ATTACHMENT 3

COMMUNITY RELATIONS

Attachment 3

Community Relations

In addition to the required public notices, the BGRR Decommissioning Project has involved its neighbors and stakeholders in the removal of the Pile Fan Sump and the complete decommissioning of the BGRR.

This attachment captures some of the media used to present information regarding the progress of the BGRR Decommissioning Project and the removal of the Pile Fan Sump.

A newsletter from the Environmental Restoration Division at Brookhaven National Laboratory, *cleanupdate*, is part of an on-going effort to inform people about environmental restoration issues and activities at BNL. Pictures and articles about the removal progress of the Pile Fan Sump were carried in the November 1999 and March 2000 issues of the *cleanupdate.*

There is a BGRR web site, http://www.bnl.gov/bgrr, where information is posed at regular intervals to keep employees and the public informed of the BGRR Decommissioning Project.

The Laboratory Director issues a Monday Memo to employees on the lab e-mail network. The Pile Fan Sump removal was one of the topics on February 7, 2000.

The BGRR Decommissioning Project hosed public open houses and roundtable meetings to inform and involve all stakeholders in the Removal Alternatives Analysis Study for the BGRR that was being prepared by an independent contractor. These meetings were held on October 26 and 28, 1999, November 1, 1999, and on February 1 and 26, 2000.

These examples demonstrate the commitment that the BGRR Decommissioning Project has to informing and involving stakeholders in all facets of the Project.

Brookhaven Graphite Research Reactor (BGRR)
Decommissioning Project

November 1999

Brookhaven Science Associates
U.S. Department of Energy

BROOKHAVEN NATIONAL LABORATORY

PILE FAN SUMP REMOVAL

- CERCLA time-critical removal action
- Protect the environment
  - known rainwater intrusion
  - was still in active use by other facilities
- Part of the regulatory agreement between EPA, NYSDEC, Suffolk County, and DOE and BNL

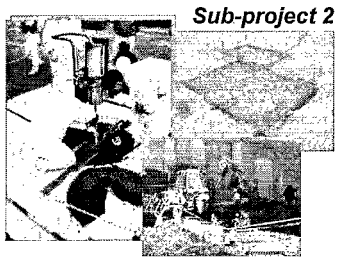
Brookhaven Science Associates
U.S. Department of Energy

BROOKHAVEN NATIONAL LABORATORY

PILE FAN SUMP

Sub-project 2

- **Underground concrete structure**
- **5 feet wide, 7 feet long, 10 feet deep**
- **27,000 pounds**
- **Connects to 250 feet of piping**
- **Known leakage and soil contamination**



Removal of the Pile Fan Sump, piping, and surrounding soils is currently in progress

Brookhaven Science Associates
U.S. Department of Energy

BROOKHAVEN NATIONAL LABORATORY

CAC UPDATE

Brookhaven Graphite
Research Reactor
Decommissioning Project

March 9, 2000

- Removal Action Alternatives Study
- Pile Fan Sump Removal
- Action Memorandum: Above Ground Ducts

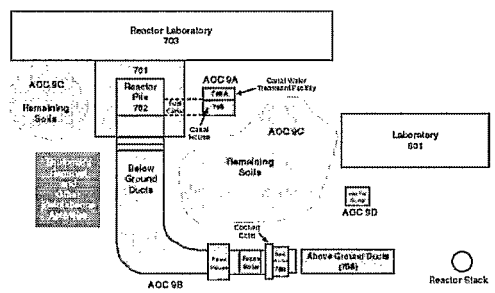
REMOVAL ACTION ALTERNATIVE STUDY

Removal Action Alternatives Study Comments

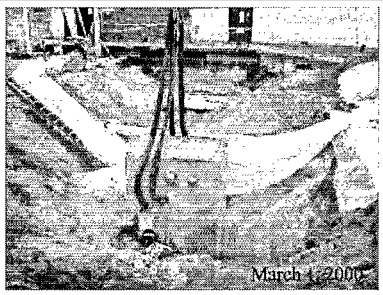
- Synopsis: leave Building 701
  - renovate Building 701 for other future BNL use
  - most feel that the pile is safe where it is
  - more characterization needs to done before final decisions are made
- No new alternatives were proposed
- Document will be finalized and sent to DOE next month

