

Drill Tests BNL’s Emergency Response, Requires Employees to Shelter in Place

The emergency drill last Wednesday, June 23, involved 100 BNLe rs as emergency responders to the mock accident, ten people as what are called controllers who provided mock data to the responders, and another ten evaluators who scored the response of each of the dozen or so groups involved.

Also involved were the remaining 3,000-plus people on site that day, who, from about 4:20 p.m. onward, were required to shelter in place, that is report to indoor locations within their buildings where they would be protected from any actual emergency.

Given that, in the majority of past drills, employees had been required to evacuate the site, many of those on site that day found sheltering in place to be a new concept.

And while being sheltered for about an hour until the drill was completed at 5:14 p.m., many employees felt that they were not provided enough information about the progress of the mock emergency.

This analysis of employee response is being compiled with other lessons learned from this exercise, which is the first full-scale test since 1997 of the Lab’s ability to respond to an emergency.

“It took many months of hard work to prepare for this drill, but the rewards in terms of lessons learned from the actual exercise have been worth the investment,” says Ken Brog, BNL’s Assistant Director for Environment, Safety, Health & Quality, under whose directorate is the Emergency Services Division (ESD), which was responsible for undertaking the drill.

‘Accident’ Scenario

According to lead controller Sheila Bubka, ESD, last Wednesday’s mock emergency was triggered by a truck driver’s crashing his truck into Bldg. T-91 after having a heart attack. The “accident” resulted in injuries to the driver, the spilling of truck-carried containers holding radioactive material and a fire in the truck which spread to the building. One of the containers was breached as a result of the fire.

This scenario tested a range of emergency responders:

- First to arrive on the scene were: firefighters/EMTs in the ESD Fire Rescue Group; patrol officers within



With a truck “crashed” into a wall of Bldg. T-91 in the warehouse area, last Wednesday’s mock emergency triggered the response of BNL’s ambulance and firefighters/EMTs.

the Safeguards & Security Division, health physicists from the Safety & Health Services Division, and medical personnel from the Occupational Medicine Clinic;

- The injured and possibly contaminated truck driver (who was played by Jim Trombacco of the Waste Management Division) was rushed to the emergency room of University Hospital and Medical Center at Stony Brook;
- The Emergency Operations Facility in Bldg. 754, the Monitoring Assessment Support Center in Bldg. 51, the Decontamination Facility in Bldg. 865, and the Emergency In-

formation Center in Bldg. 30 all opened for business with the appropriate personnel;

- And, in case of actual emergency while the drill was going on, the Ridge Fire Department and Shirley Volunteer Ambulance stood by on site, as per the Lab’s mutual-aid agreement with Suffolk County.

Controllers and evaluators included employees of Suffolk County, Battelle, and DOE, as well as BNL.

Based on the information supplied by the controllers, the Lab’s crisis manager Mike Bebon, who is the Lab’s Assistant Laboratory Director for Facilities & Operations, decided to pro-

RHIC Blue Ring Beam, Yellow Ring Cool Down Proceeding Steadily

As the Bulletin’s pages were being proofread yesterday morning, Thursday, July 1, the commissioning of the Relativistic Heavy Ion Collider (RHIC) was proceeding slowly but surely.

“We are going through all the pains associated with birthing a very large baby,” commented Satoshi Ozaki, who is RHIC Project Director. “This process is complicated by the fact of bad weather: high temperature, high humidity and thunderstorms.”

Within what is called the Blue Ring, one of the two accelerators that make up this collider, the beam of heavy gold ions had progressed 10 meters clockwise into the ring.

According to Steve Peggs, who leads the Accelerator Physics Group, a stable beam, which is a necessity for accelerator physicists to work with, has just been achieved. “The usual debugging of such a unique machine, coupled with the weather, has been a challenge to accelerator physicists and operators alike,” said Peggs, whose (continued on page 4)

tect employees from any would-be emissions by having them shelter in place.

As explained in the Web-based Emergency Planning and Response Course at <http://130.199.161.4/courselist.htm>, those on site should: (continued on page 2)

1999 Sambamurti Lecture: The Spin of the Proton

One of the great challenges in physics is to understand the proton’s structure.

