

Guidelines for users and staff at NSLS-II

Brief Summary

1. All beamlines depend on accelerator operation. Most beam dumps can be restored rapidly (typically within an hour) by the accelerator operators. If they are not able to restart the beam, then appropriate experts will be called in to restore operations as quickly as possible.
2. Best effort is made to adequately support user experiments with NSLS-II staff. Current staffing levels do not permit 24-hour coverage and support will be highest during normal business hours. Staffing levels also vary between beamlines and endstations and less coverage should be expected when there are fewer assigned staff members to an instrument.
3. Users who submit proposals to NSLS-II for experiments are strongly encouraged to contact the beamline staff prior to submission to assure that their proposal is feasible at the beamline. In the absence of such contact, an experiment may be deemed to be not feasible. When the proposed measurements are not routine and when special sample environments and detectors are required, the users need to contact the beamline staff as early as possible.
4. All experimental work is required to have an approved and posted Safety Approval Form (SAF) that describes the chemical, electrical and physical hazards as well as the materials that will be studied. Beamline staff or other NSLS-II personnel are authorized to stop work if an inappropriate SAF is posted at the beamline.
5. Users should communicate with the beamline staff about their expected experiment staffing, including information on their individual roles, at least two weeks before their assigned beamtime. Sufficient staff is required to assure safe and efficient experimental data collection.
6. Beamline staff will provide training to each user group and help start the experiment. The beamline staff are not available 24 hours per day but will respond to off-hour inquiries as their availability allows.
7. Beamline staff may participate in user experiments as co-authors or collaborators. It is often best to discuss this matter with the staff prior to beamtime. Beamline staff are encouraged to develop their own scientific or instrumentation/methodology programs, which are often of direct benefit to general user experiments.
8. Some of the operations time is used to commission new capabilities and not available for general user proposals. Part of the user allocated beamtime may be required to align and adjust the instrument.
9. Following the scheduled experiment, the user group is responsible for clean-up of the beamline area and any sample preparation spaces, including those in NSLS-II labs, that were used. Users should also arrange for disposal of hazardous waste and work with the NSLS-II shipping coordinator to send samples back to their home institution.
10. NSLS-II is committed to providing its users with access to their data and, where possible, their analysis routines in a timely and convenient fashion.
11. BNL has a respectful workplace policy that all staff and users are expected to observe.
12. Users are encouraged to complete the 'end-of-run survey' to provide feedback concerning their visit to the NSLS-II.
13. Publications resulting from work at the NSLS-II must include an acknowledgement referencing the use of the facility.
14. NSLS-II is committed to providing remote operations on suitable beamlines during regular working hours. Success requires excellent communication between the users and staff during the measurements.
15. If staff feel it is unsafe for them to travel to BNL, they are not expected to provide on-site support.

Extended Description

1. All beamlines depend on accelerator operation. Most beam dumps can be restored rapidly (typically within an hour) by the accelerator operators. If they are not able to restart the beam then appropriate experts will be called in to restore operations as quickly as possible.

NSLS-II is a state-of-the-art 3 GeV electron storage ring that offers scientific researchers an array of experimental facilities (beamlines) with a wide spectral range for studies in very diverse scientific disciplines. The facility schedules up to 5000 hours annually for experimental operations, and additional storage ring operation periods for accelerator studies. During these periods, the storage ring operates 24 hours per day, and the NSLS-II control room is staffed with Operators and Floor Coordinators whenever the storage ring is operating. Operators can rapidly restore (typically within an hour) most beam dumps. If they are not able to restore the beam then appropriate technical groups are called in to respond and return the storage ring to operations as quickly as possible. The reliability of the accelerator complex is a high priority of the facility since this performance impacts all experimental operations. If a failure that dumps the beam is traced to a specific beamline, and the fault is recurring, then the beamline may be disabled until the next maintenance or study period.

2. Best effort is made to adequately support user experiments with NSLS-II staff. Current staffing levels do not permit 24-hour coverage and support will be highest during normal business hours. Staffing levels also vary between beamlines and endstations and less coverage should be expected when there are fewer assigned staff members to an instrument.

The experimental beamlines are generally designed for highly specialized protocols and have relatively unique optics and endstation instrumentation. The staff who operate and maintain these instruments generally have very specialized skills and experience. The staffing levels for the beamlines do not permit 24-hour support. Further, the staff response may also depend on the number of persons assigned to an individual endstation. In general, users should not expect staffing during extended hours. Effort is made to start measurements during weekdays since both the beamline and other support staff are more available to help users. This cannot be satisfied for all measurements and more experienced users may be assigned weekend time.

3. Users who submit proposals to NSLS-II for experiments are strongly encouraged to contact the beamline staff prior to submission to assure that their proposal is feasible at the beamline. When the proposed measurements are not routine and when special sample environments and detectors are required, the users need to contact the beamline staff as early as possible.