PILE FAN SUMP REMOVAL

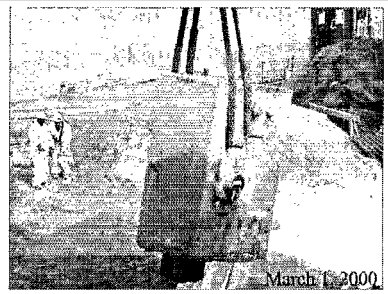
WORK BREAKDOWN



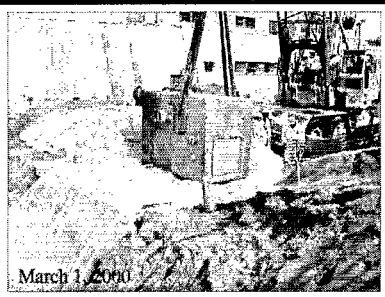
Pile Fan Sump Removal



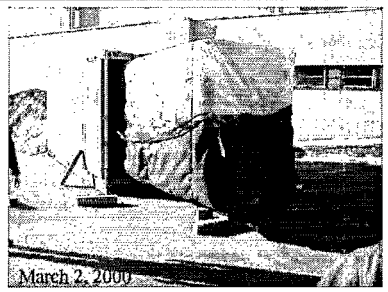
Pile Fan Sump Removal



Pile Fan Sump Removal

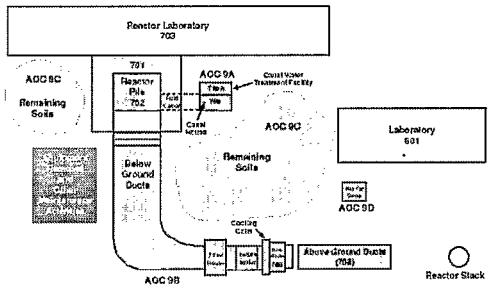


Pile Fan Sump Removal

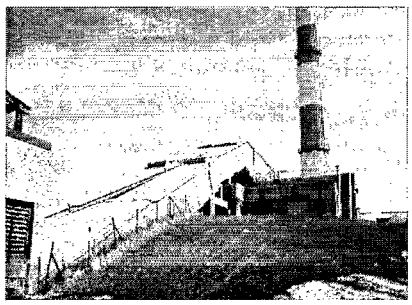


ACTION MEMORANDUM:
ABOVE GROUND DUCTS

WORK BREAKDOWN



ABOVE GROUND DUCTS



Action Memorandum: Above Ground Ducts

- Ducts are showing signs of age
  - damage due to weathering
  - small chunks of concrete are falling off
  - previous attempts to seal and repair
    - previous coatings contained lead, PCBs, and asbestos
- No potential future use for the Above Ground Ducts

Action Memorandum: Above Ground Ducts

- Hazards are more physical and chemical than radiological
- Concerns about worker safety
  - area under ducts is currently roped off
- Concerns about rain intrusion into ductwork
- Concerns about ground contact with lead, PCBs, and asbestos in concrete coating

Action Memorandum: Above Ground Ducts

- Only two options
  - attempt more repairs until the ducts come down
  - take the ducts down now
- DOE signed the Action Memorandum for a time-critical removal action on February 2, 2000

Action Memorandum: Above Ground Ducts

- Next steps:
  - Bids received on March 7, 2000
  - Proposals are being evaluated for safety procedures and methods used, as well as cost
  - Contract will be awarded mid-March
  - Work will begin mid-April, 2000
  - Closure report expected end of September, 2000

WHERE TO GET INFORMATION

PROJECT SCHEDULE

Activity Description	Target Date	1999	2000	2001	2002	2003	2004	2005
		Fiscal Year (runs from Oct. 1 to Sept. 30)						
Project Management Project Management Plan Project Community Relations Plan Removal Action Alternatives Study	Jun 1999 Jun 1999 Mar 2000							
Fans and Fan House (Bldg 704)	Jan 2000							
Pile Fan Sump	Mar 2000							
Above Ground Ducts	Nov 2000							
Fuel Canal, Canal House (Bldg 706)	Nov 2001							
Below Ground Ducts	Nov 2002							
Reactor Building, Reactor (Bldgs 701-703)	Jul 2005							
Soils	Apr 2005							
Issue Draft Final Record of Decision Report to Regulators	Sep 2004							