On the one hand, this particle is a very simple object. One of the most basic building blocks of matter, the proton has a definite mass, charge and spin, and its lifetime has been measured to be much older than the universe.

On the other hand, the proton has an extremely complicated internal structure — so complicated that particle physicists do not regard it as a fundamental particle.

Moving inside the proton are quarks

with differing characteristics called “flavors,” and gluons having different forms of the property called “color.” Why quarks and gluons are confined inside the proton is still not well understood.

To resolve this and other questions about the proton, physicists aim to connect its simple, fundamental properties to its complex, internal structure.

To talk about one of the major efforts of this kind, Emlyn Hughes, an associate professor of physics at the California Institute of Technology, will give the 1999 Sambamurti Memorial Lecture on Friday, July 16. Entitled “The Spin of the Proton,” his talk will begin at 3 p.m. in the large seminar room in the Physics Department, Bldg. 510. Students and summer visitors are especially encouraged to attend.

In his talk, Hughes will describe how an experiment performed at CERN, the European particle physics laboratory in Switzerland, showed that quarks inside the proton do not appear to account for its spin, which is measured as one-half.

This puzzling finding was named the “proton spin crisis,” and it launched a large experimental community around the world into solving the problem. In describing this work over the



Emlyn Hughes

past decade, Hughes will also review past, present, and future studies of the spin of the proton.

Emlyn Hughes received his Ph.D. in physics from Columbia University in 1987. A research fellow at Nevis Laboratory 1984-87, he was also “*Poste Rouge*” Fellow at the Centre National de la Recherche Scientifique, Ecole (continued on page 2)

Coming Up

On Wednesday, July 21, at 4 p.m. in Berkner Hall, Tim Hallman, Physics Department, will give the 348th Brookhaven Lecture, entitled “On the Threshold of Discovery at RHIC.” All are welcome.



Jim Trombacco of the Waste Management Division (center) acted the part of the injured and possibly contaminated truck driver whose “heart attack” resulted in the truck “crash.”

Drill (cont'd)

“Be aware that buildings also have a designated shelter-in-place area. Depending upon the conditions of the emergency, it may be appropriate to remain indoors for a period of time. If this is the case, then you will be instructed to report to your shelter-in-place area, . . . an indoor [location, e.g., conference room, basement or gymnasium] where people can stay until the emergency is over . . . In some cases, this may be the same location as your building assembly area.”

Rather than evacuate everyone within 360 degrees of the site of an emergency, “Having only the people who are located down wind of an emer-



On the scene of the “emergency,” Firefighter Jim Forkin.



Within the Emergency Operations Facility in Bldg. 754, Mike Bebon (center), who is BNL's Assistant Laboratory Director for Facilities & Operations, served as the Lab's crisis manager during the drill.

gency take shelter is the preferred response to 99 percent of the emergencies that are encountered,” explains Lab emergency supervisor Frank Marotta, who is ESD manager.

This fact was confirmed by Deputy Rick Klema of the Environmental Crimes Unit in Columbus, Ohio, who was on the scene as a controller at the request of Battelle: “Ninety-nine percent of the time, the safest thing to do is shelter in place.”

While being sheltered in place and not allowed to exit the site, the Lab populace only received five messages in the drill's 44 minutes over the 150

Plectron emergency-notification radios scattered around site. As a result of the insufficient number of Plectron messages, the lack of clarity of those messages, and the failure of a number of Plectrons to work or be located, changes in the way that responders communicate with employees and others on site during an emergency are in the works.

Other lessons learned include the need to:

- review the quality and quantity of emergency-response training of the Lab populace;
- evaluate the reliability and sophisti-

- cation of the hardware used in the BNL's emergency-notification system;
- identify all the services at the Lab that might be needed during an emergency (e.g., heavy equipment, generators, and vehicle repair) and plan how to access them as part of the emergency response;
- catalog resources that are available to mitigate any harmful environmental impact of any emergency, in compliance with ISO 14001;
- strengthen the relationship between the Lab and the public information offices of Brookhaven Town and Suffolk County;
- improve access and control of the emergency scene;
- improve the relationship between BNL and the emergency room at Stony Brook;
- analyze how to speed the collection and dissemination of technical data from an accident scene; and
- get the Decontamination Facility fully operational.

