

# Advanced Photon Source

PROCEDURE	Page 1 of 19
ICMS Content ID:	APS_1700813
DNS #:	APS-PPR-ADM-000-A020-000019
Revision #:	1
Issue Date:	3/13/18
Review Period:	1 year
Supersedes:	Rev. 0, 1/10/17
Last Reviewed:	3/13/18

## Comprehensive APS Beam Time Access Policy

### Section where used:

This new policy replaces APS\_1426695 #3.1.46 (General User Beam Time), APS\_1426696 #3.1.47 (Partner User Beam Time), APS\_1426697 #3.1.48 (CAT/CDT Beam Time for Staff and Members), APS\_1426698 #3.1.49 (APS Staff Beam Time), APS\_1426699 #3.1.50 (Director's Discretionary Beam Time), APS\_1426700 #3.1.51 (Industrial Measurement Beam Time), and APS\_1299521 #3.1.115 (Beam Time Access Framework).

This policy and procedure must be used when requesting any beam time at the APS.

### Changes made in this revision:

- Updated Table 1 (added check to Proposal Review Panels/Director's Discretionary Time)

### Prepared by:

Susan White-DePace (User Program Manager, APS User Program)

Constance A. Vanni (Assistant User Program Manager, APS User Program)

### Reviewed/ Approved by:

APS Beam Time Access Administrator, PSC, User Program

Assistant User Program Manager, PCS, User Program

PSC/EFO Group Leader

AES Technical Operations Specialist

APS/Deputy Director, X-ray Science

## Table of Contents

1	INTRODUCTION.....	3
1.1	Applicability .....	3
1.2	Access Modes.....	3
1.3	Conditions .....	3
1.4	Calls for Proposals .....	3
1.5	Proposals and Beam Time Requests.....	4
1.6	Scientific Review and Scoring.....	4
1.7	Available Beam Time Calculations.....	7
1.8	Beam Time Allocation .....	8
1.9	Scheduling .....	8
1.10	Alternative Experimental Modes .....	8
1.11	User Responsibilities .....	9
1.12	References .....	9
2	BACKGROUND .....	9
3	ACCEPTANCE CRITERIA.....	10
4	PREPARATION OR PREREQUISITE ACTIONS.....	10
5	PROCEDURE .....	10
5.1	General Procedure for All Beam Time .....	10
5.2	General User Beam Time .....	10
5.3	Partner User Beam Time .....	14
5.4	Collaborative Access Team/Collaborative Development Team Beam Time for Members and Staff.....	15
5.5	APS Staff Beam Time .....	16
5.6	Industrial Measurement Beam Time .....	16
5.7	Director’s Discretionary Beam Time.....	17
6	DOCUMENTS/RECORDS CREATED BY THIS PROCEDURE .....	19
7	TRAINING REQUIRED .....	19
8	FEEDBACK AND IMPROVEMENT.....	19

## Comprehensive APS Beam Time Access Policy

### 1 INTRODUCTION

All beam time at the APS must be requested, reviewed, and allocated through the comprehensive Beam Time Access System. This system is designed to facilitate maximum opportunities for productive use of the APS by qualified researchers through a competitive, proposal-driven, peer-review system. The overall principle underlying this system is peer review that is fair, clear, expedient, and sensitive to the needs of users.

#### 1.1 Applicability

- Applies to all users of APS beam time
- Applies to all types of beam time

#### 1.2 Access Modes

Mechanisms of access exist to accommodate beam time needs ranging from a few hours on short notice to extended visits over a period of years. Proposals and beam time requests (BTRs) are required for each access mode, but the review and allocation processes differ for each. (These differences are described under the procedures for each mode.) The access modes are as follows:

- General User (standard, rapid access, project)
- Partner User
- Collaborative Access and Collaborative Development (CAT/CDT) Member
- CAT/CDT Staff
- APS Staff
- Industrial Measurement
- Director's Discretionary

#### 1.3 Conditions

Assignment of beam time is governed by the following four requirements:

1. All beam time is subject to scientific review.
2. All beam time is based on proposals created in the Beam Time Access System (including beam time used for beamline commissioning and maintenance).
3. Each request for time in a specific run cycle (i.e., a beam time request or BTR) must be made against a proposal through the Beam Time Access System.
4. All scheduled beam time must be associated with specific beam time requests in the Beamline Scheduling System.

