NSF 14-605 Program Solicitation
Natural Hazards Engineering Research Infrastructure 2015 - 2019 (NHERI)

Informational Webinar
October 7, 2014

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Question & Answer Session
at
End of Webinar

Submit questions during webinar to:

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(This email is only valid during this webinar)

NSF 14-605 NHERI Program Solicitation Program Page

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503259

- NSF 14-605 Program Solicitation
- Frequently Asked Questions (FAQ)
  - First posting on/about end of October
  - Check for updates prior to December 3, 2014 full proposal deadline
- October 7, 2014 webinar slides

Note: This webinar highlights many items in NSF 14-605, but not all. NSF 14-605 is the authoritative source – not these slides. Please refer to NSF 14-605 for complete information.

Frequently Asked Questions (FAQ)

- Questions today answered at end of webinar, as time available.
- All questions and answers during webinar will be answered and posted in FAQ.
- Per NSF 14-605, all future questions received will be responded to in the FAQ.
- FAQ updated prior to December 3, 2014 full proposal deadline.
- Initial FAQ is included in NSF 14-605, Section X, Appendix.
- Questions will not be individually answered.
- Questions submitted less than three weeks prior to the full proposal deadline will not be answered.

Webinar Outline

- Introduction
- Program Description
- Proposal Preparation
- Award and Budget Information
- NSF Merit Review Criteria and Process
- Award Administration Information
- Contact information
- Q&A Session

INTRODUCTION

NHERI 2015 - 2019

- Is a distributed, multi-user, national facility – part of NSF's large facility portfolio.
- Provides the natural hazards engineering community with access to research infrastructure (earthquake and wind engineering experimental facilities, cyberinfrastructure, computational modeling and simulation tools, and research data), coupled with education and community outreach activities.
- Enables research and educational advances that can contribute knowledge and innovation for the nation's civil infrastructure and communities to prevent natural hazard events from becoming societal disasters.
- Consists of the following components, established through up to ten individual awards:
  - Network Coordination Office
  - Cyberinfrastructure
  - Computational Modeling and Simulation Center, and
  - Experimental Facilities for earthquake engineering and wind engineering research, including a Post-Disaster, Rapid Response Research Facility.
- NHERI award (Awardees) do not conduct research.

Anticipated NHERI Awards (acronyms below will be used in webinar)

- Outcome**:** Up to ten cooperative agreement awards for up to five years.
- Total funding: Up to $62,000,000 estimated total for up to five years for up to ten awards (Awardees).
- Award order: CI, NCO, order of remaining awards contingent upon merit review process and NSF's management and budget review.

Award Type	Number of Awards
Network Coordination Office (NCO)	One
Cyberinfrastructure (CI)	One
Computational Modeling and Simulation Center (SimCenter)	One
Experimental Facilities (EFs) for earthquake engineering and wind engineering research - up to seven awards, which includes one award for a Post-Disaster, Rapid Response Research (RAPID) Facility. The RAPID Facility is considered part of the EF component, and is the only new EF to be constructed.	Up to Seven

Eligibility Information (Section IV)

- Who May Submit Proposals

  Academic institutions (university and colleges) accredited in, and having a campus located in, the U.S. acting on behalf of their faculty members.

- Who May Serve as PI

  The PI must be a full-time employee of the lead institution by the start date of the NSF cooperative agreement award.

- Limit on Number of Proposals per Organization: 2

  An academic institution may submit up to two proposals as lead institution, but may not submit more than one proposal as lead institution in any of the following four proposal categories: NCO, CI, SimCenter, and EF (which includes RAPID Facility).

- Limit on Number of Proposals per PI or co-PI: 1

  Individual may be PI or Co-PI in no more than one proposal submitted to the full proposal deadline.

Eligibility Information (Section IV) – cont'd

- Collaborative proposals – must be single administrative package from the lead institution with other organizations supported through subawards/subcontracts.
  - Lead institution is responsible for managing ***entire project*** - both own and subaward performance in compliance with the lead institution's cooperative agreement with NSF.

- National laboratories, private sector companies, and non-U.S. institutions may participate in NHERI award activities using their own resources and cannot receive NSF support from a NHERI award; however, this shall not be interpreted to prohibit purchases, services, or sales contracts/ agreements with these entities.

- EF, including RAPID Facility – must be single academic institution proposal with all proposed facility resources owned, operated, and maintained by the academic institution and located within the United States to facilitate access by NSF-supported users.

What NHERI Awards are NOT

- NHERI Awardees do not conduct research under the NHERI award
- NHERI awards are not grants; they will be **cooperative agreements**
  - Per NSF GPG, cooperative agreements are used when there will be substantial agency involvement during the performance award period
  - Terms and conditions in cooperative agreement specify extent of NSF involvement (see NSF 14-605, Section VII.B) and basis for continued funding
  - Awardee has primary management responsibility for its project
  - As a part of an NSF multi-user operations facility, each Awardee operates under, e.g., strategic plan/goals, performance metrics, annual work plan, project and risk management, adherence to EH&S, and cybersecurity, and has required annual/quarterly reporting, site visits, and business systems review

NSF 14-605 Deadlines

- **Letter of Intent (LOI) Due Date (Required)**
  November 6, 2014, 5 p.m. proposer's local time
- **Full Proposal Deadline**
  December 3, 2014, 5 p.m. proposer's local time

Lead institution **must** submit an LOI by the Due Date in order to submit a full proposal. If the LOI is submitted after the LOI Due Date, then the lead institution may not submit a full proposal.

If a full proposal is submitted after the full proposal deadline, it will be **returned without review.** (See NSF GPG, Chapter 1.F.2, Deadline Dates)

PROGRAM DESCRIPTION
(NSF 14-605, Section II)