These immediate observations and those lessons learned from studying data from the drill will be reported within 45 days of the exercise.

In the meantime, smaller emergency-response exercises will be conducted quarterly, which may require limited participation by BNLees and others on site. Planned for summer 2000, the next site-wide emergency drill will have its response graded by DOE headquarters.

— Mona Rowe and Marsha Belford



At the drill's command post, (from left) Fire Captain Bill Leigh-Manuelli serves as operations coordinator, Site Fire-Alarm System Manager Jim Vaz is the fire-rescue coordinator, Emergency Planning Supervisor Ken Krasner serves as the emergency-planning advisor, and SBMS Office Manager John Searing is the fire-safety officer.



On the scene of the “emergency,” (from left) Firefighters/EMTs Allen Licata, Kenneth Licata, and Kevin Cosgrove assist Jim Trombacco of the Waste Management Division, who played the injured and possibly contaminated truck driver, before rushing him to the emergency room of University Hospital and Medical Center at Stony Brook.

Sambamurti Lecture (cont'd)

Normale Supérieure, France, 1987-88; Panofsky Fellow at Stanford Linear Accelerator Center (SLAC), 1992-95; and an Alfred P. Sloan Fellow, 1997.

Among other awards, Hughes won the 1999 Richard Feynman Prize for Excellence in Teaching, and the 1997 Associated Students of Caltech Teaching Award.

Most recently, Hughes has been the spokesperson for SLAC experiment E-158, and spokesperson for

SLAC E-154 and E-142. He has also worked on the polarized helium-3 program at the Thomas Jefferson National Laboratory, and on SLAC experiments E-155 and E-155x.

The Sambamurti Memorial Lecture was established in 1992 to commemorate the life of Aditya Sambamurti, a young BNL physicist who succumbed to cancer in 1992, at age 31. Each year, an outstanding young physicist whose professional interests overlap those of Sambamurti is selected to deliver the lecture.

— Liz Seubert

Last Call: Atlantic City

This is a last call for participants on the BERA-sponsored bus trip to Resorts Hotel-Casino on the Boardwalk in Atlantic City on Saturday, July 17. The cost will be \$25 with a \$12.50 coin return. If more seats are not sold, the bus will be cancelled.

The bus will leave the Brookhaven Center promptly at 8 a.m. and return by approximately 10 p.m. Movies, games and free rolls or donuts will be available on the bus; bring your own coffee and juice.

Paid reservations are taken at the BERA Sales Office, Berkner Hall, Tuesday-Friday, 9 a.m.-1:30 p.m. For more information, call Andrea Dehler, Ext. 3347, or M. Kay Dellimore, Ext. 2873.

Golf Tournament

On Wednesday, August 18, the BERA Golf League will hold the Second Annual BNL & Suffolk County Golf Tournament at the Cherry Creek Country Club. Lunch will be at noon, and the shotgun start will be at 2 p.m.

The match format will allow play in three simultaneous net-score competitions: a pairs match, a four-person best-ball match, and a general SC vs. BNL match. To do this, each foursome will consist of two 2-person teams, one pair from BNL, one from SC.

Each pair will be entered in the pairs competition, and each foursome will be matched against all foursomes in the four-person, best-ball match. In addition, an equal number of SC total individual scores will be matched against those of BNL for the general trophy.

The cost of \$70 per golfer covers 18 holes of golf with cart, lunch, three ways to win prizes, and 19th-hole refreshments. To register two-person entries, contact Gordon Rawn, Ext. 7095 or rawn@bnl.gov, no later than Friday, July 30.

HTML Training

The Information Technology Division (ITD) has scheduled the next HTML programming class on Monday, July 19, in the ITD training room, 9 a.m.-4 p.m.

To register, submit a training request form to Pam Mansfield, ITD, Bldg. 515.

See the ITD training page at www.ccd.bnl.gov/bnl/training for registration forms, information, and course outlines.

Arrivals & Departures

Arrivals

Lisa Folk OMC
Songqiang Liu NSLS
Jorge M. Oliva NSLS
Michael J. Sebastino Tech. Trans.

