

SEESL Site Access Rules and Policies

Introduction:

The Structural Engineering and Earthquake Simulation Laboratory (SEESL) at University at Buffalo hosts a series of services for research clients such as planning organizations (i.e. MCEER, NSF/NEES, etc), for industry and industry partners, for faculty and students at Department of Civil Structural and Environmental Engineering at University at Buffalo, and others. SEESL hosts among other services (i) the UB-NEES site of the George E Brown Jr. Network for Earthquake Engineering Simulation, which provides services to the NEES research community. The UB-NEES services are operated with support from NEES Inc. which in turn is supported with a grant from the Division of Civil and Mechanical Systems of National Science Foundation (NSF); (ii) the MCEER structural engineering testing services part of the MCEER users network of experimental facilities; (iii) the CSEE instructional and research testing services on earthquake engineering and structural dynamics; (iv) the research services for other research sponsoring agencies and (iv) the services to industry and other investigative agencies.

SEESL operates equipment developed with funding from NSF and other sources. The equipment developed with funding from NSF / NEES initiative is provided free of charges for users performing research approved by NEES Inc. (defined below as NEES research). SEESL operates the other equipment purchased with other funds that will be available to all researchers (NEES or non-NEES) for a fee as posted below. All SEESL equipment is available for any non-NEES research for fees as indicated in the recharge fees schedule.

The equipment available at SEESL can be assembled in various configurations. The equipment is dangerous if used improperly. This Access Plan is intended to provide safe access to equipment and work areas for all users. Safety is the primary driver for all access rules, restrictions, and limitations.

This document defines the type of access to SEESL that NEES and non-NEES researchers will enjoy, identifies constraints and limitations on the access and use of the facility and describes the SEESL safety plan.

Information: UB-Structural Engineering and Earthquake Simulation Laboratory (SEESL):

This section provides a list of facilities, a brief description of equipment available to researchers, either free or for a fee, at SEESL. A more detailed description of equipment can be found at <http://nees.buffalo.edu/>

(I) Facilities, equipment and services available to NEES researchers without fees:

- (a) Two six-degree of freedom earthquake simulators, each with a payload of 50 tons (100 tons combined); for a complete performance description visit <http://nees.buffalo.edu/>.
- (b) Three high-performance dynamic actuators (1000 kN capacity, ± 500 mm stroke, 1 m/s velocity, 800 gpm servo-valves), equipped with load cells and displacement transducers.
- (c) Two static actuators (± 2000 kN capacity, ± 500 mm stroke), equipped with displacement transducers.
- (d) Data acquisition systems consisting of up to 250 channels streaming and additional 100 channels local.
- (e) An advanced Krypton 3D coordinate tracking system with up to 15 LED targets.
- (f) A 285m² (300 sq.ft) new strong floor with 610 x 610 mm (2 x 2 ft) tie-down grid.
- (g) A 19.5 x 9 m (60 x 30 ft) strong reaction wall with 610 x 610 mm (2 x 2 ft) tie-down grid.
- (h) A 6 x 2.5 m plan x 6 m high (20 x 8 x 20 ft) laminar box which can be mounted on shake table(s) – for complete performance and users guide visit <http://nees.buffalo.edu/>
- (i) A 40 ton crane to move equipment and specimens anywhere within the 900 m² of the building housing the two shake tables, the strong floor, and the strong reaction wall.
- (j) 50 m², 9 person capacity collaboration room with tele-observation and tele-participation capabilities (subject to the constraints presented [below](#)).

- (k) Room with videoconference capabilities (prior scheduling required: [calendar](#))
- (l) Office space for students (subject to the constraints presented below: scheduling will be done with the [Site Operation Manager](#)).
- (m) Office space for faculty members (subject to the constraints presented below: scheduling will be done with the [Site Operation Manager](#)).
- (n) All computational facilities of the UB-NEES node.

Note that these facilities and equipment are unique and may not be available due to use on other projects. Careful planning and scheduling is required.

(II) *Facilities, equipment, and services available to all (including NEES) researchers **for a fee** consist of:*

- (a) Accelerometers (total of 63), displacement transducers (total of 70 with capacities ranging from 100 mm to 300 mm), and load cells (total of 34 with 5 multi-component cells with 200kN axial load capacity and 90kN shear load capacity). - Several instruments will be free of charge for NEES researchers as indicated in the website [LAB MANUAL](#).
- (b) A third 5 degree of freedom earthquake simulator with a maximum payload of 50 tons with performance capabilities similar to the simulators described on page 1 above. .
- (c) A small isolation bearing testing machine with 600 kN vertical load capacity, ± 150 mm stroke and 0.4 m/sec velocity.
- (d) A large isolation bearing testing machine with 7000 kN axial load capacity, ± 125 mm stroke and .25 m/sec velocity.
- (e) Ten hydraulic actuators with 10 to 1000 kN load capacity, ± 50 to ± 300 mm stroke and maximum velocity of 1.75 m/sec.
- (f) Manifolds, controllers, and all equipment needed for the control of the actuators in item (e) above.
- (g) Two portable data acquisition systems, each with a capacity of 12 channels.
- (h) X-Y recorders, frequency analyzers, portable measuring devices, oscilloscopes, digital multimeters, borescopes, thickness measuring devices, roughness measuring instruments, etc.
- (i) A 30 m³ environmental chamber capable of sustaining temperatures in the range of -40°C to 50°C.
- (j) A quarter length scale six-story steel model structure with 200 kN weight for use in earthquake-simulator testing.
- (k) A quarter length scale steel bridge model with 150 kN weight and featuring flexible or stiff piers for use in earthquake-simulator testing.
- (l) A versatile, quarter length scale steel model that can be configured in a variety of configurations, including 3-bay, 3-story building and one-bay, 6-story building.
- (m) Welding equipment, hydraulic jacks, forklifts, rigging equipment, etc.
- (n) Heavy hand and machine tools.
- (o) Technical services for assembly of specimens.
- (p) Instrumentation modification and calibration services.
- (q) The University at Buffalo library facilities during the duration of stay (subject to the limitations listed [below](#)).
- (r) Parking space at the University at Buffalo parking facilities for a nominal fee (typically less than \$5 per year) during the duration of (subject to the limitations listed [below](#)).

Complete details of the above equipment and services are listed in the [SEESL Lab Manual](#) available at <http://nees.buffalo.edu/> The current [fees schedule](#) is posted in the Lab Manual and is attached to this document. A user should contact the [Site Operations Manager for usage fees for equipment not listed in the Manual.](#)

Note that these facilities and equipment may not be available for use. Careful planning and scheduling is required.

