

## NRC Safety Assessment of HFBR Finds No Significant Safety Issues

Following a comprehensive and independent safety assessment by the U.S. Nuclear Regulatory Commission of BNL's High Flux Beam Reactor (HFBR), the NRC reported on February 23 that it has found no safety-significant issues at the facility.

As it was noted in the summary of the 86-page report: "... [T]he safety programs at the HFBR were found to provide adequate protection of the health and safety of the public, workers, and the environment.

"We are glad to see that this thorough, professional and independent organization gave the High Flux Beam Reactor a clean bill of health," said Thomas Sheridan, BNL's Deputy Director for Operations.

The NRC, however, also reported 14 apparent instances of non-compliance with DOE or BNL requirements. Of these, "Six have already been fixed, five are in progress, and three will be attended to within the next three months," says Bill Reeside, Manager of the Lab's Reactor Division, which is responsible for Brookhaven's two reactors: the HFBR and the Brookhaven Medical Research Reactor.

The NRC audit is the second safety review of the HFBR to have been conducted by a qualified independent consultant, and the second to find that

the HFBR's personnel, programs and equipment are appropriate and result in the safe operation of the facility.

The first safety review was performed March to April 1998, by Duke Engineering & Services, Inc. It was done at the request of BSA, as a fulfillment of one of BSA's obligations under its contract with DOE to operate BNL.

### 14 Areas Evaluated

Performed at DOE's request and at a cost of \$225,000, the NRC safety assessment involved reviewing DOE and BNL safety requirements, and the HFBR's safety-related design, procedures, and programs using NRC safety-evaluation procedures, and applicable industry and other federal standards. Between last June and September, NRC accomplished its task through six weeks of on-site observation, and discussions with BNL and DOE staff.

The NRC report covers 14 areas: design and control; review and audit; radiation protection; environmental protection and effluent control; operator qualification and requalification; maintenance; surveillance; fuel handling; experiments; procedures; emergency preparedness; safeguards and security; operations; and organizational effectiveness.

The authors of the report also con-

cluded that the design and conditions at the HFBR "do not present any unique regulatory or technical challenges to regulatory oversight" of the reactor by outside regulators, such as NRC.

The report recommends that DOE and the Lab continue efforts to clarify management and oversight lines of authority at BNL. DOE and Brookhaven have recently initiated organizational changes and management programs to address these issues, but NRC could not assess their effectiveness because the changes and programs are relatively new.

Though mostly procedural, the 14 instances of non-compliance "are all legitimate, so we do not disagree with any of them," says Reeside.

The non-compliance items included: six instances of late audits, meetings, or reports; two incomplete corrective actions; one incomplete procedure for a new system; one misinterpreted procedure; one failure to place low-level contaminated material in a radioactive material storage area; one instance of not updating radiation postings in a timely manner; one failure to inform a manager of a reduction in radiation surveys; and the lack of whole-body counting for all operations group staff during 1997.

(continued on page 2)

## 'State of the Lab' Address Monday

Next Monday, March 8, at 9 a.m. in Berkner Hall, Laboratory Director John Marburger will deliver a "State of the Laboratory" address to all employees, to mark the March 1st one-year anniversary of BSA's becoming BNL's management and operations contractor for DOE.

During this address, the Lab Director will share his views on BSA's first year and his expectations for the second one. He will also make some important introductions, answer employees' questions — and unveil the Lab's new logo.

To accommodate as many BNLers as possible, Marburger's talk will be broadcast into Rooms B and C in Berkner Hall. Afterwards, the videotaped talk will be accessible at [www.wbnl.bnl.gov](http://www.wbnl.bnl.gov) on the Web and will be shown on the kiosk in Berkner Hall.

At the conclusion of Marburger's address around 10 a.m., all employees — whether or not they attended the talk — are invited to join the Director for coffee and cake in the lobby of Berkner Hall.

## Pegram Lecture Series

## 'Biosphere and Society'

*In honor of George Braxton Pegram, then Dean and later Vice President of Columbia University, the annual George B. Pegram Lecture Series was instituted at BNL in 1959. As head of the 1946 Initiatory University Group which proposed that a regional center for research in the nuclear sciences be established in the New York area, Pegram played a key role in founding BNL and was for ten years an active trustee. Pegram devoted his life to physics, teaching, and the conviction that the results of science can be made to serve the needs and hopes of humankind. The lectures in the Pegram series provide an opportunity for distinguished scholars to examine the interaction between science and other aspects of our culture and society.*

For the first time in history, human activity has the potential to change the atmosphere of the planet and alter irreversibly the complex web of species that constitutes life on earth.

