NOVEMBER 1995 NSLS NEWSLETTER

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NSLS Workshops

May 21, 1996

1996 NSLS Annual Users' Meeting

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Introduction by the NSLS Chairman

Michael Hart

In his news article, Bill Foyt outlines the staffing retirements which took place as I arrived at the NSLS. These very experienced staff leave us with the major task of realignment and recovery which will take some time to achieve. Much historical knowledge and many skills must be regenerated.

At the end of November Bill Foyt himself will move from the NSLS to a new position as Project Head for Finance Management and Accounting Systems within BNL.

We have worked together for such a short time, but long enough for me to appreciate and rely upon Bill's good judgement, clear head, and total dedication to improving the performance of the NSLS Department in all aspects of the program. His influence and industry over many years at the Light Source have resulted in lasting innovations which are important to all of us, users and staff alike: the 24-hour computerized stockroom, building extensions, including, for example, the Chasman-Green Library/lounge area and the realization of the administrative system by which we are able to deal with the annual influx of over 2000 users. Registration, training in safety and environmental protection, receipt of the necessary access cards and radiation badges in one stop so that users can get to work at NSLS as quickly and smoothly as possible while following all the necessary DOE guidelines is something which we all recognize as crucially important.

Within Brookhaven and as Head of the NSLS Administrative Group, Bill has been equally productive. It was inevitable that he would find new challenges and in this we all wish him good luck.

In succession to Bill Foyt, Frank Terrano will return to the NSLS after five years as Department Administrative Manager in the Chemistry Department.

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NSLS Staffing Changes

William Foyt (Assistant to NSLS Chairman, Head of NSLS Administration)

The end of FY 1995 has brought considerable change to the staff of the NSLS. With the expected level of funding from the "Facilities Initiative" reduced it became necessary to solicit volunteers for a reduction in staff. This would allow for a redirection of funds into areas considered vital to the Light Source's desire to improve research operations. Volunteering for this reduction were:

- Arie van Steenbergen, with thirty-eight years at BNL. The NSLS will always be grateful for his tenure as the head of the original NSLS construction project.
- George Stenby, posted close to thirty-four years at BNL, the last eleven in the Magnet R&D group. Bob Larson, another thirty-year man (33) spent the last eleven designing and implementing the interlock system.
- Ken Batchelor, who was the Deputy Project Head on the Phase I construction and more recently the Light Source Environment Safety and Health (ES&H) Coordinator, spent twenty-eight years at BNL.
- Norman Fewell's last thirteen of his twenty-seven years at BNL were spent as the X-Ray Ring Manager and supervisor of the Control Room.
- Paul LeDoux, the Department's Quality Assurance Representative, had a total of twenty years at BNL, the last eleven at the NSLS.
- Clem Auguste, one of the Department's safety representatives, spent the last thirteen of his seventeen BNL years at the NSLS.

While some of these individuals' duties have been redistributed, a realignment of most of their duties is still under review. The NSLS would like to thank them for their contributions and wishes them all the best for the future.

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Facility Report

Mike Kelly, NSLS Building Manager

Click here to see some photos of the new addition.

Structural Biology Addition and New Control Room

> As of October 13, 1995, the new control room is operational. The Operations Coordinators are disassembling the old control room, which will be set up as their new home. The Structural Biology laboratories are occupied and being used. With reassignment of laboratories, this gives much needed lab space for beamlines X13 to X6. The only thing lagging behind schedule is the completion of the cold boxes. The boxes are already assembled and plumbed in place. This is a large project, since each box has two evaporators. The evaporator/condensing units are located in the mechanical equipment room to keep excess heat and noise out of the laboratories. Currently, the boxes need to be control wired and then balanced. This is scheduled for the week of October 16, 1995.

X1 to X4 Expansion

> At this time, the laboratories X1, X2, and X4 have all the utilities installed. The walls are up and spackled. The offices, which will house myself and the safety group, are painted and not far from completion. Large items not completed are the the installation of the laboratory furniture and the fume hood fan platform. This is scheduled for next week.

Reroofing of X1 to X19

> After a long struggle with summer thunder squalls, the roof was completely ripped to the deck and replaced by the end of July 1995. This outfits all of the NSLS with a new roof, except for the X5 area (LEGS). LEGS will be done this fall. The seam joint between the X1, X4, and the Structural Biology Addition will also have to be redone this fall.

Storage Space, Excess Equipment

> After construction is complete, the remaining laboratory assignments can be implemented. The User Shop will move up to the experimental floor and all the beamlines will have a lab or setup/storage space (the Denis McWhan Plan). This is expected to occur during the Fall 1995 shutdown. During this time, we would like to dispose of any old chambers, old racks, computers, etc. that have been left in the storage areas. If this can be accomplished, it would leave space for our General Users when they are here doing their experiments. Please see me to dispose of the excess equipment. If you wish to have this excess equipment returned to your home institution, we can help you package it.

Custodial Services on the Experimental Floor

> The custodians are always available to sweep and mop the area around any beamline that requests it. This cleaning is no longer scheduled during operations due to many conflicts, but is offered on

an as-requested basis.

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Results of the DOE Customer Satisfaction Survey

"The Department of Energy Customer Satisfaction Survey was conducted by an experienced contractor under the direction of the Department of Energy task force. The overall survey results found a high level of satisfaction with the Department's products and services.

Almost 80% of the customers of the Science and Technology business line (S&T) reported being either "satisfied" or "very satisfied" overall with the products and services they received. Users of the National Synchrotron Light Source were the most satisfied of the S&T customers. Almost 90% of those who use the National Synchrotron Light Source report that they are "satisfied" or "very satisfied" and only one customer reported being "dissatisfied". Of those S&T customers who have financial arrangements with other agencies, more than 86% rate the Department of Energy as being "as good" or "better" in the negotiation process and more than half rate DOE as "better". 73% of our customers indicated that their level of trust in the Department of Energy is "better" or "much better than expected".