Key Contacts at SEESL / UB-NEES:

The key personnel* in charge of SEESL for the period 2004-2014 are:

Andrei M Reinhorn	Director and Principal Investigator	716-645-2114 x 2419
Andrew S Whittaker	Deputy Director and Safety Coordinator	716-645-2114 x 2418
Tom Albrechcinski	Site Operations Manager	716-645-2114 x 2420
Mark Pitman	Technical Services Manager	716-645-5400 x 16
Jason Hanley	Information Technologies Services Manager	716-645-2114 x 2450
Duane Koslowski	Technician and Field Safety Officer	716-645-5400 x 14

* While the positions of the key personnel will remain same for the first ten years of operation of SEESL / UB-NEES organization, the actual people holding those positions may change periodically. Check the website for periodic updates.

** The complete list of Lab personnel and the detailed description of their duties can be found at <http://nees.buffalo.edu/>

The mailing address of SEESL is:

Structural Engineering and Earthquake Simulation Laboratory (SEESL)
Department of Civil Structural and Environmental Engineering
212 Ketter Hall, University at Buffalo, Buffalo, NY 14260-4300
Tel: 716-645-5400 x 16, Fax: 716-645-3733

More information about access to the site and current contact information see <http://nees.buffalo.edu/>

Business Calendar/Hours

The SEESL laboratory follows the official schedule of the University at Buffalo, including its holiday schedule. The laboratory is open 5 days a week between 8:00 am to 4:30 pm. Work after hours or weekends might be possible in special cases with prior approval of the [Site Operation Manager](#). Special safety restrictions and requirements will apply to such work.

Project Planning / Work Plan:

All researchers planning to access the SEESL site must follow the NEES Inc. guidelines for access to NEES research facilities. The following are minimum requirements for such access.

The key element to safe and efficient use of the SEESL equipment, the lab space and the associated facilities is the project **WORK PLAN**. A detailed **WORK PLAN** must be prepared by all users and this plan must be approved in advance of work by the [Site Operation Manager](#). The work plan will be incorporated into the contract between the user and the University at Buffalo on behalf of SEESL..

During the award process all principal investigators / researchers must submit the **WORK PLAN** indicating the test set-up including fail safe system required, the equipment and instrumentation required, the testing protocol intended, specimen demolition, detailed information concerning the individual work tasks to be performed, the duration of the tasks, the order in which the tasks are to be performed, who will perform the tasks, and the resources required to perform the tasks. A comprehensive schedule with milestones related to the project schedule shall be submitted with the **WORK PLAN**. The plan should address data management and archival needs . The following is an itemized list of issues that must be addressed in the **WORK PLAN**:

1. A list of tasks to be performed
2. Specimen and fail safe system drawings
3. Calculations for the specimen and failsafe system
4. An instrumentation plan
5. A testing plan
6. List of equipment, materials, supplies, tools and personnel to carry out the work tasks

7. Space requirements including lab and office space
8. A rigging plan including disposal of specimens after testing
9. A plan for data management and IT requirements
10. Schedule of tasks including duration and timing

All experiments to be performed using the SEESL/UB-NEES equipment should be carefully planned to assure the safety of equipment, operators, and all other users of the laboratory. All researchers should develop detailed plans for the tests set-ups which must include provisions for fail safe of experiment components and equipment. Detailed construction plans for all specimens and test fixtures designed by the visiting researchers must be provided. The plans must include the detailed design of **the fail-safe system**. Each testing arrangement and specimen must be reviewed and certified (stamped) by a Professional Engineer with experience in dynamic testing (or with demonstrated equivalent qualifications). The SEESL [Site Operations Manager](#) (OM) will review the **completeness** of submittal. The [Site Operation Manager](#) will work with visiting researchers, review testing plans, and help visiting researchers demonstrate and document that their testing apparatuses satisfy OSHA in full and the State and Campus safety requirements. The [Site Operation Manager](#) will be the point of contact for users of SEESL and will provide the information needed to develop a **WORK PLAN**. Note that the safety of the test set-up and of the SEESL equipment will remain the responsibility of the researcher or user.

The NEES researchers will have to negotiate with the NEES Inc. staff a schedule that will be agreed to jointly with SEESL staff. For any time in excess of that negotiated with NEES Inc., fees will be charged at the rates charged for non-NEES projects. The scheduling for NEES researchers will be negotiated with the NEESinc Operations Manager and with the SEESL / NEES Site Operations Manager.

Non-NEES researchers will have to negotiate their schedule directly with SEESL [Site Operations Manager](#).

Once activity begins in SEESL, the researcher or user (NEES or non-NEES) must update the **WORK PLAN** weekly and submit any changes for review and approval by the [Site Operations Manager](#).

Failure to follow policies regarding safety or the **WORK PLAN** will result in the following consequences:

- First offense – verbal reminder
- Second offense – written notification of out of scope work, or safety violation
- Third offense – suspension of work and a mandatory review of both safety and **WORK PLAN**. The results of the review of *NEES research projects* will be submitted to the NEESInc for further action. *Non-NEES research* may be terminated directly by SEESL management.

Note: Lab Personnel have the right to stop, or refuse, any task or any operation performed with any equipment used by any Lab User.

Safety Requirements:

Laboratory safety is the highest priority at SEESL. The Department of Civil, Structural and Environmental Engineering (CSEE) has a [SAFETY PLAN](#) that covers the operations of SEESL. This [SAFETY PLAN](#) requires safety training of all employees, students and visitors. Moreover, it requires periodic inspection of laboratories and other spaces for identification and correction of unsafe conditions. The SEESL [Site Operations Manager](#) (OM) is responsible implementing the [SAFETY PLAN](#) and for coordinating the training of employees, students and visitors in the NEES facility. The SEESL [Deputy Director](#) is in charge of development of rules and policies or resolving safety issues in the absence of appropriate policies. The [Field Safety Officer](#), who is a member of the SEESL Technical Staff, serves as the floor supervisor. The Field Safety Officer is empowered to suspend the work or the visit of any person who does not comply with the safety requirements.

All researchers and users of SEESL must undergo safety training prior to starting work in the laboratory. The training can start with a review of the CSEE [Safety Training Manual](#) (<http://nees.buffalo.edu/>). Upon

arrival at SEESL, the visitor must take the 6-hour training class, which includes a walk through of the facilities and an examination (described below). Each person will be issued a certificate of completion of safety training allowing access to the facility.

All researchers planning to work in the laboratory must wear personal protection equipment (PPE), which includes:

- **Hardhats** are mandatory for all who access the testing floor in the laboratory. Hardhats are not required on the third floor observation deck.
- **Steel toe shoes or boots** are required in all areas of the testing floors. Safety shoes are not required on the observation deck.
- **Gloves** are required whenever assembling or disassembling test specimens or test fixtures.
- **Eyeglasses** are mandatory when grinding, impacting, drilling, mixing or hammering.
- **Earplugs** or earmuffs are mandatory and available from a member of the SEESL Technical Staff when grinding, impacting, or drilling.
- A personal **safety harness** shall be used when and where required member of the SEESL Technical Staff

The laboratory will provide hard hats, gloves, eye protection goggles, earplugs and safety harnesses for short term visitors. Safety shoes must be provided by the researcher or user.