#### 1.4 Calls for Proposals

In general, requests for access are solicited, reviewed, and allocated three times per year, in conjunction with the three APS run cycles. Several modes—General User rapid access,

Collaborative Access Team/Collaborative Development Team (CAT/CDT) user or staff, APS staff, Industrial Measurement, and Director's Discretionary-permit access at any time, as long as beam time is available.

## 1.5 Proposals and Beam Time Requests

Time is requested through the APS Web-based Beam Time Access System. This online system enables the APS and beamline management to collect and document beam time usage and provides the basis for DOE-mandated usage reports.

In this system, a proposal describes the work to be performed, and a beam time request (BTR) against the proposal identifies where and when the user wants to do that work. The proposal and first BTR are created together. For subsequent visits for the same work, a new request for beam time must be created against the original proposal. Thus, a proposal can have multiple BTRs. Proposal lifetimes are provided in the individual proposal type sections.

The Beam Time Access System (in combination with the Experiment Safety Assessment and Beamline Scheduling Systems) associates each beam usage with a specific

- Proposal
- Beam Time Request (BTR)
- Beam time attribute set (e.g., proprietary/non-proprietary, General User, rapid-access, beamline commissioning/start-up, National User Facility, mail-in, remote, etc.)
- Experiment Safety Assessment Form (ESAF)
- End of Experiment Form (EEF)

## 1.6 Scientific Review and Scoring

The APS maintains several review groups as part of the Beam Time Access System (see the processes described under the procedures for each mode.):

# Advanced Photon Source

Table 1. Review Groups Used in the Beam Time Access System

	Pool of reviewers	Proposal Review Panels	Beam Time Allocation Committee	Scientific Advisory Committee sub committee		APS Mgmt. Team	Beamline Staff
General User Macromolecular Crystallography (MX)	X	X	X				
General User All other science, Standard		X	X				
General User All other science, Rapid Access							X
General User Mail-in powder diffraction (11-BM)	X						X
Partner User proposals		X		X		X	X
Project proposals		X		X if PRP approved		X	X if PRP approved
Industrial Measurement						X	X
Director's Discretionary Time		X				X	

Table 2. Ratings System for General User Proposals

1 – Extraordinary	The proposal involves highly innovative research of great scientific or technological importance. Proposed research will significantly advance knowledge in a specific scientific discipline/field or create a new technological area. Considerable societal relevance is demonstrated. The radiation characteristics of the APS are highly desirable for the success of the proposed work.
2 – Excellent	The proposed research is of high quality and has potential for making an important contribution to a specific field, scientific discipline, or technical development project. The work is cutting edge and likely to be published in a leading scientific journal or lead to advances in a technological area. The radiation characteristics of the APS are important to the success of the proposed work.
3 – Good	The proposed research is near cutting-edge and likely to produce publishable results or incremental technological advances. Impact on a specific field, scientific discipline, or technological area is likely. Synchrotron radiation is essential to accomplish the intended goals of the research. The proposed work will greatly benefit from access to the APS.
4 – Fair	The proposed research is interesting by may not significantly impact a specific field, scientific discipline, or technological area. Publication may or may not result from this research. Synchrotron radiation is required, but the proposed work could be performed at other facilities.
5 – Poor	The proposed research is not well planned or is not feasible. Results would not make important contributions to fundamental or applied understanding, and work is not likely to result in publication. The need for synchrotron radiation is not clear.
0 – No review	The proposal provides insufficient information on which to base a review.

Table 3. Rating Criteria for General User MX and General User Rapid Access Electronic Reviews\*

Quality of Research	Impact of Research	Need for Third-Generation Synchrotron	Potential for Publication
<ul style="list-style-type: none"> <li>• Highly Innovative and of great scientific importance (1)</li> <li>• High quality and cutting edge (2)</li> <li>• Near cutting edge (3)</li> <li>• Interesting (4)</li> <li>• Not well-planned or not feasible (5)</li> </ul>	<ul style="list-style-type: none"> <li>• Revolutionary (1)</li> <li>• Significant (2)</li> <li>• Important (3)</li> <li>• Minimal (4)</li> <li>• Insignificant (5)</li> </ul>	<ul style="list-style-type: none"> <li>• Essential (1)</li> <li>• Highly desirable for success of experiment (2)</li> <li>• Beneficial (3)</li> <li>• Not required (4)</li> <li>• Need is not clear (5)</li> </ul>	<ul style="list-style-type: none"> <li>• Very high in a leading scientific journal (1)</li> <li>• High in a leading scientific journal (2)</li> <li>• Strong in a non-leading scientific journal (3)</li> <li>• Likely (4)</li> <li>• Not likely (5)</li> </ul>
*One rating is chosen in each column; the score is calculated on the basis of the average of the weighting in parentheses.			