Departures

Michael J. Bardash RHIC
John Buttacavoli RHIC
Erika L. Carlsen Env. Rest.
William Chimienti RHIC
Brett A. Magee RHIC

Dosimetry badges will be changed today, Friday, July 2. Therefore, please place your badge in its assigned rack space before leaving work today.

Summer Sundays Start July 11th

Don't Waste This Opportunity to Visit BNL's Waste Management Facility!

This summer, the Lab's annual Summer Sunday tours will be offered from Sunday, July 11, through Sunday, August 29.

So you, your family, friends, and neighbors are invited to have a hair-raising good time during one of Summer Sunday's annual features — the Whiz Bang Science Show.

Fun for children of all ages, the show is a lively, interactive demonstration of basic scientific principles (see photo at right), and it will be presented each Sunday of the tour season at 10:30 a.m., noon, 1:30 p.m. and 3:30 p.m. in Berkner Hall.

For the second year, each Summer

Sunday will also offer an insider's look at a different Lab facility (see chart at right) — and the first Sunday's facility tour will be of the Lab's state-of-the-art Waste Management Facility, Bldg. 860 (see photo below).

So don't waste this opportunity to see how radioactive and hazardous wastes are stored, sorted, tracked, and packaged in a safe manner with no impact to the environment.

Since its grand opening in December 1997, members of the division that work at this state-of-the-art facility have been consolidating and packaging the waste generated as a result of the Lab's research for eventual ship-

ment to facilities off site for processing and storage.

In addition to the Whiz Bang Science Show and a facility tour, Lab-goers will

The Lab's state-of-the-art Waste Management Facility, Bldg. 860, which began operating in December 1997.

get a guided bus tour of the entire site — and three games with prizes will be offered to children visiting the Waste Management Facility.

Organized by the Museum Programs of the Community Relations Office, Summer Sundays are free and open to all. Sunday tour hours are from 10 a.m. to 5 p.m., but participants must arrive before 3 p.m.

For recorded information, call Ext. 2651 (BNL1). — Marsha Belford



Roger Stotenburgh

1999 Summer Sundays' Facility Tours

Sunday facility

July 18 High Flux Beam Reactor

July 25 Information Technology Division

Aug. 1 Chemistry Department

Aug. 8 Medical Department

Aug. 15 Biology Department

Aug. 22 Relativistic Heavy Ion Collider

Aug. 29 Firehouse

program

discover what is under the dome housing this world-class machine, which was used for basic and applied research in medicine, materials science and physics.

take a three-dimensional virtual-reality trip in the visualization theater, see the world's tenth-fastest supercomputer in action, and surf the Web.

explore how different chemical reactions govern the body, brain, environment and world, and learn about the techniques used to study them.

find out about BNL cancer research, which includes boron neutron capture therapy for brain cancer and tin-117m to alleviate bone-cancer pain.

investigate genetic engineering, biotechnology, the human genome and proteome projects, the structures of biological molecules, and DNA repair.

tour this about-to-be commissioned big machine, which will create conditions and particle states that last existed moments after the Big Bang.

inspect the two class A pumpers, new brushfire truck, ambulance, haz-mat emergency-response vehicle, control room, training tower, bunk room, and more.



Pianofest in the Hamptons

Noon Recital July 7

On Wednesday, July 7, the Pianofest in the Hamptons continues its series of three free noon recitals with a second concert by a rising-star young pianist.

Directed by Paul Schenly, the Hamptons Pianofest is in its 11th season of concerts by upcoming pianists. This international cast of young artists plays piano masterworks by a range of composers.

Sponsored by the BSA Cultural Program, the 45-minute-long lunch-time recitals are informal and open to all. Audience members may bring a box lunch into the hall to enjoy with the music, and may come and go as they please.

Children Graduate?

Change Coverage!

For more information on the following, contact Muriel Pfeiffer, 8:30 a.m. and 1 p.m. Monday through Thursday in the Benefits Office, Human Resources Division, Bldg. 185, Ext. 2877.

Qualifying Events

Changes to medical and/or dental coverage may be made only during the annual open enrollment or within 60 days what is called a qualifying event occurs. Qualifying events include: birth or adoption of a child, marriage, divorce or legal separation, loss of dependent status (for instance, due to graduation), or a spouse's gain or loss of employment.