Insurance and Liabilities:

Employees and students of the University at Buffalo or the Research Foundation of SUNY who completed safety training are covered by the Research Foundation's comprehensive liability insurance and/or the university's self-insurance against injuries that may result from work in SEESL. This does not apply to NEES or non-NEES researchers from other institutions, who perform research in the SEESL facility.

Visiting researchers must carry a [certificate of insurance](#) from their home institution. Each visiting researcher shall provide prior to the work at SEESL a certificate of insurance before access is permitted to the facility. Such certificate shall provide evidence that the home institution carries sufficient levels of insurance and shall name the State University of New York, The Research Foundation of State University of New York, and the People of the State of New York as additional insured parties. The insurance shall cover personal injury and injury to others for which the researcher is responsible, and damage to property that is caused by the researcher.

The researchers must agree to hold UB and the UB faculty and staff of the SEESL/UB-NEES node harmless for any acts, errors, omissions, and negligence. A [release form](#) signed by either the researcher or their HOME INSTITUTION is attached to this document.

Access to Facilities:

NEES and non-NEES researchers will enjoy many access privileges during the duration of the part of their project that is executed at SEESL. NEES researchers will enjoy additional privileges as listed below:

- (a) Access to the physical site, laboratory areas and equipment, listed in the section on [Information on SEESL-UB-NEES](#) (above) are subject to the constraints listed in the section on [Constraints and Limitations](#) (below). These constraints consist of the requirements that the researchers receive safety training at SEESL, and have a certificate of insurance that provides coverage for all medical expenses and liability. See section on [Safety Requirements](#) above.
- (b) NEES researchers will have access to long term usage of office space. Office space for **two students** per project over the period of specimen preparation, testing and specimen demolition and removal at SEESL. The office space will be in the collaboration room, which is wired to the UB-NEES computational facilities, and is equipped with a number of computers. Space for additional students, per project, may be available. Office space assignments will be coordinated with the [Site Operations Manager](#).

- (c) NEES faculty researchers will have access to long term usage of office space. NEES researchers will have access to long term usage of office space. Office space for one faculty member or post-doctoral fellow per project over the period of specimen preparation, testing, and removal at SEESL / UB-NEES. The office space will either be in the shared collaboration room or in a faculty office, usually shared with another visitor. Space for additional visitors per project may be provided if necessary for the duration of the project depending on availability of space. These assignments will be coordinated with the [Site Operations Manager](#). (to be arranged with the [Site Operations Manager](#).)
- (d) Faculty and students (long term) visitors who are US citizens or permanent residents may be appointed as non-paid visiting faculty and non-paid visiting scholars, respectively. This will allow the issuance of a parking permit for a nominal fee [(about \$10 per year)] and a UB identification card, which will provide library access privileges, campus transportation privileges and ease in accessing the department's and the NEES facilities. Appointments will be arranged by the [Site Operations Manager under the direction of the Laboratory Director](#).
- (e) Faculty and students visitors who are not US citizens or permanent residents cannot be appointed in non-paid visiting positions due to restrictions imposed by the Department of Homeland Security (DHS) These visitors will be issued CSEE department and NEES controlled electronic access cards to the department's facilities and the NEES collaboration room only.
- (f) Parking space for all visitors must either be purchased at the UB visitors parking area, or parking meters must be used. Lab support staff may facilitate purchase of parking permits.
- (g) Access to all computer facilities of the SEESL/UB-NEES node will be provided, including wireless access to the internet and to their home institution computing facilities via high speed fiber-optic lines. Access to other Campus computing will be available to long term visitors only (see (d) above)
- (h) All NEES researchers will be assisted by the [Site IT Services Manager](#) in using the local and national NEESgrid networking capabilities, in data packaging and archival. The [Site IT Services Manager](#) will facilitate and provide instructions, access capabilities, and workspace in the local repositories for all researchers. The [Site IT Services Manager](#) will not perform the actual data management and archival which will remain the sole responsibility of the researcher. A Data Archiving and Sharing Plan will have to be submitted for review to the [Site IT Services Manager](#) prior to completing the preparation of the agreement and **WORK PLAN** as indicated above. For more details, see the section on [Access Information](#) below)

Access Constraints and Limitations

Access for NEES and non-NEES researchers to the SEESL is subject to the following constraints and limitations:

- (a) All researchers must undergo safety training prior to starting work in the laboratory. The training should start by review of the CSEE Safety Training Manual (see <http://nees.buffalo.edu/>). Upon arrival at SEESL, the visitors must take the 6-hour training class, which includes a walk through the facilities and an examination. After successful completion of the "safety examination", each person will be issued a certificate indicating completion of the safety training allowing access to the facility.
- (b) All researchers planning to work in the laboratory must wear personal protection equipment (PPE), which includes hard hat, steel-toed shoes, gloves, eye protection goggles, or glasses with synthetic lenses, hearing protection devices and respirators. For more details, see the section on [Safety Requirements](#) above.
- (c) All visitors must obey the safety rules. Failure to comply and failure to obey the directions of the SEESL Technical Staff will result in denial of access to SEESL. In the case of non-compliance, the Field Safety Officer will provide one warning, which will result in ejection from the laboratory if the infraction is not corrected.
- (d) The number of visiting researchers is limited to two students and one senior personnel per project for the duration of the project as described in [Access Information](#) (above).
- (e) All researchers and visitors accessing the testing floors must be insured to cover personal injury, medical expenses, injuries to others that they may cause and damage to equipment that they may cause. Need to specify limits here. Certificates of insurance must be presented to the [Site Operations Manager](#) before accessing the facility. For more details, see on the section on [Insurance](#) above)

- (i) All researchers and visitors must agree to hold UB and the UB faculty and staff of the SEESL/UB-NEES node harmless for any acts, errors, omissions, and negligence. For more details, see the section on [Liability](#) above.

Specific Safety and Access Requirements

The complete safety requirements are listed in the [Lab Safety Manual](#). The following are excerpts from the [Lab Safety Manual](#). The requirements listed below are intended to provide a select but incomplete list of *do* and *do not*s.

(a) General Requirements

- Access in the laboratory is permitted when at least one other person is in the laboratory and he or she has been informed of your presence and is in eye or communication contact with you at all times.
- Know where First Aid Kit, Eye Wash Station, Fire Exits, Fire Extinguishers, and Electrical Disconnects are located.
- Know the location of emergency phones and emergency shut off buttons for the hydraulic system.. Use them at the request of lab personnel or in their absence using your best judgment.
- Keep walkways (which are marked with crosshatched yellow tape) clear of all obstacles at all times.
- Do not block fire extinguishers or electrical panels.
- Clean up work area daily.
- If your work will generate dust, cover sensitive equipment before you start, and clean up the dust. Dust cleaning equipment available in the laboratory.
- At the conclusion of testing, safely remove and dispose of the specimens, within the time-frame agreed to in the WORK PLAN. The researcher remains responsible for the removal operations until this task is complete.

