Prepared By: Nicholas Gmür Jose Mendez	Approved By: Steven Hoey, NSLS-II ESH Manager

*Approval signatures on file with master copy.

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Local Emergency Plan- Bldg. 703

NSLS-II PROJECT

LOCAL EMERGENCY PLAN

Building: 703 **Occupancy: 25**

Position	Name	Extension	Home Phone	Pager No.
Plan Preparer	Nicholas F. Gmür	2490	631-286-1816	5324
Building Manager	Tony Mendez	7637	631-295-7182(C)	
Alt. Building Manager	Gerard Van Derlaske	7777	631-403-4322	631-560-9468
Primary LEC	Tony Mendez	7637	631-295-7182(C)	
Secondary LEC	Nicholas F. Gmür	2490	631-286-1816	5324
ES&H Coordinator	Nicholas F. Gmür (NSLS-II) Arnold Moodenbaugh (CMPMSD)	2490 3870	631-286-1816 631-288-5309	5324
Asst. ES&H Coordinator	NA			
FSS Representative	Frank Zafonte (NSLS-II) Nick Contos (CMPMSD)	5565 3205	631-453-6242(C) 631-767-4058(C)	

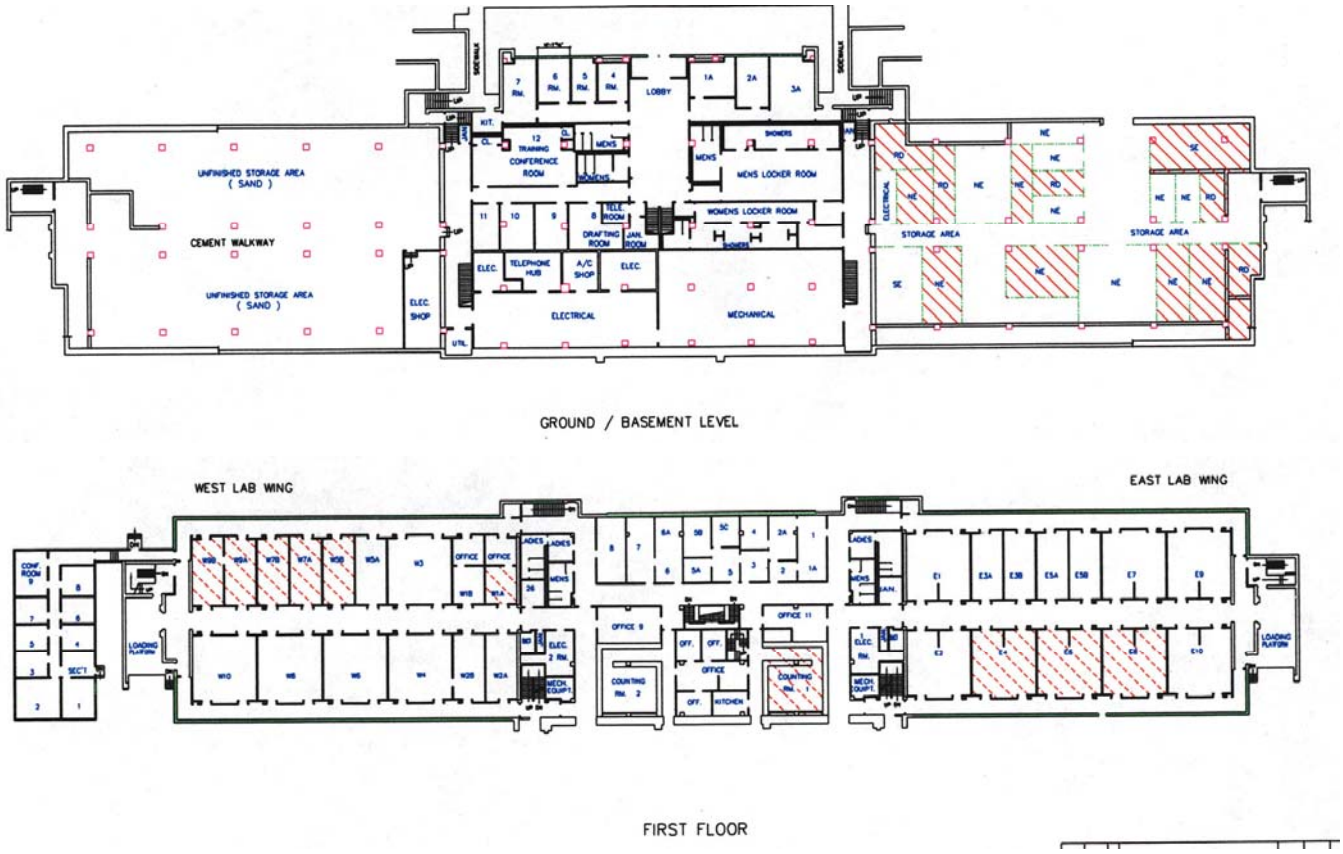
Every facility should establish an effective program to respond to emergencies. For this to work, every employee should be prepared to handle emergencies before they arise. This document outlines the Employee Action Plan to address workplace emergencies.