As part of the review process, beamline staff have the opportunity to comment on General User proposals (including Rapid Access) through an interface in the Beam Time Access System on the technical feasibility and other issues for requests on their beamline. They can address any issue that bears on whether beam time should be awarded, including (but not limited to) environment, safety, and health issues; the past performance of an investigator; specific outreach on the part of the beamline management; or a unique suitability of the beamline to accommodate the proposal. These comments are considered in the allocation process.

Individual CATs have specific review processes for CAT/CDT member and staff time.

## 1.7 Available Beam Time Calculations

Available beam time is calculated each cycle for each independently operating beamline. Details of availability are given in the procedure for each mode. Commitments for each access mode are made by agreement between the beamline management and the APS Director for X-ray Science.

The standard unit of beam time for calculating available time is an eight-hour shift, although smaller units are sometimes used in scheduling. The calculations begin with the “total available user shifts” for the cycle, as determined by the machine operation schedule. A standard operating allowance is deducted from this figure (i.e., to allow for issues around start-up). The result is called the “baseline available shifts.” All calculations for beam time are based on this figure.

## 1.8 Beam Time Allocation

The allocation mechanism is different for each mode; see the appropriate procedures. In general, the number of shifts recommended by a Proposal Review Panel (PRP, see 5.2.3) is used in making a preliminary allocation, but the final number of shifts allocated is at the discretion of the Beam Time Allocation Committee (BAC, see 5.2.4).

- Requests preselected by CAT national user facilities are removed from consideration before the BAC meeting.
- Because of the volume of requests, the initial allocation of standard General User requests is done by an auto-allocation algorithm. This algorithm takes into consideration the following data: the proposal score, the beamline(s) selected by the user, the order of beamline preference, the number of shifts required for a visit, and the number of BAC shifts on each requested beamline (and instrument percentages, if specified).
- At the meeting of the BAC, the committee evaluates the results of this auto-allocation and makes adjustments, for example, based on score, feasibility, student involvement, beamline staff comments, etc.
- The User Office notifies users of the decision on their requests.
- The allocation decisions are distributed to the beamlines, which are responsible for scheduling allocated beam time.

Both the user and the beamline may appeal a decision of the BAC:

- Beamline appeal: If the beamline strongly disagrees with the decision of the BAC (e.g., if the proposed experiment is not technically feasible on the beamline), the beamline coordinator may appeal to the chair of the BAC. This appeal must be made within two working days. In these cases, the BAC Chair is authorized to act on behalf of the BAC to resolve the appeal.
- User appeal: If a proposer has concerns about the review or allocation process, he or she may communicate these concerns in writing to the APS Deputy Director for X-ray Science.

## 1.9 Scheduling

The beamline to which the beam time is allocated is responsible for scheduling and coordinating the user visit. Visits must be scheduled in either the APS Beamline Scheduling System or via a CAT/CDT scheduling system. CAT/CDT beamlines that are not using the APS web-based scheduling system must backfill their scheduling data for each cycle into the APS system. Priority should be given to scheduling General User time.

## 1.10 Alternative Experimental Modes

Some experiments are carried out by “remote users,” that is, users not located at the facility who control the beamline through computer access. Some beamlines accommodate “mail-in” users: the users send samples by mail and local staff members

collect the data on the users' behalf. Although mail-in and remote users are subject to slightly different administrative requirements (see Site Access by Users and Visitors APS\_1426672 #3.1.43) for the purposes of allocation and reporting, the rest of this policy is applicable.

