal provides letters of commitment from all outside organizations the proposal team will need to provide data, equipment, support, facilities, etc.
- The implementation strategy is well-conceived and appropriate for the current stage of development, with a sound plan for measuring progress and success.
- The proposal offers a compelling explanation of how it will address barriers to market entry and commercialization.
- The proposed plan is as efficient as possible with regards to resources and time, including maintaining as limited of an administrative budget as possible relative to overall project budget.

D. Team Experience and Capabilities

- The proposed team has the necessary expertise and resources to carry out the proposed work.
- The project team includes members with industrial and business experience as well as technical skill.
- The project team has successfully commercialized applicable products, deployed similar services or has completed a similar project.
- The proposal team has secured strong commitments from all essential team members and partners, including letters and has demonstrated strong support from necessary market actors.

- The proposal clearly demonstrates the team structure and staff responsibilities.
- For demonstration projects relying on entities and jurisdictional authorities such as a maritime agency, leaseholder, equipment manufacturer, etc., the project team has secured or has a plan to secure all the commitments necessary to execute the proposed project scope.

Program Scoring

Each proposal will be scored on a scale of 100 with the following weighting applied to each of the evaluation criteria:

- 1) Project Benefits and Value – 40%
- 2) Innovation and State of the Art – 30%
- 3) Project Plan, Scope, Risks and Challenges – 15%
- 4) Team Experience and Capabilities – 15%

Additional data or material to support applications/proposals may be requested. Proposers may also be requested to interview with all or part of the Scoring Committee to address any questions or provide clarification regarding information outlined in the proposals. Proposers will be notified if they are requested to participate in an interview.

Program Policy Evaluation Factors

NOWRDC reserves the right to accept or reject proposals based on the following factor(s):

- 1) Whether the proposed project will accelerate technology advances in areas that industry or the company, by itself, is not likely to undertake.
- 2) The degree to which the proposed project optimizes the use of available funding to achieve programmatic objectives.
- 3) The degree to which the proposal expands the geographic diversity of NOWRDC's R&D efforts.
- 4) The degree to which the proposal expands the technical portfolio of NOWRDC.
- 5) The degree to which the proposed project has leveraged award funds to expand their project scope and value attained with non-award resources.
- 6) The degree to which there are technical, market, organizational and/or environmental risks associated with the projects that outweigh the potential benefits.
- 7) Past performance of the proposer on other projects with NOWRDC, NYSERDA, the U.S. DOE, and NOWRDC Member companies.
- 8) The degree to which project expenses are in line with market rates.

Awardees are expected to be notified within approximately 12 weeks from proposal submission if their proposal has been selected to receive an award, contingent upon successful execution of an award.

V. General Conditions

A. Proprietary Information

Careful consideration should be given before confidential information is submitted to NOWRDC as part of your proposal. Your review of information to be submitted should include whether information, if confidential, is critical for evaluating a proposal, and whether general, non-confidential information, may be adequate for review purposes. You must submit a signed Applicant Assumption of Risk form with your application.

Funding awarded for projects hereunder is made available pursuant to a funding agreement between NOWRDC and the New York State Energy Research and Development Authority ("NYSERDA"), which agreement includes requirements for NOWRDC to provide information to NYSERDA which is included in your proposal. The NYS Freedom of Information Law, Public Officers law, Article 6, provides for public access to information NYSERDA possesses. Public Officers Law, Section 87(2)(d) provides for exceptions to disclosure for records or portions thereof that "are trade secrets or are submitted to an agency by a commercial enterprise or derived from information obtained from a commercial enterprise and which if disclosed would cause substantial injury to the competitive position of the subject enterprise." Information submitted to NYSERDA that the proposer wishes to have treated as proprietary, and confidential trade

secret information, should be identified and labeled “Confidential” or “Proprietary” on each page at the time of disclosure. This information should include a written request to except it from disclosure, including a written statement of the reasons why the information should be excepted. See Public Officers Law, Section 89(5) and the procedures set forth in 21 NYCRR Part 501 <https://www.nyserda.ny.gov/About/-/media/Files/About/Contact/NYSERDA-Regulations.ashx>. However, NOWRDC and NYSEDA cannot guarantee the confidentiality of any information submitted.

B. Omnibus Procurement Act of 1992

This section and those that follow describe certain requirements applicable to awards using funding made available from NYSEDA. It is the policy of New York State to maximize opportunities for the participation of New York State business enterprises, including minority- and women-owned business enterprises, as bidders, subcontractors, and suppliers on its procurement Agreements.