TO REPORT A FIRE, SPILL, MEDICAL OR OTHER EMERGENCY, DIAL 911 OR 2222. IF USING A CELL PHONE, DIAL 631-344-2222. IF A TELEPHONE IS NOT AVAILABLE, USE A FIRE ALARM BOX.

EMERGENCY EVACUATION PROCEDURES AND ROUTES

Every employee should familiarize themselves with exits in their workplaces, including a second way out in case the main way is blocked.

Building Map (Note: the building has completed ground floor and first floor renovations. When the revised key plans are available, they can be added to this LEP.) First floor west wing labs and ground floor offices are operational and occupied, respectively. First floor core offices are ~1/3 full. First floor east wing labs are being outfitted with research equipment – OREs are scheduled as the labs advance.



All employees are expected to leave the building and report to the outdoor assembly area when the fire alarm bells ring. No one is authorized to remain in the facility during an emergency.

PERSONNEL ACCOUNTABILITY

Accountability for personnel should be performed after an evacuation. Based upon direction given in an emergency, all employees must assemble at the appropriate areas.

- BUILDING INDOOR ASSEMBLY AREA: Large Seminar Room – Ground Floor
- BUILDING OUTDOOR ASSEMBLY AREA: Front Parking Lot (north side) – away from building
- SHELTER-IN-PLACE AREA: Large Seminar Room – Ground Floor
- PERSONNEL ACCOUNTABILITY: The LEC or designee will account for employees. The information must be given to the Incident Commander upon arrival.

SITE-EMERGENCY SIGNALS

- CONTINUOUS SOUNDING OF SITE SIRENS FOR FIVE MINUTES - Proceed immediately to the Indoor Building Assembly Area. Await instructions that may include the nature of the emergency, the type, sequence, and routes for evacuation.
- INTERMITTENT SOUNDING OF SITE SIRENS FOR FIVE MINUTES - Evacuate the Site Immediately.
- Tone Alert Radio (TAR):

Location: First floor – office #19

Responsible Individual: Regina Robinson

Note: The TAR must be placed in an area that is constantly occupied or in an area that is accessible to occupants of the buildings, e.g., corridor near mailboxes, front desk/reception area.

FOR ADDITIONAL INFORMATION OR QUESTIONS, CONTACT THE

LOCAL EMERGENCY COORDINATOR

LOCAL EMERGENCIES AND SIGNALS

FIRE: Upon notice of fire or sounding of the alarm bells, proceed immediately to the Outdoor Assembly Area. Await instructions that may include the nature of the emergency, the type, sequence, and routes for further evacuation. When the fire alarm bells ring, a call must be made to the BNL Fire Rescue Group on extension 2222, confirming their receipt of the alarm. Any information known about the condition that caused the alarm should be given at that time.

MEDICAL: Rescue and Medical Duties - Employees are expected to help minimize damage and assist personnel during an emergency to the best of their abilities and when their safety is

not threatened. The BNL Fire Rescue Group is trained, equipped, and has the main responsibility to render emergency assistance.

SPECIFIC HAZARDS:

- Radiological – Legacy contamination in various labeled piping systems; some labeled surface fixed contamination on floors of east and west loading platforms and in lab W7; Radiation Generating Device in lab W4
- Toxicological – Ammonia gas in lab W9
- Physical – West Wing Labs: Chemicals, high temperature furnaces and an autoclave, cryogens, flammable gases and liquids, and compressed gases. East Wing labs: compressed gases and solvents.
- Other – Nanomaterials in use in labs W6, W7B, W9A, W9B and W10.