(b) Testing Areas

- When the warning strobe lights are flashing, the hydraulic system is active and testing operations are in progress. Unauthorized personnel must not approach within 10 feet of any hydraulic line, shake table, actuator, or test specimen. Authorization must be obtained from the Technical Services Manager or designated test supervisor
- Authorized personnel, attending a live experiment, must be equipped with a communication device provided by the Technical Services Manager and stay in communication with the test supervisor.
- All other project work may be interrupted, at the direction of the test supervisor, during testing.
- All personnel accessing the basement spaces under the test floor and the service rooms must remain in contact with the test supervisor working above the floor

(c) Cranes, Forklifts, Scissor lifts

- Cranes, forklifts, and scissor lifts may not be used unless the operator has been trained and certified by the laboratory Field Safety Officer or designated staff member.
- Operations involving heavy and/or large items requiring the use of the crane and rigging will be performed only by trained laboratory staff members.
- When the crane is used above the hydraulic actuators, controllers, data acquisition systems or hydraulic systems a second staff member must be present as an observer.
- Cranes shall not be left unattended while still attached to a specimen or test fixture.
- Scissor lifts must be operated / attended by a team of two users at times.

(d) Laboratory Equipment

- The use of power tools is not permitted unless authorized by full time lab personnel.
- Do not move or modify any hydraulic actuators, accumulators, or hydraulic lines. This is only to be done by authorized lab personnel.

- Use of the welder or blow torch is not allowed. These operations are only to be performed by authorized lab personnel.
- All tools must be inspected before use and any defect reported to lab personnel.
- Return tools to the proper location at the end of each working day and when the job is complete.
- Do not use any pre-stressing Jacks. This can be done only by authorized lab personnel.
- Ladders must be properly positioned and/or tied off.

(e) Access to Tools

- The SEESL facility has tools (hand tools, power tools, air tools, and welding tools) that will be made available to NEES and non-NEES researchers who adhere to the requirements noted above and have paid the user fee.
- Power tools can be checked out of the Equipment Room on a daily basis. Hand tools will be available in a kit that can be checked out for the duration of a SEESL project. NEES researchers will be responsible for returning all tools to the Equipment Room in operable condition.
- The electric welder and/or cutting torch may be used by qualified professionals who are hired on a subcontract basis to either fabricate or demolish test specimens. In such cases, prior approval from the Operations Manager must be obtained.
- The subcontractor client wishing to use this equipment will be required to verify professional qualifications and prior experience.
- The NEES project will be responsible for replacing any lost hand tools.
- Recharge fees are required for use of tools by research visitors in SEESL lab. The recharge rates are listed in the [Recharge Fees Schedule](#) (see section on [Recharge Fees](#) below). Recharge rates are updated annually. NEES researchers will have to budget a minimum of \$500 for use of lab tools.
- Current recharge rates can be found on the SEESL website.

(f) Access to Instrumentation

- Instrumentation purchased through NEES is available for free use to NEES researchers. A complete list of NEES instrumentation is identified on the SEESL/UB-NEES Lab Manual. Additional instrumentation may be available for a fee. All instrumentation is available to non-NEES researchers for a fee.
- For safety reasons, only SEESL staff are allowed to operate much of the SEESL Laboratory instruments and equipment. Examples include: hydraulic equipment (e.g., pump, manifolds, controllers, actuators and hoses), forklift, scissors lift, electric arc welder, oxygen-acetylene cutting torch, and all computing equipment (except as outlined in the Access to IT Section), cameras (except as outlined below), and associated cabling (except as outlined below). This policy will be enforced strictly. The only exceptions are use of the electric welder and/or cutting torch (as described in the Access to Tools Section), and data sensors and lighting not attached to robotic arms.
- NEES and Non-NEES data sensors (e.g., linear variable differential transformers, string pots, and other reusable sensors not purchased with project funds), lighting equipment and associated cabling may be checked out of the Equipment Room for the period of time identified in the work plan schedule.
- Calibration of this equipment must be done by the NEES researchers, as needed. SEESL staff will remove and return all reusable NEES and Non-NEES instrumentation, lighting, and associated cabling.
- Video and still image cameras and associated equipment, including robotic arms are to be installed only by SEESL laboratory personnel. SEESL staff will also remove and return all cameras and associated equipment. However, video or still image cameras can be checked out of the Equipment Room on a daily basis during operating hours for short-term use.

(g) Access to the SEESL Controllers

- For safety reasons, only SEESL staff will be allowed to operate the Shake Tables controllers and the STS controllers.
- NEES researchers may have access to the other SEESL controllers for various actuators (see list in the [LAB MANUAL](#)) after proper training by lab personnel and with their daily approval.
- NEES Researchers will have access to the Hybrid Testing System after proper training by the lab personnel with assistance of the Lab Technical Staff.

(h) IT Access

- The SEESL/UB-NEES Laboratory is outfitted with a variety of data acquisition, archiving, and tele-presence equipment, including sensors (e.g., load cells, transducers, and cameras), servers, appliances, and cabling.
- Access to all computers is restricted to SEESL personnel with the exception of the data acquisition servers, client machines, SEESL Local Data Repository, and video-teleconferencing equipment (personal computers will not be provided by the SEESL to NEES researchers).
- Accounts on the data acquisition servers, client machines, and the SEESL Laboratory Local Data Repository will be provided to NEES researchers by the [Site IT Services Manager](#) on an as-needed basis after training on the equipment is completed.
- The SEESL is linked to computational facilities associated with the NEESgrid. Use of those facilities is administered by the NEES Consortium, Inc.
- The SEESL is connected to the NEES Data Repository. Access to the NEES Data Repository, including curation services, is administered by the NEES Consortium, Inc. SEESL staff will facilitate access to the NEES Data Repository as needed.
- All results and metadata for experiments and simulations conducted within the SEESL will be stored on the SEESL Local Data Repository for a minimum of three months (automatically) and up to a maximum of six months after the termination date of the SEESL research agreement for the pertinent project. Storage requests for a longer period of time than the minimum must receive approval from the Operations Manager.
- The SEESL staff will facilitate access to the SEESL Local Data Repository. However, SEESL staff will not provide curation or data reduction services for a project.

Resources

A service agreement prepared before the work can start at SEESL/UB-NEES, developed between the SEESL and the researchers' HOME INSTITUTION, will establish the NEES resources to be utilized in the laboratory work and the non-NEES resources required for the completion of the research. If the latter are required the agreements will include a detailed description of the fees, and a payment schedule. The agreement will be signed by the authorized representative of the visiting researcher's HOME INSTITUTION and the SEESL representative (a member of the Sponsored Programs Administration of the University at Buffalo)

Schedules

SEESL / UB-NEES is a shared facility which provides services to many entities. SEESL is committed to share all the NEES equipment and facility up to 50% as required by the Management Operations and Maintenance (MO&M) contract with NEES Inc. and NSF/NEES. In order to accommodate all projects a carefully developed schedule agreement between the researcher and SEESL is required. At the request of the researcher the Site Operations manager will develop a schedule which will have to be coordinated with NEES Inc. (for NEES projects) or with the SEESL Director (for non-NEES projects). The schedule will be then included in an agreement as indicated below. The schedule will include all elements requested in the [Work Plan](#)

Failure to obey the agreed schedule may result in additional fees at non-NEES rates for the exceeding period (applied to all researchers). The agreement will include assurances that such fees will be paid to SEESL. In case of major slip in schedule the work may be indefinitely postponed and a new schedule will have to be negotiated jointly with NEES Inc. and the Site Operations Manager.