## 1.11 User Responsibilities

- All users must complete appropriate training (at a minimum, all core APS user training requirements and beamline-specific training) and have a valid User Agreement in place between the Argonne and the institution that sponsors the research (see *Site Access by Users and Visitors* APS\_1426672 and *User Training* APS\_1258434).
- Each experiment must reflect the proposed work described in the proposal.
- When work performed at the APS by a user is submitted for publication, the author must include appropriate acknowledgement of the APS and the beamline in the manuscript (for the text of the required acknowledgement, see <https://www1.aps.anl.gov/Science/Publications/Acknowledgment-Statement-for-Publications>),
- Users are required to submit full citations of all publications resulting from their work to the [apspubs@aps.anl.gov](mailto:apspubs@aps.anl.gov) for inclusion in the APS Publications Database.

## 1.12 References

- Introduction to APS (<https://www1.aps.anl.gov/Users-Information/Getting-Started/Introduction-to-APS>)
- APS User Info Web site (<https://www1.aps.anl.gov/Users-Information>)
- APS Beamline Directory (<http://www.aps.anl.gov/Beamlines/Directory/>)
- Definitions: <https://www1.aps.anl.gov/Users-Information/About-Proposals/Concepts-Definitions-and-Help>

## 2 BACKGROUND

This new policy/procedures document was written to supersede the following policies:

- APS-1299521 – Beam Time Access Framework
- APS\_1426695 – General User Beam Time
- APS\_1426696 – Partner User Beam Time
- APS\_1426697 – Collaborative Access/Development Team Beam Time for Members and Staff
- APS\_1426698 – APS Staff Beam Time
- APS\_1426700 – Industrial Measurement Beam Time
- APS\_126699– Director's Discretionary Beam Time

Redundant information has been eliminated, and the process description has been shortened by providing links are to Web information where appropriate.

## 3 ACCEPTANCE CRITERIA

N/A

## 4 PREPARATION OR PREREQUISITE ACTIONS

N/A

## 5 PROCEDURE

### 5.1 General Procedure for All Beam Time

The general procedure for requesting beam time at the APS is as follows:

- User registers and obtains a badge number  
([https://beam.aps.anl.gov/pls/apsweb/ufr\\_main\\_pkg.usr\\_start\\_page](https://beam.aps.anl.gov/pls/apsweb/ufr_main_pkg.usr_start_page))
- User accesses the proposal system to submit a proposal and initial beam time request  
([https://beam.aps.anl.gov/pls/apsweb/gup0005.start\\_page](https://beam.aps.anl.gov/pls/apsweb/gup0005.start_page))

Requirements specific for each type of beam time are described in the following sections.

### 5.2 General User Beam Time

#### 5.2.1 Definitions

**General User Standard Mode:** This is the default mode and applies to all proposals/BTRs submitted by the proposal deadline and with no special considerations. Reviews and allocations follow standard procedures (see below).

**General User Rapid Access Mode (non-MX):** This mode applies to BTRs submitted in the interval between the proposal deadline for a given cycle and the end of the cycle. This mode offers a mechanism for short-turnaround access for beam time to address urgent needs. The decision to set aside a specific amount of time for rapid access requests is made by each beamline for each cycle. The APS must approve this amount.

When a new *proposal* is submitted in the interval between the proposal deadline for a given cycle, both the proposal and the associated BTR are designated as rapid access. The rapid access proposal is valid for a single cycle, single beam time request.

To fill the time set aside for rapid access, a beamline may choose from among all rapid-access requests naming that beamline. The choice may be made at any time in the cycle. When the beamline is reviewed by the APS, the beamline will be required to justify the scientific impact of the time allocated to rapid-access requests.

**General User Project Mode:** This mode applies to proposals for experiments that require a specific beamline or suite of beamlines for more than one cycle (up to two years). The proposal spokesperson requests project status when creating the proposal and must justify why the work must be done on the specified beamlines and why the goals of the project cannot be achieved effectively under a standard General User proposal.

Each beamline has a cap of the total time that can be assigned to project proposals. This cap is determined by APS management for APS-operated beamlines and by CAT management for CAT-operated beamlines.

These proposals undergo both standard General User review and an additional review by a subcommittee of the APS Scientific Advisory Committee. If either review rejects project status, the proposal becomes a standard General User proposal. If project status is granted, time is guaranteed in each cycle; however, a BTR must still be submitted each cycle.