10-99 10-00 10-01 10-02 10-03 10-04 10-05

▽ Target Completion

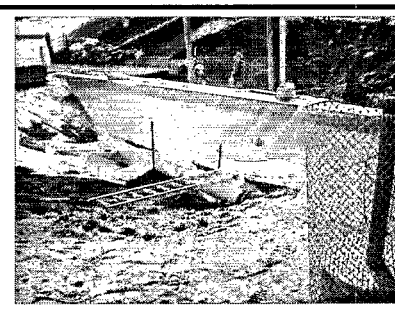
Removal Action Alternatives Study

- Intent of Removal Action Alternative Study
  - Discussion, not decision
  - Comparison of possible alternatives
  - Screening of possible alternatives against CERCLA, NEPA, and community values
- Public comment period
  - began with publication on January 28, 2000
  - closed 30 days later, on February 28, 2000

PILE FAN SUMP REMOVAL

PILE FAN SUMP REMOVAL

PILE FAN SUMP REMOVAL



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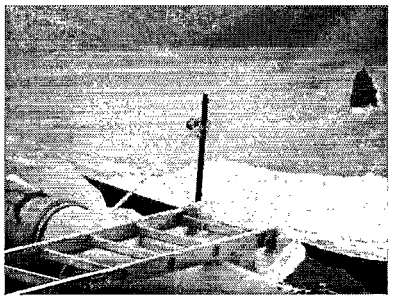
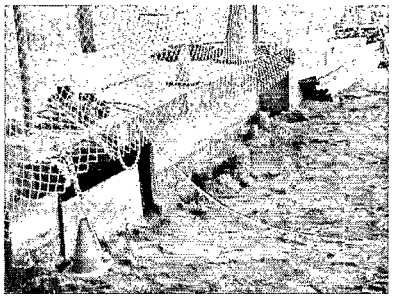


PILE FAN SUMP REMOVAL



CAC update, April 2000

A report on the pile fan sump contamination

At the March 9, 2000 CAC meeting, the Brookhaven Graphite Research Reactor (BGRR) Decommissioning Project team reported on a plume of contamination in the soil under the Pile Fan Sump. The Pile Fan Sump was removed on March 1, 2000. The team felt that the plume of contamination was tracking very close to the north side of the excavation, so decided to continue digging and sampling operations north of the original excavation.

The new excavation found Cesium-137 contamination ranging from 2160 pCi/gram down to non-detectable levels. That excavation went down 26' below ground level with a final value of "non-detect" for cesium. It should be noted that the bottom of the excavation was about 40' above groundwater. After verifying that they had reached the bottom of the plume, the Decommissioning Project team invited the New York State Department of Environmental Conservation (NYSDEC) and ORISE (an independent verification organization agreed to by the NYSDEC) into the excavation to take samples to confirm that the contamination had been removed.

Approximately 300 cubic yards of contaminated soil and asphalt debris materials have been remediated. Photographs of the excavation, along with explanations, are available in the reports at http://www.bgrr.bnl.gov/status.html

Data from the Geoprobe™ wells

Geoprobe™ samples down to groundwater have confirmed that the contamination has been removed from under the Pile Fan Sump excavation site.

The web site has been updated

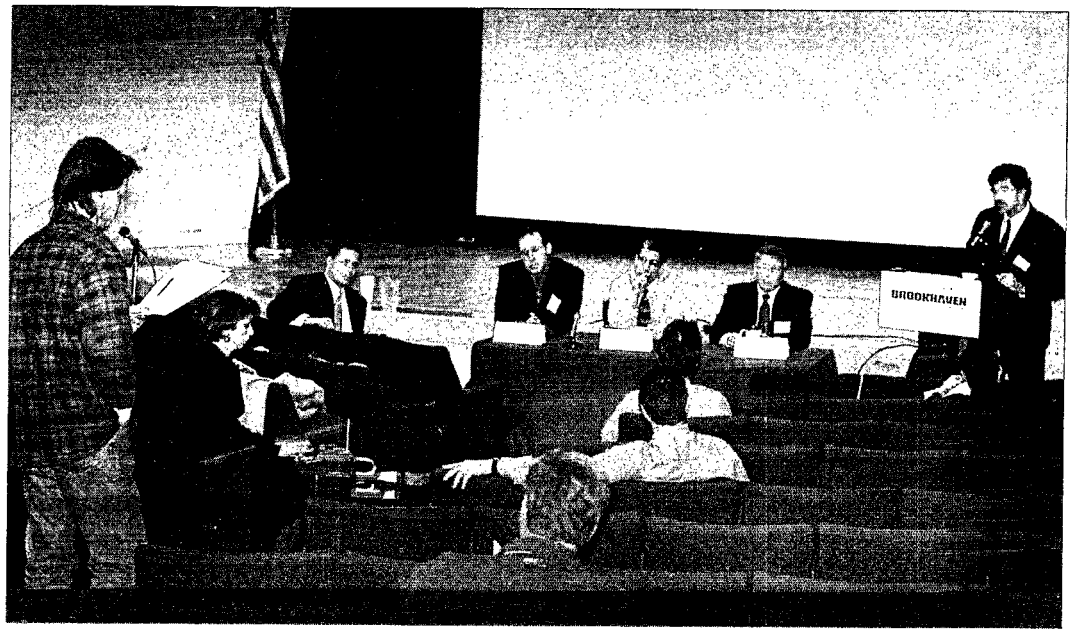
Please see http://www.bgrr.bnl.gov/status.html for weekly Decommissioning Project status reports.