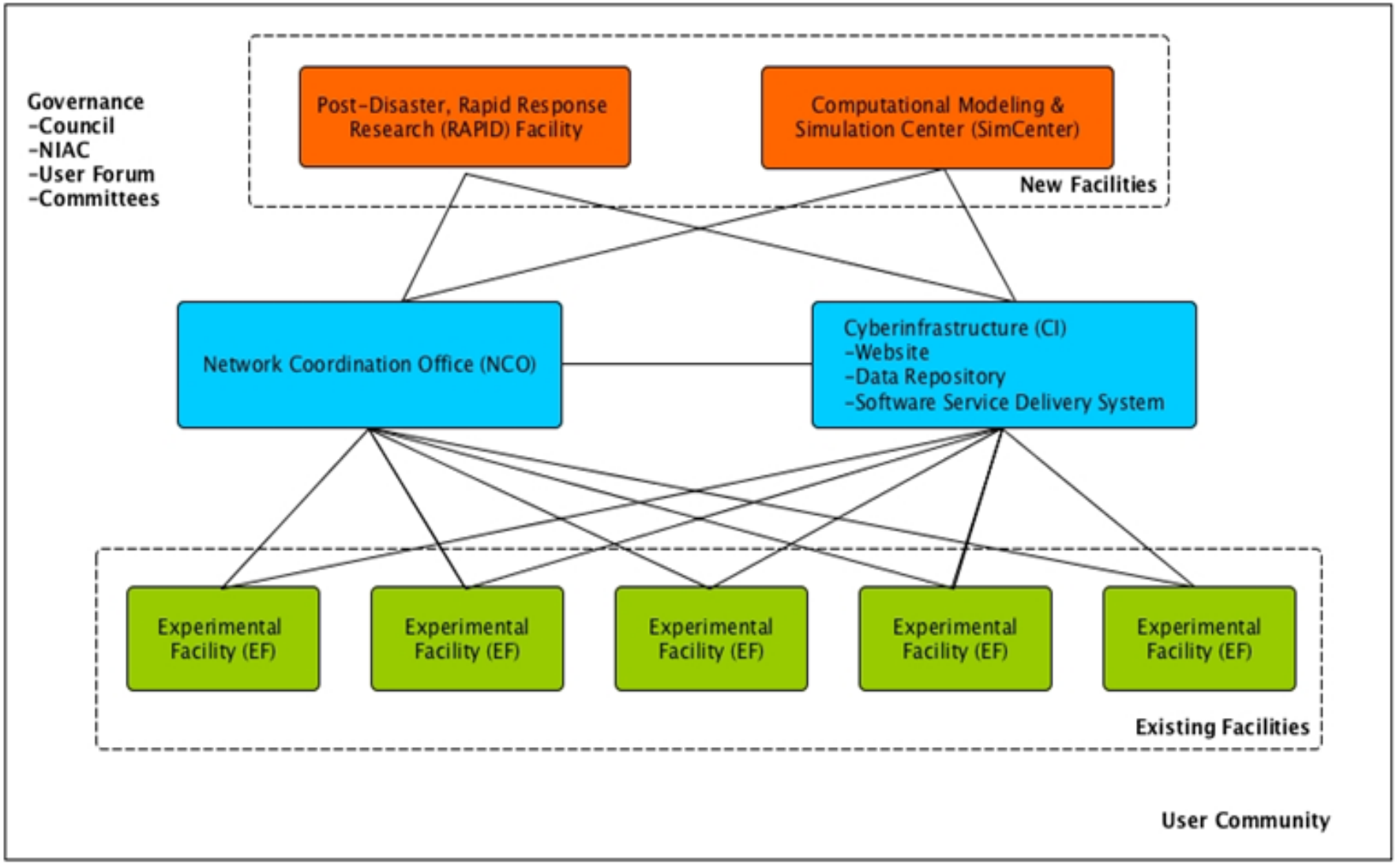
Vision for NHERI

- Understand, model, and predict the lifecycle performance of civil infrastructure, from component to holistic system levels, under different natural hazard events;
- Reduce the reliance on physical testing for modeling the performance of civil infrastructure under natural hazard events through advanced computational modeling and simulation capabilities;
- Build the basic science knowledge and computational modeling and simulation capabilities to evaluate multi-hazard resilient and sustainable civil infrastructure and communities;
- Translate research into innovative mitigation strategies and technologies to reduce the impact of natural hazards on existing and new sustainable civil infrastructure and communities; and
- Integrate research, education, and outreach to train a broad and inclusive STEM workforce to conduct and translate research into an innovation ecosystem for multi-hazard resilient and sustainable civil infrastructure and communities.

Operational Goals for NHERI

- Effective Council of Awardees (hereinafter referred to as the Council), which provides the collective and coordinated leadership for NHERI to operate as an integrated, cohesive, and transparent national facility in service to the natural hazards engineering community;
- Excellence in Awardee leadership, management, award administration, performance assessment, user support, and safe and secure operations of its resources, services, and data infrastructure;
- Active involvement of the natural hazards engineering community in Governance and Awardee activities;
- Open and equal access to NHERI, with NHERI used by an external and broadly inclusive user base of researchers and educators;
- Evidence-based development of the current and next generation workforce to conduct natural hazards engineering research, educational activities, and professional practice; and
- Value-added strategic partnerships that bring additional unique national and international resources and capabilities to NHERI.

NHERI Scope: Major Infrastructure Components (Notional Diagram)



NHERI Construct

- Awardees
- Governance
- Users

NHERI Construct: Awardees

Table 1. Awardees	
Component	**Role**
NCO	The NCO will serve as the scientific national and international leader, community focal point, and network-wide coordinator for Governance, cross-Awardee, and community-building activities. Key activities will include convening the Governance groups, working with the Council to develop consensus-based policies and procedures for NHERI and the annual Council work plan, implementing the Facility Scheduling Protocol to provide users access to the EFs, leading development of community Science Plans, running NHERI-wide education and community outreach programs, and building strategic partnerships.
CI	The CI Awardee will serve as the integrator for enabling NHERI to be a virtual organization for the natural hazards engineering community, by providing an array of information, resources, and services, including the definitive NHERI website, NHERI data repository, software service delivery platform with computational modeling, simulation, and educational tools, collaboration tools, access to computing resources, and user training and support. The CI Awardee will establish and implement a NHERI-wide cybersecurity plan with all Awardees.
SImCenter	The SimCenter will develop and deliver to the CI Awardee for integration onto the CI Awardee's software service delivery platform, a portfolio of computational modeling and simulation software and educational modules that reflects a balance of community-prioritized, new capabilities for earthquake, wind, and multi-hazard engineering research and education. The Awardee will provide training and technical support to users of its software tools.
EF, including RAPID Facility	Each EF will provide resources, services, and staffing to enable earthquake engineering, wind engineering, or post-disaster, rapid response research requiring experimental work. Each EF will provide a well-maintained and fully functioning facility and support users who are provided access through the NCO's Facility Scheduling Protocol. Experimental data generated by EF resources and its users will be archived in the NHERI data repository.

NHERI Construct: Governance

Table 2. Governance			
Group	**Role**	**Membership**	**Meeting Frequency**
Council	To provide collective and coordinated leadership for NHERI as a national facility.	All Awardee Principal Investigators (PIs).	At least quarterly.
Network Independent Advisory Committee (NIAC)	To provide independent guidance and advice to the Council on the following: (a) progress, plans, and performance of the Awardees and annual Council work plan, (b) an assessment of the level of community engagement and user satisfaction across NHERI, with input from the User Forum survey results, (c) an assessment of NHERI's continuing value added for and impact on research and educational advancements, and (d) assessment of the transparency and efficiency of the NCO's Facility Scheduling Protocol.	Diverse representation from the broad scientific and engineering communities served by NHERI. Members may not be from an Awardee institution. The NCO will appoint the NIAC members, with input from the Council.	At least semi-annually.
User Forum	To provide the Council with independent advice on community user satisfaction, priorities, and needs relating to the use and capabilities of NHERI. Through financial and secretariat support provided by the NCO, the User Forum will conduct an annual community user satisfaction survey for NHERI. Representatives from the User Forum will participate as observers in the NCO's Facility Scheduling Protocol.	User representatives from the broad scientific and engineering communities served by NHERI, elected by the user community; members may not be from an Awardee institution.	At least semi-annually.
Committees	To advise the Council on community priorities and needs for NHERI, serving and benefiting multiple Awardees and avoiding duplication of effort and costs among Awardees. The Committee structure will be established by the Council.	Dependent upon purpose; may consist of community/user representatives and/or cross-Awardee staff. The NCO will appoint the committee members, with input from the Council.	Dependent upon purpose of each committee.

NHERI Construct: Users

Table 3. Users	
Composition	**Role**
Users will come from the natural hazards engineering and related communities, including groups, regions, and institutions underrepresented in STEM, and may include both U.S. and international users.	Conduct research and education activities using NHERI's resources and services. An EF may require that users pay user fees/recharge rates to cover costs not supported by the NSF NHERI award; therefore, users should check with the EF before submitting an NSF proposal.
	Contribute computational modeling, simulation, and educational tools to NHERI.
	Participate in Awardees' activities.
	Provide input on Science Plans for future research and education directions.
	Serve on Governance groups to represent the priorities, needs, requirements, and feedback from the user community.
	Provide feedback in user satisfaction surveys.