Users of the National Synchrotron Light Source were the most satisfied of the S&T customers. Almost 90% of those who use the National Synchrotron Light Source report that they are "satisfied" or "very satisfied" and only one customer reported being "dissatisfied".

This survey identified some strengths among the S&T products and services, most notably our user facilities. It also identified some opportunities for improvement. Leverage analysis of the survey found that improvement in written communications would have the biggest impact on overall satisfaction. The Office of Energy Research has chartered a Process Improvement Team to investigate the controlled correspondence process and identify opportunities for improvement. This team is scheduled to issue its report this summer. Some of our customers' comments identified areas that require additional study. The satisfaction reported from the Small Business Innovation Research grant applicants (55% "satisfied" or "very satisfied") was of interest. While it seems obvious that satisfaction is related to the fact that 90% of those who apply for a Small Business Innovation Research Grant do not receive funding from the Department, we believe more detailed study would help us to improve this important program. A Process Improvement Team (PIT) was chartered in December 1994, to evaluate the Small Business Innovation Research program and identify areas of improvements."

The above results are excerpted from the DOE Customer Satisfaction Survey which was conducted in 1994. The NSLS provided the DOE with a contact list of all users for the purpose of random polling, and extensive questionnaires were also completed by NSLS PRT members and the Users' Executive Committee. The NSLS wishes to thank all the users who took the time to participate in this survey and provide the DOE with feedback about the performance of our facility.

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A User's Perspective

Paul Zschack (ORNL), Users' Executive Committee Chair

In September, several members of the UEC had a long, productive meeting with the new NSLS Chairman, Michael Hart. Topics such as planning, NSLS manpower issues, and experimental abstract submission were discussed at length. This was a great opportunity for the informal exchange of ideas and opinions. I think we all left with quiet enthusiasm and the confidence that the NSLS has leadership that is sensitive to the concerns of the User.

I walked the experimental floor recently and was excited to see Users now beginning to occupy and effectively utilize the expansion space. Soon all the PRT groups will occupy or share convenient space adjacent to their beamlines. This is clearly one change that will improve the quality of life for PRTs and General Users alike, and will certainly help boost meaningful scientific output. As the expansion becomes comfortable and "lived-in", it will soon seem as if we have always had the space.

Another less visible change will be the effective implementation of beamline confederations or consortia which promise to bring an economy of scale to the existing PRT system. Although there are many different approaches to organize such groups, certain fundamental guidelines should be established. First, I think it is imperative that these organizations be market driven. We should recognize that the needs of the PRTs create the demand for specific features of the consortia plan. To help identify these needs, the UEC PRT/General User Study Panel is preparing the results of a community survey to present to Michael and the User community for comment.

Members of the 1995-1996 Users' Executive Committee and Special Interest Group Representatives
(Front, from left to right): Paul Zschack, Stephan Ginnel, Michael Dudley, Eva Rothman, Sue Wirick, and Peter Stephens.
(Back, from left to right): Kim Mohanty, Dan Fischer, David Hanson, Jean Jordan-Sweet, Doon Gibbs, Jon Levin, Kevin Smith, Boris Sinkovic, Syed Qadri, and Craig Thorn. Missing from photo are Simon Bare and David Johnson.

As these confederations or consortia emerge, many details need to be promptly addressed for these groups to be successful. The PRTs, if left to themselves, will struggle to form an effective organization. Here I see the role of the NSLS is to provide the forum for the PRTs to learn who is interested, exactly what is needed, and what can be provided for these consortia organizations. We can determine if services such as part-time technical support or computer networking support would be utilized if they were made available. And, we can then also begin to explore methods for cost recovery and subsidy.

In planning for these new relationships, we must acknowledge that the needs of each consortium is likely to differ somewhat. Some will require more technical assistance, while others may require more organizational and administrative support. We should also entertain expansion into other areas and create groups based on scientific disciplines as well as experimental techniques.

Whatever the final form of the consortia, we must also concede that not all groups will be best served through these coalitions. So although there are many ways to incorporate, I believe these alliances must be modeled on voluntary membership so that the PRTs remain autonomous but can access benefits through consortium membership. Some questions will need to be answered: What are the benefits of membership? What are the rules? How are these legislated? Are these formal or informal agreements? What do existing PRTs provide to gain entry? And what do they get from membership? How do we encourage both healthy and struggling PRTs to join?

We should also explore changes that are independent of the formation of consortia. One of the common current goals of the PRTs is to reduce the costs of operating a beamline without compromising performance. This most likely means reduced manpower costs. To effectively operate a beamline at the NSLS with reduced manpower, the PRTs will require easy, convenient, and cost effective access to many BNL and NSLS services and infrastructure. It must become easier for the PRT beamline staff to perform routine, non-technical tasks to free more time for scientific and technical issues. It is not necessary for consortia to facilitate these needs.

I suggest that there are opportunities for the NSLS to currently help PRTs with very little effort or cost. For example, when the NSLS places an order for equipment such as V-F converters or ion chambers, the PRTs should be given the opportunity to purchase the same equipment at that time. This is clearly an easy path toward standardization with the obvious gains through economy of scale. Unfortunately in the past, when orders are placed for this type of equipment, the beamlines have not been invited to participate. Information transfer to (and between) the PRTs is also very important and can further facilitate savings through standardization. For example, if I upgrade part of my beamline hardware or software today, I do so "in a box", isolated from all other beamlines on the floor. If the information were available, I would likely choose to implement the hardware or software that other similar beamlines already use. The responsibility to identify and exploit these areas lies jointly with the NSLS and with the Users.