## 5.2.2 Available Time and Proposal Lifetime

For APS-operated beamlines, no less than 50% of the available time must be available for General Users. If no other commitments (e.g., Partner User) apply, the amount of available General User time will be 80% of the baseline available shifts (including standard general user, rapid access, project, schools, and Director's discretionary beam time).

For CAT-operated beamlines, 25% of available time (beginning one year after the start of operations) is provided to general users.

Standard General User proposals are valid for a period of two years or until the number of shifts granted by the review process have been used. Rapid Access *proposals* (as described under 5.2.1) expire at the end of the cycle for which they were submitted.

## 5.2.3 Scientific Review

Multiple review processes are applicable for General User proposals: 1) Macromolecular Crystallography (MX), 2) All Other Science general user proposals, 3) All Other Science Rapid Access general user proposals, 4) Mail-in Powder Diffraction (11-BM) general user proposals, and 5) general user proposals requiring confidentiality.

**MX Review:** MX reviewers are drawn from a pool of individuals who have been identified by the user community and have indicated their willingness to participate. Proposals are reviewed on a rolling basis. Each proposal is rated by two external reviewers and the individual scores are averaged. If the scores differ by more than 1.0, the Macromolecular Proposal Review Panel reviews the proposal and provides a final score. MX proposals are scored on a 1-5 scale, with 1 being best (see table 3 in 1.6). Users can see the scores and comments as soon as two reviews are submitted.

**All Other Science:** Proposal Review Panels (PRPs) are established by the APS, with reviewers selected to provide a balance in techniques and disciplines. Various user groups can nominate candidates; final appointments are made by the APS Deputy Director for X-ray Science, who also appoints each panel chair. Each panel consists of at least four persons appointed for two-year terms, renewable by mutual consent. See <https://www1.aps.anl.gov/About/Committees/Proposal-Review-Panels> for a list of current PRPs and their membership.

The PRPs meeting before each cycle (three times a year), either at the APS or electronically to establish a consensus score, develop comments, and recommend the amount of time for each new proposal. Scores range from 1 (Extraordinary) to 5 (Poor). If insufficient information on which to base a review is given, the proposal is scored as a 0 (see table 2 in 1.6). Prior to each PRP meeting, the panel chair electronically assigns two primary reviewers for each proposal. Primary reviewers are expected to read the assigned proposals and be prepared to lead the discussion of their contents. All reviewers are expected to be somewhat familiar with all proposals before the PRP meeting and prepared to contribute to the discussion of each proposal. If necessary, panel chairs can shift a proposal to a different panel or request that *ad hoc* reviewers be solicited to supplement the panel's review. Users are able to view the scores and comments after the review process is complete.

**Rapid Access Proposals (non-MX):** BTRs of rapid access proposals appear in a pool of all available rapid access beam time requests. These proposals are reviewed and scored (see table 3 in 1.6) by the beamline that selects their BTR for scheduling using the online interface in the Beam Time Access System. Any Rapid Access proposal BTRs that are unclaimed at the end of a cycle will be reviewed by the first-choice beamline named in the beam time request. Users can view the score as soon as it is entered by the beamline.

**Mail-in Powder Diffraction (11-BM):** Proposals for mail-in powder diffraction work at 11-BM are reviewed on a rolling basis. Each proposal is reviewed by one external reviewer and beamline staff, and the individual scores are averaged to arrive at the final score. The external reviewers are drawn from a pool of individuals who have been identified by the user community and have indicated their willingness to participate.

**Review of Proposals Requiring Confidentiality:** For General User proposals requiring confidentiality (e.g., proprietary, classified, or some industrial) two review routes are available:

- If the user answers “yes” to the question, “Will the data collected by considered classified,” on the proposal form, the proposal is sent only to the APS Deputy Director of X-ray Science, who provides the review.
- For other types of confidential work, the proposer must complete the proposal with as much information as possible. If the reviewers conclude they do not have enough information to complete the review, they assign a score of “0,” which triggers a confidential review by the APS Deputy Director for X-ray Science.

In either case, the proposal is subsequently handled according to the procedure described in Section 5.7, Director's Discretionary Beam Time.

## 5.2.4 Allocation

The APS Deputy Director for X-ray Science appoints two Beamline Allocation Committees (BACs) to oversee allocation of General User beam time, one for Macromolecular Crystallography and one for All Other Science. Each has at least three members, who serve two-year terms, renewable by mutual consent. Candidates are solicited from all operational beamlines. The Committee meets once each cycle to decide on the allocation of time. General users have the right to appeal a denial of beam time.