cleanup date

U.S. Department of Energy/Brookhaven National Laboratory/Brookhaven Science Associates

Environmental Restoration Division — Vol.5/No.1/April 2000

On March 2, community members learned about the Peconic River/Sewage Treatment Plant cleanup and got an opportunity to ask questions at a public meeting. Representatives of Brookhaven National Laboratory and the U.S. Department of Energy were present to respond to questions.



Roger Stoutenburgh

Department of Energy seeks input on Peconic River/Sewage Treatment Plant cleanup

The U.S. Department of Energy (DOE) and Brookhaven National Laboratory (BNL) are currently seeking public input on the proposed remedy for contaminated Peconic River sediments, soils at the Lab's sewage treatment plant, and area groundwater. This remedy is detailed in the *Operable Unit V Proposed Plan*, which was released on February 15. DOE invites the public to review this plan, which is available online at *http://www.oer.dir.bnl.gov/ou5doc.html*, and send in your comments.

Already, based on feedback from the public, DOE has extended the public comment period by 60 days to May 15, 2000. All comments should be submitted no later than that date.

Community airs concerns

In late February and early March, DOE held four meetings to give the public an opportunity to learn more about this cleanup project and to provide their input on the proposed remedy. Over 30 community members attended two roundtable meetings on February 23rd and 29th, while 18 community members attended the public meeting on March 2nd. Fourteen community members attended the Peconic River and Bay workshop on March 7th (see page 4 for more information).

Opinions stated thus far by the public have varied widely. Some of the comments received to date include:

(see Peconic River, page 11)

Suffolk County, BNL results agree *page 2*

Magothy aquifer study planned *page 2*

Moving dirt, making progress *page 3*

Peconic River and Bay workshop *page 4*

Groundwater cleanup *pages 5,8*

Brookhaven Graphite Research Reactor *pages 6-7*

Roger Stoutenburgh

Laboratory Director John Marburger and others observed the removal of the Pile Fan Sump on March 1.

Pile Fan Sump removed

On March 1, 2000, a structure known as the "pile fan sump" was removed from the ground where it was buried during construction of the Brookhaven Graphite Research Reactor (BGRR) more than 50 years ago. The removal of the pile fan sump and the surrounding soils is an important milestone for the BGRR decommissioning project team.

While in service, the sump – a concrete box five feet wide, seven feet long, and ten feet deep – was used to collect rainwater and other precipitation. This water drained from five large fan rooms in the fan house on the hill above the sump and from the reactor's exhaust stack. The sump was a known source of contamination; sampling done early in the decommissioning project demonstrated that water had leaked from the sump to the surrounding soil.

Because of the known contamination, removal of the pile fan sump was performed as a "time-critical" action, with the approval of and oversight by the U.S. Department of Energy (DOE). The document approving this removal action – titled *Action Memorandum: Brookhaven Graphite Research Reactor Pile Fan Sump Removal* – is included in the Administrative Record at local libraries, and on the web at *http://www.bgrr.bnl.gov/docs.html.*

(continued on next page)

Study looks at reactor decommissioning options

The draft *Brookhaven Graphite Research Reactor (BGRR) Removal Action Alternatives Study (RAAS)* was released for public comment on January 28, 2000. The RAAS screened possible alternatives for the BGRR decommissioning against legal requirements and the community values expressed during roundtable meetings held in 1999.

