

Having Identified Leading Edge of On-Site Tritium Plume, Lab Plans Fuel Shipments, Groundwater Remediation

The leading edge of the tritium plume believed to originate from a leak in the spent-fuel pool of the High Flux Beam Reactor (HFBR) has been preliminarily identified to be well within the site, a plan to ship the spent fuel from that pool for reprocessing has been agreed upon, and a concept of how to remediate the tritiated water has been proposed, it was announced to the media and to Reactor Division employees last Friday, March 21.

In two separate gatherings, these announcements were made by Tara O'Toole, who is U.S. Department of Energy (DOE) Assistant Secretary for Environment, Safety & Health, and Terry Lash, who is Director of DOE's Office of Nuclear Energy, Science & Technology, during the latest of their now regular visits to BNL to work on the tritium-leak problem.

Defined as where the tritium concentration is at or below the drinking water standard of 20,000 picocuries per liter (pCi/L), the leading edge of the plume has been determined to be on site, at least 3,665 feet, or more than two-thirds of a mile, from the site's southern boundary.

While not yet pinpointed exactly, the leading edge is somewhere between Rowland Street, where the highest concentration so far measured is 140,700 pCi/L at 140 feet below ground level, and Princeton Avenue, where the highest concentration is 5,815 pCi/L at 150 feet below the ground.

A Central Place For Tritium Info

Starting Monday, March 31, a High Flux Beam Reactor (HFBR) Tritium Remediation Information Center will be set up in the lobby of Berkner Hall.

The center will provide current information and maps showing the status of the HFBR Tritium Remediation Project, and it will be updated as new information becomes available.

Meeting the media at BNL last Friday were DOE's (at table, from left) Martha Krebs, Director, Office of Energy Research; Tara O'Toole, Assistant Secretary for Environment, Safety & Health; and Terry Lash, Director, Office of Nuclear Energy, Science & Technology.



Roger Stoutenburgh

The Princeton Avenue wells are 3,585 feet from the HFBR.

The leak poses no public health threat.

In fact, O'Toole, who is an M.D. and who holds a master of public health degree, stated in response to a question posed by the press: "I can't imagine any plausible or even remotely possible way that this tritium leak can be causing any kind of health effect on or off site. If you don't have exposure, you can't have health effects, and we don't have exposure. There is no data that I know of — and I have examined data from the 1980s through today — that indicates that there would be any reason to expect that there are any public health consequences from Brookhaven releases or operations."

Four Shipments Planned

Before the 68,000 gallons of water from the spent-fuel pool can be drained and the leak in the pool can be stopped, however, the 812 spent-fuel elements plus the 28 fuel elements currently installed in the reactor must be shipped to DOE's Savannah River Site. To accomplish this, four shipments of 210 fuel elements each have been scheduled, one each for May, July, September and November of this year.

Since 211 of the elements do not meet the Nuclear Regulatory Com-

mission's (NRC) requirement for three years of cooling prior to shipment, DOE will petition the NRC by April 15 to certify that the two types of casks that can be used for these shipments provide the necessary radioactive containment. If the NRC does not amend the casks' certification, then the final shipment will be delayed.

Remediation Proposed

Before the leak can be halted, however, it has been proposed that remediation should begin, as follows: Plume water at or below the drinking water standard will be extracted, treated and piped north, where it will be recharged into the ground. As the recharged water heads south again, dilution and normal radioactive decay will reduce the tritium concentration in the plume water even further below drinking water standards.

While they were realistic about the gravity of the problem and the intricacies of the solution, O'Toole and Lash were, in O'Toole's words, "Much more optimistic and confident in our ability to arrest the tritium leak and resolve the problem, and in BNL's response to the problem than a week ago."

Where the money to address this problem comes from was of employee concern. While all the costs are not yet known and while the money will come

from DOE budget allotments to its facilities, including BNL, no layoffs are projected, according to BNL's Associate Director for Reactor, Safety & Security, Sue Davis, who also addressed the Reactor Division staff meeting.

Accompanying O'Toole and Lash to BNL this time was Martha Krebs, Director of DOE's Office of Energy Research, who informed the Reactor Division employees, "Right up front, I want to restart the reactor because it is clear to me that it is the right thing to do scientifically, for the Office of Energy Research and for the neutron-science community in this country — but I cannot guarantee that it will be done." Factors affecting the outcome will include the U.S. Congress's balancing of the costs of restart vs. the national benefit of HFBR research, and the local community's distrust of the Lab's ability to manage an operating reactor.

Boundaries Delineated

As O'Toole reported to the press, as of last Friday, analyses have been completed on groundwater samples from 12 of 22 monitoring wells on Princeton Avenue.

"We are waiting for additional samples from Weaver Drive [which is (continued on page 2)]

At BNL, U.S. and Russia Cooperate on Innovative Nuclear Safety Plans

A Russian team headed by Ivan Fedik, Director of Luch, Russia's Scientific Industrial Association, visited BNL's Department of Advanced Technology (DAT) this week to sign contracts in a program of U.S.-Russia cooperation for upgrades to nuclear safeguards.

BNL is the lead laboratory working with other national laboratories within the U.S. Department of Energy for U.S. interaction with Luch.