Recharge Rates - Fees

The use of the SEESL equipment by either NEES or non-NEES researchers require budgeting according to rates approved by University at Buffalo.

For NEES sponsored projects the majority of operation and maintenance costs are anticipated to be covered by the NEES O&M contract between NEES and the University at Buffalo. The O&M contract will not be finalized until NSF approves the overall NEES budget request, consequently this may affect the recharge fee for NEES services.

If NEES fully funds our O&M proposal and its amendments, limited recharge fee would be needed for tools and rigging equipment. However if these items are not fully funded the SEESL/UB-NEES will charge a minimum of \$1500 a month for lab space, rigging equipment and tools.

Until budgets are finalized researchers should assemble proposals with a \$1500 a month fee for tool use etc.

If NEES or other non-NEES "fee free" projects exceed the time allocation in the agreed schedule, the researchers will be charged fees as for non-NEES project.

The [Recharge Fees Schedule](#) for all research users is available from the webpage <http://nees.buffalo.edu/> and is updated periodically. All fees are subjected to overhead at current rates of University at Buffalo (57% as of October 1, 2004). The overhead rates change periodically. Before completing any budget check this document for updates.

The Recharge Fees Schedule for Industry, CSEE and MCEER services should be obtained from the Site Operation Manager.

Agreements

An agreement will be executed between the visiting researcher's HOME INSTITUTION and SEESL represented by a member of the Sponsored Programs Administration. The agreement will incorporate by reference all of the rules and requirements of this document. The list below summarizes the issues to be addressed by the agreement:

- 1) Work Plan (including the requests for equipment, space, personnel)
- 2) Safety requirements
- 3) Insurance and liability
- 4) Access to facilities
- 5) Resources needed and budget recovery mechanism
- 6) Schedules

The agreement can follow The attached [template](#) along with additional information and /or modifications will be utilized. The agreement can be developed with the assistance of the [Site Operations Manager](#) and other key Lab Personnel. The agreement must be signed prior to the start of actual work at SEESL/UB-NEES

Laboratory Access by Visitors and Groups

- All visitors must be accompanied by a University host such as a member of the University Administration, Dean's Office, Engineering Faculty, and MCEER personnel. Active research students may also act as hosts.
- Advance notice of any visit should be given to [Site Operations Manager](#), whenever possible.
- Host must notify [Technical Services Manager](#) immediately on arrival in Laboratory.
- All visitors must read the abbreviated minimum safety instructions and sign the visitors book acknowledging receipt of such instructions

- Visitors are not permitted in the basement unless they have express approval of [Technical Services Manager](#) on each occasion.
- Visitors are not to be allowed on testing floor unless you have express approval of [Technical Services Manager](#)
- Notify the [Site Operations Manager](#) about details of any visit (name of group, size, date and time of visit) with a request to update visitor database.

Modifications and Updates

The SEESL Director has the sole responsibility to periodically update this document to reflect new knowledge gained through operations of this facility. Given the new paradigms in collaborative experimental testing introduced by NEES, it is foreseen that a number of adjustments, to this document, will be necessary and will occur over time.

Service Agreement, Project Plan and Reporting

A service agreement, in accordance with the attached template, between SEESL/UB-NEES and the researchers' HOME INSTITUTION, will be prepared and approved by the authorized representatives of the respective organizations prior to commencing with any work. The service agreement will define the NEES and non-NEES resources to be utilized in the laboratory work, the tests and required protocols, data requirements, respective responsibilities for specimen development and assembly, transportation, protection, handling and receipt, retention/disposal and all relevant project details to insure the quality of the project results. Provisions of the service agreement also include the development and submission of a project/work plan by the researcher, utilizing the attached template. At the conclusion of the testing program, a draft report, including all required test information, data and details will be submitted, to the researcher for review within an agreed upon period of time. A final test report, utilizing the attached cover template, will be issued and archived.

SEESL SERVICES AGREEMENT

BETWEEN

«ClientCAPS»

and

UB FOUNDATION SERVICES, INC.

MADE as of the «Day» day of «Month» «Year», by and between «ClientCAPS», a «TypeofClient» existing under the laws of the State of «ClientState», with its principal offices located at «ClientStreet», «ClientCityStateZip», hereinafter referred to as ("Client") and **UB FOUNDATION SERVICES, INC.**, a nonprofit, educational corporation existing under the laws of the State of New York, with its Mailing Address at P.O. Box 900, Buffalo, New York 14226-0900, hereinafter referred to as ("UBFS") on behalf of the Structural Engineering and Earthquake Simulation Laboratory ("SEESL") at the University at Buffalo, State University of New York, collectively referred to as the "Parties", and

WITNESSETH:

WHEREAS, Client desires to retain the services of SEESL to conduct a project titled "«Title»", (the "Project") and

WHEREAS, SEESL has available the personnel and facilities needed to enable the Project to be conducted; and

WHEREAS, UBFS acting as an agent of The Research Foundation of State University of New York (hereinafter referred to as "RF") is authorized to accept and administer funds paid by Client for services provided by SEESL ("Services") to enable the Project to be conducted; and

WHEREAS, UBFS desires to provide services to Client for the conduct of the Project,

NOW, THEREFORE, in consideration of the premises and the mutual covenants hereinafter contained, the parties agree as follows:

1. WORK PLAN

Client, with the assistance of SEESL, shall perform the Project in accordance with the Work Plan set forth in Exhibit A, which is attached to and made a part of this Agreement.

2. COMPENSATION

Client shall pay UBFS for the Services performed in accordance with the Fee Schedule attached as Exhibit B and made a part of this Agreement.

3. PROPRIETARY INFORMATION

It is understood that in the course of carrying out the purposes of this Agreement, the Parties may wish to provide each other with proprietary information. Any proprietary information provided by one Party (the "Disclosing Party") to another Party (the "Receiving Party") shall be clearly marked "proprietary" or "confidential". Any proprietary information disclosed orally shall be reduced to writing by the Disclosing Party within 30 days of oral disclosure. The Receiving Party agrees not to disclose such information which is clearly marked proprietary to other than its employees and others authorized to participate in the Project, and shall use its best efforts to prevent unauthorized disclosure of such proprietary information. The Parties agree to treat proprietary information received with the same standard of care with which they treat their own proprietary information.