In a series of three lectures that explains the origins of the current situation, describes how the global community is responding to the challenge, and offers a vision of the future

of human societies and the evolution of our species, Graciela Chichilnisky, a mathematician and economist at Columbia University, will speak on "Biosphere and Society" on March 12, 15 and 17. Each talk will begin at 5 p.m. in Berkner Hall. All are welcome.

In her first lecture, entitled "Economic Returns From the Biosphere," on Friday, March 12, Chichilnisky will address the economic forces that are driving unprecedented change in the biosphere — the ecosystem comprised of the earth and its living organisms — and how these forces can be harnessed toward satisfaction of basic human needs and economic progress in harmony with nature.

On Monday, March 15, Chichilnisky

(continued on page 2)



Graciela Chichilnisky

## PAC'99 in New York City

## BNL Hosts 1,400 at World's Largest Accelerator Conference

From March 29 to April 2, at the New York Marriott Marquis hotel in New York City, BNL will for the first time host the North American Particle Accelerator Conference (PAC) — the single most important conference in this field.

When approximately 1,400 members of the international accelerator community converge on New York for what is called PAC'99, they will be in good time to herald the start-up later this year of the U.S.'s major new accelerator, the Relativistic Heavy Ion Collider (RHIC) at BNL.

In fact, RHIC's commissioning will be among the highlights to be discussed in PAC'99's opening plenary session. Also to be discussed at this session are: the commissioning results of B-Factories at SLAC and KEK, the increasing role of accelerators in cancer therapy, and the technical challenges of linear colliders.

The more than 70 invited presenta-

tions and 1,300 poster papers that will follow will focus on almost all aspects of accelerator physics, technology and new projects. A highlight will be the keynote speech by Errinder Secretary of Energy, at the Tuesday, March 30, banquet. Moniz will be introduced by BNL Director John Marburger.

The conference will close with a session addressing applications of accelerator science in different fields: in the future of high-energy physics and nuclear physics, the impact of synchrotron radiation on structural biology, and the physics potential of spallation neutron sources.

Given the proximity of BNL to the PAC'99 site, a tour of the Lab is scheduled at the end of the conference so that participants can see for themselves some of the latest accelerator

work being done at BNL. So, on Saturday, April 3, some 250 guests will be welcomed to the Lab by the Director,

then tour RHIC and other BNL accelerator facilities, including the Alternating Gradient Synchrotron (AGS); the Accelerator Test Facility; the National Synchrotron Light Source (NSLS); and the PHENIX detector, STAR detector, and muon g-2 experiment.

Said Derek Lowenstein, Chair of the AGS Department, which runs the versatile Nobel Prize-winning accelerator that will serve as the injector for RHIC, "The PAC'99 organizing committee is to be commended for their extraordinary efforts to create the best and largest accelerator conference anywhere. This will be BNL's opportunity to showcase our technical accom-

plishments and our facilities."

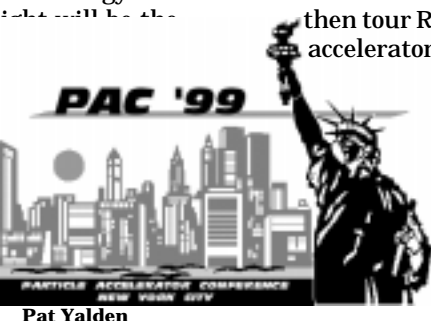
### Organization Plus

Organizing such a large conference is a tremendous undertaking, but, said conference chair Bill Weng, AGS, "We have an excellent team here."

Weng chairs the 26-member organizing committee, whose members are drawn from the DOE national laboratories, DOE, several U.S. universities, laboratories in Canada and Japan, and representatives of the Asian and European Particle Accelerator Conferences (APAC and EPAC).

BNL members of the organizing committee include: Ilan Ben-Zvi, NSLS, who is PAC'99 program chair; and Samuel Krinsky, NSLS. Mary Campbell, AGS, is conference secretary and will oversee the conference's large secretarial staff.