Russian Trio Voronezh Plays BNL July 14



Trio Voronezh, a popular Russian ensemble who play traditional Russian folk instruments, will perform on Long Island for the first time when they play at BNL on Wednesday, July 14, at 7:30 p.m. in Berkner Hall.

Classically trained at the conservatory in Voronezh, Russia, the trio was discovered playing Bach in a subway station in Frankfurt, Germany.

In 1998, their first U.S. tour started with an extraordinarily successful performance during National Public Radio's *A Prairie Home Companion*.

The trio's diverse repertoire ranges from classical works of Bach, Vivaldi,

Tchaikovsky, and Stravinsky, to popular songs by Gershwin, to Russian folk and gypsy dance music.

The trio members are Valerie Petruchin, Vladimir Volochin and Sergei Teleshev. They respectively play: a double-bass balalaika, which is a three-stringed instrument with a triangular body made of fir; a three-stringed, short-necked lute called a domra; and a bayan, a chromatic-button accordion.

Concert tickets, which cost \$15 each, may be purchased at the door. No reservations are taken, so arrive early for the best seats.

June Cleanupupdate

On the Newsstands

Cleanupupdate is the newsletter published for the last four years by the Community Relations Office staff within the Environmental Restoration Division to keep the Lab and surrounding communities up to date on the Lab's Superfund cleanup. In addition to being mailed to a list of individuals and interested parties off site, the June issue was recently distributed via intra-Lab mail to all employees' mailboxes on site.

If you want a copy but cannot find one in your mailbox, then call Ext. 7459.

In 1980, under the Comprehensive Environmental Response, Compensation & Liability Act, a trust fund — known as Superfund — was established for the cleanup of hazardous waste sites in the United States.

Since it was added to the National Priorities List in 1989, the Lab has been a federal Superfund site, as 5 percent of its 5,300 acres is contaminated with hazardous and/or radiological waste due to past use and disposal practices.

Under an agreement involving DOE, EPA and the New York State Department of Environmental Conservation, the Lab's contaminated areas have been undergoing characterization and cleanup since 1992.

Paid for by DOE, the cleanup is about halfway complete, and, by 2006, all contaminated soil will be remediated and all groundwater-treatment systems will be operating.

Softball

E1 - as of 6/16		E2 - as of 6/24	
Blue Jays	5-2	No Fuel'n Around	6-2
Cobras	4-3	Hammerheads	5-2
Magnuts	4-3	CCD	5-3
Clean Sweep	1-6	Gas House Gorillas	4-4
E3 - as of 6/17		Mesocyclones	3-5
SureFire	7-0	Phase Out	3-5
Bombers	4-3	Scram	3-5
Medical	3-4	HyTech	2-5
10 Samurai	0-7		
M1 - as of 6/28		M2 - as of 5/18	
Stingrays	5-2	Ansky	2-0
OER	4-2	Skeleton Crew	1-0
Gourmets	3-3	Here 4 the Beer	1-1
Happy Hour	3-4	Odd Sox	0-1
Castaways	1-5	NWO	0-2

BROOKHAVEN

BULLETIN

Published weekly by the
Media & Communications Office
for the employees of
BROOKHAVEN NATIONAL LABORATORY

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RHIC Update (cont'd)

group and the collider-accelerator operators have been working on commissioning the Blue Ring 24 hours a day for over a week. “We feel as if we are juggling with one hand.”

In the meantime, what is called the cool down of the yellow ring, in which beam will travel counterclockwise and which was subject of a successful sextant test in 1997, was underway. According to the Cryogenic System Section, the temperature in the yellow ring was between 5 and 20 Kelvin (K), on its way down to the ring's operating temperature of 4.6 K.

The Blue Ring's cryostats, which keep the superconducting magnets making up the ring cold enough to operate, reached its very chilly temperature of 4.6 K on May 28. As a result, on May 29, the magnets could begin to be powered.

Sending beam into the ring was made possible at 4 p.m. on Thursday, June 24, when the on-site DOE Brookhaven Group granted the Lab permission to operate the ring, under the authority delegated by DOE headquarters. This was the culmination of an Accelerator Readiness Review, following years of work on environment, safety and health issues associated with RHIC.