We are all waiting to see the point of difference that will keep users coming back to the NSLS as well as attract new scientific programs to the NSLS. No doubt, the NSLS will need to become to some extent a better provider of service. I believe it will also benefit all Users for the NSLS to focus on specific scientific arenas in which to compete and maintain expertise. Whatever the future holds, it is clear the NSLS will provide cost effective access to synchrotron radiation. As Users, we now anticipate the planning that will demonstrate a redefined NSLS mission, and bring us confidently into this future.

NSLS Safety and Environmental Protection (S&EP) Representatives

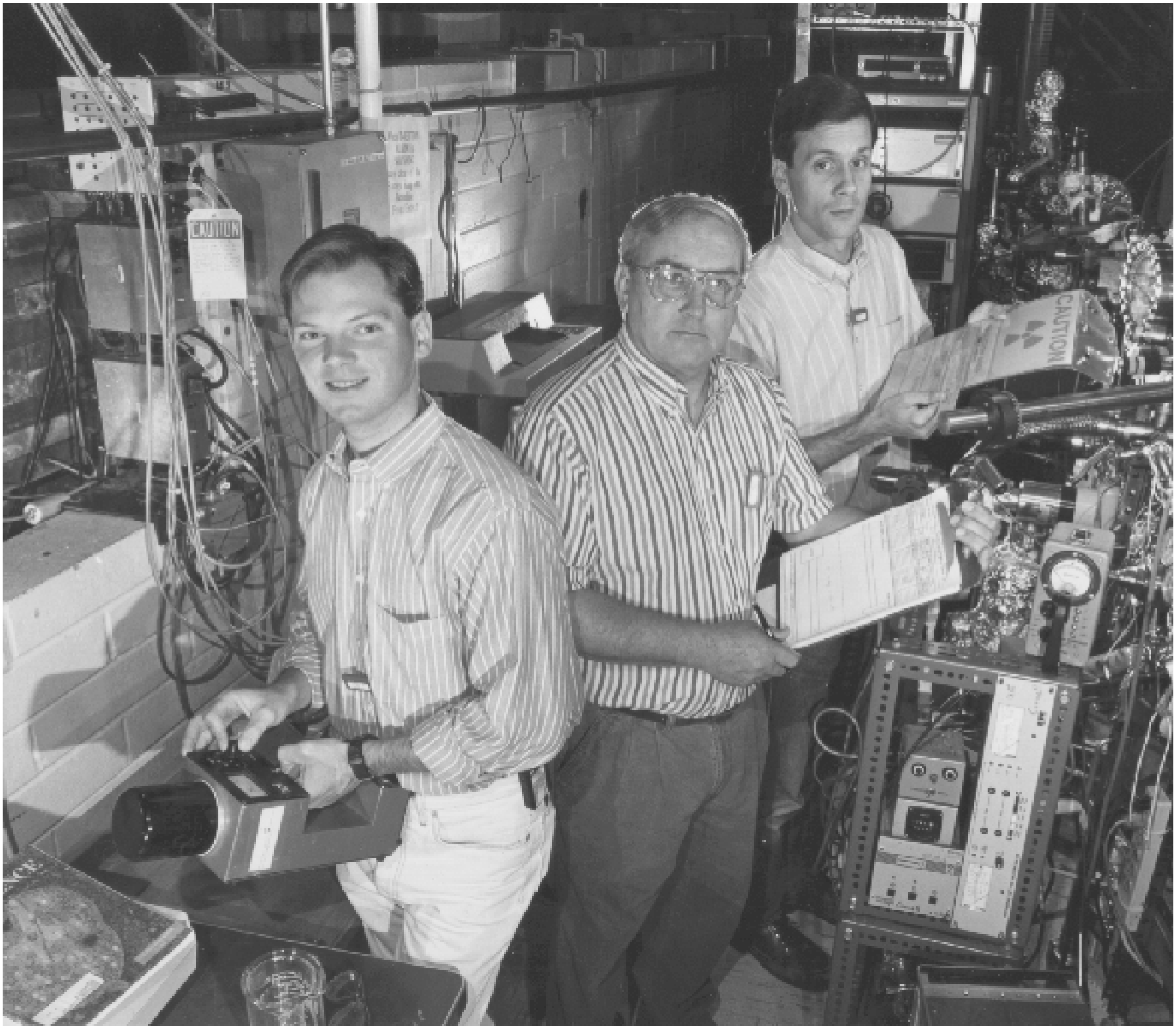
(This article appears in the NSLS Newsletter, November 1995)

The Safety and Environmental Protection Division (S&EP) at the NSLS includes Eric Seebeck, Rudy Zantopp, and Chris Weilandics. They are part of the Facility Support Section within BNL's S&EP Division which provides oversight and technical assistance to the various Departments and Divisions on site in the area of Environmental Safety and Health. A portion of their work involves routine, periodic, and as needed monitoring of certain in-house conditions to verify their compliance with current regulations. These include noise surveys, hood and ventilation surveys, and leak checking of sealed radiation sources, as well as radiological posting. The staff also assists the NSLS in review of experiments.

The capability to monitor exposure to various physical and chemical agents is available as well. Some of the personal monitoring performed at NSLS has included exposure to lead and silicon dust, xylene, ozone, oil mist, and acid vapors, as well as conditions of oxygen deficiency, RF/microwave radiation, magnetic fields, and heat stress.