These BNLers are working closely with a local organizing committee (see (continued on page 2)





## Women's Month

**As part of the Women's History Month celebration sponsored by BNL's Women's Program Committee, Marybeth DeJesus, who is President and CEO of MCD Career Associates in Ronkonkoma, will speak on "Personal Empowerment and Professional Image," on Thursday, March 11, at noon in Berkner Hall. All are invited to attend.**

**In addition, a poster display, "A Portrait Gallery of Great American Women" will be on display in the lobby.**

## HFBR EIS Update

As the on-site DOE Brookhaven Group informed BNLeers via e-mail and local residents via the mail in mid-February, DOE expects to release a draft Environmental Impact Statement (EIS) on BNL's High Flux Beam Reactor (HFBR) by mid-April.

Under the federal National Environmental Policy Act (NEPA), an EIS is a comprehensive evaluation of the effect that major government programs or projects, such as the HFBR, have on the environment. Following DOE's 1997 decision to write an EIS for the HFBR as part of its restart-consideration process for the reactor, DOE was also directed by Congress to draft an EIS for the HFBR.

In the HFBR's EIS, the environmental impact and public health effects of this research reactor will be assessed under four different scenarios: one, the permanent shutdown of the reactor; two, resumption of operations; three, resumption of operations with an upgrade to the reactor; and, four, taking no action, but keeping the reactor shut down and without fuel.

After the draft is released, it will be available for public review and comment. NEPA requires a minimum comment period of 45 days. But, in response to a request by U.S. Representative Michael Forbes (Republican - First District) and others, Energy Secretary Bill Richardson has extended the comment period to 90 days.

Therefore, comments on the soon-to-be-released draft EIS will be accepted from mid-April through mid-July. As a result of this extension, the final EIS is now expected to be published in mid-November and what is called the record of decision will be made in mid-December. When the actual dates are known, they will be announced in the Bulletin and elsewhere.

Richardson has also directed his department to provide the public with access to the information that was used to develop the EIS, and to establish a reading room at BNL where the draft EIS and EIS-development documents may be reviewed by all. A reading room for this purpose has been established in the Lab's Research Library, Bldg. 477.

In addition to holding two public hearings later in the comment period, the Energy Secretary has instructed DOE to conduct a workshop for the public on the HFBR's EIS early in the comment period, during which the Department will present and discuss the draft. When the workshop and hearing dates are set, they will be announced in the Bulletin and elsewhere.

*To ask questions or discuss concerns regarding the HFBR EIS process, contact John Carter, the DOE Brookhaven Group's community/government relations manager, Ext. 5195.*

## PAC'99

(cont'd.)

photo below), whose 12 members include, among others, John Smith, NSLS, who is in charge of the proceedings and electronic publication; Christine Ronick, Administrative Support Division, who is the hotel coordinator; and Elaine Lowenstein, Community Relations Office, who is organizing the post-conference tour of BNL.

### 18th PAC

The PAC'99 participants will be attending the 18th PAC. PAC has been emulated since 1988 by EPAC in Europe, which draws about 700 participants to bi-yearly meetings, and in 1998 by APAC in Asia, which attracted 400 participants. However, because of its truly international participation and comprehensive topic coverage, PAC remains unique.

PAC sponsors are the American Physical Society's Division of Physics of Beams and the Institute of Electrical & Electronic Engineers' Nuclear & Plasma Sciences Society. The conferences also receive grants from DOE, the National Science Foundation and the U.S. Office of Naval Research for support in publishing proceedings and assistance to graduate students and scientists from former Soviet Union countries.

To host a PAC, prospective organiz-

ers need to submit their proposal at least six years ahead.

"Back in 1993, with RHIC scheduled to be operational by 1999, we thought that an excellent way to celebrate would be to host PAC'99," recalled Weng.

He continued, "We knew that the Lab site could not accommodate so many visitors, but we could rely on New York City, which is an attractive conference center that has never before been used for a PAC. Now, thanks to the extraordinary efforts of those to be involved in the preparations and the event itself, we are looking forward to an excellent meeting."

As Peter Paul, BNL's Deputy Director for Science & Technology, who will chair PAC'99's closing plenary session, concluded, "Brookhaven has been the birthplace of many fundamental concepts of particle accelerators. So, it is a fitting tribute to BNL's continuing role in particle-accelerator developments that it has been chosen to host the 18th PAC.

We all owe a lot of thanks to Bill Weng for his foresight in bringing PAC'99 to New York City, and to him and his hardworking team for putting together the conference and its program."