Users who submit proposals to NSLS-II for experiments are strongly encouraged to contact the beamline staff prior to proposal submission to assure their proposed measurements are feasible at the beamline. This is particularly important when the measurements are not routine and when special sample environments or detectors are required. An exchange with the beamline staff will help identify if a proposal can be run at the chosen beamline and may help identify other beamlines that are more suitable. Note that the beamline staff are required to prepare a written feasibility review for each proposal and this review is part of the proposal review package. It is advised to initiate contact at least a week before the submission deadline. Users who have been assigned beamtime will be provided a beamline contact. To assure proper work planning, users are requested to communicate with the beamline contact well in advance of their scheduled visit. It is often not possible to accommodate last minute requirements (such as a new interfaces or holders for mounting samples or detector(s) or sample cell(s), extensive wiring, integration in beamline configuration and/or beamline controls, or development of new scripts).

4. All experimental work is required to have an approved and posted Safety Approval Form (SAF) that describes the chemical, electrical and physical hazards as well as the materials that will be studied. Beamline staff or other NSLS-II personnel are authorized to stop work if an inappropriate SAF is posted at the beamline.

All experimental work is required to have an approved and posted Safety Approval Form (SAF). The form should be submitted by the user group as early as possible, but not later than 2 weeks prior to the start of the scheduled experiment. If the associated SAF is not approved and posted by the staff, the experiment cannot start – there are no exceptions. It is the responsibility of the Lead Experimenter to assure that the SAF accurately describes the experimental plan, all hazards associated with the planned work, all experimenters, and identifies all equipment and samples to be brought to the NSLS-II. Sample preparation might require use of an NSLS-II laboratory adjacent to the experiment hall. It is also the responsibility of the Lead Experimenter to assure that all hazard controls and hold-points initiated during the SAF review process are followed, and that all required training is completed. The SAF should be associated with the proposal that was allocated beamtime, and not with another unallocated proposal. It is important that the performed experiments reflect the reviewed and approved science described in the proposal, and that the SAF reflects the experimental protocols actually performed. Beamline staff or other NSLS-II personnel are authorized to stop work if an inappropriate SAF is posted at the beamline.

5. Users should communicate with the beamline staff about their expected experiment staffing, including information on their individual roles, at least two weeks before their assigned beamtime. Sufficient staff is required to assure safe and efficient experimental data collection.

Users who have beamtime assigned for their research are expected to arrive at NSLS-II with sufficient staff to assure safe and efficient experimental data collection. Users that are tired are more likely to make bad choices and risk executing a poor experimental plan, damaging equipment, or causing injury. Performing a Synchrotron experiment is demanding and requires adequate staffing by user groups whether on-site or remote. The users should communicate with the beamline staff about their expected experiment staffing at least two weeks before their assigned beamtime.

6. Beamline staff will provide training to each user group and help start the experiment. The beamline staff are not available 24 hours per day, but will respond to off-hour inquiries as their availability allows.

The beamline staff will configure the beamline for the experiment, train the user group members to operate the beamline, help in setting up standard sample environments, assist in data transfer, and provide instruction for using data analysis tools available at the beamline. The beamline staff are available to respond to operational issues or questions from the user group during normal business hours (generally weekdays from 9 AM to 5 PM). Outside these hours, beamline staff may respond to users' calls or emails at their discretion. Off hour contact for technical assistance should not be initiated by user groups but arranged at the discretion of beamline staff. Beamline staff understand that off hour response for technical assistance may be not possible at times. If there is a beamline emergency (eg, water leak, power failure) where there could be safety or equipment damage, the user should immediately alert the control room (x-2550). Due to limited staffing, there may be times when the beamline staff are unable to respond to phone calls or emails. Note that NSLS-II operations beamtime may be unscheduled if staffing at a beamline is inadequate.

7. Beamline staff may participate in user experiments as co-authors or collaborators. It is often best to discuss this matter with the staff prior to beamtime. Beamline staff are encouraged to develop their own scientific or instrumentation/methodology programs, which are often of direct benefit to general user experiments.

Beamline staff are encouraged to develop a science or technology program. This benefits the user community by developing staff expertise in advanced beamline science programs and by advancing capabilities and methods that become available to general users. This may also be an important component of the beamline staff's scientific career development. NSLS-II staff are encouraged to collaborate with user groups on research of common interest. Collaboration with users may involve various contributions such as advising on the design of the experiment plan, assisting with non-trivial measurements, supporting data analysis, or participating in manuscript writing. In particular, some beamlines may use less matured techniques that would require greater level of staff involvement or collaboration. Therefore, it is strongly encouraged to have conversations on co-authorship well in advance of manuscript writing. This can prevent misunderstandings and hard feelings afterwards. Users are expected to carefully consider whether NSLS-II staff should be named as coauthors or in acknowledgements based on the ethical conventions of the journal and their scientific discipline. (For example, see "Transparency in authors' contributions and responsibilities to promote integrity in scientific publication", Marcia K. McNutt, et.al., PNAS, Mar 2018, 115 (11) 2557-2560; DOI: 10.1073/pnas.1715374115). Before submission of a manuscript, users are expected to seek concurrence from all co-authors of the manuscript. NSLS-II staff may also enter collaborations that might involve placing significant user group resources (such as large, complex equipment or students or post-docs) at the NSLS-II for extended periods of time. These collaborations should be discussed well in advance and must be approved by NSLS-II management.