Radiation safety is everyone's concern at the NSLS. Therefore, routine radiation surveys are conducted by the group. Each year the NSLS beamlines are scanned to check for any elevated levels that may be found along the line. Also, in an effort to monitor dose from the machine at large, passive radiation monitors (TLDs) are set up at various locations as area monitors within the facility. These measurements are used to supplement a real time monitoring system which looks at levels in some of the office areas. The group works closely with the NSLS Safety Staff and the NSLS ALARA Committee in an attempt to monitor trends in radiation levels and keep doses As Low As Reasonably Achievable. Dose records can be requested, either in person by stopping by the Group's office, or through the mail by filling out a form. The S&EP group also arranges for permanent personnel dosimetry badges; anyone who wishes to automatically receive a film badge each month must request this service by presenting their General Employee Radiological Training (GERT) card to the S&EP Group.

Left to right: NSLS S&EP Representatives Eric Seebek, Rudy Zantopp, and Chris Weilandics.



The disposal of hazardous waste is tightly regulated and assistance with this is also available through S&EP. Forms, and assistance in filling them out is a service provided by the group as well.

The quality of drinking water is everyone's concern. In 1995 the S&EP group sampled random water fixtures throughout Building 725. All fixtures sampled were found to be in accordance with State and Federal drinking water standards. In addition, the S&EP Division has issued Safety Bulletins on drinking water at BNL.

These are just some of the functions of the S&EP group. If the situation involves a safety or environmental issue, S&EP can offer assistance. The group will continue to serve the NSLS in hopes of maintaining a safe facility. Have a safety question? Feel free to stop by. The Group is located in Room #1-124 or can be reched by calling x2593 or 5565.

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NSLS and Suffolk Community College Faculty Collaborations

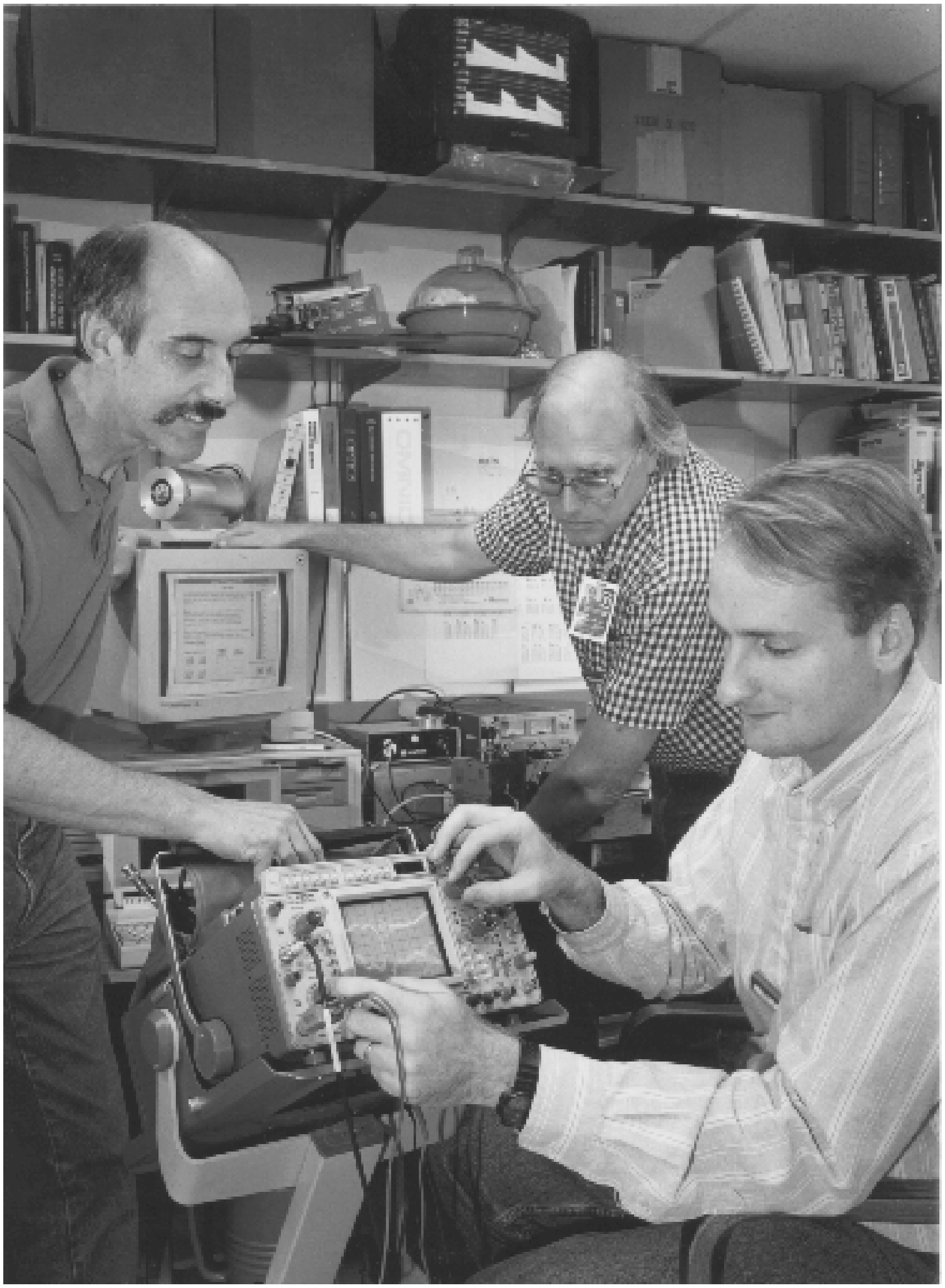
Tom Breeden and Robert L. Warasila (Physical Sciences Dept, Suffolk Community College)
Gwyn P. Williams (NSLS Beamline Support/R&D Group)

During the summer of 1994 a scheduling conflict brought two Suffolk Community College (SCC) physics faculty, Tom Breeden and Bob Warasila, to the NSLS to help with the DOE High School Honors program. That year, the program conflicted with the International Synchrotron Radiation Conference (SRI'94). Karl Swyler's Office of Education Programs, which had enjoyed the active participation of NSLS Staff and Users in previous years, had the idea of looking to SCC for help in filling in for people who had helped in the past. Tom Breeden, with the assistance of Pat Nuessle, took on the assignment of guiding the students through the X26 beamline experiment, while Bob Warasila, a former BNL employee who worked with George Hummer, took on the U4IR experiments. Everything went so well that the SCC faculty were invited to continue working at the NSLS on an instrument development project with Gwyn Williams.