— Liz Seubert  
*Those interested in attending the conference may register at <http://pac99.bnl.gov>.*



**Among the many BNL employees who have contributed to making PAC'99 a success are: (front row, from left) Valerie Bryant, Alternating Gradient Synchrotron (AGS) Department; Laura Miller, AGS; Johnny Tang, AGS; Peter Paul, BNL Deputy Director for Science & Technology; PAC'99 Conference Chair Bill Weng, AGS; PAC'99 Program Chair Ilan Ben-Zvi, National Synchrotron Light Source (NSLS); Elaine Lowenstein, Community Relations Office; Derek Lowenstein, AGS Chair; Marie Gavigan, Relativistic Heavy Ion Collider (RHIC) Project; (second row from left) Diana Votruba, RHIC; Mary White, Information Services Division; Anna Petway, AGS; Elaine Zukowski, Director's Office (DO); Alfredo Luccio, AGS; (third row from left) BNL Director John Marburger; Dolores Collins, AGS; Gladys Blas, RHIC; Arlene Waltz, RHIC; Jesse Becker, AGS; Marion Heimerle, AGS; Penny LoPresti, AGS; (fourth row from left) Jinhu Song, AGS; John Smith, NSLS; PAC'99 Conference Secretary Mary Campbell, AGS; Harold Kirk, Physics Department; Christine Ronick, Administrative Support Division; Pauline Pearson, NSLS; Waldo MacKay, RHIC; and Peter Yamin, DO.**

## Pegram Lectures

(cont'd.)

will discuss "The Kyoto Protocol and the Carbon Cycle." In the Kyoto conference on climate change held in December 1997, the global community created policies in response to the potential impact of human activities on the carbon cycle and the global climate change that may occur as a result of these activities. There is no political consensus on the issue, however, nor is there a resolution of the key conflicts between industrial and developing nations. Chichilnisky will discuss how the Kyoto Protocol may handle these conflicts in the future.

In her final lecture on Wednesday, March 17, Chichilnisky will give her views on "Resilience and the Knowledge Revolution." As the new millennium approaches, information technology is leading to physical and social changes in the biosphere with the potential to match those of the agricultural and industrial revolutions. Humanity is living in a period of rapid change in which knowledge itself replaces land and capital as the main input of production. Chichilnisky will explain what she believes this "knowledge revolution" means for the resili-

ence of human societies and for the ecosystems that sustain them.

Chichilnisky earned two Ph.D. degrees from the University of California at Berkeley. Her doctorates in mathematics and economics were awarded respectively in 1971 and 1976. She has taught at Harvard, Essex and Stanford Universities and, from 1985 to 90, she was chair and chief executive officer of FITEL, a financial telecommunications corporation in New York, London and Tokyo. A former member of the Presidential Cabinet of the Central Bank of Argentina, she is also a consultant to the United Nations on international trade issues and the global financial industry.

A tenured professor at Columbia University since 1980, Chichilnisky has been the Director of its Program on Information and Resources since its founding in 1994. Since 1995, she has held the UNESCO Chair of Mathematics & Economics at Columbia. The author of seven books and some 150 scientific articles in academic journals covering economics, finance and mathematics, Chichilnisky is a member of the editorial boards of many professional journals.

— Diane Greenberg

## Superfund Cleanup OU III Reports Available

As part of BNL's Superfund cleanup process, DOE is seeking public comment until March 31st on three reports on groundwater cleanup in an area identified as operable unit III, which covers contaminated groundwater located on and near the BNL site. The reports are:

- *Operable Unit III Remedial Investigation Report,*
- *Operable Unit III Feasibility Study Report,* and
- *Operable Unit III Proposed Plan.*

The reports document groundwater and soils characterization data and associated human and ecological risks, the evaluation of alternatives for groundwater cleanup, and the proposed alternatives for groundwater cleanup. Areas addressed in the reports include the tritium plume from the spent-fuel pool of the High Flux Beam Reactor, and chemical groundwater contamination found beneath residential areas south of the Lab.

The summaries of the remedial investigation and feasibility study and the proposed plan are at [www.oer.dir.bnl.gov/ou3doc.html](http://www.oer.dir.bnl.gov/ou3doc.html) on the Web. The three reports may be reviewed at the Research Library, Bldg. 477.