OTHER INFORMATION

Training - The Department/Division must designate and train a sufficient number of persons to assist in the safe and orderly emergency evacuation of employees for this facility. They are as follows:

1. Nicholas F. Gmür
2. Tony Mendez
3. Gerard Van Derlaske
4. Regina Robinson

The (Department Chair/Division Manager/employee's supervisor/ESH Coordinator) is responsible for reviewing the plan with each employee covered by the plan. This training occurs when the plan is initially developed; whenever the employee's responsibilities or designated actions under the plan change; and whenever the plan is revised.

Provide OEM with one copy of the signed plan upon completion of each annual review and/or revision. OEM will forward to Fire-Rescue and Police.

Section 3: SUPPLEMENTAL INFORMATION (This section must be completed if the facility meets the criteria outlined in Section 3, Step 2 of the Emergency Preparedness Subject Area)

Description of Hazards

A. This facility requires the completion of this section of the Local Emergency Plan as it meets the following criteria:

1. Compressed gas cylinders, some of which contain flammable, toxic gases, which have the potential to cause property damage or injury to personnel. Gases are stored on west loading dock in approved cylinder racks [the facility needs an upgrade to accommodate segregation requirements; this is being worked on]. East wing lab compressed gases consist of argon and nitrogen. Solvents consist of ethanol, methanol and acetone.

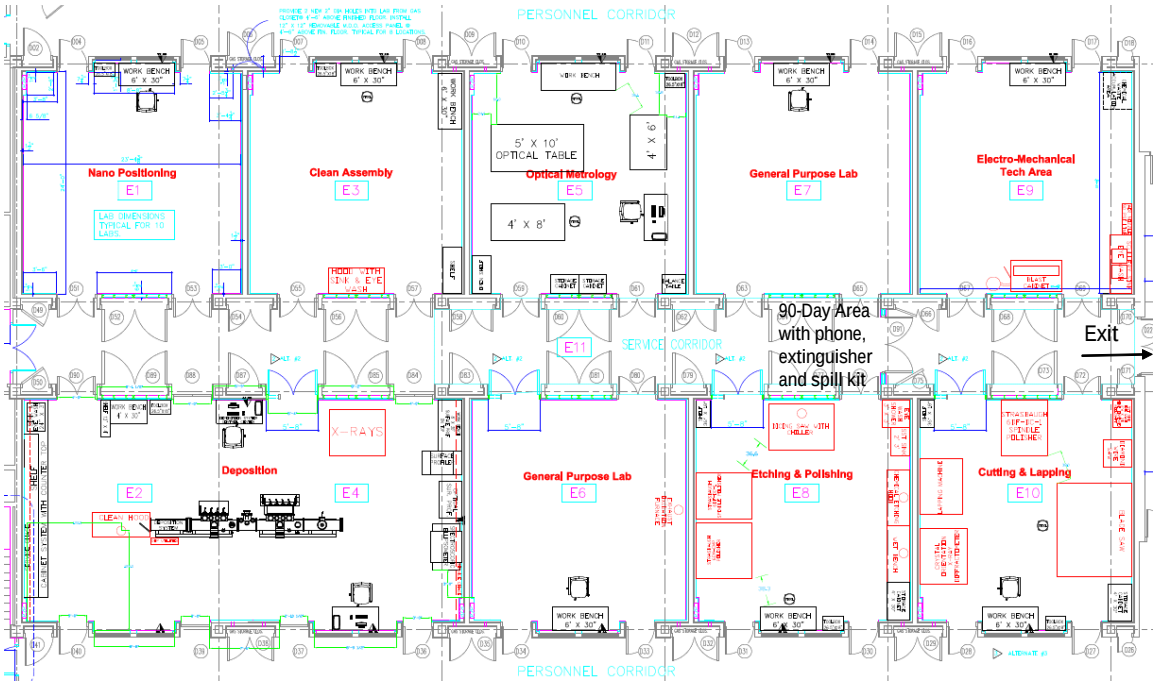
2. West wing labs: Research conducted with nanomaterials. Nanomaterials are considered potentially toxic substances and may pose health risks if used in uncontrolled environments (i.e., if engineered controls fail).