Section II.C: All Awardees – Common Requirements

- Project Headquarters – resources to support project
- Organizational structure and staffing
  - Qualifications
    - PI is Director of NHERI Component and serves on Council
    - PI distinguished earthquake or wind engineering researcher
    - Additional staff commensurate with scope
    - Expertise in cybersecurity and its implementation
    - Demographics should strengthen NHERI's role in increasing participation by groups underrepresented in STEM
  - Structure
    - Lead institution oversight
    - Project personnel with defined roles and responsibilities
    - Interactions with Governance groups, other Awardees, users, and broader natural hazards engineering community

Section II.C: All Awardees – Common Responsibilities

- Participate in the Council (all Awardee PIs)
- Operate with a Science Plan (scientific vision; contributes to NHERI-wide Science Plan for 2015 – 2019)
- Conduct Operations with
  - Strategic Plan for Operations - includes goals and performance metrics
  - Marketing and Broadening Participation Plan for Developing the User Base
  - Project Management and Performance Assessment
  - Work Breakdown Structure (WBS) and Dictionary
  - Annual Work Plan (justifies continued funding)
  - Cybersecurity Plan and Implementation (coordinated with CI Awardee)
  - Risk Management Strategy and Plan, with risk assessment matrix
- Conduct Education and Community Outreach
  - NHERI-wide: Host at least two REU students, Summer Institute, information to CI awardee for NHERI website
  - Awardee-specific activities
- Implement a Software Development and Lifecycle Management Plan

Section II.D: NCO - Role

- Serves as scientific national and international leader, community focal point, and network-wide coordinator for Governance, cross-Awardee, and community-building activities

- Implements key activities
  - Convene the Governance groups
  - Work with the Council to develop consensus-based policies and procedures for NHERI and the annual Council work plan
  - Implement the Facility Scheduling Protocol to provide users access to the EFs
  - Lead development of community Science Plans
  - Run NHERI-wide education and community outreach programs
  - Build strategic partnerships

Section II.D: NCO - Requirements

- Staffing (additional)
  - NCO PI qualifications also should have prior accomplishments in:
    - Leading and managing distributed resource projects
    - Leading a research community to advance knowledge frontiers
    - Implementing technology transfer and innovation for natural hazards mitigation
    - Broadening participation of groups, regions, and institutions underrepresented in engineering
  - Experienced Experimental Facility Scheduler
  - Secretariat support for the Governance groups
  - Scientific and educational expertise for ECO activities

Section II.D: NCO - Responsibilities

- Governance Support
- Facility Scheduling Protocol and Implementation
- Community Research and Education Agendas
  - NHERI Science Plan for 2015-2019
  - Decadal Science Plan for Natural Hazards Engineering Research, Education, and Research Infrastructure for 2020-2029
- Strategic Partnerships
- Education and Community Outreach Program
  - Annual NHERI-wide REU site program
  - Annual NHERI-wide Natural Hazards Engineering Research Summer Institute (early career faculty and graduate students)
  - Community engagement activities to broaden usage and participation
  - Facilitation of community to organize campaigns and teams for research and education
  - Information dissemination, e.g., highlights, community notification of activities, catalog of publications

Section II.D: NCO – Year One Milestones

- Within six months of award,
  - Governance groups established and all groups met at least once.
  - Facility Scheduling Protocol implemented, with the Facility Scheduling Dashboard posted on the NHERI website.
  - Consensus-based policies and procedures for NHERI completed and posted on the NHERI website.
  - Initial strategic partnerships implemented.
  - Software Development and Lifecycle Management Plan updated.

- By September 1 annually, completion of the annual Council work plan.

- By end of year one,
  - Completion of the *NHERI Science Plan for 2015 - 2019* and posted on the NHERI website.
  - Completion of the User Forum community user satisfaction survey.
  - Organization of the REU site program and Summer Institute, for implementation beginning in year one or two.

Section II.E: CI - Role

- Integrator for enabling NHERI to be a virtual organization for the natural hazards engineering community, by providing an array of information, resources, and services:
  - Definitive NHERI website
  - NHERI data repository
  - Software service delivery platform with computational modeling, simulation, and educational tools
  - Collaboration tools
  - Access to computing resources
  - User training and support
  - NHERI-wide cybersecurity plan with all Awardees
- Incorporates research and best practices in providing cyberinfrastructure for virtual organizations
- Utilizes/adapts incumbent's (Purdue University's) NEEShub cyberinfrastructure content
- Leverages resources from NSF- and other Federally- supported cyberinfrastructure, software infrastructure, and campus and/or national high performance and distributed computing resources

Section II.E: CI - Requirements

- Location: To the maximum extent practical, the CI Awardee's role, requirements, responsibilities, resources, and services should be implemented by staff employed at the Awardee's institution.

- Staffing (additional):
  - CI Director (CI Awardee PI) also should have prior accomplishments in cyberinfrastructure design, development, operations, and management for research communities.
  - Leadership, management, and operations staff should have expertise and prior accomplishments in developing, deploying, operating, and maintaining cyberinfrastructure, including an open source, archival and curated data repository and a software service delivery platform, and be knowledgeable in earthquake and wind engineering research experimentation, computation, digital preservation, metadata and data.
  - The staff should be skilled in software development, making software user friendly, and providing user training and support.
  - Expertise in cybersecurity and its implementation (all awardees).

Section II.E: CI - Responsibilities

- Design, Development, Operations and Management of Cyberinfrastructure
- Provision of Community-driven, Production-quality Cyberinfrastructure
- Annual State-of-the-Art Analysis Report
- Annual Usability Study
- Education and Outreach Program

Section II.E: CI – Responsibilities (cont'd)

- **Design, Development, Operations, and Management of Cyberinfrastructure, to include:**
  - *Design Strategy,* which is driven by the user community's priorities and user requirements, lifecycle costs, state-of-the-art, best practices, and leveraging of existing resources
  - *Requirements Traceability Matrix,* which captures community priorities and user requirements
  - *NHERI-wide Identity, Trust, and Cybersecurity* plan
  - *System Architecture and Software Design Approach*, enabling a high speed, interactive cyberinfrastructure for the community
  - *Interoperability,* where appropriate, with other cyberinfrastructure and software development projects
  - *Leveraged Resources*, from NSF and other Federally supported cyberinfrastructure, software infrastructure, and campus and/or national high performance and distributed computing resources
  - *Operations*, with 100% near up time and with staffing expertise appropriate for the full spectrum of resources and services provided
  - *Maintenance*, including a timeline for releases of upgrades to maintain state-of-the-art resources and services for the user community based on the Requirements Traceability Matrix and performance assessment
  - *Cyberinfrastructure Performance Assessment,* analyzing user data from the cyberinfrastructure instrumentation, software tool forum, annual usability study, Governance feedback, and other collected data.