This clause shall not apply to information which:

- As shown by reasonably documented proof was in the Receiving Party's possession prior to receipt from the Disclosing Party;
- As shown by reasonably documented proof was received by a Party in good faith from a third party not subject to confidential obligation by the other Party;
- Now is, or later becomes, publicly known or enters the public domain through no breach of confidential obligation by the Receiving Party;
- Is disclosed pursuant to a regulatory or other requirement imposed by a government agency, or is otherwise required to be disclosed by law; or
- Was developed by the Receiving Party independently without access to the Disclosing Party's proprietary information.

4. USE OF NAME

Client agrees not to use the name of SEESL, UBFS, The Research Foundation of State University of New York, the State University of New York (SUNY), the State University of New York at Buffalo or the State of New York or the name of any member of the respective institution in sales promotion or advertising or in any other form of publicity without the express written permission of the respective organization and, if appropriate, the individual whose name is to be used.

5. INVENTIONS

In the event an invention, whether or not patentable, is developed in performance of the Project, disposition of the invention shall be determined as follows:

(a) if the invention is developed solely by employees of Client pursuant to the Cooperative Use Policy of the State University of New York, the invention will be owned by Client;

(b) if the invention is developed by employees of Client pursuant to the Cooperative Use Policy of the State University of New York, and assistance limited to the operation of the SEESL equipment in accordance with Client's Work Plan is provided by faculty, staff and/or students of the State University of New York, UBFS, or RF, the invention will be owned by Client;

(c) in all other cases where faculty, staff and students of State University of New York, UBFS, or RF participate in the Project and an invention results, the invention shall be owned by the RF or jointly owned by Client and RF, depending on the particular circumstances under which the invention occurs.

6. SEESL SITE ACCESS

By signing this Agreement, Client represents that its personnel who will conduct the Project have read and understand the SEESL/UB-NEES Site Access Policies attached as Exhibit C and made a part of this Agreement. Client, on behalf of its Project personnel, agrees to comply with said policies at all times during the conduct of the Project.

7. NOTICES

All notices, demands and other communications hereunder, except exchanges of technical information, shall be delivered personally to the party hereto to which it is addressed or mailed to such party by registered or certified mail, return receipt requested, with postage hereon fully prepaid at the following addresses, unless otherwise subsequently modified by change of address in writing:

If to CLIENT:

«Client»
«ClientStreet»
«ClientCityStateZip»

If to UBFS:

Mr. Edward P. Schneider
Executive Director
UB Foundation Services, Inc.
Box 900
Buffalo, New York 14226-0900

Any notices, demands and other communications delivered personally shall be deemed to have been received by addressee at the time and date of its delivery. Any notices, demands and other communications so mailed shall be deemed to have been received by the addressee seven (7) days after the time and date of its being so mailed.

8. WAIVERS

No waiver of any term, provision or condition of this Agreement whether by conduct or otherwise in any one or more instance shall be deemed to be or construed as a further or continuing waiver of any such term, provision or condition or of any other term, provision or condition of this Agreement.

9. INTEGRATION

This Agreement represents and embodies all the agreements and negotiations between the parties hereto and no oral agreements or correspondence prior to the date of execution of this Agreement shall be held to vary the provisions hereof.

10. MODIFICATIONS AND CHANGES

This Agreement may be changed, amended, modified, extended or terminated by mutual consent provided that such consent shall be in writing and executed by the parties hereto prior to the time such change shall take effect.

11. INDEMNIFICATION

The Client assumes all risk associated with the Project and shall be solely responsible for any and all accidents and injuries to persons and property (including death) arising out of, or in connection with, the Project and agrees to indemnify and hold harmless the UBFS, the People of the State of New York, the State University of New York, the Research Foundation of State University of New York, and their agents, employees, and officers, from any and all claims, suits, actions, damages and costs of every nature and description arising out of or relating to the Project or the violation by Client, its agents, employees, students, or contractors, of any law, code, order, ordinance, rule or regulation in connection therewith. The Client agrees, on being requested to do so, to assume the defense and to defend, at its own cost and expense, any action brought at any time against UBFS, the People of the State of New York, the Research Foundation of State University of New York and/or the State University of New York in connection with the claims, suits and losses as aforesaid.

The Client shall be responsible for any and all damages or loss by theft or otherwise of property, whether such property shall belong to State University of New York or to others, and for injury to persons (including death) which may in any way arise from the Project and is caused by any person affiliated with the Client.

The Client shall be responsible for, and shall maintain good discipline and proper behavior on the part of all students, employees, or other persons affiliated with it who are in any way involved in the Project and agrees

to remove any such person whose actions, or failure to act, shall in the sole judgment of State University of New York, after consulting with the Client, be deemed to be detrimental to State University of New York.

At no expense to UBFS, the Client agrees to maintain liability insurance covering property damage, personal injury, or death arising out of the Project. Such insurance shall be on an occurrence and not on a claims made basis for liability for damages imposed by law. Such insurance shall be provided by insurance companies licensed to do business in New York State and shall cover all operations in connection with the Project. The kinds and amount of insurance required are as follows:

Liability and Property Damage Insurance. Each policy with limits of not less than:

- Bodily Injury Liability
Each Occurrence.....\$1,000 000

- Property Damage
Each Occurrence\$1,000,000

for all damages arising during the policy period, shall be furnished in the types specified, viz:

(i) Liability Insurance issued to and covering the liability (a) for damages imposed by law upon the Client and (b) including in such liability insurance policy provisions indemnifying and holding UBFS, the State of New York, State University of New York, the Research Foundation of State University of New York, their officers, employees, and agents harmless from any suits, actions, damages and costs of every name and description with respect to all Project activities carried out: and

(ii) Owner's Protective Liability Insurance issued to and covering the liability for damages imposed by law upon UBFS, State University of New York, The People of the State of New York, the Research Foundation of State University of New York and all their officers, employees and agents both officially and personally, with respect to all activities associated with the Project including errors and omissions

Prior to the commencement of the Project, the Client shall deliver to SEESL certificates of insurance issued by the respective insurers, evidencing the insurance as required above and bearing notations evidencing the payment of the premiums thereon or accompanied by other evidence of such payment satisfactory to State University of New York. In the event any such policy furnished or carried expires on a date prior to the physical completion date, the Client, not less than thirty (30) calendar days prior to such expiration date, shall deliver to SEESL certificates of insurance evidencing the renewal of such policies, and the Client shall promptly pay all premiums thereon due. In the event of threatened legal action, claims, encumbrances, or liabilities that may affect State University of New York, or if deemed necessary by State University of New York due to events rendering a review necessary, upon request the Client shall deliver to SEESL a certified copy of each policy. The Client further agrees to send SEESL a copy of any notice of cancellation of such policy within five (5) business days of such action.

The Client specifically agrees that if the Project is cancelled or terminated for any reason, the Client shall have no claim against UBFS, the State of New York, the State University of New York, the Research Foundation of State University of New York, nor their officers and employees, and they and their officers and employees shall be relieved from any and all liability.

