DRAFT

NSLS-II
User Access Policy

May 2011

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ACRONYMS

BAC	Beam Time Allocation Committee
BDT	Beamline Discretionary Time
BNL	Brookhaven National Laboratory
DOE	U.S. Department of Energy
GU	General User
NSLS-II	National Synchrotron Light Source II
PRP	Proposal Review Panel
PS	Photon Sciences
PU	Partner User
SAC	Science Advisory Committee

NSLS-II
USER ACCESS POLICY

APPROVALS

Approval:

_____

Steven Dierker Date
Associate Laboratory Director for Photon Sciences
Brookhaven National Laboratory

CHANGE SYNOPSIS

Revision	Effective Date	Summary of Change

DRAFT

NSLS-II
USER ACCESS POLICY

1. Summary

This policy provides a concise overview of the mechanisms by which users access beam time at NSLS-II for carrying out scientific research. Further details on the implementation of this policy are contained in the NSLS-II User Access Procedures document (to be developed).

Two principles underlie all user access to beam time for scientific research. The first is that it is based on proposals that are subjected to peer review that is fair, clear, and expedient, that is sensitive to the needs of users, and that recognizes contributions that improve the overall scientific program. The second is that all proposals receive a finite amount of beam time for a limited duration that is justified by the need for beam time of the proposed work.

Under this policy, there are three modes of user access to beam time used for scientific research at NSLS-II: General User (GU) access, Partner User (PU) access, and Beamline Discretionary Time (BDT) access. The life cycle for GU and PU access to beam time involves the following steps: proposal submission, proposal review, beam time allocation, beam time scheduling, carrying out the experiment, and reporting the results. BDT access also involves scheduling, carrying out the experiment, and reporting the results but is post-reviewed rather than pre-reviewed.

GU and PU access require peer review of proposals through a central review process managed by the Photon Sciences (PS) Directorate that utilizes Proposal Review Panels (PRPs). Beam time is awarded to GU proposals either by the PRPs or via a Rapid Access process. Beamline staff may receive beamtime by submitting GU proposals. In addition, beamline staff may also be assigned beam time by beamline management using Beamline Discretionary Time. PU proposals must be reviewed by the PRPs as well as the PS Science Advisory Committee (SAC). Beam time is awarded to PU proposals by PS management via a Partner User Agreement based on recommendations from the PRPs and the SAC. Utilization of all beam time, regardless of access mode, is subject to periodic review by the SAC.

The beam time available for allocation to users does not include time for commissioning, maintaining, and upgrading the beamlines, and so is typically less than the accelerator operations hours. A minimum of 50% of the available user beam time on every beamline shall be allocated by the BAC to GU proposals every run cycle. Up to 10% of the available user beam time may be allocated at the discretion of beamline management every run cycle for BDT access, typically by beamline staff. Up to 40% of the available user beam time may be allocated by the BAC to one or more PU proposals in response to their beam time requests for that run cycle, up to the maximum time per run cycle allocated to them in their Partner User Agreements.

2. Beam Time Proposals

2.1 General User Proposals

GUs are individuals or groups, including beamline staff, who need access to beam time on NSLS-II beamlines to carry out their research. They typically only supply samples, but can also provide custom instrumentation for the duration of their experiments.

Prospective GUs submit proposals requesting beam time on up to three beamlines that support the techniques needed for their experiment. The proposals indicate whether each beamline is necessary for carrying out the experiment or whether it is an alternative in case the preferred beamline is unavailable. Each proposal requests a total number of shifts to complete the work (per beamline in case more than one beamline is required) and is valid for up to two years.

Prospective GUs whose experiment *requires* assured access in multiple run cycles in order to achieve results may apply for multi-cycle status in the proposal. Prospective GUs can also request to conduct their experiment remotely or by mail-in on beamlines that participate in the facility's remote access or mail-in programs. Such requests must be made at the time of proposal submission so that the feasibility of conducting the experiment remotely can be evaluated.