Most outsiders are unaware that science faculty at community colleges frequently have extensive research experience from their graduate school days. Both Tom Breeden and Bob Warasila are graduates of SUNY-Stony Brook's Physics Department where they did experimental work in laser physics and in mass spectrometry projects, respectively. These past experiences enabled them to contribute to IR optics instrumentation projects being advanced by Gwyn's infrared group and intended as part of the expansion of infrared efforts at the NSLS.

The IR Group has been interested in operating their Fourier Transform Infrared (FTIR) benches under vacuum so that a vacuum environment can be maintained from the beam port through the sample compartment and on to the detector. The benefit of this modification is the elimination of IR absorption band structure associated with H2O and CO2, which is particularly important in the mid- and far-IR. In order to explore the operation of the latest FTIR benches under vacuum, Nicolet Instruments loaned a new interferometer bench to Gwyn about two years ago. The bench has dynamic alignment of the fixed mirror to compensate for errors in the scanning mirror mechanism and thus gives the best performance available today. Although the bench had been installed in a vacuum tank, there had not been sufficient manpower available to pursue the R&D aspects of the problem.

From left to right: Gwyn Williams, Bob Warasila, and Doug Van Campen testing the interferometer.



Bob, Tom, and Gwyn decided that this would be a suitable project for SCC faculty to pursue on a part-time basis starting in the fall of 1994. It was necessary to proceed at a slow pace because at a community college, teaching, advising, and administration duties leave little time for research. By the summer of 1995, however, the project had moved along far enough for extensive testing under vacuum. Karl Swyler's Office provided support for the faculty as part of an SCC Partnership which also included a student/faculty team project based at RHIC (BNL's Relativistic Heavy Ion Collider). By August, the FTIR system was not only running under vacuum but had accumulated about 200 hours of successful operation, setting the stage for installation of the bench on an IR beamline for further development during the coming academic year. The Office of Education Programs is searching for ways to expand upon this successful experience with SCC.

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17th International Free Electron Laser Conference

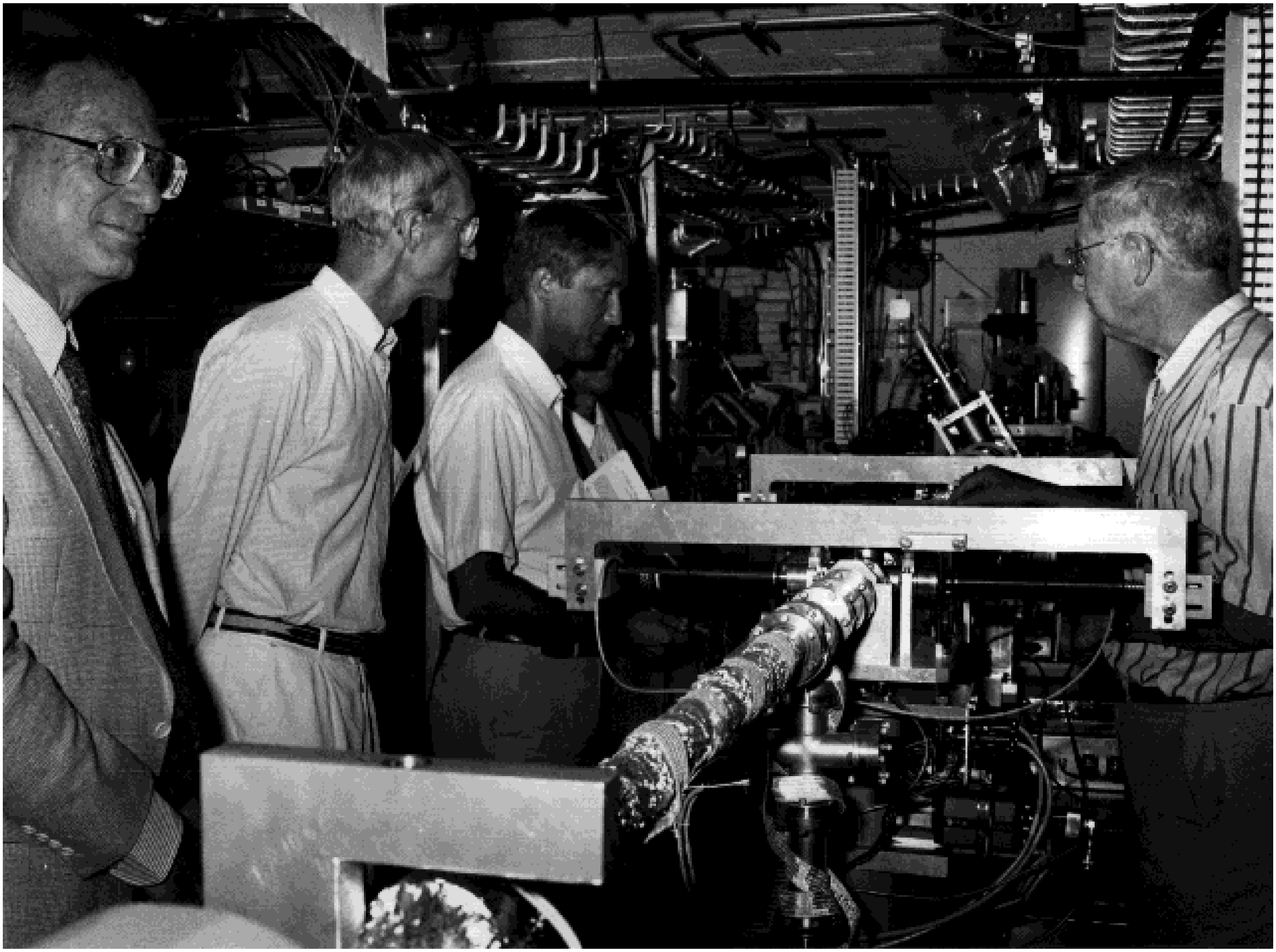
Ilan Ben-Zvi and Samuel Krinsky (NSLS), Conference Chairmen