Since their arrival at BNL, the Luch delegates have been meeting with members of DAT's Safeguards, Security & Nonproliferation Division and visiting Lab facilities, where, Fedik said, he has been "impressed greatly both by the scale and depth of the research."

The opportunity to learn more about BNL and meet with Lab scientists and engineers is extremely important, Fedik continued. "Russia is going through very difficult times, and cooperative programs with the U.S. can significantly help the nuclear industry of Russia as well as its scientists, and also, bring further development



Grouped around maps of BNL and Luch, Russia's State Research Institute Scientific Industrial Association, is the visiting Luch team, (seated, from left) Ivan Fedik, Director of Luch; Deputy Director Pavel Mizin and Deputy Director Leonid Cherviakovis; along with (standing, from left) Irene Fursow, U.S. Interpreter; BNL Assistant Director Mark Sakitt; and staff from BNL's Department of Advanced Technology: Deputy Chair Ruth Kempf, Joseph Curtiss, Raymond Parsick, Chair Robert Bari, Joseph Indusi and Tasneem Khan.

Roger Stoutenburgh

of science in general."

Fedik's first, brief visit to the Lab in 1993 was followed by a visit by DAT scientists to the experimental facilities at Luch.

Two BNL-Luch cooperative programs have been initiated, one project concerning the safety of storing nuclear fuel and another to study high-temperature materials.

At Luch, located 15 miles south of Moscow, scientists and engineers focus mainly on general nuclear safety, but they also do research on commercial reactors and create experimental testing prototypes of space nuclear reactors.

Chief designer on the project in which the nuclear space reactors were developed, Fedik holds several patents for this technology. Luch also developed a reactor for the nuclear facility Topaz-II. Because such reactors can supply unmanned space stations with the necessary electric power, a U.S.-Russian project on Topaz-III, currently being discussed, may be able to use these stations as satellites for TV communication. — Liz Seubert

Lab and Ridge Fire/Rescue Crews Respond Quickly to Auto Accident

The "Jaws of Life" — a powerful tool with jaws that can pry heavy metal apart — was used to good effect by the Safety & Environmental Protection (SEP) Division's Fire/Rescue Group on Friday, March 7, to release a driver trapped in a vehicle after a traffic accident on site.

The two-car accident, which took place shortly before 1 p.m. outside the Lab-contractor service station, Upton Industries, Inc., involved two BNL employees, both of whom were injured. Fortunately, both were able to be treated and released from hospital care within 24 hours.

As soon as the accident happened, Jason Widmer of Upton Industries called the Lab's emergency phone number, Ext. 2222. "While I was on the phone, the police called the Fire/Rescue group," said Widmer. "In about three minutes — almost before I hung up — they all arrived."

Responding to Widmer's call, Police Lieutenant Richard Rossetti and Patrol Officer James Hensch, Safeguards & Security Division (S&SD), were first at the scene. "The Fire/Rescue Group responded promptly to the call I made minutes earlier. They immediately started basic life support work on one of the injured drivers, while others in the group started prying open the door to get access to the other driver," said Rossetti.

Michael Carroll, Fire/Rescue

Deputy Chief, was incident commander of the responders, who included Captain Bill Leigh-Manuell, Lieutenant Tony Realmuto, and Firefighters Linda McCarthy, Ron Harding, Jim Yerry, Cyril Pinto and Roy Barone.

"There was no delay in using the Hurst tool, known as the Jaws of Life, since it is standard equipment on our rescue truck," Carroll said. Other standard Lab rescue equipment on the scene were a fire engine and an ambulance.

"I could see we needed two ambulances," he continued. Using a mobile phone, he therefore called the Suffolk County Fire/Rescue & Emergency Services, in accordance with the memorandum of understanding to provide mutual aid and assistance between the Lab and all fire departments and ambulance corps in Suffolk County.

"The system worked exactly as planned," said Carroll. "The County office that received my call then put out a call to Ridge Fire Department. In less than 15 minutes, Ridge arrived with another ambulance, so we were able to get one injured party to Brookhaven Memorial Hospital in East Patchogue and the other to the Central Suffolk Hospital in Riverhead, without delay."

"While this accident was serious, neither driver had life-threatening injuries, and both are now out of the

hospital," said Rossetti. "But, it could have been worse. To avoid more serious accidents, it is important that everyone on site remember to drive care-

fully, be aware of other drivers and observe all the rules of the road every time they are behind the wheel."

— Liz Seubert

Search Committee Appointed To Find Samios' Successor; Advisory Committee Forming

A Search Committee has been appointed to assist the Board of Trustees of Associated Universities, Inc., (AUI) in finding a successor to BNL Director Nicholas Samios, who has announced his decision to return to research as of April 30, upon the completion of 15 years as Laboratory Director.

Chaired by AUI Trustee Barry Cooperman, University of Pennsylvania, and co-chaired by AUI Board Chairman Paul Martin, Harvard University, the Search Committee also includes AUI President Lyle Schwartz, and the following AUI Trustees: Barbara Baird, Cornell University; Robert Birgeneau, Massachusetts Institute of Technology; Michael Fisher, University of Maryland; Val Fitch, Princeton University; Ernest Henley, University of Washington; Morton Lippmann, New York University; Jack Sandweiss, Yale University; and Andrew Sessler, Lawrence Berkeley National Laboratory.