All GU proposals will be considered active until either: (a) all beam time allocated to the proposal for use during its lifetime has been used, (b) the proposal is withdrawn, or (c) two years have elapsed.

2.2 Partner User Proposals

PUs are individuals or groups who need access to beam time on NSLS-II beamlines to carry out their research and who also enhance their capabilities or contribute to their operation. Possible examples include, but are not limited to, contributing a sophisticated endstation, contributing staff and equipment to provide user support for a given program, or the design and construction or operation of a beamline. In such cases, the researchers can apply to become PUs on the beamline. PS staff may be PU members with the approval of the Photon Division Director.

Prospective PUs submit proposals requesting beam time on one or more beamlines that support the techniques needed for their experiment. In case beam time is awarded on more than one beamline, it is typically expected that the PU contributions will benefit each of the beamlines. Each PU proposal can request up to 40% of the available user beam time per run cycle (per beamline in case more than one beamline is required) throughout the life of the proposal. The lifetime assigned to a Partner User proposal will typically be up to three years, although it may be up to five years in special circumstances. Partner User proposals may be renewed following submission and review of a renewal proposal.

All PU proposals will be considered active until either: (a) all beam time allocated to the proposal for use during its lifetime has been used, (b) the proposal is withdrawn, or (c) the assigned lifetime has elapsed.

PU group members may also submit GU proposals for beam time on any beamline, including the ones on which they are PUs. GU proposals by PU members may also request multi-cycle status.

2.3 Beamline Discretionary Time

Beamline management may, at its discretion, assign up to 10% of the available user beamtime for purposes that contribute to the utilization or enhancement of the beamline. Typical uses may include scientific research or instrumentation development that is carried out by beamline staff and/or users, feasibility studies by beamline staff and/or users, or other purposes at the discretion of beamline management.

Beamline management may consider a variety of factors in making these discretionary beam time assignments, such as the importance of a research or development project to the professional development of a beamline staff member, the strategic significance of a proposed research or development project, etc. Beamline management is expected to use professional judgment in making decisions on assigning this discretionary beam time.

All BDT usage will be subject to post-review by PS management and will also be reviewed periodically by the SAC to ensure that it is appropriate and justified.

3. Proposal Evaluation

All GU and PU proposals requesting beam time on an NSLS-II beamline are evaluated using a centralized, online, peer-review proposal process that is managed by PS.

3.1 Technical Feasibility

All GU and PU proposals are first evaluated by beamline staff for technical feasibility on the requested beamline(s).

3.2 Proposal Review Panels

All GU and PU proposals that are judged feasible are then reviewed and rated by one of several Proposal Review Panels (PRPs). PRPs are peer-review groups composed of scientific peers, primarily external to PS, and organized by technique or scientific discipline, that cover a broad range of basic and applied science including industrial applications and instrumentation and method development. Proposals are assigned to an appropriate PRP, which evaluates and rates them in the following categories:

- Scientific and/or technical innovation and originality
- Scientific, technical and/or industrial importance
- Education and/or outreach importance
- Capability of experimental group and quality of past performance based on track record
- Experimental plan and technical feasibility

These categories are designed to recognize the value of basic, applied, and industrial research and of education/outreach activities. The PRPs are expected to take into consideration supporting evidence provided in the proposal (e.g., publications, patents, or corporate impact statements as

evidence of past performance), to impartially evaluate the likely success of the beam time, and to evaluate these categories in a balanced way (e.g., recognizing the merit of adventurous, exploratory experiments as well as those with a clear expected result, or recognizing the value of encouraging the development and contribution of new users as well as supporting proven performers from existing communities).