The National Synchrotron Light Source has been pursuing the development of new radiation sources for a number of years. Groundbreaking theoretical and experimental work at BNL, and the NSLS in particular, has strongly contributed to the belief that the next generation of light sources will be Free-Electron Lasers (FELs). In 1992 the Executive Committee of the International FEL Conference decided that BNL would host the 1995 FEL Conference. This decision was a recognition of the work done at BNL on this subject.

The 17th International Free Electron Laser Conference and 2nd International FEL Users Workshop were held August 21-25 in New York City at the Marriott Marquis hotel on Times Square. The FEL Conference was co-chaired by Ilan Ben-Zvi and Samuel Krinsky and the Users Workshop was co-chaired by Erik Johnson and Glenn Edwards of Vanderbuilt University. The 267 attendees from 15 countries met to discuss the advances in FEL technology taking place during the last year throughout the world, and to consider the maturing scientific programs at Infrared FEL User Facilities. The FEL Conference and FEL Users Workshop were held in parallel sessions to allow a good interaction between the radiation source scientists and the radiation users. Over 300 papers were presented at the conference. The proceedings, to be published by North Holland, will include about 200 manuscripts in 600 pages of Nuclear Instruments and Methods. Among the subjects at the center stage of the conference were the development of short wavelength FEL and also high power devices at longer wavelengths.

The participants of the conference enjoyed the outstanding facilities and rooms of the Marriott Marquis hotel as well as the opportunity to visit the Big Apple. Tickets to Broadway shows and City tours that were provided by the conference organizing committee were in great demand. The conference included two receptions (one each for the conference and workshop) and a banquet. Among the events at the banquet was the traditional award ceremony of the FEL Prize and a chamber music concert.

Ilan Ben-Zvi (far left) and conference attendees at the Accelerator Test Facility (ATF) Beamline #2 which is the site of the inverse FEL experiment. The tour of the ATF was part of the Wednesday visit to the NSLS.



A well-attended event at the meeting was a tour to BNL. The participants visited the NSLS X-Ray and UV storage rings and experimental floors, the Source Development Laboratory, the Magnetic Measurement Laboratory and the Accelerator Test Facility (ATF). This was an opportunity for the participants of the Conference and Workshop to learn at first hand about the achievements of the NSLS in the arena of source development. FEL development at BNL is being pursued at the ATF where the microundulator FEL Oscillator is being prepared for operation, and the High Gain Harmonic Generation Experiment is to be carried out. R&D work on high brightness electron guns at the ATF is essential for the development of short wavelength FELs. Also, at the Source Development Laboratory (Building 729), work is under way to develop a UV-FEL utilizing the NISUS wiggler driven by a 200 MeV linac. Other projects being prepared at this laboratory include the generation of micro bunches by two techniques - single pass magnetic compression of a beam pulse from the linac and continuous compression of a beam pulse by high frequency, high amplitude electric fields of a superconducting cavity in the XLS storage ring.