In seeking a new Director, this committee will be looking at candidates who are either experienced scientists or science administrators of national stature with successful records of working with research organizations. They must have demonstrated leadership in scientific affairs, an awareness of and concern for environmental issues and public understanding of science, and the ability to work constructively and effectively with federal agencies and local governments.

Applications or nominations for BNL Director are due by May 1. Inquiries, nominations or applications with resumes should be directed to Cooperman at AUI's headquarters at: 1400 16th Street, NW, Suite 730, Washington, DC 20036.

The Search Committee was appointed by Paul Martin. He has distributed a request for employees to serve as members and chairs of an Advisory Committee, which he hopes to appoint in the next few days. The Search Committee will consult with the Advisory Committee on issues and candidates. The chair and co-chair of the Advisory Committee will also be members of the Search Committee.

Tritium Update (cont'd.)

between Rowland and Princeton] and the southern boundary," said O'Toole. The Weaver Drive sample analysis will help pinpoint the leading edge.

In addition, "We have delineated the west and east boundaries," said O'Toole. So it is now known that the tritium plume is 1,900 feet long by 200 feet wide. Given its length, "We know that the leak has been going on for 10 to 12 years," said O'Toole.

Having defined the problem, "We are working assiduously with groundwater experts from the Environmental Protection Agency and the New York State Department of Environmental Conservation to plan a remediation strategy that makes sense," added O'Toole. "And we are coming close to what that plan will be."

At present, according to O'Toole, it is proposed that two extraction wells be installed on Princeton Avenue, which will pump water that is at or below the drinking water standard for tritium and send it through piping north to an existing recharge basin located slightly south and well east of the reactor. Before reaching the recharge basin, it will pass through carbon filters, which will remove any volatile organic compounds that may contaminate it.

Once recharged to the ground, this water will be diluted by the groundwater and will flow south along with the groundwater. At this rate, it will take the recharged plume water some 12 years to reach Princeton Avenue again. By this time, the tritium, which has a half-life of 12.3 years, will have decayed and been diluted.

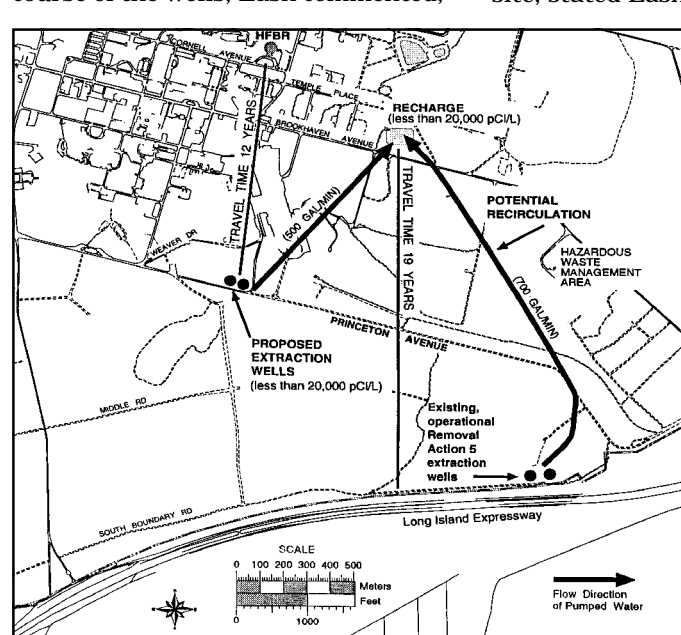
"At the south boundary, there will be another extraction well to catch whatever might be missed by the first two," added O'Toole.

In answer to a reporter's question as to why the recharge wells would not be placed closer to the reactor, O'Toole responded, "We'd be recharging water to the ground that is above the drinking water standard," which would not be acceptable to environmental regulators.

Lash briefed all on efforts to pinpoint the tritium leak's source. "We believe the principal source to be the

spent-fuel storage pool, so, to find out, we have drilled horizontal wells 50 feet below the reactor building's foundation to the south and north of the canal," stated Lash. "We expect to find tritium in samples taken from the south, but not from the north."

Drilling began on March 5, by A&L Underground of Olathe, Kansas. With the horizontal wells in place last week, Lash explained, the aquifer needed time to come to equilibrium before sampling could begin this week. Since samples will be taken from along the course of the wells, Lash commented,



In the proposed plan for remediating the tritium plume, water at or below the drinking water standard (DWS) would be sent northward from two extraction wells on Princeton Avenue to an existing recharge basin. In the 19 years it will take the recharged water to travel from the basin to the Lab's south boundary, the tritium will decay and the water will be diluted, bringing it even further below the DWS.

"We can identify sources other than the canal," if there are any.

Though it may be identified presently, the leak cannot be stopped until the 68,000 gallons of tritiated water at a concentration of 130 million picocuries per liter is removed from the spent-fuel pool.

Because it provides radiation shielding and cools the spent fuel, this water cannot be emptied from the spent-fuel pool until all 812 elements in the pool are removed and shipped,

along with the 28 fuel rods inserted in the reactor this December, before the leak was discovered.