**Aging:** To promote equitable access, the scores of unallocated proposals are “aged” at each cycle as part of the allocation process. If a proposal was not allocated time in the previous cycle, its score is improved by 0.2 provided that a new beam time request is submitted for the upcoming cycle. This is done for a maximum of two consecutive cycles for a maximum improvement of 0.4. Rapid Access proposals (non-MX) do not age.

## 5.2.5 Scheduling

The beamline on which the request is allocated is responsible for scheduling and coordinating the visit. Visits must be scheduled in or retroactively recorded in the Beamline Scheduling System. Beamlines should make every effort to schedule awarded proposals/BTRs in the run for which they were allocated. However, if no suitable time can be mutually agreed upon with the general user, the beamline may schedule the user in the following (or even later) run provided a BTR is submitted.

## 5.2.6 Beamline Rights and Responsibilities

For General User proposals on which staff members are not collaborating, the beamline may determine that the costs associated with the proposed experiment are in excess of routine expenditures. In these cases, the beamline will advise the APS User Program Office, which will ensure that the General User has a funded operating cost code (user account) in place to cover the supplies, materials, or services required by the General User (see *Establishing and Maintaining Nonproprietary User Accounts* [APS\_1186766] and *Establishing and Maintaining Proprietary APS User Accounts* [APS\_1186767]).

A beamline may request in writing to the Beam Time Allocation Committee that a specific General User not be granted time on that beamline. The written request must state the reasons for the exclusion of a particular General User. Appeals to the decision of the BAC for these requests will be decided by the APS Deputy Director for X-ray Science.

The beamline and the APS negotiate which techniques, instruments, and equipment will be made available to General Users. The beamline will provide the agreed upon capabilities, as well as the required amount of technical support.

The beamline will also permit the General User to use existing sector laboratory facilities in the Laboratory Office Module for tasks that cannot reasonably be done off site.

The host beamline will provide each General User with the technical training required to use the beamline and any ancillary equipment to which the General User has been granted access. If a General User requests the use of individually owned equipment not officially designated for General User use, the beamline may refuse the request, or, at its discretion, require the General User to use it in collaboration with the owner of the equipment.

For CAT-owned beamlines, during scheduled General User access periods, the host beamline will give General Users the same level of technical support that it provides to its members.

## 5.3 Partner User Beam Time

### 5.3.1 Definition

Partner user proposals (PUPs) are used for work that contributes to the development of the facility in exchange for a guaranteed specified amount of beam time. The process provides access for projects that

- Require reliable beam time over multiple cycles, and
- Will ultimately benefit the General User community, for example by providing new instrumentation or capabilities that will be available to all users or by expanding a current or new user community.

Proposals are submitted through the web-based Beam Time Access System three times per year. Once reviewed and approved, requests for time (BTRs) must be submitted through the system for each cycle in which time is needed. Any beamline operated by the APS is open to Partner User Proposals; PUPs can also be considered for CAT-operated beamlines, but these PUPs require additional levels of review. See 5.3.3.

With the approval of their Division Directors, APS staff members may participate in PUPs.

### 5.3.2 Available Time and Proposal Lifetime

No more than 30% of the baseline available shifts may be granted to Partner User proposals on any one beamline, and the total General User commitment is reduced by the amount of the Partner User commitment. For example, suppose a line that would normally have 80% General User time commits 30% of the baseline available shifts to a Partner User; in this case, the time available to General Users would be 50% of the baseline available shifts. PUPs are eligible for time up to three years (nine run cycles).

### 5.3.3 Scientific Review, Allocation, and Scheduling

Proposals are peer reviewed by the relevant General User PRP, scored according to the criteria used for General User proposals, then reviewed further by APS management and a subcommittee of the APS Scientific Advisory Committee, which consists of a SAC member, the Chair of the PUC (or designee), *ex officio*; and the Chair of the APS Users Organization Steering Committee (or designee), *ex officio*. Beamline comments are also solicited. The beamline review can address any issues that impact whether beam time should be awarded, including (but not limited to) environmental, safety, and health issues; the past performance of an investigator; specific outreach on the part of the beamline management; or a unique suitability of the beamline to accommodate the proposed work. The final decision on acceptance is made by APS senior management.