Information sessions on the three documents will be held as follows:

- March 10, in Berkner Hall, 5-7 p.m.
- March 16, at the Longwood High School, 7-9 p.m.
- March 18, in Berkner Hall, 11:30 a.m.-1:30 p.m.

At these sessions, Environmental Restoration Division staff will be available to answer questions on operable unit III. All are invited. Employees and the public may also provide comments during a March 24th public meeting, 7-9 p.m. in Berkner Hall.

Comments provided on the proposed remedy will help select the final remedy for the Lab's on- and off-site groundwater contamination. Send comments to George Malosh, DOE Brookhaven Group Manager, Bldg. 464, or to [OU3comments@bnl.gov](mailto:OU3comments@bnl.gov). The final decision will be made in a report called the Operable Unit III Record of Decision, due out later this year.

Since 1989, the Lab has been a federal Superfund site, as 1/20th of its 5,300 acres is contaminated with hazardous and/or radiological materials due to past use and disposal practices. BNL's cleanup is about halfway completed; by 2006, all contaminated soil will be cleaned up and all groundwater treatment systems will be operating.

## NRC Report

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When operating, the HFBR has been used by researchers from around the world for research. The reactor has not operated since it was shut down for routine maintenance two years ago and a plume of water contaminated with tritium was discovered to have leaked from the pool where spent fuel was stored.

As the NRC noted in its report, "Actions taken to characterize and control the tritium plume were conservative, and this plume does not represent a radiological hazard to public health or safety."

Whether the HFBR is permanently shutdown or restarted will be the decision of the Secretary of Energy, who will base this determination on a review of the HFBR's operational safety and its effect on the health and safety of employees and the community, the reactor's environmental impact (see sidebar, far left), and input from the scientific and Long Island community. — Kara Villamil and Marsha Belford  
*The full report will be posted on the NRC's Internet homepage at: <http://www.nrc.gov/OPA/report>.*



Wizards	4-0	Bulldogs	1-3
Bombers	2-2	Knicks	1-3



# BNL Bio on Sale

On Friday, March 19, BNL Historian Bob Crease will sign copies of his new book, *Making Physics: A Biography of Brookhaven National Laboratory, 1946-1972*, at noon, in the lobby of Berkner Hall. Copies of the book will be available for purchase at a discounted price.

## Money Matters Update

For an eighth time, Legal Aid Society lawyer George Roach will return to BNL to discuss “Money Matters When Illness Strikes: A Legal Update” on Tuesday, March 9, from noon to 1 p.m. Sponsored by the Health Promotion Program (HPP) of the Occupational Medicine Clinic, Roach will discuss the financial impact of caring for ill elderly parents and loved ones, as well as the latest changes to the Medicaid law.

To register for this lecture, return by March 8 the completed bottom portion of the Healthline flyer recently sent to all employees to Health Promotion Specialist Mary Wood, Bldg. 490.



### Placement Notices

The Lab's placement policy is to select the best-qualified candidate for an available position. Candidates are considered 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, disability or veteran status. Each week, the Human Resources Division lists new placement notices, first, so employees may request consideration for themselves, and, second, for 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; call the JOBLINE, Ext. 7744 (344-7744), for a complete list of all job openings; use a TDD system to access job information by calling (516) 344-6018; or access current job openings on the World Wide Web at <http://www.bnl.gov/JOBS/jobs.html>.

**LAB RECRUITMENT** - Opportunities for Laboratory employees.

NS7752. RESIDENCE CUSTODIAN - Administrative Support Division.

NS8102. ENGINEERING POSITION - (reposting) Requires a bachelors degree in engineering or equivalent, and experience in project management and/or controls. Must possess a high level of expertise with project management software (MS Project and Primavera, Microsoft Office Suite), and BIS interface software. Will provide project-management support to Lab subject-matter expert, in areas of project development and planning, project control and coordination, cost estimating and budgeting, and scheduling and reporting of high-priority projects as assigned by the Project Management & Planning Support Office Manager. Project Management & Planning Support Office.