Section II.E: CI – Responsibilities (cont'd)

- ***Provision of Community-driven, Production-quality Cyberinfrastructure,* which serves as the natural hazards engineering research and education gateway, with the baseline to include:**
  - *An Interactive NHERI Website* - network's portal and the user community's interface
  - *Fully Operational, End-to-End Data Management Infrastructure*
  - *Software Service Delivery Platform*
  - *Computational Modeling, Simulation, Visualization, and Educational Tools*
    - Incumbent's tools and educational materials on the NEEShub
    - Tools developed by the SimCenter Awardee
    - Existing tools identified by users as critical for natural hazards engineering research and education
    - New research and educational tools developed by external users
    - Experimental testing tools of broad user interest
  - *Access to User Required Computing Resources*, through facilitated access to and use of campus and/or national high performance and distributed computing resources
  - *Software Tool Forum,* through a platform for vetting the quality of software tools and educational resources and posting user case studies/examples of implementation
  - *Knowledge Management and Workflow Tools,* to improve users' research productivity
  - *Posted Case Studies of Data Reuse*
  - *Collaborative and Videoteleconferencing Tools,* for Awardees, Governance, and Users
  - *Cyberinfrastructure Instrumentation,* for collecting data on web, software tool, and resource usage
  - *User Support,* including user training, manuals, and tickets

Section II.E: CI – NHERI Data Repository

Repository must be resourced to curate and archive the following data (as part of CI Awardee scope and budget):

1) Earthquake engineering data in the NEEShub Project Warehouse,
2) Experimental data from NSF-supported awards that tested under the incumbent's operations and are not yet archived and curated,
3) Experimental data generated by awards under the NSF 13-544, George E. Brown, Jr. Network for Earthquake Engineering Simulation Research Planning Grants, and NSF 14-557, Decision Frameworks for Multi-Hazard Resilient and Sustainable Buildings, solicitations,
4) Experimental data generated through use of NHERI resources, and
5) By the end of year two, the capacity to archive and curate the following:
    a. Experimental data generated by earthquake and wind engineering research awards supported by NSF (whether or not NHERI resources are used),
    b. Data collected from earthquake and windstorm event investigations using RAPID Facility resources,
    c. Data collected under NSF-supported RAPID awards investigating earthquakes and windstorms,
    d. Legacy data sets identified as high priority data by the earthquake and wind engineering research communities, and
    e. Experimental data from global partners that are agreed upon by the CI Awardee in support of such partnerships.

Section II.E: CI – Year One Milestones

- By end of first month of award, a meeting of the CI Awardee, incumbent and NSF will occur to begin the cyberinfrastructure transition process.
- By end of third month of award,
  - Software Development and Lifecycle Management Plan updated.
  - Initially published NHERI website, and content management software available to the other Awardees.
- By May 31, 2015, transition of the incumbent's cyberinfrastructure to the CI Awardee's operations.
- By end of eighth month of award,
  - NHERI website/portal operational.
  - Software Service Delivery Platform operational.
  - Cybersecurity Plan completed and initial implementation across Awardees.
  - Requirements for curation and archiving of research data published on NHERI website.
  - Virtual Communities of Practice organized.
- By end of year one,
  - Operational end-to-end data management infrastructure, including the NHERI data repository.
  - Working with the RAPID Facility Awardee, a data management plan for the RAPID Facility as part of the NHERI data repository.

Section II.F: SimCenter - Role

- Advances new computational modeling and simulation software tools to advance NHERI vision and NHERI Science Plan for 2015 – 2019.
- Provides compelling scientific case for need and scope within NHERI, and anticipated impact on natural hazards engineering community.
- Community catalyst and manager for engaging and supporting multi-disciplinary teams for tool development.
- Develops and delivers to the CI Awardee for integration onto the CI Awardee's software service delivery platform, a portfolio of new computational modeling and simulation software and educational modules that reflects a balance of **community-prioritized, new capabilities** for earthquake, wind, and multi-hazard engineering research and education.
  SimCenter award will not support the maintenance, further development, enhancement, and user support of existing software.
- Provides training and technical support to users of its software tools.
- Leverages existing cyberinfrastructure, software infrastructure, and computing resources.
- Works closely with CI Awardee and computing resources made available by CI Awardee.

Section II.F: SimCenter - Requirements

- Staffing (additional):
  - SimCenter leadership and management should be located at the Awardee's institution.
  - SimCenter Director (SimCenter Awardee PI) also should have prior accomplishments in software development and lifecycle management.
  - Leadership, management, and software development teams should have expertise and prior accomplishments in the domain science, software development and management, on-time delivery, and best practices; validation and verification; user manuals and software documentation; and user training and support.
  - Staff should also demonstrate knowledge of recent advances and emerging technologies in cyberinfrastructure, software infrastructure, and computing resources.
  - Expertise in cybersecurity and implementation (all awardees).

Section II.F: SimCenter - Responsibilities

- *Annual State-of-the-Art Analysis Report*
- *Requirements Traceability Matrix*
- *Process for Selection of Software Tools to be developed*
- *Process for Selection of Software Tool Development Teams*
- *High Quality and User-Tested Open Source Software Tools*, delivered to the CI Awardee's software service delivery platform, with complete metadata and documentation, for earthquake engineering, wind engineering, and multi-hazards engineering research
- *Educational Modules*, adapted from computational modeling and simulation tools into open source, user friendly learning modules, with evaluation and assessment tools, appropriate for undergraduate education
- *Published Case Studies*
- *User Training and Support*
- *Annual Usability Study of Delivered Software Tools*
- *Education and Community Outreach Program*, to include
  - Stakeholders and users actively involved in the SimCenter's activities through requirements gathering, research directions, training workshops, and updates on new advances and emerging technologies in cyberinfrastructure, computing resources, and software
  - Virtual Communities of Practice that both contribute to and use the SimCenter's tools
  - Research Traineeship Program for graduate students around the SimCenter's activities to develop the skills, knowledge and competencies to pursue a career in natural hazards engineering research and related fields
  - Monthly and Annual Community Reports, which informs users of software tools under development and recently released, training activities, and use case studies

Section II.F: SimCenter – Key Year One Milestones

- By end of third month of award,
  - Software Development and Lifecycle Management Plan updated.
- By end of sixth month of award,
  - An updated Requirements Traceability Matrix, which informs the year two work plan.
  - Graduate Student Research Traineeship Program implemented.
  - Virtual Communities of Practice organized.
- By end of year one,
  - Evidence of research software tools and associated documentation developed, user-tested, and delivered to the CI Awardee's software service delivery platform, and being used by an initial cohort of users.

Section II.G: EF (including RAPID) - Role

- Each EF provides unique, technically advanced, major earthquake engineering research, wind engineering research, or post-disaster, rapid response research experimental equipment and instrumentation that do not exist elsewhere in the United States at comparable scale and testing capability, coupled with user support, to enable natural hazards engineering research and education projects at the facility.

- EF Awardees collectively demonstrate, at the national scale, unique, complementary, and synergistic experimental, cyberinfrastructure, and education and outreach capabilities.

- Each EF Awardee annually provides evidence of an active, external, and broadly inclusive user base beyond researchers and educators located at the Awardee institution.

- To enable an orderly award closure period, all experimental testing and use of facility resources will be completed at the EF at least two months prior to the original expiration date of the cooperative agreement.

- An EF proposed with an earthquake engineering research focus does not need to be limited to the 14 NEES experimental facilities supported under the incumbent's award.

- An EF may combine both earthquake and wind engineering experimental equipment as one EF.