The decommissioning project team held two open houses during the public comment period so that they could answer questions about the study. The team also briefed the Community Advisory Council and the Brookhaven Executive Roundtable on the RAAS. The public comment period closed on February 28, 2000.

The majority of the comments received from stakeholders indicated that the Reactor Building (Building 701) should be preserved for future use, possibly as a science museum. Most – but not all – of the responders feel that the reactor pile is safe where it is, and need not be removed. Several responders added that more characterization needs to be done before final decisions are made.

The Laboratory will now finalize the draft recommended alternatives, and suggest that those alternatives be studied further. The final RAAS will be sent to the U.S. Department of Energy (DOE) in mid-April. DOE will make the final decision about which alternatives will be considered in an Engineering Evaluation/Cost Analysis study. The final RAAS will be available at the BGRR web site: *http://www.bgrr.bnl.gov.*

The decommissioning project team wishes to thank the people and organizations who provided comments on the RAAS. ☐

The removal process

Before the sump was removed, more than 250 feet of pipe between the fan house and the sump was excavated and packaged for shipment. As the pipes were removed, they were checked for contaminants (including hazardous materials, as well as radioactive material). The soil surrounding the pipes was also checked. Some small amounts of contamination were found near two of the pipe joints, and that soil was removed. Clean soil was used to backfill the pipe excavation areas.

When the sump itself was removed, some contaminated soil was found directly under the sump. The concrete sump was constructed with a one-foot-by-one-foot-by-two-foot extension on the bottom. It appears that the base of this extension was the source of leakage – possibly due to age and weathering. Approximately 300 cubic yards of soil were removed and will be shipped off site. Soil removal extended to a depth of approximately 22 feet and did not extend down to groundwater level; the soil tested clean well before that depth was reached.

The decommissioning team performed real-time soil tests during the excavation. In addition, verification samples are being analyzed by the New York State Department of Environmental Conservation at an independent laboratory, and by a DOE independent verification contractor, to assure that all contamination has been removed. The sump excavation site will be refilled with clean soil.

Roger Stoutenburgh

The 27,000 pound concrete sump was removed by crane and placed into a large shipping container. It will be sent to a licensed facility in Utah for disposal.

DOE approves BGRR air ducts cleanup

The U.S. Department of Energy (DOE) recently signed an Action Memorandum approving the removal of the Brookhaven Graphite Research Reactor (BGRR) above-ground ducts as a "time-critical" removal action. "Time-critical" removal actions are approved when there is a need for an immediate response to a known hazard.

The BGRR was an air-cooled reactor. During operation, cooling air was pulled through the reactor pile and sent through a series of filters and coolers within below- and above-ground ducts. Fans then exhausted the air through the familiar red-and-white stack. These fans were removed in the winter of 1999-2000. The below-ground ducts and air filters will be studied in a future sub-project.

The concrete above-ground ducts are part of the BGRR original construction, and are about 225 feet long. The concrete is showing signs of age and weathering; the surface is beginning to crack and flake. Small fist-sized chunks of concrete have fallen from the ducts (the uppermost portion is about 35 feet in the air) to the ground. Moreover, there is evidence of previous rainwater intrusion into the ducts, and the original exterior surface coating contains lead, asbestos, and PCBs.

At this point, the greatest hazards are to workers (due to small chunks of concrete falling) and to the ground (through contact with the old sealant containing lead, asbestos, and PCBs). The area under the ducts is roped off, and the area is inspected weekly, after high winds, and after rainfall. Any materials found are removed from the ground.

When the BGRR decommissioning project was initiated, project planners assumed that the above-ground duct remediation would go through the normal decision-making process. In this process, an Engineering Evaluation/Cost Analysis study is performed

(see Air ducts, page 11)

BNL Wins 'Barrier Busters' Award

BNL has been named a recipient of the first annual "Barrier Busters" award, along with Bell Atlantic and Tanger Factory Outlet Center. Jointly sponsored by the Long Island Association and the Suffolk Independent Living Organization, Inc., the award is presented to companies that have taken exemplary steps to make accommodations for people with disabilities in the workplace or have developed innovative solutions to reduce barriers in the workplace for them.