— Marsha Belford

Holiday Notes

In observance of Independence Day, the Lab will be closed on Monday and Tuesday, July 5 & 6. As a result, the following schedules will be in effect:

- **Brookhaven Bulletin** — There will be no Bulletin next week; the next issue will be published on Friday, 7/16. The classified ad deadline for that issue is noon on Friday, 7/7.
- **Credit Union** — The Teachers Federal Credit Union branch on site will be closed on Monday, 7/5, but open 9 a.m.-4 p.m. on Tuesday, 7/6. The automatic teller machine in the foyer of Berkner Hall will be available throughout the holiday.
- **Food Service** — The Brookhaven Center Club will be open for brunch 7:30 a.m.-2 p.m. Saturday through Tuesday, 7/3-6, and open 5-9 p.m. on Tuesday evening, 7/6. The cafeteria in Berkner Hall will be closed 7/3-6.
- **Gym, Pool, Omega Leisure Travel Office, Recreation Hall & Research Library** — All will be closed Saturday through Tuesday, 7/3-6. When the pool reopens on Wednesday, 7/7, the summer schedule will be in effect, continuing through Tuesday, 8/31:
 - 11 a.m.-1:30 p.m.: employees, retirees
 - 1:30-2 p.m.: speed swimmers
 - 3:45-8:30 p.m.: employees, families, guests.
- **U.S. Post Office** — The service window of the U.S. Postal Service, Upton Branch, will be open on Tuesday, 7/6, 9 a.m.-noon.

Lyme Disease Talk

Sponsored by Brookhaven Women in Science, Bob Selvey, an industrial hygienist in BNL's Safety & Health Services Division, will talk about Lyme disease — including the new vaccine — on Wednesday, July 7, from noon to 1 p.m. in Berkner Hall, Room C.

Classified

Advertisements

Placement Notices

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

NS8047. ENGINEERING POSITION - Requires a BS (MS preferred) in a scientific or technical discipline, knowledge of radioactive/hazardous-waste management and transportation requirements, supervisory and project management experience, familiarity with DOE requirements, and excellent communication, leadership and presentation skills. Experience with facilitating training, developing sampling plans, and preparing work plans and RFPs is desirable. Experience in reactor decommissioning is also desirable. Responsibilities include supporting the BGRR Decommission Project by coordinating waste planning,

characterization, segregation, packing, and disposal activities. Waste Management Division.

DD8414. ENGINEERING POSITION - Requires a bachelor's degree in mechanical or civil engineering or related discipline, and experience in the design and construction of mechanical and environmental projects. Must have sufficient engineering and project management experience to demonstrate responsible leadership of complex mechanical and/or environmental projects. PE license and/or master's degree highly desirable. Familiarity with DOE project management requirements, Suffolk County and New York State environmental regulations, and ASME/ASHRAE codes is highly desirable. Plant Engineering Division.

NS8149. WRITER/EDITOR POSITION - (term appointment) Requires a BS or equivalent, and 5-7 years of experience in procedural and technical editing and writing in MS Word. Also required are: excellent interpersonal, communication and team-building skills; speed and accuracy in note-taking; and the ability to synthesize meaning and intent into clearly written documents. Experience in HTML and Web-page development, and working with Visio or flow-charting software is desirable. Under general direction, provides writing, editing, coding, and other communications support for the production of scientific, technical and administrative documents for print publication or publication electronically via the WWW, CD or other media. Information Services Division.

DD7375. TECHNICAL POSITION - (reposting) Under general direction, provide support services to the Reactor Division. Specific responsibilities will include but are not limited to: receiving and distributing stock; maintaining, ordering and inventorying consumables; processing contaminated clothing and stocking dress-out stations; assisting with relocating and processing of radioactive, hazardous, and mixed waste; providing technical chemical-inventory support; standing fire-watch; and serving as escort. Requires a high school diploma or equivalent capabilities, plus several years of relevant work experience. Good organizational, verbal and written skills also required, as are the abilities to obtain and maintain a security clearance and respirator qualification. Computer experience and a knowledge of BNL's RCRA, RADIGEN and CMS programs are desirable. Reactor Division.