**OPEN RECRUITMENT** - Opportunities for Laboratory employees and outside candidates.

MK8257. DIRECTOR, CENTER FOR DATA INTENSIVE COMPUTING - Seeking an outstanding leader and distinguished scientist to serve as Director. Will be expected to establish an internationally recognized research center that contributes to the Lab's science and technology programs in high-energy and nuclear physics, biology, neuroscience, environmental science, energy science and technology, materials and chemical science, and national security. The Center will pursue a vigorous research program in computational/computer science aimed at the scientific aspects of data mining, visualization, parallel and distributed computing, networking, and modeling and simulation. The Center will be affiliated with the Department of Computer Science and the Department of Applied Mathematics & Statistics at the State University of New York at Stony Brook, and the Director may hold a joint appointment there. Department of Applied Science.

MK8270. ASSISTANT PHYSICIST - To work in the National Nuclear Data Center, spending half time performing nuclear structure and decay data evaluations for the evaluated nuclear-structure data file and devoting half time to scanning the literature and keyword abstracting of articles on low- and intermediate-energy nuclear physics for the nuclear science references database. Requires a Ph.D. in nuclear physics with a broad knowledge of experimental nuclear physics and a good grasp of theory used in the interpretation of experimental results. Familiarity with scientific databases, the ability to read scientific articles in languages other than English, and recent experimental experience in one or more of the frontier areas of nuclear physics are highly desirable. Under the direction of C. Dunford, Department of Advanced Technology.

MK7658. SCIENTIST - To work in the Nuclear Theory Group, with strong interests and publications in the area of heavy nuclei collisions at ultrarelativistic energies and of perturbative QCD. Should have a proven record in leading and building a group in this area. Under the direction of R. Pisarski, Physics Department.

MK8008. POSTDOCTORAL RESEARCH ASSOCIATE - To work in the Gas-Phase Molecular Dynamics Group. Will conduct theoretical studies of the control of molecular motion and molecular processes by shaped, sub-picosecond laser pulses using time-dependent quantum dynamics and optimal control. Requires expertise in quantum and classical dynamics of molecular motion, the application of numerical methods to the computational solution of the time-dependent and time-independent Schroedinger equations and Hamilton's equations of motions. Expertise in FORTRAN or in organizing and carrying out large-scale numerical calculations, and in computer graphics also required. Familiarity with UNIX operating systems, data-visualization tools and the application of grid methods (such as discrete variable representations) to the solution of quantum mechanical problems is highly desirable. Under the direction of J. Muckerman, Chemistry Department.

MK8006. POSTDOCTORAL RESEARCH ASSOCIATE - To work in the Solar Neutrino Group, which is part of the Sudbury Neutrino Observatory (SNO) Collaboration, which uses 1000 tons of heavy water, D<sub>2</sub>O, to search for oscillations of solar neutrinos. Requires a Ph.D. in nuclear chemistry, chemistry or nuclear physics, and the ability to spend extended periods of time in Sudbury, Ontario, Canada, where the SNO project is situated in the Creighton Mine. Experience in radio-chemical manipulations, aqueous-based solution chemistry, counting of radioactivity, and computer data processing is highly desirable. Under the direction of R. Hahn, Chemistry Department.

NS7393. MANAGER, BUSINESS INFORMATION SYSTEMS GROUP - Requires a BS in computer science, advanced degree preferred, and a minimum of ten years of information-technology management experience, coupled with a strong hands-on technical background. Experience implementing an ERP system solution, preferably with PeopleSoft, is necessary. Business Information Systems Group, Financial Services Division.

NS8007. PROGRAMMER/ANALYST POSITION - (term appointment) Requires a bachelor's degree in computer science or the equivalent, and familiarity with Windows, Mac and UNIX operating systems in a technical environment. Necessary are familiarity with networking hardware/software; expertise in computer hardware installation/troubleshooting, and in office-automation and Web-page software; organization, prioritization and excellent communication skills. A scientific background is highly desirable. Chemistry Department.

NS7496. INSTRUMENT CALIBRATION/QA ENGINEER - (reposting) Requires a BS degree in electrical or nuclear engineering or health physics, or equivalent experience, and significant experience in the calibration of radiation-protection instruments, measurement quality-assurance techniques, and the development of radiation-protection instrument, and calibration policies and procedures. Highly desirable is knowledge of pertinent regulations, DOE orders and industry consensus standards (i.e., 10 CFR Part 830.12, 10 CFR Part 835, DOE Order 5700.6C). Excellent oral and written communication skills are required; computer skills, specifically in MS Office applications and SQL databases, are highly desirable. Under general direction, will be responsible for implementing and maintaining an instrument calibration and measurement assurance program in compliance with pertinent QA standards. Radiological Control Division.