

NSLS-II Beamline Guidelines for Users

1. 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 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.

Should there be a failure that dumps beam, experts from the appropriate technical group 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 since this performance impacts all experimental operations.

2. 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. Unfortunately, the staffing levels for the beamlines do not permit 24-hour coverage.
3. Users who submit proposals to NSLS-II for experiments must contact the beamline staff beforehand to assure their proposal is feasible at that beamline. The beamline staff perform a feasibility review before any beamtime is awarded. Users who have beamtime assigned for their research will have an identified beamline contact and are asked to communicate with the beamline contact well in advance of their scheduled visit to assure proper work planning. It may not be possible to accommodate last minute requirements (such as a new interface or holder 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. Users who have beamtime assigned for their research are expected to arrive at NSLS-II with sufficient staff to assure safe experimental data collection. (Tired and exhausted users may make bad choices and risk executing a poor experimental plan, damaging equipment, or injury). Performing an experiment around the clock is demanding and requires adequate staffing by the user group. Working alone through the night is discouraged. The beamline staff should be consulted if there are questions concerning the required level of staffing for an experiment.
5. 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). Users may also expect to call upon staff outside normal working hours (typically weekdays from 5 PM until 10 PM; weekends and holidays from 9 AM until 10 PM). 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). If a non-emergency issue comes up after 10 pm (eg motor not moving), users should send beamline staff an e-mail and the staff will address the issue when they are able. Because of limited staffing, there may be times when beamline staff are unable to respond as intended. There may also be times when a beamline has no scheduled experiments during storage ring operations due to the inability to provide appropriate user support.

6. 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.

NSLS-II staff are permitted to collaborate with user groups on research of common interest. Staff may also be considered as co-authors on user-prepared manuscripts where the staff member contribution to the work was above and beyond their normal beamline support role. Those user groups interested in collaborating should formally offer this opportunity to the NSLS-II staff member before the start of an experiment, or at a later time if collaboration with beamline staff is found to be beneficial for the user group project. If the staff member has no conflict of interest and accepts the invitation to collaborate, they can be expected to participate in the experiment at a level beyond their normal responsibility. As a collaborator, they would expect to be involved in planning and executing the data collection, data analysis, interpreting the results, and preparing manuscripts as a co-author. It is strongly encouraged to have these conversations well in advance of the beamtime and to discuss such questions as the respective roles of the collaborators. This can prevent misunderstandings and hard feelings afterwards. Before submission of a manuscript, users are expected to seek concurrence from collaborating beamline staff.

NSLS-II staff are also permitted to enter collaborations that might involve placing user group resources (such as 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.

7. 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 'friendly' users who understand the goals for commissioning. During these activities, it may not be practical for commissioning to proceed 24 hours per day.
8. 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 scheduled experiment start. 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, and identifies all equipment and samples to be brought to the NSLS-II. It is also the responsibility of the Lead Experimenter to assure that all hazard controls and hold-points are

honored, 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. Beamline staff or NSLS-II ESH personnel are authorized to stop work if an appropriate SAF is not posted at the beamline.

9. 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 can be arranged. If experimental work is completed earlier than scheduled, the user group may decide to depart NSLS-II early.
10. If necessary, beamline staff will assist in data transfer. In some cases, due to the very large amount of data involved and possible server bandwidth issues associated with simultaneous data acquisition (of the next user) and data transfer (of the previous user), data acquisition will take priority and data transfer may have to be delayed. 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. 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/ps/userguide/postexperiment.php>

A similar acknowledgement should be included in conference presentations, including the proceedings, and at other public presentations. The productivity of the facility is an important metric, and cooperation in assuring all published work is entered into the NSLS-II publication database is appreciated. Users should tell us when manuscripts are accepted. (link)

12. 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.

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