The PRPs may award multi-cycle status to GU proposals requesting it if they have a high overall rating and meet one or more of the following criteria:

- Development of a new experimental capability or a new scientific application that clearly requires assured access in multiple run cycles in order to achieve results
- Clearly demonstrated scientific or technical needs for assured access for a single experiment over multiple run cycles

The PRPs make awards to GU Proposals for:

1. number of beam time shifts to be allocated during the lifetime of the proposal
2. the maximum number of shifts that can be allocated each run cycle for a proposal granted multi-cycle status

3.3 SAC Review of Partner User Proposals

In addition to being reviewed and rated by the PRPs, PU proposals will also be reviewed by the SAC. The SAC will evaluate the potential of the PU proposal to have a positive impact on the GU program through contributions that improve the overall scientific program, such as contributing to the development of technical capabilities at the beamline or providing technical assistance and support for use of a sophisticated endstation that the PU is willing to let others access. The SAC will make a recommendation to PS management on whether to approve the PU proposal, and if so, what the terms of the Partner User Agreement should be.

4. Beam Time Allocation

The amount of beam time available for allocation will be declared by each beamline prior to each run cycle. This beam time will be less than the accelerator operations hours if time is needed for commissioning, maintaining, and upgrading the beamline. The use of accelerator operations hours by each beamline for such activities will be approved by PS management based on requests from each beamline and will be reviewed periodically by the SAC to ensure that it is appropriate and justified.

At least 90% of the available beam time each run cycle will be allocated to GU and PU proposals by the BAC. Up to 10% of the available beam time each run cycle may be allocated by beamline management as Beamline Discretionary Time.

4.1 Beam Time Allocation Committee

All active GU and PU proposals must submit a separate beam time request for each run cycle that they wish beam time during the lifetime of the proposal. The BAC will make allocations of

the available beam time on each beamline each run cycle in response to beam time requests for that run cycle from active proposals. The BAC will allocate at least 50% of the available beam time each run cycle to GU proposals, up to 40% to one or more PU proposals, and up to 10% to Beamline Discretionary Time.

If a proposal has already received beam time in one or more prior run cycles, the beam time request must also include a brief statement of progress resulting from those previous beam time awards. This progress report is reviewed by the BAC and if it is not satisfactory the BAC may reduce future beam time allocations.

4.1.1 General User Proposals

In the case of GU proposals, the BAC will allocate beam time based on PRP beam time awards and proposal ratings and considering any potential constraints on beamline availability. It is expected that the BAC will follow the direction of the PRP to the maximum extent possible within scheduling constraints.

In response to beam time requests each run cycle, the BAC will decide:

1. how many beam time shifts should be allocated in the current run cycle
2. the beamline(s) on which the time is allocated

BAC decisions on allocation of beam time in response to beam time requests for a given run cycle will be based on ranking the proposal's PRP rating relative to other active proposals and beam time availability.

In the case of multi-cycle GU proposals, the BAC shall allocate the full amount of beam time requested each run cycle, up to the maximum amount per run cycle awarded by the PRP for the proposal (item 2 in Section 3.2). Beam time requests for multi-cycle GU proposals will be satisfied each run cycle before allocating time to non-multi-cycle GU proposals.

The optimum distribution of beam time awarded to GU proposals as either standard allocations, multi-cycle allocations, or rapid access allocations is expected to vary depending on the area of science and the nature of the technique. The total amount of GU beam time allocated for multi-cycle access in any given run cycle will not exceed a specified percentage of the total available GU time for that beamline for that run cycle. This is to ensure that a reasonable amount of beam time will always be available for new proposals that are highly rated and for Rapid Access proposals. The target distribution of beam time among these types of access will be determined on a beamline-by-beamline basis based on recommendations by the beamline staff, and requires the approval of PS management and periodic review by the SAC.

4.1.2 Partner User Proposals

The BAC shall allocate the full amount of beam time requested by PU proposals each run cycle, up to the maximum amount per run cycle specified in the Partner User Agreement, so long as the total beam time allocated to all Partner User Proposals on a given beamline in a given run cycle totals no more than 40% of the total available beam time. If Partner User Proposals requests less

than 40% of the available beam time in a given run cycle, the remainder will be allocated by the BAC to GU proposals.

The PU group will manage their scientific program and decide how to further allocate beam time allocated by the BAC in a given run cycle among the members of the PU group.