Diversity Office Manager Lorraine Merdon accepted the award for BNL. She commented, "I am delighted to accept this award on behalf of the Laboratory. Brookhaven Lab is committed to removing on-the-job barriers for people with disabilities, and to enhancing their employability through training. I want to especially thank the Department of Energy (DOE) for their wholehearted support in making Brookhaven a workplace in which people with disabilities are given the opportunities and accommodations they need to function optimally as employees."

DOE - Brookhaven Group was instrumental in making available a suitable space in Bldg. 490 to be used as a classroom for Abilities, Inc., which offers training for individuals with disabilities who wish to become laboratory assistants. Abilities, Inc., is supported by and partners with the National Center for Disability Services.

In addition, the Laboratory offers the annual Gorman-Metz scholarship of $5,000 for a disabled child of a BNL employee who wishes to obtain a graduate degree in science or engineering.

BNL routinely makes needed accommodations for employees with disabilities, including one-on-one instructors for on-the-job training, voice-activated computer software and telecommunications options for employees who need these services to accomplish their jobs. — Diane Greenberg

Stand-Down *(cont'd)*

attack problems better, find solutions faster," he said.

Following the videotape, keynote speaker Marvin Dozier, Pastor of the Unity Baptist Church of Mattituck, emphasized the need for individuals to take responsibility for their actions, and to commit to finding a way toward an inclusive society. "The greatest obstacle is ignorance," he said. "Knowledge is the key."

After the stand-down, the Bulletin spoke to employees to get their impressions:

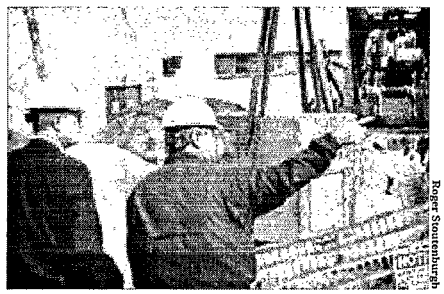
Patrice Benjamin of the C-A Department and a member of the Lab's Diversity Focus Group said he was impressed by Secretary Richardson's commitment to address issues of diversity, but noted that the stand-down is just a first step. "One stand-down is not going to solve all our problems, and it certainly will not eradicate racial profiling," which he feels is deeply entrenched in some people's minds.

April Gray, Financial Services Division, said, "Hopefully, people will become more aware of diversity issues and start making good-faith efforts to try to improve it."

Pam Mansfield, Information Technology Division, said "With so many people coming to the Lab from so many different places — and for many of them it's their first exposure to the United States — I want to be aware so I don't offend anyone and can help make them feel more welcome and comfortable."

— Karen McNulty

Graphite Reactor Decommissioning Advances
Pile Fan Sump Removed



Roger Soumenburgh

Lab Director John Marburger and BGRR Project Engineer Clyde Newson watch as the 26,000-pound sump is carefully lifted from the ground.

On March 1, 2000, a structure known as the "pile fan sump" was removed from the ground where it was buried during construction of the Brookhaven Graphite Research Reactor (BGRR) more than 50 years ago. The removal of the 13-ton sump and surrounding soils was an important milestone for the BGRR decommissioning project team.

While in service, the sump - a concrete box five feet wide, seven feet long, and ten feet deep - was used to collect rainwater and other precipitation from the reactor's fan house and exhaust stack. The sump was a known source of contamination; sampling done early in the decommissioning project demonstrated that water had leaked from the sump to the surrounding soil.

When the sump itself was removed, some contaminated soil was found directly under the sump. Approximately 300 cubic yards of soil were removed and will be shipped off site.

The decommissioning team performed real-time soil tests during the excavation. In addition, verification samples are being analyzed by the NY State Department of Environmental Conservation's independent laboratory, and by a DOE independent verification contractor, to assure that all contamination has been removed. The sump excavation site will be refilled with clean soil.

ISM Awareness

Here are the final three sets of general questions that all BNL managers, supervisors and staff should be prepared to answer during DOE's Integrated Safety Management (ISM) verification beginning this Monday, May 1.

Managers: How do you make sure your staff has the training, "subject matter expert," or other support they need to help ensure they work safely?

Staff: How do you know you have the training you need (or whom to call if you have safety questions) in order to perform your work in a safe and environmentally protective manner?

The Experimental Safety Review (ESH Standard 1.3.5) and the Operations Work Planning and Control processes (ESH Standard 1.3.6) establish the requirements for ensuring staff has the appropriate training through the Job Training Assessment process.

The Brookhaven Training Management System provides a database for tracking training requirements and training completion.