"We have a [sure] schedule for the first three shipments," of 630 out of the 840 HFBR reactor elements on site, stated Lash.

Regarding the remaining 210 elements, Lash explained that the NRC has to move on an amendment put forth by the owner of one type of shipment cask to allow its use for these elements after only one year of decay, instead of the three years that the shipper's certificate of compliance calls for.

Analysis has shown, Lash stated, that the cask is still safe to use under these conditions. A decision by the NRC is expected in September.

All the fuel has to be out by the end of the year for the water to be removed from the

spent-fuel pool. When a Reactor Division employee questioned why the 28 unused elements within the HFBR have to be scrapped for reprocessing though alternative technical solutions are available should they have to be removed from the reactor while the pool was dry, O'Toole responded: "This is a whole new world, so anything that falls outside of the NRC's standard operating procedures is unacceptable except, obviously, in an emergency. We are going to have an uphill battle

as it is to convince the politicians and the community that it is a good idea to restart this reactor."

According to Krebs, developing a good case for the restart of the reactor will take as much if not more work than the effort being put into the tritium-plume problem.

"I'm going to have to defend putting money into operating this reactor again as a sensible investment to the Secretary of Energy [Frederico Peña, who officially assumed this position on March 13], the Office of Management & Budget and to Congress itself," commented Krebs. "So I'm going to need good arguments on its behalf, especially in this budget environment and given the local climate. So, if I am asking hard questions, it is because I need this information to defend what I think is the right thing to do."

She continued, "Today, I again saw the scientific and technical quality of Brookhaven, so I know that you can provide me with the information that I need for the hard discussions ahead." Krebs also urged her audience to "reach out to the surrounding community," to show BNL's neighbors that Brookhaven has a commitment not only to science, but also to the environment and the community.

O'Toole concluded, "It may seem to you that there is no light at the end of the tunnel, but all I can say to you is, 'Hang in there.' As DOE has learned at other facilities where the situations were truly more frightening and dangerous than this one is that it takes a long time to regain the trust of the surrounding community. So, for the time being, you are going to have to endure, respectfully, people's yelling at you. But we are making progress, BNL has a lot to offer and, though there will be more storms, we can regain our credibility through performance over time. But it will take time — years — for the situation to be healed." — Marsha Belford

Routine TB Testing Now Part of Physicals

Routine skin testing for tuberculosis (TB) is now being performed on BNL employees as part of their regular medical physicals. The purpose is to establish a baseline for each employee, to which all future TB test results can be compared.

While an individual may have a positive baseline result, that does *not* necessarily mean that that person at present has active TB and can transmit the disease.

A positive result to a TB skin test, however, *does* mean that the individual has been infected with TB at some time in his or her life, or that the individual received the BCG vaccine, which is used outside of the U.S. Approximately 30 percent of the U.S. population has positive TB skin-test results.

In fact, according to physician Bryce Breitenstein, who heads the Occupational Medicine Clinic (OMC), a healthy individual with a baseline negative skin test who now tests positive for TB has less than a five percent chance of developing active TB.

While one employee was recently diagnosed with active TB in February, no other cases of active TB among employees or others working at BNL have been diagnosed by or reported to OMC.

Several employees who had had contact with that one employee, who is now off work and under treatment, were evaluated for TB through serial TB skin testing, evaluation of any signs and symptoms, and, if indicated, chest x-rays. While no others have been diagnosed with TB, medical evaluation of those at risk as a result of contact with that one employee will continue for as long as necessary.

For answers to any questions about TB or concerns about being exposed, contact the OMC, Ext. 3670.

Manage Your Records

Monday, March 31, is the second annual National Records & Information Management Day. To make BNLers more aware of the importance of records and information management, the Records Management Team from the Information Services Division will be in Berkner Hall that day from noon to 1 p.m. In addition to answering questions on the topic, team members will show the video "Buried Alive," which illustrates the pitfalls of records mismanagement.

Arrivals & Departures

Arrivals

Karen L. Johnson.....RHIC
Louis Tenreiro.....AGS

Departures

This list includes all employees who have terminated from the Lab, including retirees:

Tan-Yun Cheng.....Chemistry
Leonid Flaks.....NSLS
Alan N. Mirell.....Plant Eng.
Walter Weirshousky.....Central Shops

BROOKHAVEN BULLETIN

Published weekly by the Public Affairs Office for the employees of BROOKHAVEN NATIONAL LABORATORY

ANITA COHEN, Editor
MARSHA BELFORD, Assistant Editor

Bldg. 134, P.O. Box 5000
Upton NY 11973-5000
Tel. (516) 344-2345; Fax (516) 344-3368

World Wide Web:
<http://www.pubaf.bnl.gov/bulletin.html>

The Brookhaven Bulletin is printed on paper containing at least 50 percent recycled materials, with 10 percent post-consumer waste. It can be recycled.



Meetings Planned to Address Concerns of All BNLers

To address concerns about current issues affecting BNL, the communications arm of the Lab's Tritium Remediation Project has planned a series of workday sessions with employees in all departments and divisions, and with other concerned groups on site.

Being organized by Susan Foster, the internal communications liaison for the project, the series will start on Monday, March 31, when personnel from the Reactor Division meet in the seminar room of Physics, Bldg. 510, at 11 a.m.