12. TERM

The term of this Agreement shall be from «StartDate» until «TerminationDate», unless terminated sooner or extended by mutual agreement of the parties hereto expressed in writing in the manner provided in this Agreement.

13. TERMINATION

Either party may terminate this Agreement by giving thirty (30) days written notice to the other party when, in its sole discretion, it determines that just cause for termination exists, or that termination is in its best interests. In the event of termination, Client shall reimburse UBFS for contractual commitments and financial obligations incurred by UBFS in performance of this Agreement, if such financial obligations or contractual commitments cannot be canceled by UBFS.

14. SITUS

Regardless of the place of physical execution, this Agreement shall be construed according to the laws of the State of New York.

15. ORDER OF PRECEDENCE

In the event of any inconsistency between Clauses 1 through 15 of this Agreement, and the attached Exhibit A, the inconsistency should be resolved by giving precedence to Clauses 1 through 15.

IN WITNESS WHEREOF, this Agreement has been duly executed by the parties hereto as of the date hereinabove first written.

UB FOUNDATION SERVICES, INC.

By _____
«UBFSSignatory» Date
«DesigneeTitle»

«ClientCAPS»

By _____ Date
Name: _____
Title: _____



Department of Civil, Structural, and Environmental Engineering

SEESL Structural Engineering and Earthquake Simulation Laboratory SEESL

SEESL/UB-NEES Project/Work Plan Requirements and Template

The following information is required, by the SEESL/UB-NEES Site Managers, from NEESR and Industry project PI's for planning and scheduling purposes.

- **Principal Investigator:**
- **PI Affiliation:**
- **Project Title:**
- **Sponsoring Agency:**
- **Project Overall Start & End Dates:**
- **Students Involved (Names and Affiliation):**
- **Project Description:** Provide a brief description (~two paragraphs) of the project specifically summarizing the involvement and planned use of the SEESL/UB-NEES equipment site.
- **Work Plan:** Provide a work-plan identifying the resources requirements and duration of the project tasks described in the table below: (Provide a Gantt chart if possible). Include drawings/sketches of the test specimen (to scale) and instrumentation locations.

Resource Req's.	Type of Equipment and Space Requirements*	Type of Manpower Required**	Type and number of Instrumentation Required***	Time Required (Duration)	Tentative Start and End dates
Project Tasks					
Test planning (research) & coordination					
Specimen construction and assembly					
Instrumentation, preparation & installation					
Experiments, testing, data streaming & post processing					
Test specimen dismantling, removal & disposal					

* Type of Equipment and Space: See attached **Major Simulations Systems** table. Describe/layout lab space requirements for specimen preparation, assembly and dismantling.

** Type of Manpower: Define and describe the type of support staff needed from the equipment site; i.e. mechanical or instrumentation-electronics technicians, machinist/welder, IT specialist, Video-audio technician

*** Type and number of Instrumentation: Accelerometers, Strain Gages, Displacement, KRYPTON, Video, etc.

- **Safety and Risk Management Plan**: Provide a summary of the anticipated project risks specifically related to the use of the proposed equipment site and preliminary plans to mitigate the risks. **Use attached table.**
- **Data Sharing Plan**: Provide a brief description of the telepresence, data acquisition and data archiving requirements associated with the proposed project
- **Budget**: Provide the budget available to the project, for lab use, (excluding specimen purchases).

Please submit the completed project plan to the SEESL/UB-NEES Director or Site Operations Manager

Major Simulation Systems at SEESL/UB-NEES

Testing Systems Equipment/ Resources	(A) Shake Table #1 Simulator	(B) Shake Table #2 Simulator	(C) Coupled Shake Tables #1 & #2 Simulator	(D) Large Scale Quasi Static System	(E) Pseudo- Dynamic and Dynamic System	(F) Real Time Dynamic Hybrid Testing System	(G) Geotechnical Laminar Box Testing System	(H) Nonstructural Components Simulator	(I) Shake Table #0 Simulator
Check System									
6DOF Shake Table #1 (NEES)	×		×			×	×		
6DOF Shake Table #2 (NEES)		×	×			×	×		
Dynamic Actuators (NEES)					×	×	×	×*	
Static Actuators (NEES)				×					
Reaction Wall (RxnW) (Non-NEES)						×	×	×	
Strong Floor (S.F.) (Non-NEES)				×	×	×	×	×	
Flex Test Controller (NEES)				×	×			×	
Hybrid Controller (NEES)					×	×			
Data Acquisition (NEES & Non-NEES)	×	×	×	×	×	×	×	×	×
Instrumentation (NEES & Non-NEES)	×	×	×	×	×	×	×	×	×
3D Optical Coordinate Tracking System (NEES)	×	×	×	×	×	×	×	×	×
Video/Digital Cameras (NEES)	×	×	×	×	×	×	×	×	×
Geotechnical Laminar Box (NEES)							×		
5DOF Shake Table #0 (Non-NEES)									×

* Special long stroke dynamic actuators

×: Equipment/Resources Required in Testing

×: Optional and Alternative Equipment/Resources Used in Testing

Add additional equipment or special needs below:

UB-Risk Assessment and Mitigation Summary

Project Title: ??
Principal Investigator: ??
Affiliation: ??

Risk/Source	Consequences	Likelihood (Low/Moderate/High)	Severity (Critical/Moderate/Low)	Mitigation/Management Strategy
Hazard/Risk during construction of test specimen	Injuries to laboratory personnel			•
Hazard/Risk during construction of test specimen	Damage to lab infrastructure, equipment, instruments and sensors			•
Hazard/Risk during testing	Injuries to laboratory personnel			•
Hazard/Risk during testing	Damage to lab infrastructure, equipment, instruments and sensors			•
Other	Other			•

***Please identify risks to laboratory infrastructure, equipment, personnel. Add notes as necessary.**



Department of Civil, Structural, and Environmental Engineering

SEESL Structural Engineering and Earthquake Simulation Laboratory SEESL

212 Ketter Hall, North Campus, Buffalo, NY 14260-4300

Fax: (716) 645-3733 Tel: (716) 645 5400 X 16

<http://www.nees.buffalo.edu>

**QUALIFICATION TEST OF VISCOELASTIC
DAMPERS**

by

Dyah Kusumastuti, PhD Candidate

Andrei M. Reinhorn, PE, Ph.D.

SAMPLE

Report to Sponsor:

*FYFE Co. LLC, San Diego, CA
FYFE Test - P.O.Number 4205-2362-00*

Report No. CSEE-SEESL-2004-xx

University at Buffalo
Buffalo, New York
October 25, 2004

ACKNOWLEDGEMENTS

The tests were prepared and conducted at the Structural Engineering and Earthquake Simulation Laboratory (SEESL) at University at Buffalo, for qualification of the dampers to be used by *Fyfe Co. per purchase order number 4205-2362-00.*

The Fyfe Company supplied the four small-size viscoelastic dampers.

