

Roadmap of the Support Provided to NHERI WOW EF Users

User Support

The objective of the EF as part of the NHERI program is to enable an external, broadly inclusive, user base to undertake fundamental research in various fields such as:

- Aerodynamics
- Fluid mechanics
- Wind-induced vibrations
- Aeroelastic instabilities
- Stochastic processes and advanced statistical methods
- Structural reliability and fragility of building systems
- Rain infiltration mechanisms (e.g., direct rain admittance and surface runoff phenomena)
- Aerodynamics Hybrid Simulation
- Non-linear structural behavior under wind loading

Proposal Development and Project Execution Process



User support is our mission from initial contact through proposal submission and project execution

Initial Contact

Researcher (PI) contacts the EF's Director or Site Operations Manager (SOM) to discuss a test idea

Idea Development

EF's SOM schedules the first conference call between the PI and the EF team to discuss the testing needs to support the proposed research
EF's SOM schedules the follow-up meeting(s) between the PI and the EF team to discuss the test details

Proposal Development

PI develops a preliminary test plan and shares it with the EF's team for feasibility assessment
EF's SOM provides the PI with test timeline and budget estimate (refer to Usage Rates and Cost Breakdown document) based on the test plan

Proposal submission

PI submits the full proposal to NSF

Proposal Development and Project Execution Process



Award Notification

PI informs EF's SOM of the awarded project

Paperwork

PI and EF's SOM fill out NHERI NCO-related forms
A Service Agreement will be signed between the PI and the WOW
PI creates project folder on DesignSafe-CI website

Project Kickoff

EF's SOM schedules tests, user safety overview and user training
PI and EF team develop the Experimental Test Protocols

Pre-testing Setup

PI and EF team work on model design, construction, instrumentation and installation

Running-time

EF team operates the tunnel and acquire data
EF team uploads raw data to the project folder on DesignSafe-CI website
EF team dismantles the test setup

Post-testing

EF team uploads test documents to the project folder on DesignSafe-CI website

PI Structure

- The emphasis of NHERI program is to have EF resources available to external Users
- EF PIs are not required to be Co-PIs on proposals to be submitted
- When significant EF intellectual input is required (e.g. domain expertise needed to make proposal viable) EF PIs may participate in the proposal
- In any case, EF liaison and support staff will provide all necessary services to Users
- Note:
 - Users may utilize more than one EF for the same project
 - User submits proposal directly to NSF

Budgeting: Cost Structure

Service Description:

Pre-testing Setup

Test planning
 Model design, construction and instrumentation
 Model installation on the turntable
 Use of available instruments (refer to "Facility Test Instrument Inventory" document)
 Model conditioning – staff effort (if applicable)
 Tunnel preparation

Running Time

Fan running time
 Tunnel operation
 Data acquisition
 Rain generation (if applicable)
 Video recording (if needed)
 Model removal from the turntable

Post-testing

Test setup dismantling
 General data processing
 Video archiving (data storage supplied to client)
 Data archiving (data storage supplied to client)
 General report writing

Budgeting: Rates

- Current EF budgets include NSF support for basic operations, for example: Staff, facility upgrades, calibration, maintenance, etc.
- Individual proposals may need to include funds for resources that exceed base support (e.g. model construction, special instrumentation, etc.)
- Upon request, EF PI will provide users with specific guidance for budgeting and can review budget requests prior to submission to NSF (Not mandatory but highly recommended)

| Service Description | Unit | NHERI Users Rate |
|---------------------|------|------------------|
| Pre-test Setup | Day | \$410 |
| Running Time | Day | \$1,800 |
| Post-testing | Day | \$790 |

Q&A Session