Time is allocated in accordance with the terms of the PUP. The guaranteed time assigned to a Partner User group is subtracted from the baseline available shifts (see 1.7) before the General User Beam Time Allocation Committee meets. The beamline on which the PUP has been allocated is responsible for scheduling the time and coordinating the User visit.

### 5.4 Collaborative Access Team/Collaborative Development Team Beam Time for Members and Staff

#### 5.4.1 Definition

Collaborative Access Teams (CATs) are groups of individuals or institutions that have agreements with the APS to design, build, and operate one or more beamlines at the APS. Collaborative Development Teams (CDTs) are similar except that after an initial, agreed-upon period, the APS assumes responsibility for the operation of the beamline(s), and after a transitional period, CDT members become General Users.

CAT members and staff submit proposals for their own beamline(s) through the “CAT Members” and “CAT Beamline Staff” categories in the Beam Time Access System, respectively, at any time or as specified by CAT management. These very short proposals contain a statement of purpose, standard demographic information (type of experiment, field of research, student involvement, etc.), and a list of experimenters.

#### 5.4.2 Available Time and Proposal Lifetime

Up to 75% of the baseline available shifts on a CAT beamline is available for CAT members and staff. The remaining 25% must be made available to General Users.

Proposals for CAT members and staff do not expire, unless CAT management specifies otherwise.

#### 5.4.3 National User Facility CATs

Some CATs are funded to serve a national community; although they operate as CATs, they depend on the APS General User Proposal Review Panels for scientific review.

However, before the General User Beam Time Allocation Committee meets, the CAT selects sufficient proposals to fill the 75% CAT time. Those not selected by the CAT are then available for allocation by the Beam Time Allocation Committee.

## 5.4.4 Scientific Review, Allocation, and Scheduling

CAT member and staff proposals are reviewed by processes described in individual CAT management plans. The effectiveness of CAT member and staff time is assessed during Scientific Advisory Committee reviews of the CAT beamlines.

Some CATs, particularly those operating as National User Facilities, prefer to have CAT staff submit proposals through the General User system. These proposals are then reviewed and allocated through that system in the same manner as that for all other General User proposals.

CAT management/beamline staff determine which CAT member/staff proposals will be allocated and scheduled in any given run period. All beam time for CAT members and staff must be requested via a beam time request in a proposal.

## 5.5 APS Staff Beam Time

### 5.5.1 Definition

APS staff members request time on their own beamline (e.g., for beamline projects or for their personal research) through the “Facility Beamline Staff” category in the Beam Time Access System. Staff members may also request General User time on beamlines other than their own.

### 5.5.2 Available Time and Proposal Lifetime

On APS-operated beamlines, 20% of the baseline available shifts are reserved for beamline staff. The lifetime of a proposal for APS staff beam time is determined by the staff member’s Group Leader.

### 5.5.3 Scientific Review, Allocation, and Scheduling

Proposals are reviewed by processes in place within the APS. Beam Time Requests against APS staff proposals are allocated by the X-ray Science Division Group Leader responsible for the particular beamline. The beamline is responsible for scheduling.

## 5.6 Industrial Measurement Beam Time

### 5.6.1 Definition

The purpose for this type of beam time is to provide an expedited mechanism for access for new users with industrially important measurements. These experiments are one-time, usually non-proprietary, measurements to investigate specific problems (e.g., production or performance issues). The intent is to make time available for proof-of-concept

experiments that may lead to other avenues of interaction. Initial contact is made through a contact questionnaire in the Industry Section of the APS Web site. Requests for industrial measurement access are accepted at any time. The APS Deputy Director for X-ray Science determines if the request is appropriate, sometimes consulting with a particular beamline. The three key criteria are as follows: (1) Can the work be done at the APS? (2) Can the work be done safely? (3) Is there a reasonable chance that useful information can be obtained?

## 5.6.2 Available Time and Proposal Lifetime

Participating beamlines set aside three rapid-access shifts at approximately two-week intervals (approximately 5% of the baseline available shifts). This time comes out of the beamline's General User obligation. For each cycle, the time set aside for industrial measurement is included with the beamline's other rapid-access set-aside, if any, and is subtracted from the time available for allocation by the General User Beamline Allocation Committee.