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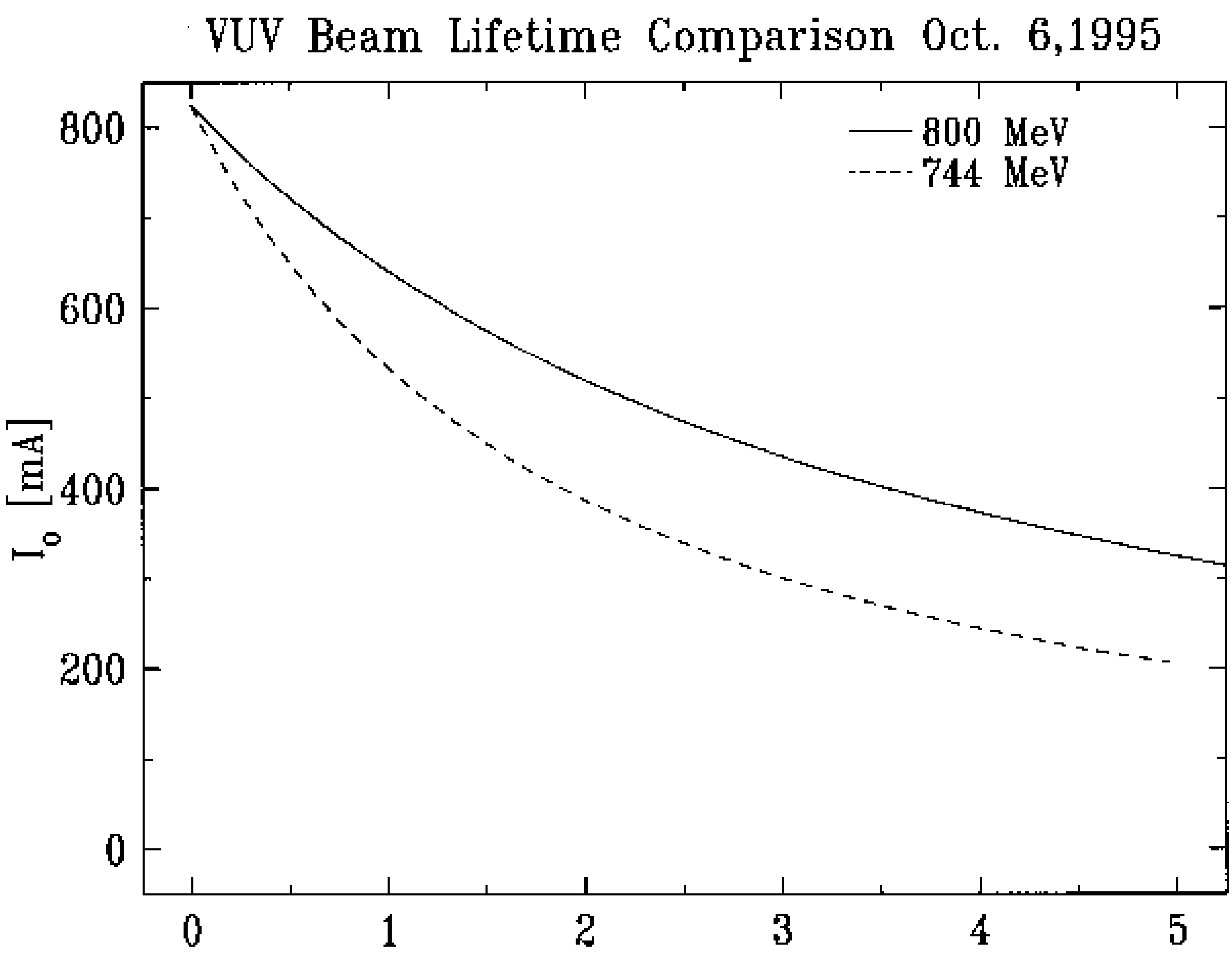
VUV Ring Operational at 800 MeV

Stephen L. Kramer, VUV Ring Manager

The major improvement in VUV Ring operations during FY 1995 has been an increase in the normal operating energy of the ring from 744 to 800 MeV. This represents a 14% increase from the design energy of 700 MeV and a 69% increase in synchrotron radiation power of the ring. The motivation for this increase in energy has been an increase in lifetime resulting from a decrease in Touschek scattering rate and a small increase in emittance and bunch length of the beam. Operationally this has resulted in an increase of about 30% in the integrated current of the ring (as shown in the figure below) as compared to the 744 MeV operations. Both operations include the enhancement resulting from the bunch lengthening cavity, that has been in operations for several years. Operations at 800 MeV has been the standard since February 1995, once new operating conditions for the undulators was established.



Time [Hours]

This increase in energy was made possible when the Phase II improvement of the X-Ray Ring dipole power supply made available the old power supply for installation in the VUV Ring. Since the VUV Ring beam stability has benefited from injection at the operating energy of 744 MeV and the booster had not operated at 800 MeV, higher energy operations would require injection at 744 MeV and ramping the VUV Ring to the higher energy level. The concern over the impact this would have on orbit stability was addressed by installing high resolution Hall probes in the ring magnets. These instruments allowed tracking the magnetic field changes in the dipole magnets which are being driven well into saturation at the 800 MeV level. In fact the Hall probe in the dipoles indicated that the field was increased by 8.8% to 808 MeV rather than 7.5% indicated by the previously measured field versus current curve. The undulators also measured an 8.8% increase in the beam energy. The current in the dipoles has actually increased about 16%, due to the saturation in the iron return yoke. This saturation has the effect of reducing the effective length of the dipoles and increasing the sextupole component in these magnets. The concern was that these changes in the dipole field quality would not be correctable with the present field limits in the correction magnets, but this turned out not to be a problem. The Hall probes in the quadrupole magnets allowed for scaling the field in these magnets such that the focusing properties of the lattice remained constant and no differences between the beam optical properties at these two energies has been observed.

At present the VUV injection is still at the energy of 744 MeV, but the plan is to increase the energy of the booster to track the VUV energy. With the new booster power supplies this will be possible and has been achieved uring studies periods. Until injection at 800 MeV becomes possible, the ring will continue to be ramped from the 744 MeV level to the operating energy. This is achieved within 20 seconds after the ring is filled to the operating current of 850 mA. Since the beam remaining at the end of the 5 hours of operations (typically 300 to 350 mA) is not dumped, the total refill time is between 10 and 15 minutes, with the injection taking between 5 and 8 minutes. The only measured adverse effect of having to ramp the energy has been a slow relaxation of the field by about 0.06% (as measured from the dipole Hall probe) over a period of about 15 minutes. This is the result of the 32% change in power dissipation in the dipole coils due to the increase in current. However, this change has not been observed by the users since the Global Orbit Feedback removes much of the orbit movement and the beamline optics are also warming up during this time period.

Higher energy operation of the VUV Ring will be studied, once improvements in the components that presently limit the dipole power supply current to 2000 Amperes are made. The current limit of the dipole power supply should allow the VUV Ring to operate up to about 900 MeV. However, the upper energy level will be determined more by the limit on correcting the orbit resulting from the distortions in the dipole field quality and the energy limit from the booster. As the VUV Ring continues to improve its beam lifetime, the users will be faced with the decision of whether to continue to improve the lifetime or whether to reduce the vertical emittance and improve the beam brightness, while maintaining the same beam lifetime. Like any teenager, the VUV Ring continues to show the bright future of a maturing user facility with direct benefit to the large number of users of its many operational beamlines.