Section II.G: EF (including RAPID) – Not Supported

NSF 14-605 does not support the following – proposals that request the following will be returned without review:

- Fire testing equipment and capabilities
- Experimental capabilities that do not support earthquake engineering or wind engineering research
- With the exception of the RAPID Facility, the establishment of a new laboratory, acquisition of new/replacement major experimental equipment, major equipment refurbishments and upgrades, capital improvements to existing laboratory buildings and space, and construction of new buildings
- A distributed facility, with resources owned, housed, and/or maintained by multiple organizations
- A facility with any equipment that can only be accessed or used outside the United States
- A facility with the primary focus and capability for development of advanced experimental testing algorithms and techniques
- A facility for long-term instrumented structures and/or field sites

Section II.G: EF (including RAPID) – Requirements

- **Location**
  - The EF Awardee's experimental resources will be housed within the United States at a single academic institution.
  - EF resources may be operated outside the United States for short-term periods to support research.
  - If the EF is part of a larger institutional laboratory complex and its associated budget and accounting, then its personnel effort, resources, and budget under the NHERI award are to be accounted for and tracked separately from the larger laboratory administration.

- **Staffing (additional)**
  - The EF Director (EF Awardee PI)
    - Expertise in facility operations
    - Main point of contact for users
  - Sufficient staff and technical expertise to support daily operations, maintenance and calibration, experimentation, scheduling with the NCO's Facility Scheduling Protocol, and users
  - A designated safety officer
  - An information technology (IT) specialist to support data management, telepresence, and cybersecurity

Section II.G: EF (including RAPID) – Requirements (cont'd)

- **EF Resource Allocations for NSF-supported Awards**
  - Awardee will proactively market its resources and capabilities to lead to significant annual facility resource use by NSF-supported research and education awards, to justify its role and continued NSF support as a national, multi-user EF.
  - Sufficient time will be allocated annually for each facility resource to accommodate NSF-supported awards, user training, and participation in the NCO's REU site and Summer Institute programs.

- **Facility Resource Scheduling**
  - The EF Awardee will delegate daily scheduling of facility resources to the NCO Facility Scheduling Protocol, with the EF scheduler providing input into the scheduling process.

- **User Fees/Recharge Rates**
  - The EF Awardee will maintain **institutionally-established user fees/recharge rates** during the entire award period for the resources and services that will be available to users.

- **Annual Institutional Laboratory Inspection for EH&S**, with corrective actions promptly taken.

Section II.G: EF (including RAPID) - Responsibilities

- **Experimental Resources**
  - Fully functioning and calibrated experimental resources for earthquake engineering or wind engineering research, to include, as applicable, major experimental equipment; instrumentation; sensors; data management infrastructure; telepresence; remote equipment operations (as applicable for the equipment); Internet and Internet2 connectivity; equipment for EH&S protection; specimen handling and transport equipment; specimen construction, staging, and demolition areas; software integral to testing; and other services and tools necessary for experimentation
  - Sufficient resources for users to conduct their experimental work and training safely and efficiently
  - Cybersecurity
  - EH&S compliant facility
  - Awardee will be responsible for insurance and indemnification
- **Standard Experimental Protocols**
- **Data Management Infrastructure**
- **Facility Financial Operating Plan** – financial plan for sufficiency of resources and staffing through costs assigned to the NSF NHERI award and costs to be recovered from users through institutionally-established user fees/recharge rates
- **User Support**, to include
  - Identified staff for user support
  - User training and support, with at least one annual on-site training workshop
  - On-site user support
  - Information to the CI Awardee for posting on the NHERI website

Section II.G: EF (excluding RAPID Facility) Potential Year One Upgrades

- Minor equipment and staff training to improve facility EH&S
- Refresh and upgrades to the data management infrastructure (hardware and software)
- New and/or refreshed telepresence equipment to enable web-based viewing of the facility and major experiments
- Equipment to improve project throughput, e.g., equipment for specimen transport within the facility

Section II.G: EF (including RAPID) Key Year One Milestones

- By end of second week of award (excluding RAPID)
  - Submission to the NSF, from each EF Awardee's Authorized Organizational Representative, certification that on the start date of the award, all facility resources listed in the proposal are fully operational and the facility is in compliance with institutional EH&S policies, and complete list of the institutionally-established user fees/recharge rates for the EF.

- By end of fourth month of award,
  - Software Development and Lifecycle Management Plan updated.
  - Complete user support information provided to the CI awardee for the NHERI website (except for the RAPID Facility by this date).

- By end of sixth month of award,
  - EF scheduling implemented with the NCO.

Section II.G: EF RAPID Facility - Role

Purpose: provides resources for quick field deployment globally to support perishable research data collection by investigators following an earthquake or windstorm event.

- Collected data will be curated and archived in the NHERI data repository by CI Awardee.
- Facility must meet the roles, requirements, and responsibilities of all Awardees, EF Awardees, and the RAPID Facility Awardee.
- Awardee works closely with:
  - CI Awardee for data management plan required to accommodate RAPID Facility data in the NHERI data repository,
  - NCO Facility Scheduling Protocol for scheduling facility resources,
  - Community to develop and make this facility operational by the end of the second year of the award.
  - External Steering Committee during years one and two to provide advice and guidance during facility development.

Section II.G: EF - RAPID Facility Scope

User Support Programs, such as:

- *Facility Deployment Program*: form and support coordinated team(s) for quick deployment following an event of significant research interest to the broad natural hazards engineering community, using a Community Research Team Deployment Plan (CRTDP) process.

- *External Deployment Program*: support data collection following an event of more focused research interest by team(s) of investigators receiving NSF-supported awards for perishable data collection, such as RAPID awards or supplements to existing NSF awards.

Section II.G: EF RAPID Facility Requirements (additional)

- Staffing (additional)
  - RAPID Facility Director (Awardee PI) also should have demonstrated expertise in earthquake and/or windstorm rapid response research investigations and use of information technology.
  - Staffing should demonstrate expertise needed to maintain, operate, and deploy facility resources, conduct field deployment and logistics, collect and manage facility data, and support users.
  - Expertise in cybersecurity and implementation (all awardees)

- External Steering Committee
  - The membership will be external to the Awardee.
  - The Awardee will budget for all costs to support this committee.

Section II.G: EF RAPID Facility Responsibilities (additional)

- **Facility Deployment Program**
  - Facility responsible for all field deployment logistics, including support required for equipment transport and field permits, in field user support as needed, and travel logistics and costs for deployed facility staff and research teams.

- **External Deployment Program**
  - The research team's travel, logistics, RAPID Facility equipment transport, and permits will be supported through a separate NSF award.
  - If the research team requires in field support, then the RAPID Facility will support its staff travel costs through its Awardee budget.

- **User Training**
  - Beginning in year two, and in all subsequent years, there should be frequent opportunities provided for community training on use of the RAPID Facility resources so that there are trained researchers who can quickly deploy facility resources.

Section II.G: EF RAPID Facility Key Milestones (additional)

- Within the three months of award,
  - External Steering Committee formed and held its first meeting.

- By end of year one, completion of the following facility documents, to undergo merit review
  - Updated Science Plan for this facility, to include justification for the equipment with reference to equipment that are currently available at other organizations or otherwise accessible through collaborations, partnerships, or cyberinfrastructure.
  - Community Research Team Deployment Plan.
  - Updated plans for operations in accordance with Section II.C and this section, plus an acquisition, procurement, and commissioning plan for facility resources in year two.
  - Working with the CI Awardee, a data management plan to accommodate the RAPID Facility's data in the NHERI data repository.