3. Oil and hazardous materials spills. Pump oils and solvents will be used in moderate quantities for work carried out in this facility.

4. F&O: Pressurized steam systems present significant potential thermal energy hazards under failure conditions.

B. Does the building contain a 90-day collection point for hazardous chemical waste? If yes, provide/identify its location and the location of any associated emergency exits on the building map in Section 2 of this plan. Yes. 90-day areas exist in both the west wing and east wing Service Corridors. **Note: I cannot seem to open the key plans. The image below is taken from NSLS-II drawings, and shows the east wing labs and 90-Day area. The west wing labs are a mirror image of this figure.**

Bldg. 703 R&D Laboratory Fitout



C. The types of emergencies that might affect this facility are:

1. Operations

During normal operations, the emergencies that may affect this facility are

a. Fire – A fire in this facility could result in property damage/personnel injury/fatality.

The main fire hazard(s) is/are from flammable gases, electrical systems and combustible materials including rare earth elements (research chemicals and samples). ABC extinguishers are located in common areas with a maximum travel distance of 75 feet to an approved extinguisher.

b. Explosions – Compressed gas cylinders may contain flammable gases. F&O: Pressurized steam systems present significant thermal energy hazards under failure conditions.

An explosion in this facility could result in property damage/personnel injury/fatality.

c. Industrial Accidents - An industrial accident(s) is possible in the laboratories, service chases, and mechanical equipment rooms. Cranes in lab W8 and at east end of building east wing. In this location there are compressed gases, cryogenic liquids/gases are present (F&O: steam systems, electrical systems).

Specific procedures for these operations are found in Facility & Operations procedures and in Experimental Safety Reviews associated with the lab work.

d. Personnel Injury or Fatality - The greatest potential for personnel injury or fatality exists during the maintenance and repairs of the building utility systems (steam, electrical, etc.). During these operations tasks specific procedures and/or work planning documentation are required to address safety concerns related to work on utility systems.

Specific procedures for these operations are found in Facility & Operations procedures.

e. Uncontrolled Release of Radioactive, Biological, or Hazardous Materials - The possibility of an uncontrolled release of toxic gases or nanomaterials exists in the laboratories if engineered controls fail in the west wing labs.

The radiation hazards are N/A (Radiation Generating Device controlled area is enclosed)

The toxicological hazards are Ammonia gas; small amounts of toxic metals (selenium, arsenic, chromium) in labs

f. Spread of Radiological Contamination - Contamination is a potential problem in the pipes that are labeled throughout the building. Work practices aimed at reducing the spread of contamination include F&O procedures. Known and posted surface contamination areas also exist.

g. Personnel Exposure is a potential problem in the laboratory areas due to exposure to nanomaterials (west wing labs) and other chemicals and gases.

h. Oil and Hazardous Material Spills - All chemicals in labs and in the 90-day hazardous waste area are stored over secondary containment pallets and within secondary containers capable of containing the full contents of the material in the event of a spill. In addition, spill absorbent materials are located next to the 90-day area and in lab W6 for cleaning up small incidental spills.

i. Air and Water Pollution - This facility does not have any operations that allows permitted discharges to the water and air. Safety Systems have been set up in these operations to significantly minimize the likelihood of accidental discharge to the air or water. These include Experimental Safety Reviews, Satellite Accumulation Areas, 90-Day hazardous waste areas.

j. Accidental criticality – N/A

k. Malevolent acts – possible; cannot predict.