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X-Ray Ring High Current Operations

Roger Klaffky, X-Ray Ring Manager

The maximum operational current of the X-Ray Ring increased from 250 mAto 300 mA at the end of June. Before this boost in current could occur, a number of upgrades and tests had to be performed to comply with the recommendations of the NSLS X-Ray Thermal Limits Task Force. Four water-cooled white beam beryllium windows were replaced and nineteen white beam windows already in operation at 250 mA were checked for leaks. Also, the X-Ray Ring active interlock system, with the exception of X13, was certified after the calibration and linearity of the system was verified up to 350 mA during 25 bunch operation. Finally, the front end masks on X21 and X25 were interlocked so they could not close unless the wiggler gaps were open.

The active interlock system for the X13 Prototype Small Gap Unulator (PSGU) was certified as of November 1, so that the undulator can operate up to a beam current of 350 mA. The minimum operational gap setting is 4 mm at the present time. Because there is a reduction in the beam lifetime at gaps less than 4 mm, any operations at less than 4 mm will require approval by X-Ray users.

At the present time, operation of the ring up to 438 mA (at 2.584 GeV) or up to 250 mA at 2.8 GeV is possible during studies and template shifts. Beamlines having compatible beryllium windows and the proper radiation shielding will be allowed to operate during these shifts. Lists of beamlines permitted to run at 350 mA and 400 mA at 2.584 GeV are posted outside the new Control Room.

In order for operations to occur at currents above 300 mA for all beamlines, a sizeable number of beryllium windows will have to be replaced. Operations at 350 mA will require 10 new windows immediately, followed by another 16 windows before a deadline set by the Thermal Limits Task Force. Operation at 438 mA would require replacement of a total of 34 additional windows.

A new beryllium window design effort is underway at the NSLS with the goal of installation of new windows during the December 1996 shutdown. Operations at 350 mA would commence in January 1997.

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CALL FOR GENERAL USER PROPOSALS

Deadline for proposals and requests for beam time on the NSLS X-Ray and VUV Rings is Wednesday, January 31, 1996 for scheduling May through August 1996

Prior to Submitting a Proposal

> You must contact the beamline personnel responsible for the beamline(s) selected in order to verify technical feasibility on the beamline(s) and discuss any special arrangements for equipment. Your chance of getting beam time is improved by being able to use more than one beamline.

Preparing Your Proposal

> The same form is used for new proposals and for beam time requests against existing proposals. Follow the instructions on the proposal information sheet. All information must be typed or printed legibly. Be sure all of the required sections are completed and submitted at the same time. MAIL OR FAX ONE COPY of the proposal form, Safety Approval Form, and any attachments to the NSLS User Administration Office. Only one copy is required - do not mail a hard copy or fax a second if you have already faxed one.

Proposal Deadline

> The complete proposal package must be received by the User Administration Office on or before 5:00 pm Eastern Time Wednesday January 31 in order to be considered for the January - April cycle. The fax machine is always extremely busy on the deadline date; please do not rely on faxing the proposal successfully on January 31. We encourage submitting new proposals by mail prior to the deadline. Beam time requests for active proposals will be accepted after the deadline, but will be allocated beam time only after requests received on time have been allocated. Late requests are not eligible for a rating upgrade if beam time could not be allocated to them.
>
> Each proposal will receive a prompt preliminary review to verify that it is complete and legible. If there is a problem with the proposal, you will be contacted immediately. Submitting your proposal well in advance of the deadline date assures that the User Administration Office has time to reach you and that you will have enough time to correct any deficiencies.

Additional Information and Forms

> Blank proposal forms and instructions, a guide to the NSLS beamlines, and more information about the General User Program are available by contacting the General User Program Coordinator. Office hours are Monday through Friday, 8:00 am to 5:00 pm Eastern Time.

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NOVEMBER 1995 NSLS NEWSLETTER

New G&A Rates for Construction Accounts

Laura LeBrun
NSLS Administration

The General and Administrative (G&A) rates for capital (series 89) accounts will change for the fiscal year 1996. The new rates will be effective October 1, 1995 and will be applied to all construction accounts established after September 30, 1994.

The new G&A rate is 6.6% on all charges. The only addition to this rate will be to labor costs, which should not have a large impact here since the majority of all user construction accounts do not receive labor charges. For instances where labor charges occur, however, they will receive a 56.1% "site support" charge which is also subject to the 6.6% G&A rate. Distributed technical services (work provided via an ILR) are NOT considered direct labor charges and are therefore not subject to the 56.1% "site support" rate. The material burden rate which is 15% on materials, supplies, and travel and 6% on R7D subcontracts and special procurements, is also subject to the 6.6% G&A rate.

At right are some sample calculations. Please direct any questions to Laura LeBrun at (516) 282-7433.

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User construction account with no labor charges:
Distributed Technical Services (DTS)                10,000
Materials, Supplies, and Travel (MST)               10,000
Material Burden (15% on MST)                         1,500
Sub-total                                           21,500
G&A rate (6.6% on sub-total)                         1,419
Total charges                                                22,919

User construction account with labor charges:
Salary and Fringe                                   10,000
Distributed Technical Services (DTS)                10,000
Materials, Supplies, and Travel (MST)               10,000
Material Burden (15% on MST)                         1,500
Organiz. Burden (11.6% on Sal. & Fringe)             1,160
Site Support Rate (56.1% on Sal. & Fringe)           5,610
Sub-total                                                    38,270
G&A rate (6.6% on sub-total)                         2,526
Total charges                                                40,796
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