4.1.3 Beamline Discretionary Time

The BAC shall allocate the full amount of beam time requested by beamline management each run cycle for Beamline Discretionary Time, up to 10% of the available beam time. If beamline management requests less than 10% of the available beam time for Beamline Discretionary Time in a given run cycle, the remainder will be allocated by the BAC to GU proposals.

Beamline management will decide how to further allocate beam time allocated by the BAC as Beamline Discretionary Time in a given run cycle.

4.2 Rapid Access

The Rapid Access process provides an option for short-turnaround allocation of GU beam time for urgent needs that arise between the formal review and allocation run cycles.

Submitted GU proposals requesting Rapid Access are considered on a continuing basis and are not subject to evaluation cycle deadlines. To permit timely access, the proposal is sent to the requested beamline at the same time it is sent to the PRP. The beamline may choose to award beam time and schedule the user's visit before the review is completed. If so, the normal review process will still take place, with the conclusions evaluated retrospectively. The beamline provides a list of scheduled Rapid Access proposals to the BAC prior to its next scheduled meeting. The BAC provides oversight of the Rapid Access proposal process by evaluating whether allocated time is generally consistent with the retrospective scoring of the PRP and making recommendations to PS management.

4.3 Partner User Agreement

Beam time is awarded to PU proposals by PS management via a Partner User Agreement based on recommendations from the PRPs and the SAC.

Up to 40% of the available user beam time on each beamline may be awarded to one or more PU proposals for the PU group's use. A given PU proposal will typically be awarded beam time on only a single beamline. However, in exceptional cases, such as when access to multiple techniques requiring multiple beamlines is clearly required to achieve the aims of the proposal, a PU proposal may be allocated beam time on more than one beamline. In such cases, the only limit on beam time awarded to the PU proposal is that no more than 40% of the beam time on any individual beamline can be awarded to PU proposals.

In cases where the PU group's contributions include managing and providing staff and support for the operation of the beamline, they may also be awarded the right to allocate the Beamline Discretionary Time.

PUs may also be awarded the right to participate in the stewardship of the beamline, together with the facility, to a degree that is in proportion to the level of their contribution, including, for example, participating in decisions on future upgrades or improvements in the technical capabilities of the beamline.

PUs may also be obligated to share the responsibility of ensuring that their contributions are made available to the GU program.

The rights and obligations of the PU will be negotiated on a case-by-case basis and spelled out in the PU Agreement. The PU Agreement will, among other things, define the responsibilities of the PU in developing and/or operating the beamline and the governance model for how the PU group and PS management may collaborate in the stewardship of the beamline.

The terms of the PU Agreement will typically extend up to three years, although may extend up to five years in special circumstances. PU Agreements may be renewed following submission and review of a renewal PU proposal. Renewal PU Proposals must clearly demonstrate a need for continued beam time to achieve the goals of the PU proposal. Past performance on related previous PU Proposals will be taken into consideration when reviewing and considering renewal PU Proposals.

PS management makes the final decision on the approval and terms of the PU Agreement.

5. Beam Time Scheduling

Each beamline is responsible for scheduling the run time for each proposal awarded time on the beamline. This shall be done in coordination with the user's schedule. All beamlines will use a centralized scheduling system managed by PS.

6. Reporting

6.1 All Users

An end-of-run form will be completed at the conclusion of each experiment.

Users are required to submit to PS citations for all publications and information pertaining to any patents resulting from experiments that utilize one or more NSLS-II beamlines. The following acknowledgment must be used when referencing work done at NSLS-II: "Use of the National Synchrotron Light Source II, Brookhaven National Laboratory, was supported by the U.S. Department of Energy, Office of Science, Office of Basic Energy Sciences, under Contract No. (TBD)."

6.2 Partner Users

PUs are required to submit an annual progress report to PS. PS management will provide feedback to the PU and may, in extreme cases, and with concurrence from the SAC, terminate the Partner User Agreement.