- By end of year two,
  - All facility resources procured, commissioned, and operational.
  - RAPID Facility data accommodated as part of the NHERI data repository.
  - User fees/recharge rates established by the Awardee and posted on the NHERI website.
  - Initial cohort of researchers trained and deployment-ready.
  - Submission to NSF, from the Awardee's Authorized Organizational Representative, certification that the RAPID Facility is fully operational and in compliance with institutional EH&S policies.
  - Compliance with All Awardee, EF Awardee, and Rapid Facility Awardee requirements and responsibilities outlined in Section II of this solicitation.

PROPOSAL PREPARATION (NSF 14-605, Section V)

This webinar does not cover all NSF 14-1 GPG, NSF Grants.gov Application Guide, and NSF 14-605 proposal preparation instructions.

Please read these documents for the full requirements to enable submission of a compliant proposal.

Letter of Intent (LOI) - REQUIRED

- Due date: November 6, 2014, 5 p.m. local proposer's time
- A full proposal can only be submitted by a lead institution that has submitted a complete LOI by the LOI Due Date
- Purpose: Used by NSF to prepare for the proposal merit review process
- Include the following information:
  a. Name of lead institution
  b. Names of participating organizations
  c. Names and organizational affiliations of the PI, co-PIs, Other Senior Project Personnel, Leadership and Management Team, and Other Project Personnel
  d. Also include the following, as appropriate:
     - For the Network Coordination Office, describe the network coordination strategy and major activities.
     - For the Cyberinfrastructure, describe the major cyberinfrastructure resources and services to be provided.
     - For the Computational Modeling and Simulation Center, describe the types of research and educational software tools to be developed.
     - For an Experimental Facility, including the RAPID Facility, describe the major experimental equipment and capabilities to be provided.

Full Proposal Preparation

- Full proposals may be submitted only by lead institutions that have submitted a complete LOI by the LOI due date (November 6, 2014, 5 p.m. proposer's local time)
- Full proposals from organizations that have not submitted a LOI by the due date will be *returned without review*
- Due to the complexity of the proposals being submitted, use of FastLane to prepare and submit full proposals is strongly encouraged

- ✓ **Important: READ NSF 14-1, Grant Proposal Guide (GPG)**
- ✓ **Full proposals must comply with both NSF 14-605 solicitation requirements and NSF14-1 GPG/Grants.gov Application Guide requirements.**
- ✓ **Full proposals not compliant with NSF 14-605 and/or NSF 14-1 GPG/Grants.gov Application Guide will be returned without review.**

Deviations from NSF 14-1 GPG/NSF Grants.gov Application Guide

NSF 14-605 full proposal preparation instructions include deviations from the NSF 14-1 GPG/NSF Grants.gov Application Guide as follows:

- Project description length must not exceed 45 pages, excluding Section 1, Summary Tables.
- Project Description has a specified format and section headings that must be followed.
- Postdoctoral mentoring plan is only required for SimCenter proposals, if post-doctoral researchers included. Postdocs only supported on SimCenter award.
- Additional information is specified for inclusion in the Facilities, Equipment, and Other Resources section.
- Additional information is specified for inclusion in the Special Information and Supplementary Documentation section.
- Additional Single Copy Documents must be provided.

This webinar primarily focuses on the sections above that have deviations.

Cover Sheet

- Start Date: March 1, 2015
- Title of Proposed Project: NHERI Component Name (For "Component Name" use either "Network Coordination Office," "Cyberinfrastructure," "Experimental Facility," or "Computational Modeling and Simulation Center") 2015 - 2019.

  Example: NHERI Network Coordination Office 2015 - 2019
- NSF Organization Unit: 0703000 CMMI - NEES Operations
- Fund Code: 7470

Project Description

Section 1. Summary Tables (not within 45-page limit)

[Do ***not*** include names of any Governance Group and RAPID Facility External Steering Committee Chair/Members in proposal anywhere or in these lists.]

- List of Participating Organizations (whether or not requesting support)
- List of Supported Project Personnel (requesting support)
- List of Other Project Personnel (not requesting support)

Section 2. Broader Impacts

Section 3. Results from Prior NSF Support

Section 4. Science Plan

Section 5. Strategic Plan for Operations

Section 6. Marketing and Broadening Participation Plan for Developing the User Base

Section 7. Organizational Structure, Staffing, and Diversity

Project Description – cont'd

Section 8. Project Management and Performance Assessment

Section 9. Work Breakdown Structure (WBS) and Budget Allocations

Section 10. Governance Interactions

Section 11. Component-Specific Implementation

- NCO
- CI
- SimCenter
- Experimental Facilities, including RAPID Facility

Section 12. Project Schedule

Section 13. Year One Work Plan

Section 14. Cybersecurity Plan - Summary

Section 15. Risk Management Strategy and Plan, w/Risk Assessment Matrix

Section 16. Software Development and Lifecycle Management Plan

Section 17. Other Information

Facilities, Equipment, and Other Resources

Descriptions must not include any quantifiable financial information about resources that will be available as a NHERI resource during 2015-2019

- All proposals
  - Description of resources and services that are not requesting support.
  - Description of the space and resources that will be made available for project headquarters and staffing.

- EF Proposals (for RAPID Facility, as applicable)
  - One-page floor or site plan
  - Up to eight photos of proposed EF
  - EF network diagram – data flow
  - Facility Financial Resources Operating Plan: Indicate if resources supported by NHERI award or institutionally-established user fees/recharge rates
  - Facility Data Summary

Special Information and Supplementary Documentation

Use headings and page limits shown in solicitation, include no additional information.

A. Complete Work Breakdown Structure (WBS) Dictionary (all)
B. Evidence of Lead Institution Capability (all)
C. Year One Cyberinfrastructure Start-up and Transition Plan (CI only)
D. Environmental Considerations (EF only)
E. Letters of Collaborative Arrangements (all, if applicable)
   - Only from participating individuals or organizations *not* requesting support
   - Must use the letter template provided
F. Biographical Sketches of Additional Project Personnel (all, if applicable) - up to 10 additional personnel requesting support
G. Requirements Traceability Matrix (CI and SimCenter only)
H. Vendor Quotes to Support the Budget Justification (all, if applicable)

Single Copy Documents in Single Copy Section

- List of Participating Organizations and Project Personnel
  - Tables 1, 2, and 3 at start of Project Description
  - Submit tables combined into one text-searchable Portable Document Format (PDF) file in FastLane
- Conflict of Interest List
  - Ph.D. dissertation advisor and advisees
  - Collaborators or co-authors, including postdoctoral researchers, for the past 48 months
  - Co-editors within the past 24 months
  - Spouse or other relatives
  - Any other individuals with whom, or institutions with which, the PI(s), co-PI(s), and other senior personnel, and other senior personnel have financial ties, including advisory committees (specify type), boards of directors, or prospective employees.
  - Submit list as text-searchable single Portable Document Format (PDF) file in FastLane

Award and Budget Information (NSF 14-605, Section V.B)

Anticipated Annual Base Budgets (NSF 14-605, Section III)

