

May 10, 2022

## **NEx Request for Proposals Notice (4)**

NEx encourages to submit proposals focused on the research topic described below:

### **SG.01. Develop design and selection guidelines for NM pultruded structures.**

#### **Background**

To advance the use of nonmetallic pultruded structural components, there is a need to develop a design and selection guidelines. ASCE is in the process of finalizing ASCE/SEI-74 "*Load and Resistance Factor Design (LRFD) for Pultruded Fiber Reinforced Polymer (FRP) Structures*". The ASCE-74 provides the design and material requirement of pultruded fiber reinforced polymer (FRP) composite members. However, there is still a need to develop design guidelines, design tools, and design manuals to enhance industry knowledge of the design practices of the composite pultruded member.

#### **Proposal Request**

NEx invites proposals for the development of one or all the 3 phases of this project to advance the use of NM Pultruded Structures.

*Phase 1:* Develop Design and selection guidelines for NM pultruded structures that include:

- ✓ Define different pultruded components and applications
- ✓ Step by step demonstration of how and where to use pultruded components
- ✓ Outline common applications and benefits
- ✓ Provide information on material specifications
- ✓ Provide guidelines for product qualification and testing
- ✓ Design Guideline in jointing method
- ✓ Designs examples to supplement ASCE-74.

*Phase 2:* Develop Design Tool(s)

The objective of this phase is to develop a software tool (similar to 318 Design tool) based on ASCE/SEI-74 code. This design tool is aimed to help designers to use NM structural elements during the design process.

*Phase 3:* Develop Design Manual

The objective of this phase is to develop NM structure design manual providing a description of the design process for a wide range of structures components. The document is envisioned to be like the Steel Designer's Manual.

#### **NEx Mission Statement**

Collaborate globally to expand and accelerate the use of nonmetallics in the built environment to drive innovation, research, education, awareness, adoption, and deployment.

Research and Development within NEx are among its core missions, and it supports and facilitates the development of new nonmetallic technologies to address challenges with effective solutions.

#### **Funding Policy**

NEx will impose a limit of 15% on indirect costs (overhead) by research organizations for any research it funds. The organization must waive the remainder of the indirect costs.

#### **Award Amount**

NEx does not impose any limit on the overall funding request; however, the decision on full or partial funding will be made by the NEx Steering Committee and NEx Board.

### **Proposal Evaluation**

NEx research proposals will be evaluated by the NEx Steering Committee. A winning proposal will be forwarded to the NEx Board of Directors with recommendations for funding.

### **Awarded Proposals**

- NEx will enter into a contract with the researching entity. As part of the contract, it is mandated that the overhead or indirect return be set at no more than 15% of the direct cost of the research funding requested from NEx. Any overhead over the maximum allowed 15% that is waived by the researching entity shall be considered as cost sharing and shall be indicated on the budget table as waived overhead, separate from other co-funding. Non-compliant proposals in this regard shall be returned without review.
- The schedule of payments contingent upon milestone deliverables will be contained in the contract and will include, at a minimum, a final report deliverable to NEx. Progress reports, if required, will be identified in the final contract.
- If principal investigators (PI) from two organizations are collaborating on the research, the award must be to a single organization, which will then subcontract with the second organization.
- NEx will only consider funding research that involves the use of proprietary products if the goal of the research is to advance knowledge in a particular area of study and not solely on a proprietary product.
- In case of any co-funding arrangement with other organization(s), commitment letter(s) from co-funding organization(s) are required before funds are dispersed from NEx.
- The results of NEx-funded research will be owned by NEx, and possibly by other co-funding organization(s). PI should obtain approval from NEx before publishing any results.

### **Where and How to Submit Proposals**

Submitted proposals will be evaluated by the NEx Steering Committee and the NEx Staff. Anyone who evaluates a proposal is required to agree and abide by NEx policies on confidentiality and conflict of interest.

Please email the proposal and supporting information to Aparna Deshmukh, NEx Technical Director, at [aparna.deshmukh@nonmetallic.org](mailto:aparna.deshmukh@nonmetallic.org), by 6:00 AM EDT on May 31, 2022. The following information is to help you prepare the proposal.

If you have any questions regarding the proposal requirements or process, please contact NEx Technical Director, Aparna Deshmukh ([aparna.deshmukh@nonmetallic.org](mailto:aparna.deshmukh@nonmetallic.org)).

### **Required Proposal Content**

Proposals submitted to the NEx shall contain:

- Contact information of the Principal Investigator (PI), co-PI (*if applicable*) and administrative

- persons that may submit on behalf of the PI.
- Proposal Title.
- Executive summary to be used for promotional purposes:
  - Total project budget amount including up to 15% overhead, if any;
  - Value of any co-funding, identified as monetary or in-kind (monetary value of donated materials, consulting or testing services);
  - Amount of waived institution overhead.
  - Description of objectives of the proposal (300 words or less).
  - Description of significance/impact of the project (300 words or less).

Main body of the document (*maximum of 5 pages in 12-point font*) must include:

- Objectives;
- Significance/Impact;
- Project description to include enough detail to understand how the research will be performed;
- Matrix of tasks and schedule of completion, including progress and final reports;
- List of anticipated products, such as new material specifications, new documents, published papers, presentations, or conference proceedings;
- Table of funding that includes all support such as:
  - Total budget;
  - Any co-funding from organizations other than NEX;
  - Net value of waived institution overhead or planned co-funding (if not in place yet).

Supporting information should include:

- References cited;
- Qualifications of the investigator(s) and/or institution(s). Biographical sketches are limited to two pages per investigator.