l. Possible compromise of classified material – N/A

Building Emergency Equipment

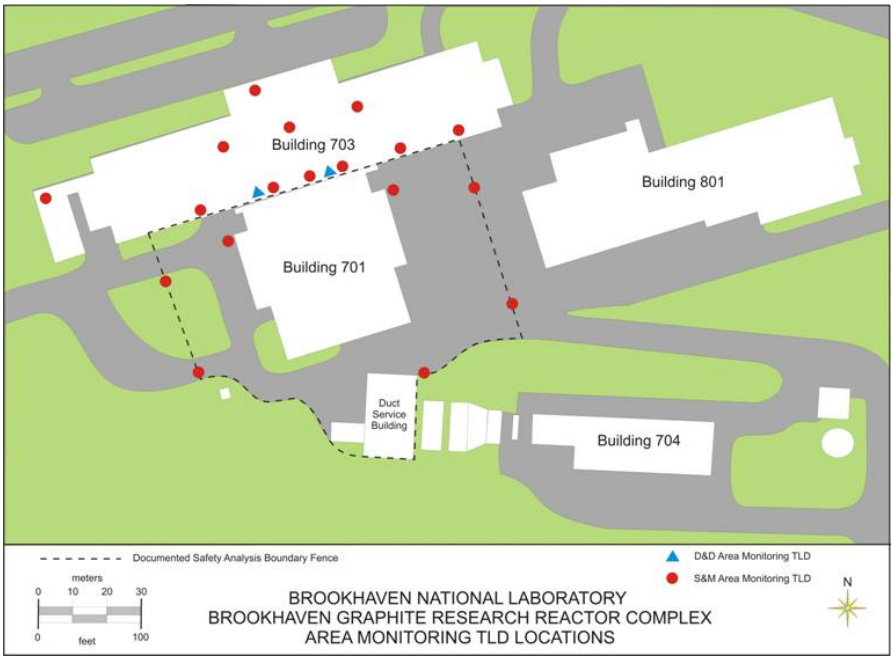
State below and/or indicate on a building map the location of the following emergency equipment in the building (a map is preferred). If the information for an element is provided solely on a building map, reference the map in the appropriate space(s). (This information may be maintained elsewhere, but must be readily available to emergency responders. If maintained elsewhere, state its location).

A. Fire Protection

1. Fire extinguishers are located every 75 feet as per code.
2. Smoke and Heat detectors: Heat detection is provided in the center core, basement of the east wing, attic of the east wing, the west wing attic and the west wing first floor. Joe Levesque did not see any smoke detection in the building plans.
3. Automatic sprinkler systems are located in the newly renovated portions of the building (ground floor seminar room, first floor core offices, first floor east wing labs).
4. Fire alarm pull boxes are located at building exits.
5. Halon Systems are located in N/A
6. Standpipe connections are located in stairwells.

7. Fire walls: 2 hour fire walls exist between the center core and the east & west lab wings. 1.5 hour rated fire doors are provided between laboratory wings and the center core. The east basement is separated from the first floor by a 2 hour rated floor assembly. A one hour cutoff exists between the west modular and the main building.

B. Radiation detection equipment (list equipment) and location(s): Area TLDs are distributed through the building in anticipation of the removal of the pile in the HFBR (bldg 701); Nick Contos oversees this effort and a map is attached below. In addition, the "NE" TLD badge board is located at the first floor central stairwell for CMPMSD personnel.



C. Emergency and Safety Related Equipment

1. Spill kits are located near the west wing central corridor 90-day area cabinet, in lab W6 and adjacent to the east lab wing 90-day area.
2. PA System: There is no building-wide PA system. The building has a new fire alarm panel with voice annunciation (for the ground floor main lobby and seminar room, first floor core offices and east wing laboratories). A bell tone will sound from these fire alarm speakers. The fire department can issue instructions to the occupants from the lobby. NSLS-II can connect to the fire alarm panel and use it as a building PA. The Fire Department inputs take priority over the building PA inputs. We will also examine inputing Tone Alert Radio messages into this system.
3. Safety showers and emergency eye wash stations are located in west and east wing central corridors, and in selected labs.

Document Review Frequency	
1	Year

Review signatures on file with master copy of controlled document

LIGHT SOURCES DIRECTORATE REVISION LOG

Document Number:	LT-ESH-PRM-9.0.4
Subject:	Local Emergency Plan - Building 703

Rev	Description	Date
1	Original NSLS-II Document. This document is based on the Bldg. 703 LEP developed by Arnold Moodenbaugh for the CMPMSD Department.	11/17/2008
2	Updated phone numbers for G. Van Derlaske	02/02/2009
3	Updated emergency assembly locations, emergency contacts and selected information throughout the LEP.	04/21/2009

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