Information on the availability of New York subcontractors and suppliers is available from:

Empire State Development
Division for Small Business
625 Broadway
Albany, NY 12207

A directory of certified minority- and women-owned business enterprises is available from:

Empire State Development
Minority and Women’s Business Development Division
625 Broadway
Albany, NY 12207

C. State Finance Law sections 139-j and 139-k

NYSEDA is required to comply with State Finance Law sections 139-j and 139-k. These provisions contain procurement lobbying requirements which can be found at <https://online.ogs.ny.gov/legal/lobbyinglawfaq/default.aspx>. Proposers are required to answer questions during proposal submission, which will include making required certification under the State Finance Law and to disclose any Prior Findings of Non-Responsibility (this includes a disclosure statement regarding whether the proposer has been found non-responsible under section 139-j of the State Finance Law within the previous four [4] years).

D. Tax Law Section 5-a

NYSERDA is required to comply with the provisions of Tax Law Section 5-a, which requires a prospective contractor, prior to entering an agreement with NYSERDA having a value in excess of \$100,000, to certify to the Department of Taxation and Finance (the “**Department**”) whether the contractor, its affiliates, its subcontractors and the affiliates of its subcontractors have registered with the Department to collect New York State and local sales and compensating use taxes. The Department has created a form to allow a prospective contractor to readily make such certification. See, ST-220-TD (available at <http://www.tax.ny.gov/pdf/currentforms/st/st220tdfillin.pdf>). Prior to contracting with NOWRDC, the prospective contractor may also be required to certify to NYSERDA whether it has filed such certification with the Department.

The Department has created a second form that must be completed by a prospective contractor prior to contracting and filed with NYSERDA. See, ST-220-CA (available at <http://www.tax.ny.gov/pdf/currentforms/st/st220cafillin.pdf>). The Department has developed guidance for contractors which is available at <http://www.tax.ny.gov/pdf/publications/sales/pub223.pdf>.

E. Contract Award

NOWRDC anticipates making multiple awards under this solicitation. NOWRDC anticipates a contract duration of one to three (3) years, unless it determines a different structure is more efficient based upon proposals received. A contract may be awarded based on initial applications without discussion, or following limited discussion or negotiations pertaining to the Statement of Work. Each application should be submitted using the most favorable cost and technical terms. NOWRDC may request additional data or material to support applications. NOWRDC will use the Attachment D, Sample Agreement to contract successful proposals. NOWRDC may at its discretion elect to extend and/or add funds to any project funded through this solicitation. NOWRDC reserves the right to limit any negotiations with respect to the terms of the Sample Agreement. While minor modifications may be considered in limited circumstances, the Sample Agreement is generally non-negotiable. Proposers should keep in mind that acceptance of all standard terms and conditions will generally result in a more expedited contracting process. NOWRDC expects to notify proposers in approximately eight to twelve (12) weeks from the receipt of a proposal whether your proposal has been selected to receive an award. NOWRDC may decline to contract with awardees that are delinquent with respect to any obligation under any previous or active NOWRDC agreement.

F. Accessibility Requirements

NYSERDA requires contractors producing content intended to be posted to the Web to adhere to New York State’s Accessibility Policy. This includes, but is not limited to, deliverables such as the following that are intended for such purposes: documents (PDF, Microsoft Word, Microsoft Excel, etc.), audio (.mp3, .wav, etc.), video (.mp4, .mpg, .avi, etc.), graphics (.jpg, .png, etc.), web pages (.html, .aspx, etc.), and

other multimedia and streaming media content. For more information, see [NYSERDA's Accessibility Requirements](#).

G. Limitation

This solicitation does not commit NOWRDC to award a contract, pay any costs incurred in preparing a proposal, or to procure or contract for services or supplies. NOWRDC reserves the right to accept or reject any or all proposals received, to negotiate with all qualified sources, or to cancel in part or in its entirety the solicitation when it is in NOWRDC's best interest. NOWRDC reserves the right to reject proposals based on the nature and number of any exceptions taken to the standard terms and conditions of the Sample Agreement. NOWRDC reserves the right to disqualify proposers based upon the results of a background check into publicly available information and the presence of a material possibility of any reputational or legal risk in making of the award.