The experiments were supervised by *Mr. Mark Pitman SEESL Technical Services Manager.* His assistance during the damper tests is gratefully acknowledged.

SAMPLE

NOTE

This report is the property of the Sponsors and of the Authors. The report was written for private distribution only. Copies of the report can be obtained form the Sponsors or the Authors directly at their discretion. The SEESL does not provide copies of this report without written consent of the Sponsor or the Authors.

DISCLAIMER

This report presents the opinion of the authors, not of the laboratory and its personnel. The information is provided as is. It is the responsibility of the readers and users to ascertain the quality of the information and its meaning.

(Additional disclaimer can be placed here)

RELEASE AND INDEMNIFICATION FORM

Release executed by _____, an employee or student
of (or person affiliated with) _____ [name of
institution], located at _____,

In consideration for being permitted to enter the grounds of the State University of New York at Buffalo ["SUNY Buffalo"] and conduct research or other education or research-related activities at SUNY Buffalo, including but not limited to its Ketter Hall or Ketter Hall Addition, the undersigned does hereby agree to assume all the risks and responsibilities surrounding my participation in any research or other activities undertaken at SUNY Buffalo, and, further, do for myself, my heirs, and personal representative(s), hereby agree to defend, hold harmless, indemnify, and release, and forever discharge SUNY Buffalo, the Research Foundation of State University of New York and the State of New York, and all their officers, agents, and employees from and against any and all claims, demands, actions, or causes of action, on account of damage to personal property, or personal injury, or death which may arise from my participation in the aforesaid activities or my presence on the SUNY Buffalo campus, and which result from causes beyond the control of, or without the negligence of, SUNY Buffalo or the Research Foundation of State University of New York, their officers, agents, or employees, during the period of my participation or presence on the campus of SUNY Buffalo as aforesaid.

[Signature of employee/student/etc]

[Name of employee/ student/ etc. Please type or print]

Date: _____

RELEASE AND INDEMNIFICATION FORM BY INSTITUTION

The _____, with its primary address at _____
_____ (hereinafter "The Institution"), in consideration for the State University of New York and its University at Buffalo ["SUNY Buffalo"] and the Research Foundation of State University of New York providing facilities, equipment, and staff for the conduct of research and testing and other services in connection with the Institution's research and other education-related activities ("the Activities") on the campus of SUNY Buffalo (including, but not limited to, SUNY Buffalo's Ketter Hall and Ketter Hall Addition), does hereby agree as follows:

1) The Institution assumes all risk incidental to the Activities and shall be solely responsible for any and all accidents and injuries to persons and property (including death) arising out of, or in connection with, the Activities and agrees to indemnify and hold harmless the People of the State of New York, the State University of New York, the Research Foundation of State University of New York, and their agents, employees, and officers, from any and all claims, suits, actions, damages and costs of every nature and description arising out of or relating to the Activities or the violation by said Institution, its agents, employees, students, or contractors, of any law, code, order, ordinance, rule or regulation in connection therewith. The Institution agrees, on being requested to do so, to assume the defense and to defend, at its own cost and expense, any action brought at any time against the People of the State of New York, the Research Foundation of State University of New York and/or the State University of New York in connection with the claims, suits and losses as aforesaid.

2) The Institution shall be responsible for any and all damages or loss by theft or otherwise of property, whether such property shall belong to State University or to others, and for injury to persons (including death) which may in any way arise from the Activities and is caused by any person affiliated with the Institution.

3) The Institution shall be responsible for, and shall maintain good discipline and proper behavior on the part of all students, employees, or other persons affiliated with it who are in any way involved in the Activities and agrees to remove any such person whose actions, or failure to act, shall in the sole judgment of SUNY, after consulting with *the institution be* deemed to be detrimental to SUNY.

4) The Institution agrees to provide SL NY Buffalo with a liability insurance policy naming the State University of New York, the Research Foundation of State University of New York and the People of the State of New York as additional insureds covering property damage, personal injury or death arising out of the Activities at SUNY Buffalo. The Institution further agrees to send SUNY Buffalo a copy of any notice of cancellation of such policy, renewal policy or new policy naming SUNY, the Research Foundation of State University of New York and the People of the State of New York, as additional insureds within five (5) business days of such action. The Institution shall also procure and maintain at its own expense, and without expense to SUNY, insurance, on an occurrence and not on a claims made basis, for liability for damages imposed by law, of the kinds and in the amounts hereinafter provided with insurance companies licensed to do such business in the State covering all operations in connection with the Activities whether performed by the Institution or by subcontractors or consultants. The kinds and amount of insurance are as follows:

Liability and Property Damage Insurance. Each policy with limits of not less than:

Bodily Injury Liability
Each Occurrence.....\$1,000 000

Property Damage
Each Occurrence\$1,000,000

for all damages arising during the policy period, shall be furnished in the types specified, viz:

(i) Liability Insurance issued to and covering the liability (a) for damages imposed by law upon the Institution. and (h) including in such liability insurance policy provisions indemnifying and holding the State of New York, SUNY, the Research Foundation of State University of New York, their officers, employees, and agents harmless from any suits, actions, damages and costs of every name and description with respect to all Activities carried out: and

(ii) Owner's Protective Liability Insurance issued to and covering the liability for damages imposed by law upon The People of the State of New York, the Research Foundation of State University of New York and SUNY and all their officers, employees and agents both officially and personally, with respect to all Activities_ including omissions and supervisory acts of the State or SUNY and

Prior to the commencement of the Activities, the Institution shall deliver to SUNY certificates of insurance issued by the respective insurers, evidencing the insurance as required above and bearing notations evidencing the payment of the premiums thereon or accompanied by other evidence of such payment satisfactory to SUNY. In the event any such policy furnished or carried expires on a date prior to the physical completion date, the Institution, not less than thirty (30) calendar days prior to such expiration date, shall deliver to SUNY certificates of insurance evidencing the renewal of such policies, and the Institution shall promptly pay all premiums thereon due. In the event of threatened legal action, claims, encumbrances, or liabilities that may affect SUNY, or if deemed necessary by SUNY due to events rendering a review necessary, upon request the Institution shall deliver to SUNY a certified copy of each policy.

5) The Institution specifically agrees that if the Activities are cancelled or terminated for any reason, the Institution shall have no claim against the State of New York, the Research Foundation of State University of New York nor their officers and employees, and they and their officers and employees shall be relieved from any and all liability.

IN WITNESS WHEREOF, the Institution has caused this instrument to be sealed and signed by its duly authorized officer, and the State University and the Research Foundation of State University of New York have caused this instrument to be executed by their duly authorized officers.

STATE UNIVERSITY of NEW YORK
BY _____

THE INSTITUTION
By _____
Official Representative of
Institution or Authorized Designee

RESEARCH FOUNDATION OF
STATE UNIVERSITY OF NEW YORK

By _____