Other meetings scheduled so far for next week are: Biology Department, Tuesday, April 1, seminar room, Bldg. 463, 11 a.m.; Division of Contracts & Procurement, Wednesday, April 2, conference room, Bldg. 355, 11 a.m.; and Medical Department and Occupational Medicine Clinic, Thursday, April 3, large conference room, Bldg. 490, 11 a.m.

Additional sessions are being similarly organized for other groups, and the aim is to have one meeting a day until all have had an opportunity to attend. Scheduling of all meetings should be completed within the week.

At each session, attendees will hear briefly from representatives from the following areas: the Plant Engineering Division, regarding the Lab's drinking water supply; the Safety & Environmental Protection Division, on groundwater monitoring; the High Flux Beam Reactor, on the status of efforts to stop the tritium leak; and the Office of Environmental Restoration, regarding remediation efforts.

These updates will be followed by a question-and-answer session where queries about these and other areas of concern will be welcomed.

Main Gate Procedures for Off-Site Visitors

To streamline visitors' entrance to the Lab through the main gate, the Safeguards & Security Division requests that BNL and DOE employees and on-site contractors expecting visitors from off site follow these guidelines:

- If only one visitor or a small group is expected, then do *not* notify the main gate; instead, make sure that your guests provide to the main gate officer the name, building number and extension of the person whom they are visiting.
- If a large group of 20 or more visitors is expected, then supply the Police Group with those people's names at least 24 hours in advance of their arrival. In a memo addressed to Police Inspector Leonard Butera, list the visitors' names and their BNL contact, Deliver the memo to Police Headquarters, Bldg. 50, or fax it to Ext. 5688 between 8:30 a.m. and 5 p.m. during the work week, or Ext. 5457 all other times.

For answers to any questions about these procedures, call Butera, Ext. 4691, or Police Chief Alfred Berretta, Ext. 2355.

Service Awards

The following employees observed service anniversaries during February:

40 Years

Gordon T. Danby.....AGS
Harvey J. Lotko.....RHIC
Meyer Steinberg.....Adv. Technology

35 Years

Eena Mai Franz.....Adv. Technology
Austin R. Gwilt.....RHIC
James J. Hurst.....App. Science
Vincent Polywoda.....Safety & Env. Prot.
Gen Shirane.....Physics

30 Years

Robert L. Marascia.....AGS
Arnold M. Peskin.....Computing & Comm.
Carl R. Schwarz.....Adv. Technology

25 Years

Jesse E. Becker.....AGS

20 Years

Kevin W. Barnes.....Plant Eng.
Juanita C. Beatty.....Admin. Support
Kathy J. Doty.....App. Science
Marie A. Grahn.....Physics
Patricia A. Jencius.....Admin. Support
William J. Leonhardt.....RHIC
Anant R. Moorthy.....Adv. Technology
Thomas R. Muller.....RHIC
Laura D. Sbarra.....Occ. Med. Clinic
Francis T. Stepnoski.....Safety & Env. Prot.
Virginia M. Stewart.....Physics
Malry L. Tardd.....NSLS
Richard A. Thomas.....RHIC
Jagdish K. Tuli.....Adv. Technology
Creighton D. Wirick.....App. Science

10 Years

Angela M. Bowden.....Financial Serv.
Cheng-Lin Chen.....Adv. Technology
Allan Corby.....Financial Serv.
Mary G. Franchi.....Occ. Med. Clinic

50 YEARS AGO THIS WEEK

This series, which recounts the earliest days of Associated Universities, Inc. (AUI), and BNL, will run as appropriate throughout 1996 and 1997, the 50th anniversary years of AUI and BNL, respectively.

• **April 1, 1947** — AUI and BNL issue quarterly reports. AUI's report summarizes administrative and organizational progress and includes the following:

"During these early months in the life of the new laboratory at Brookhaven, the efforts of the Trustees and Officers of [AUI] necessarily have been concerned with planning and organization building. . . .

"The Trustees . . . have endeavored to augment the efforts of the Director and his staff in several ways. . . . Many policies have had to be thought out and established . . . from relations with universities on recruitment, to housing to public relations. . . .

"Headquarters of the Executive Vice President have been maintained at [BNL] on a full-time basis since January, after having been moved from Pupin Laboratory, Columbia University. . . .

". . . Both the President and Treasurer of [AUI], whose part-time service is without remuneration, have given much attention and guidance to the Brookhaven project. . . .

"Recruitment results have been quite good, and in fact have gone somewhat faster than the schedule forecast in De-

ember. Supplementing the Director's appointment approval procedure at the Laboratory, the Executive Committee has given its judgment and approval on appointments at rates \$3000 and over.

"The scientist members of the Board of Trustees have taken an active part with the Director in the development of [BNL's] program of scientific research. . . .

"Probably the most valuable indication for the future of Brookhaven that can be reported after this short period of experience is the universal approval of the basic idea of a large, regional laboratory located on Long Island to serve the northeast. It is one thing to conceive and approve such an undertaking in theory; it is quite another to work it out in practice. While our actual period of practice has been too short to be conclusive, it can be stated as fact that the confidence of both Laboratory staff and university participants in the great importance of the objectives and in the soundness of the Atomic Energy Commission-university cooperative concept is becoming more firmly established as each week passes."