Anticipated Annual Support					
Awardee	**Year One**	**Year Two**	**Year Three**	**Year Four**	**Year Five**
Network Coordination Office award base budget	$700,000	$900,000	$900,000	$900,000	$700,000
Cyberinfrastructure award base budget	$2,400,000	$2,700,000	$2,900,000	$2,900,000	$2,800,000
Computational Modeling and Simulation Center award base budget	$2,000,000	$2,200,000	$2,300,000	$2,200,000	$2,200,000
Experimental Facilities, total amount for up to six award base budgets	$4,800,000	$5,100,000	$5,400,000	$5,400,000	$5,400,000
Post-Disaster, Rapid Response Research Facility award base budget	$500,000	$1,800,000	$600,000	$600,000	$600,000
Potential Additional Support, total for all Awards: Year One Experimental Facility Upgrades, Annual Council Work Plan Activities, and Experimental Facility Equipment Repairs	$1,600,000	$300,000	$400,000	$500,000	$300,000
Anticipated Total Funding for all awards	$12,000,000	$13,000,000	$12,500,000	$12,500,000	$12,000,000

Budgetary Information

- **Cost Sharing**: Inclusion of voluntary committed cost-sharing is prohibited.
- **Subawards:**
  - > $50,000 - include separate NSF budget form
  - < $50,000 – aggregate all together on the subaward line of the annual budget; budget justification includes list of all organizations and support amount
- **Other Budgetary Limitations** - *All proposals*
  - The year one budget includes all start-up costs.
  - Annual budgets should include travel for staff to participate in Governance meetings, REU site program, Summer Institute, one NSF-supported Large Facility Workshop, and one NSF-supported Cybersecurity Summit.
  - Up to $10,000 for local staff support for the REU students at the project location.
  - Up to $10,000 for local staff support to participate in the NHERI Summer Institute.
  - Postdoctoral researchers supported only on the SimCenter award and must be U.S. citizens, U.S. nationals, or permanent residents of the United States.
  - Graduate students who are U.S. citizens, U.S. nationals, or permanent residents of the United States may be supported in three ways: (a) to assist with local campus implementation of the REU site program, (b) as participants in the SimCenter Research Traineeship program, or (c) to support other Awardee activities, if approved in the annual work plan by the cognizant NSF Program Officer. Other graduate students may not be supported.
  - Proposals may include participant support costs for specific activities identified in the proposal. Include a budget justification table showing the activity name, number of participants, and total participant support costs for each activity.

Budgetary Information

- **Other Budgetary Limitations (cont'd)**

NCO, CI, and SimCenter proposals only

– The annual budget should not exceed the base budget for the "Anticipated Annual Support" for the proposed component listed in the Table in Section III. The annual budget should not include budget allocations for annual Council work plan activities.

NCO proposals only

– Annual budgets must include costs to implement the REU Site and Summer Institute programs, including participant support costs for all REU students and Summer Institute attendees.

EF proposals only

– The Table in Section III provides the total NSF base budget support anticipated to be available for up to six EF awards annually. Annual requested NSF budgets should not request a disproportionate amount of this total support. Based on the Facility Financial Resource Operating Plan and anticipated use, the facility total operations budget will be a combination of support provided through the NSF NHERI award, support provided through institutionally-established user fees/recharge rates charged to NSF-supported users for costs not covered by the NSF NHERI award, and support provided by non-NSF supported users who pay full recovery costs to utilize the facility through institutionally-established user fees/recharge rates. Annual requested NSF budgets should not include budget allocations for potential additional support for year one EF upgrades, annual Council work plan activities, and EF equipment repairs.

– Budget justification should include itemized, equipment-specific costs for annual maintenance and calibration.

– RAPID Facility only: The year-two budget should include an increase of up to $1,200,000 for resource procurement and commissioning.

NSF Proposal Processing and Review Procedures

(NSF 14-605, Section VI)

Merit Review and Selection Process

Proposals submitted in response to NSF 14-605 will be reviewed by Ad hoc Review and/or Panel Review, Internal NSF Review, Site Visit Review, or Reverse Site Review.

Proposals will be reviewed in accordance with standard NSF *external merit review* policy:

- May consist of a combination of panel and ad hoc mail review.
- Selected proposals may be further reviewed by a reverse site visit at NSF and/or a campus site visit to the lead institution.
  - Dates for site visits will be communicated by the Lead Cognizant Program Officer to selected PIs as early in the review process as practicable. These dates will be non-negotiable, and it is expected that the PI, co-PIs, and leadership and management team will be available on the scheduled date.
  - It is the responsibility of the PI to assure that contact information for the scheduling of these meetings is correct. Travel and other costs incurred by proposers for this review process will be the responsibility of the proposers.
- All PIs will receive documentation regarding the review process, including reviews and panel summaries, upon completion of the process.

NSF Merit Review Principles

- All NSF projects should be of the highest quality and have the potential to advance, if not transform, the frontiers of knowledge.

- NSF projects, in the aggregate, should contribute more broadly to achieving societal goals. These "Broader Impacts" may be accomplished through the research itself, through activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to, the project. The project activities may be based on previously established and/or innovative methods and approaches, but in either case must be well justified.

- Meaningful assessment and evaluation of NSF funded projects should be based on appropriate metrics, keeping in mind the likely correlation between the effect of broader impacts and the resources provided to implement projects. If the size of the activity is limited, evaluation of that activity in isolation is not likely to be meaningful. Thus, assessing the effectiveness of these activities may best be done at a higher, more aggregated, level than the individual project.

NSF Merit Review Criteria

Intellectual Merit

- Encompasses the potential to advance knowledge

Broader Impacts

- Encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes

The following elements considered in review of both criteria:

1. What is the potential for the proposed activity to
    a. Advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
    b. Benefit society or advance desired societal outcomes (Broader Impacts)?
2. To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?
3. Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? Does the plan incorporate a mechanism to assess success?
4. How well qualified is the individual, team, or organization to conduct the proposed activities?
5. Are there adequate resources available to the PI (either at the home organization or through collaborations) to carry out the proposed activities?

Additional NSF 14-605 Solicitation Specific Review Criteria

Reviewers asked to evaluate strengths and weaknesses of items A-E, as appropriate for the proposed component

A. All Proposals

- How the Science Plan conveys a compelling scientific vision, grand research challenges, and key research questions at the cusp of emerging discoveries in earthquake engineering, wind engineering, and/or multi-hazard engineering.
- How the proposed project provides unique and essential resources, services, and activities that will enable the natural hazards engineering community to address the grand research challenges and key research questions.

Additional NSF 14-605 Solicitation Specific Review Criteria (cont'd)

B. Network Coordination Office (NCO) Proposals Only

- Quality of the proposed project in responding to the requirements and responsibilities in Section II.C, All Awardees (NCO, CI, SimCenter, and EF) - Common Awardee Requirements and Responsibilities.
- Quality of the proposed project in responding to the requirements and responsibilities in Section II.D, Network Coordination Office (NCO) Component - Additional Awardee Requirements, Responsibilities, and Key Year One Milestones.

C. Cyberinfrastructure (CI) Proposals Only

- Quality of the proposed project in responding to the requirements and responsibilities in Section II.C, All Awardees (NCO, CI, SimCenter, and EF) - Common Awardee Requirements and Responsibilities.
- Quality of the proposed project in responding to the requirements and responsibilities in Section II.E, Cyberinfrastructure (CI) Component - Additional Awardee Requirements, Responsibilities, and Key Year One Milestones.

Additional NSF 14-605 Solicitation Specific Review Criteria (cont'd)

D. Computational Modeling and Simulation Center (SimCenter) Proposals Only

- Quality of the proposed project in responding to the requirements and responsibilities in Section II.C, All Awardees (NCO, CI, SimCenter, and EF) - Common Awardee Requirements and Responsibilities.
- Quality of the proposed project in responding to the requirements and responsibilities in Section II.F, Computational Modeling and Simulation (SimCenter) Component - Additional Awardee Requirements, Responsibilities, and Key Year One Milestones.