8. Some of the operations time is used to commission new capabilities and is not available for general user proposals. Part of the user allocated beamtime maybe required to align and adjust the instrument.

Although a beamline may be operational, there are often ongoing efforts by the staff to commission new capabilities. These science and technical commissioning activities might involve users who understand the goals for commissioning and have expectations that are set accordingly. That is, the commissioning activity may be interrupted to address issues that arise. Part of the user allocated beamtime maybe required to align and adjust the beamline optics or instruments. This may occur at the start of the running period, or as needed throughout the running period. Part of the user allocated beamtime might be used to reconfigure the beamline instrumentation to accommodate the user's experiment.

9. Following the scheduled experiment, the user group is responsible for clean-up of the beamline area and any sample preparation spaces, including those in NSLS-II labs, that were used. Users should also arrange for disposal of hazardous waste and work with the NSLS-II shipping coordinator to send samples back to their home institution.

Following the scheduled experiment, the user group is responsible for clean-up of the beamline area and any sample preparation spaces or NSLS-II labs that were used during the experiment visit. The user group should plan to vacate the beamline and lab spaces at the end of their scheduled beamtime unless other arrangements have been made with the beamline staff. Samples and user equipment should not be stored at NSLS-II – shipping these back to the user's institution should be arranged with the NSLS-II shipping coordinator. If experimental work is completed earlier than scheduled, the user group may decide to depart NSLS-II early, provided they have notified their local contact.

10. NSLS-II is committed to providing its users with access to their data and, where possible, their analysis routines in a timely and convenient fashion.

Since the user community and its sponsoring organizations are very diverse with differing requirements for data retention, the NSLS-II cannot guarantee compliance with all data retention requirements of all user groups. So, users of the NSLS-II are responsible for meeting the data management requirements of their home institutions and/or funding agencies. The NSLS-II is committed to providing its users with their data in a timely and convenient fashion. Experiment data and metadata collected at the NSLS-II may be stored at and retrieved from the facility for at least 1 year. The ownership of data generated at the NSLS-II is governed by the User Agreement in place between the user group and the facility.

11. BNL has a respectful workplace policy that all staff and users are expected to observe.

Brookhaven National Laboratory is committed to providing a work environment that promotes learning, research, and productivity through working relationships based on courtesy, civility and respectful communication. A workplace that is conducive to scientific excellence is one in which there is mutual respect for all contributors. Everyone in the Lab community should demonstrate respect through common courtesy and civility, and expect to be treated the same way in return. This respectful workplace policy applies to both staff and users.

<https://www.bnl.gov/diversity/hfiles/pdf/respectful-workplace-policy.pdf>

12. Users are encouraged to complete the 'end-of-run survey' to provide feedback concerning their visit to the NSLS-II.

Users are encouraged to complete the 'end-of-run survey' to provide feedback concerning their visit to the NSLS-II. Survey results are used to improve user services and the NSLS-II facility in general.

13. Publications resulting from work at the NSLS-II must include an acknowledgement referencing the use of the facility.

Publications resulting from work at the NSLS-II must include an acknowledgement referencing the use of the facility. The correct reference can be found at: <https://www.bnl.gov/nsls2/userguide/post-experiment.php#step2> In addition, users may consider citing the beamline's reference paper. Contact beamline staff for the citation.

14. NSLS-II is committed to providing remote operations on suitable beamlines during regular working hours. Success requires excellent communications between the users and staff during the measurements.

Remote experiments allow users to virtually connect to beamline workstations and either control or monitor the experiments. Remote access, compared to on-site access, requires more involvement of beamline staff, may require longer setup time, and the users might expect lower throughput. A successful remote experiment requires excellent communications between the user and staff prior to measurements and the user is expected to show the same focus during data collection as if they were on-site. User preparation includes clear labelling of samples and a priority list. During the measurements a video meeting is expected to be hosted by the user where the users should be available. Beamline staff are not expected to support data collection after regular working hours but if the users can operate the instrument remotely the measurements may continue during extended hours. Remote operation by users is restricted to the experiments that NSLS-II has already approved for control by remote users.

15. If staff feel it is unsafe for them to travel to BNL, they are not expected to provide on-site support.

There are times when the Laboratory may close due to weather or other emergency situations. Users who are on-site may be able to continue experiments at NSLS-II if the accelerator is operating and it is safe for them to travel to the NSLS-II. If staff feel it is unsafe for them to travel to BNL for any reason (weather or other external conditions), they are not expected to provide on-site support. Under some circumstances, staff may be able to provide remote support.