(Next: Highlights of BNL's first quarterly report on administrative matters.)

Computing Corner

The Computing & Communications Division is offering the following training. Contact Pam Mansfield, Ext. 7286 or e-mail pam@bnl.gov, for information; to register, send an ILR for the right amount to Mansfield, Bldg. 515.

Earn a C++

A few seats remain in the C++ programming class scheduled for Monday through Wednesday, April 14-16.

Be Introduced to UNIX

A 2½ day class introducing UNIX will be held May 27-29, as follows: Tuesday, 1-4:30 p.m.; Wednesday & Thursday, 8:45-4:30 p.m. Training fee is \$300.

Beginning & Advanced LabVIEW

Three days of beginner and two days of advanced training in LabVIEW will be offered in April and/or May. The person fee for the five days is approximately \$1,600. Note: These classes are not the same as those already scheduled for the week of May 5.

PC Training

Seats remain in the following PC classes: WordPerfect 7, Monday, April 7; Microsoft EXCEL, Monday, April 21; and Microsoft Word, Tuesday, April 22.

Visualize Data Explorer

A class in IBM Visualization Data Explorer, a software package for two- and three-dimensional visualization and analysis of scientific data, is scheduled for Monday through Wednesday, May 5-7. The fee for the three-day course is \$815; register by Friday, April 4.

Coming Up

First-prize winner of the 1985 Carnegie Hall American Music Competition, pianist Marc-André Hamelin will give the next BERA concert on Sunday, April 13, at 2 p.m. Tickets cost \$14 for general admission, \$9 for seniors, and \$5 for students and youths under 18.

Purchase them at the BERA Sales Office, from 9 a.m. to 1:30 p.m. on weekdays, or at the door on the afternoon of the performance.

George J. Gottschalk.....Financial Serv.
Robert J. Lofaro.....Adv. Technology
Douglas E. Paquette.....Safety & Env. Prot.

The following employees observed service anniversaries during March:

35 Years

James Cardinal.....Plant Eng.
Carl L. Jacobs.....Physics

30 Years

Carmen M. Benkovitz.....App. Science

25 Years

Paul A. Akins.....Plant Eng.
Henry T. Floege.....Central Shops
Collos C. Lamb.....Admin. Support
George Rabinowitz.....Computing & Comm.

20 Years

Michael F. Cardarelli.....Plant Eng.
Richard P. Kuczarski.....Plant Eng.
Robert P. Miltenberger.....Safety & Env. Prot.
Kathleen A. Tuohy.....Physics
Eugene F. Von Achen.....Instrumentation

10 Years

Zion Armoza.....AGS
Robert S. Bellando.....Plant Eng.
Brian J. Boyle.....RHIC
Joseph H. DeLong.....AGS
Christopher M. Degen.....RHIC
Gary J. Frisbie.....NSLS
Daniel B. Harrow.....Safety & Env. Prot.
Henry F. Jones.....Plant Eng.
Nikolaos D. Laloudakis.....AGS
William Lanyi.....AGS
Kathleen M. Loverro.....NSLS
Anette H. Meier.....Safety & Env. Prot.
Bruce E. Miller.....RHIC
Benjamin M. Ocko.....Physics
William J. Pinto.....Plant Eng.
Lorraine Solomon.....NSLS
Joseph J. Vignola.....Safety & Env. Prot.
Fred Wojtuniak.....Plant Eng.

See Dogwoods, Maybe Dogfish

Welcome spring in pink and white on Saturday, May 10, when the Art Society takes a bus to the 62nd Dogwood Festival in Fairfield, Connecticut, where dogwoods bloom in profusion in the historic neighborhood around 18th-century Greenfield Hill Church. Retired Revolutionary War surgeon Isaac Bronson began transplanting dogwoods there in 1795, and other residents followed the tradition. Now, over 30,000 of these lovely trees color-canopy Fairfield each spring.

Starting at 10 a.m. at the Festival, you can browse at tag sales, art shows and craft demonstrations, buy plants, join a guided walking tour of pre-Revolutionary homes and gardens, and attend a choral concert. For lunch, take a picnic, or buy hot dogs, baked goods or a box lunch on the spot.

At 2:30 p.m., the bus will leave for nearby Norwalk on Long Island Sound, where the Maritime Center houses exhibits and an aquarium with 125 species of marine life — though perhaps not dogfish. After the museum closes at 5 p.m., spend an hour over coffee or supper at a waterfront cafe.

The bus will leave BNL's tennis-court parking lot at 7:45 a.m. and stop for coffee on the way to Fairfield. Return to BNL will be by about 8 p.m. The cost of \$26 per person (\$25 for seniors) covers bus-with-bathroom and the museum. The festival is free.

For reservations made *before* April 9, write to Liz Seubert, Public Affairs, Bldg. 134, or e-mail lseubert@bnl.gov. After April 9, to reserve or get information, call Seubert at Ext. 2346 or 286-8563, evenings.