H. Disclosure Requirement

The proposer shall disclose any indictment for any alleged felony, or any conviction for a felony within the past five (5) years, under the laws of the United States or any state or territory of the United States and shall describe circumstances for each. When a proposer is an association, partnership, corporation, or other entity, this disclosure requirement includes the entity and its officers, partners, and directors or members of any similarly governing body. If an indictment or conviction should come to the attention of NOWRDC after the award of a contract, NOWRDC may exercise its stop-work right pending further investigation or terminate the agreement; the contractor may be subject to penalties for violation of any law which may apply in the particular circumstances. Proposers must also disclose if they have ever been debarred or suspended by any agency of the U.S. Government or the New York State Department of Labor.

I. Vendor Assurance of No Conflict of Interest or Detrimental Effect

The proposer shall disclose any existing or contemplated relationship or transaction of the proposer, or any known relationship or transaction of any person or entity that is a member, shareholder or other equity owner of five percent (5%) or more of the proposer, or of any parent, subsidiary, or other affiliate of the proposer, or any known relationship or transaction of any clients/customers of the proposer, to or with NOWRDC or NYSERDA, or with any current or former employee, officer, or director of NOWRDC or NYSERDA, which relationship or transaction could give rise to an actual, or the appearance of, a conflict of interest or impropriety in connection with the proposer's rendering of services as proposed. If any such actual or apparent conflict of interest or impropriety does or might exist, please describe how you would eliminate or prevent it. Indicate what procedures will be followed to detect, notify NOWRDC of, and resolve any such conflicts.

The proposer must disclose whether it, or any of its members, or, to the best of its knowledge, shareholders or other equity owners of five percent (5%) or more, parents, affiliates, or subsidiaries, have been the subject of any investigation or disciplinary action by the New York State Commission on Public Integrity or its predecessor State entities (collectively, “**Commission**”), and if so, a brief description must be included indicating how any matter before the Commission was resolved or whether it remains unresolved.

J. Public Officers Law

For any resulting awards, the Contractor and its subcontractors shall not engage any person who is, or has been at any time, in the employ of the State to perform services in violation of the provisions of the New York Public Officers Law, other laws applicable to the service of State employees, and the rules, regulations, opinions, guidelines or policies promulgated or issued by the New York State Joint Commission on Public Ethics, or its predecessors (collectively, the “**Ethics Requirements**”). Proposers are reminded of the following Public Officers Law provision: contractors, consultants, vendors, and subcontractors may hire former NYSERDA employees. However, as a general rule and in accordance with New York Public Officers Law, former employees of NYSERDA may neither appear nor practice before NYSERDA, nor receive compensation for services rendered on a matter before NYSERDA, for a period of two (2) years following their separation from NYSERDA service. In addition, former NYSERDA employees are subject to a “lifetime bar” from appearing before any state agency or authority or receiving compensation for services regarding any transaction in which they personally participated, or which was under their active consideration during their tenure with NYSERDA.

Any awardee will be required to certify that all of its employees, as well as employees of any subcontractor, whose subcontract is valued at \$100,000 or more who are former employees of the State and who are assigned to perform services under the resulting contract, shall be assigned in accordance with all Ethics Requirements. During the term of any agreement, no person who is employed by the contractor or its subcontractors and who is disqualified from providing services under the contract pursuant to any Ethics Requirements may share in any net revenues of the contractor or its subcontractors derived from the contract. NYSERDA may request that contractors provide it with whatever information the State deems appropriate about each such person’s engagement, work cooperatively with the State to solicit advice from the New York State Joint Commission on Public Ethics, and, if deemed appropriate by the State, instruct any such person to seek the opinion of the New York State Joint Commission on Public Ethics. NYSERDA shall have the right to withdraw or withhold approval of any subcontractor if using such subcontractor for any work performed would conflict with any of the Ethics Requirements. NYSERDA shall have the right to terminate any contract at any time if any work performed conflicts with any of the Ethics Requirements.

VI. ATTACHMENTS

Attachment A0 – Concept Paper Template

Attachment A – Proposal Narrative Template

Attachment B1 – NOWRDC Cover Letter, Statement of Work & Form of Agreement

Attachment B2 – Business Model Canvas Template

Attachment B3 – TRL/CRL Calculation Worksheet

Attachment B4 – Three-Year Financial Projections Worksheet

Attachment C1 – Milestone Payment Schedule

Attachment C2 – DOE Sub-Recipient Budget Justification

Attachment D – Scoring Rubric (Concept Paper & Full Submission)

Attachment 1 – DOE Reporting Checklist

Attachment 2 – Applicant Assumption of Risk Form