Field-deployed ES&H staff (Field Service Representatives, Environmental Compliance Representatives), ES&H Subject Matter Experts and line ES&H Coordinators are available to assist staff with ES&H matters or questions.

Hiring practices ensure new staff has the appropriate "entry" background/experience/capabilities.

Managers: How do you know your staff complies with the procedures, safety/environmental requirements, and hazard controls that you establish?

Staff: What does your supervisor expect of you with regard to following/working within/complying with procedures, safety/environmental requirements, and hazard controls when you perform your work?

Self-Assessment activities such as Tier 1 assessments or management "walk-arounds" provide this information.

Managers: Are you responsible for the safety of your staff? How are those responsibilities communicated to you?

Staff: Do you understand your responsibility regarding personal and coworker safety?

Are you authorized to Stop Work? (When/why? How?)

Do you have any special safety/environmental-related assignments?

ES&H Standards of Performance on SBMS and R2A2s establish that:

• Managers shall analyze hazards, authorize work and ensure that work is performed within established safety controls, and prevent pollution, minimize waste and conserve resources while controlling costs and minimizing environmental impact.

• Supervisors shall ensure that staff is competent, trained, and qualified for work and assign work accordingly; manage staff, information, facilities and equipment; and ensure that staff comply with Laboratory policies, standards, procedures and regulations. Supervisors shall also ensure mitigation for all identified hazards.

• On-line computer-based training for Stop Work procedures is available at http://training.bnl.gov/courselist.htm.

For more information, see individual SBMS Subject Areas and BNL Manuals at https://sbms.bnl.gov, or contact Doug Ports at Ext. 2262 or ports1@bnl.gov.

Fidelity Counseling

A Fidelity Investments representative will be at the Lab on Monday, May 15, to hold individual sessions with employees interested in learning more about their retirement-savings and investment options.

To schedule one of the 30-minute appointments, call (800) 642-7131.

Equipment Demo 4/28

Today, from 10 a.m.-2 p.m. in Berkner Hall, CTP Wireless will discuss the AT&T corporate cellular rate that it offers BNLers.

Service plans include one with airtime rates of 20 cents per minute and 40 minutes of airtime at $19.99 per month, 20 percent off air-time charges, and unlimited off-peak airtime for an additional $4.99 per month.

Another plan includes 200 minutes any time for $29.99 per month with unlimited off-peak time for $9.99 extra. Free features include a digital phone, caller ID, voice mail with notification, numeric paging, and self-dispatch alphanumeric numbering.

For more information, call Dennis Lamm, 585-2900.

Blood Monitor *(cont'd)*

an imaging method in which radioactive tracers are injected into the patient, flow through the blood, and concentrate in areas that have increased blood flow, or active metabolism. The new detector would measure the radioactivity in the artery, and these data would be used to calculate glucose metabolism. BNL researchers use PET to study changes in the brain related to aging and drug addiction, among other research projects.

At present, metabolic rate is measured by inserting a catheter into a patient's artery. David Schlyer, Chemistry, the project's principal researcher at BNL, said, "The non-invasive method would be medically safer than using a catheter, since it eliminates the risk of infection and the potential loss of blood flow to the hand. Also, it would be more comfortable for the patient."

Ronald Nutt, senior vice president of CTI, Inc., commented, "PET is already a powerful imaging tool for diagnosing cancer and other significant diseases. Medicare reimbursement has been established for certain types of cancer, which has caused PET to expand rapidly in the U.S. This blood-monitoring system will allow PET to accurately quantify metabolic activity, which can take PET to the next level."

Since the new method requires extensive data manipulation and computer operation, Schlyer said the mathematics involved will have to be streamlined for greater efficiency. Brookhaven, which has expertise in PET scanning and modeling, will work on the mathematical calculations required to adapt the detector developed by CTI, Inc., for use in PET. The Brookhaven-CTI team hopes to have a working prototype of the blood monitor in the fall.

Since PET is becoming a widely used tool for clinical evaluation of a wide variety of diseases, the monitoring device could have significant commercial applications. Currently, there are more than 250 PET machines at major hospital and research centers around the world.

BNL and CTI, Inc., are each contributing $70,000 to fund the CRADA for one year. Funding to support Brookhaven's costs came from the Lab's patent-licensing royalty income, which amounted to over $2.7 million last year. — Diane Greenberg