Volleyball

Standings as of March 21

Open League		League I - final	
Shank, Cary & Throw	47-19	Rude Dogs	57-15
Far Side	40-23	Bikers 'n Spikers	55-17
Pass, Set & Crush	35-28	Scared Hitless	35-37
Death Volley	20-46	Net(e)scapers	19-53
Spikers	19-47	Set to Kill	14-58
League II		League III	
Spiked Jello	40-11	Silver Bullets	58-2
Safe Sets	39-12	Group Sets	38-22
Fossils	30-21	New Comers	35-25
Jao-About-That	30-21	Just 4 Fun	34-26
Monday Nite Live!	28-23	Night Court	16-14
Lift Carry Throw	22-29	Upton Ups	31-29
Nuts & Bolts	15-36	Court Hogs	19-41
Jolly Vollies	9-42	OER	9-51

Bowling

Scores from week of March 17

Red and Green League

R. Eggert 226/206/200/632 scratch, R. Mulderig, Jr. 256/221/670 scratch, R. Larsen 247/231/627 scratch, R. Mulderig, Sr. 238/206/635 scratch, E. Larsen 232/213/639 scratch, J. Griffin 223/200/603 scratch, H. Arnesen 205/201, K. Koebel 213/609 scratch, J. LaBounty 234, G. Mack 222, B. Giuliano 222, G. Weresnick 214, N. Besemer 214, R. Picinich 211, F. Wahlert 209, P. Parker 208, R. Raynis 206, D. Fisher 203, W. Powell 202, E. Sperry III 201, K. Asselta 201, K. Riker 201, H. Dawson 200.

Purple and White League

S. Frei 237/203/195/635 scratch series, K. Batchelor 232/214/191/637 scratch, P. Callegari 226/221/189/636 scratch, P. Wynkoop 225/205/180/610 scratch, R. Raynis 212/211/195/618 scratch, B. Mullany 211/207/203/621 scratch, D. Riley 242/211/623 scratch, Don King 231/211/607 scratch, M. Meier 204/200, M. Guacci 203/190, G. Mehl 202/200, T. Farmer 194/191, P. Manzella 191/180/171, T. Farmer 194/191, Doug Fisher 191/191, J. Zebuda 190/185, T. Mehl 187/178, E. Sperry III 200, R. Vega 195, N. Besemer 193, A. Almasy 191, P. Oster 187, L. Warkentien 180, I. Amberger 178, Diana Fisher 178, J. Sells 7/4/10 split.

Scotch Doubles Sign Up

The annual Scotch Doubles Tournament, for BNL employees and their immediate-family members will be held on Sunday, April 13, at 1:30 p.m. at Port Jeff Bowl. The cost of \$30 per couple includes bowling, prizes and buffet. Pick up applications at the BERA Sales Office, and return them by Friday, April 4. If you need a partner or more information, contact Debbie Botts, Ext. 3888.

Great Adventure Tickets Sales

Tickets for Six Flags Great Adventure Amusement Park are now on sale at the BERA Sales Office, Berkner Hall, weekdays, 9 a.m. to 1:30 p.m.

Great Adventure features "The Great American Scream Machine," the "Batman" ride, and "The Viper," the indoor roller coaster "Skull Mountain," the "Lethal Weapons" water-stunt show, and the new Batman & Robin ride "The Chiller."

Open through tomorrow, Saturday, March 29, the park will be closed for Easter Sunday, March 30, but it will reopen for the week of March 31-April 6. For the rest of April, it will be open only weekends. The park will be open daily from Wednesday, May 7, until September.

At Great Adventure, regular park tickets are \$36 for adults, while the park-safari combo is \$39.25; the main-gate ticket price for children 5"4" and under is \$25.44 for the park only, or \$28.62 for the combo. The BERA price is \$26 for the park and \$29 for the combo. This year, early-bird tickets, which must be used by June 30, are being offered by BERA at \$22 each.

For more information, call Andrea Dehler, Ext. 3347.

Pool Schedule

The new, three-month schedule at the swimming pool will begin on Tuesday, April 1, and will end on Monday, June 30. Purchase tickets at the pool during open hours:

Open Hours

- **Monday through Friday**
11 a.m. - 1:30 p.m. employees only
1:30 - 2 p.m. speed swimming/training
5 - 8:30 p.m. employees, families, guests*
- **Saturday & Sunday**
1 - 5 p.m. employees, families, guests*

The pool is closed on all Lab holidays.

Fee Schedule

- **Daily Admissions**
employee/family member \$2.00
guest \$3.00
- **Season Tickets** (fees not prorated)
individual \$42.00
family \$53.00

***Guest ruling:** One guest per employee is permitted without prior arrangement. Advance arrangements for additional guests, up to five per employee at one time, must be made at the Recreation Office, Personnel Division, Bldg. 185. Guests must be accompanied by the sponsoring employee.

Basketball

Games on March 13

PE Wolfpack 67		Scram 55	
Jim Desmond	21	Tim Powers	15
Wayne Cummings	18	Gerry Shepherd	10
Charlie Edwards	16	John Skonieczny	8
Rob Singleton	8	Jim Rank	7
Mike Fulkerson	4	John Duggan	6
		Steve Jao	5
		Steve Nappi	4

Three-point shots: Powers (3), Desmond (2), Cummings, Jao.