Proposals for industrial measurement expire after one visit. Further work can be conducted upon submission, review, and allocation of a General User proposal.

## 5.6.3 Scientific Review, Allocation, and Scheduling

If a request for industrial measurement time is approved, the User Office can assist (if needed) to create a proposal and Beam Time Request for the user in the Beam Time Access System. Once entered into the system, the proposal will follow the review and allocation processes associated with either standard proposals or rapid access proposals, as appropriate. Scheduling is handled by the beamline.

## 5.6.4 Declaration of Significance

Within 12 months of completion of industrial measurement beam time, the spokesperson must provide the APS with follow-up information on the significance of the work as specified in *Evaluation of Unpublished Research* (APS\_1426363). This follow-up deadline can be extended upon request.

## 5.7 Director's Discretionary Beam Time

### 5.7.1 Definition

Very rarely, cases arise in which the prospective user cannot provide enough information for an adequate review through the General User process because of the confidential nature of the research (e.g., proprietary, industrially sensitive, or classified projects). These cases are handled through the use of Director's discretionary beam time.

Requests for Director's Discretionary time are accepted three times each year in conjunction with the standard three run cycles. The deadlines are the same as for General User proposals.

## 5.7.2 Available Time and Proposal Lifetime

All beamlines offering General User beam time are available for Director's discretionary beam time. The APS can allocate up to 5% of the beam time on a single beamline as needed. This beam time is deducted from the beamline's General User obligation. At each cycle, the time set aside for this mode of access is subtracted from the baseline available shifts (see 1.7).

The lifetime for a Director's discretionary proposal is the same as for standard General User proposals (up to two years or six cycles).

## 5.7.3 Scientific Review, Allocation, and Scheduling

The first review of a Director's discretionary time proposal is through the standard General User review process. If the reviewers conclude they do not have sufficient information to provide a review, they assign a score of "0." Proposals with this score are automatically sent to the APS Deputy Director for X-ray Science for further consideration. The User Office asks the proposal spokesperson to provide additional information about the potential impact and importance of the research to the APS Deputy Director, who reviews the proposal and communicates the decision to the APS User Office before the meeting of the General User Beamline Allocation Committee.

The User Office notifies the beamline when a proposal has been accepted for Director's discretionary time. The time is then subtracted for that cycle from the baseline available shifts on the beamline. The beamline is then responsible for scheduling the time and coordinating the User visit.

## 5.7.4 Declaration of Significance

Within 12 months of completion of the Director's discretionary time, the spokesperson must provide the APS with follow-up information on the significance of the work as specified in *Evaluation of Unpublished Research* (APS\_1426363). This follow-up deadline can be extended upon request.

## 6 DOCUMENTS/RECORDS CREATED BY THIS PROCEDURE

The documents/records listed below will be created in the execution of this procedure.

Description of Document/Record (include ID number, if applicable)	Custodian	Storage Location and Medium
Proposal	User Program Manager	Beam Time Access System
Beam Time Requests	User Program Manger	Beam Time Access System
Peer review comments	User Program Manager	Beam Time Access System
Beamline comments	User Program Manager	Beam Time Access System
SAC review results (for PUPs)	User Program Manager	User Office private server
APS decision comments	User Program Manager	Beam Time Access System
Final allocation tables by beamline	Beam Time Access Administrator	Excel files/APS User Office
Allocation emails to users	Beam Time Access Administrator	Email server; back-up in Information Systems
Scheduled beam time record	AES/Project Specialist	Beam Time Scheduling System
Scheduled beam time notification email	Beamline Coordinator	Beamline e-mail server, with back-up in APS Information Services if sent from the Beam Time Scheduling System

## 7 TRAINING REQUIRED

No training is required to execute this procedure.

## 8 FEEDBACK AND IMPROVEMENT

If you are using this procedure and have comments or suggested improvements for it, please go to the [APS Policies and Procedures Comment Form](#) \* to submit your input to a Procedure Administrator. If you are reviewing this procedure in workflow, your input must be entered in the comment box when you approve or reject the procedure.

Instructions for execution-time modifications to a policy/procedure can be found in the following document: Field Modification of APS Policy/Procedure ([APS\\_1408152](#)).

\* <https://www.aps.anl.gov/Document-Central/APS-Policies-and-Procedures-Comment-Form>