E. Experimental Facility (EF), including RAPID Facility, Proposals Only

- Quality of the proposed project in responding to the requirements and responsibilities in Section II.C, All Awardees (NCO, CI, SimCenter, and EF) - Common Awardee Requirements and Responsibilities.
- Quality of the proposed project in responding to the requirements and responsibilities in Section II.G, Experimental Facility Component, including the RAPID Facility - Additional Awardee Requirements, Responsibilities, and Key Milestones.

Merit Review and Selection Process
Internal NSF Review

- Conducted after completion of the merit review process
- Only for proposals to be recommended for an award
- Is a management and budget justification review
- NSF staff reviews
  - Lead institution's capability to execute the award
  - Appropriateness of the budget request
- Review done by NSF staff either through visit to lead institution or by videoteleconference

Award Administration Information (NSF 14-605, Section VII)

Award Conditions

- Award will be a cooperative agreement between NSF and lead institution, with the following award/special award conditions
  - Cooperative agreement will be administered by the Division of Civil, Mechanical and Manufacturing Innovation in the Directorate for Engineering and the Division of Acquisition and Cooperative Support in the Office of Budget, Finance, and Award Management
  - Award-specific programmatic terms and conditions
  - Award-specific financial/administrative terms and conditions
  - Standard cooperative agreement terms and conditions, including supplements for managers of Large Facilities
  - Other programmatic and financial/administrative terms and conditions negotiated at time of award

NHERI cooperative agreements will be significantly different from an NSF individual investigator or small group research grant.

Special Award Conditions

Standard Cooperative Agreement Terms and Conditions, including supplements for managers of Large Facilities

Award-Specific Programmatic Terms and Conditions

- Review and/or approval of the following:
  - Review and approval of Annual and Final Progress Reports.
  - Review of Quarterly Interim Reports.
  - Review and approval of changes in Key Personnel (leadership and management) positions before a change is implemented.
  - Review and approval of the Strategic Plan for Operations, including Performance Metrics.
  - Review and approval of Annual Work Plans.
  - Review and approval of all plans for Conferences, Symposia, and Workshops included as part of the Annual Work Plan prior to implementation.
  - Review and approval of the Risk Management System.
  - Review and approval of the documents completed at the end of year one for the RAPID Facility.
  - Review and approval of requests to support graduate students who are U.S. citizens, U.S. nationals, or permanent residents of the United States to participate in awardee activities other than the NHERI-wide REU site activity and SimCenter Graduate Research Traineeships.
  - Review and, if required, approval of notifications of incidents related to cybersecurity.
  - Review and, if required, approval of notifications to NSF by EF Awardee about incidents related to EH&S requirements and equipment damage/failure.
  - Awardee-proposed national and international partnerships that require the Awardee's signature on a Memorandum of Understanding or similar documents.

Special Award Conditions (cont'd)

Award-Specific Programmatic Terms and Conditions (cont'd)

- Site visit merit reviews, to justified continued funding; cross-Awardee merit reviews may be held jointly to evaluate and assess the extent of cross-Awardee coordination:
  - NCO, CI, and SimCenter Awardees: Annual site visits, organized by NSF, with external reviewers, with location to be either at NSF or the lead institution.
  - EF Awardees (including the RAPID Facility): Site visits, organized by NSF, with external reviewers, with the location to be either at NSF or the facility location. NSF plans to site visit three EF Awardees annually at the facility location.
  - RAPID Facility Awardee: Year one site visit at the facility location, organized by NSF, with external reviewers.
- NSF Business Systems Review, typically scheduled once during the five-year award period, with the review to be conducted within the first two years of the award date.
- EF Awardees: Submission to NSF of annual institutional laboratory inspection reports, with a summary of the corrective actions taken.

Special Award Conditions (cont'd)

Award-Specific Financial/Administrative Terms and Conditions

- National laboratories and private sector companies, as well as non-U.S. institutions, may participate in award activities using their own resources and cannot receive NSF support from an award made under this solicitation; however, this shall not be interpreted to prohibit purchases, services, or sales contracts/agreements with these entities.
- Review and/or approval of the following:
  - Rebudgeting of $50,000 or greater by the Awardee or a subaward.
  - Use of unobligated carryover funds from the prior budget year not intended to be applied to support the next year's annual budget.
  - EF Awardees: In the case of major equipment damage, NSF support to restore functionality would be contingent upon the cause of damage, prior equipment utilization history, remaining useful life of the equipment if repaired, future planned use of the equipment by NSF-supported projects, total cost of repair or replacement, quality of maintenance based on historical records, date and nature of original acquisition of the equipment, appropriateness of NSF support, and annual NSF budgets.
- EF Awardees: Program income must be certified by the Awardee Authorized Organizational Representative and reported annually. NSF may require the use of program income to offset the NSF support.
- NSF support will not be provided to repair/replace equipment that was damaged or not operational for its intended use prior to the effective start date of the award.

Programmatic and financial/administrative terms and conditions not listed above will be negotiated at the time of award.

NSF Reporting Requirements

- Comprehensive annual progress report containing a summary of the progress during the current year against the performance metrics and work plan and the work plan and budget for the next year funding increment.

- Quarterly interim reports to track progress during the current year.

- End of project
  - Final project report
  - Project outcomes

- Failure to provide the required annual project report and PI/co-PI overdue NSF reports will delay NSF review and processing of next funding increment.

Research.gov is NSF's electronic project-reporting system

Contacts

- General inquiries regarding NSF 14-605 for incorporation into FAQ
  - Joy M. Pauschke, Program Director, Division of Civil, Mechanical and Manufacturing Innovation (Lead Cognizant Program Officer), phone: (703) 292-7024, email: jpauschk@nsf.gov
    - Questions will not be individually answered.
    - Questions submitted less than three weeks prior to the full proposal deadline will not be answered.

- Questions about use of FastLane
  - FastLane Help Desk, phone: 1-800-673-6188; email: fastlane@nsf.gov

- Questions about use of Grants.gov
  - Grants.gov Contact Center: If the Authorized Organizational Representatives (AOR) has not received a confirmation message from Grants.gov within 48 hours of submission of application, please contact via phone: 1-800-518-4726; email: support@grants.gov

Section X – Appendix

A. Full Proposal Compliance Checklist
   1. Compliance with the NSF Grant Proposal Guide
   2. Compliance with this solicitation (21 items)

B. Frequently Asked Questions (FAQs)

C. Background – NEES Construction, Operations, and Research during FY 2000 - 2014

NSF 14-605 Deadlines

- **Letter of Intent (LOI) Due Date (Required)**
  November 6, 2014, 5 p.m. proposer's local time
- **Full Proposal Deadline**
  December 3, 2014, 5 p.m. proposer's local time

Lead institution **must** submit an LOI by the Due Date in order to submit a full proposal. If the LOI is submitted after the LOI Due Date, then the lead institution may not submit a full proposal.

If a full proposal is submitted after the full proposal deadline, it will be **returned without review.** (See NSF GPG, Chapter 1.F.2, Deadline Dates)

Question & Answer Session

During webinar: submit questions via email to:

kwebster@nsf.gov

(This email address is only active during the webinar.)

After webinar: submit questions to jpauschk@nsf.gov