Chemistry 94		Knicks 47	
Dennis Ryan	19	Andy Byers	18
Rich Domenech	18	Tomas Iglesias	12
Joseph Dvorak	15	Mike Mallardi	11
Simon North	11	Dan Delgado	2
Lee Walcott	11	Tom Dilgen	2
Steve Springston	10	Pat Woodward	2
Dorian Mergen	8		
Chris Fockenber	2		

Three-point shots: Ryan (5), Mallardi (3), Walcott (3), Byers (2), Domenech (2).

Games on March 20

Magic 83		Chemistry 71	
Terry Buck	39	Simon North	19
Mitch Williams	14	Dennis Ryan	12
Jerry Gaeta	12	Steve Springston	12
Chris Ingoglia	6	Lee Walcott	10
Pete Ratzke	6	Rich Domenech	7
Greg Mack	4	Dorian Mergen	7
Fred Maier	2	Chris Fockenber	2
		Tracey Fountaine	2

Three-point shots: Williams (3), Gaeta (2), Ryan (2), Walcott (2), Buck.

Scram 64		Knicks 48	
John Duggan	14	Andy Byers	17
Jim Rank	13	Mike Mallardi	15
Steve Jao	10	Rob Wells	9
Gerry Shepherd	10	Pat Woodward	3
Tim Powers	6	Tomas Iglesias	2
Steve Nappi	5	Chris Rissland	2
John Skonieczny	4		
Joe Barkwill	2		

Three-point shots: Mallardi (4), Byers (2), Jao (2), Nappi, Woodward.

Celebrate Spring

Celebrate the festival of spring, Holi, tomorrow, Saturday, March 29, from 2:30 to 5:30 p.m. in Berkner Hall. Sponsored by the BERA Indo-American Association, the celebration will feature music, dance and skits.

Because the festival is no longer a benefit, ticket prices have dropped to \$2 person, and children 5 years old and under may attend for free. For more information, call Anand Saxena, Ext. 4844 or 689-9771; Piyush Joshi, Ext. 3847 or 744-0217; Animesh Jain, Ext. 7329 or 474-0056; or Rangasayi Halthore, Ext. 7920 or 689-1486.

Archery Club

The Archery Club will hold its next monthly meeting on Thursday, April 3, at noon in the large seminar room, Physics, Bldg. 510. New members are always welcome. For more information, call Bill Schoenig, Ext. 2377.

Classified Advertisements

Placement Notices

The Laboratory's placement policy is to select the best-qualified candidate for an available position. Consideration is given to candidates in the following order: (1) present employees within the department/division and/or appropriate bargaining unit, with preference for those within the immediate work group; (2) present employees within the Laboratory; and (3) outside applicants. In keeping with the Affirmative Action plan, selections are made without regard to age, race, color, religion, national origin, sex, handicap or veteran status.

Each week, the Human Resources Division lists new placement notices, first, to give employees an opportunity to request consideration for themselves through Human Resources, and second, for general recruiting under open recruitment. Because of the priority policy stated above, each listing does not necessarily represent an opportunity for all people.

Except when operational needs require otherwise, positions will be open for one week after publication.

For more information, contact the Employment Manager, Ext. 2882, or call the JOBLINE, Ext. 7744 (344-7744), for a complete listing of all openings.

Current job openings can also be accessed via the BNL Home Page on the World Wide Web. Outside users should open "http://www.bnl.gov/bnl.html", then, under "Information," select "Jobs." For scientific staff openings, select "Scientific Personnel Openings"; for all other vacancies, select "General Personnel Openings."

LABORATORY RECRUITMENT - Opportunities for Laboratory employees.

NS 4867. RESIDENCE CUSTODIANS - (temporary o/a 5/6/97-9/26/97) Administrative Support Division.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

NS 4710. SYSTEMS/DATABASE POSITION - Requires a bachelor's degree in computer science or related field, and several years' hands-on experience in logical and physical design and implementation of relational databases. Experience in client server and/or distributed data architectures, data warehousing and a working knowledge of Oracle is necessary. Knowledge of other relational databases such as Informix or Sybase is a plus. Under supervision, will be responsible for all aspects of data administration. Financial Services Division

DD 4865. OFFICE SERVICES ASSISTANT - (temporary position) Will provide ticketing support for the Travel operation of the Administrative Support Division. Duties will include preparing ticketing activity reports, processing corporate credit card applications and assisting travel reservationists as needed. Will also provide backup to the Transportation Office. A background in travel, SABRE experience and a knowledge of WordPerfect are desirable. Previous office experience and excellent communication skills are required. (reposting) Administrative Support Division.

DD 3106. TECHNICAL POSITION - (term appointment) Requires an AAS in electrical or mechanical technology or equivalent experience, and the ability to work from assembly drawings and schematics, as well as to operate basic machine tools. Will perform a variety of mechanical and electrical tasks for the RHIC Collider Systems Safety Section. RHIC Project.

DD 3109. TECHNICAL POSITION - (term appointment) Requires an AAS or equivalent experience, and the ability to work from electrical and/or mechanical blueprints or sketches in building and troubleshooting complex equipment. Experience in leak-detection PPA in components and systems, handling cryogenics, and using machine and hand tools is also required, as are excellent communication and demonstrated organizational skills. RHIC Project.