



EQUIPMENT FABRICATION POLICY

February 20, 2025

SCOPE

This policy sets forth the California Institute of Technology's (Caltech) requirements for equipment fabrications in connection with sponsored projects. The policy has been established to ensure consistency with other Caltech policies and compliance with the requirements of Office of Management and Budget (OMB) Uniform Guidance in 2 CFR, Part 200 (Uniform Guidance) or OMB Circulars A-21 and A-110, as applicable.

DEFINITIONS

As used in this policy:

Deliverable

A Deliverable is an item of equipment or a scientific instrument created by Caltech personnel funded by a sponsored project that grants title to the fabricated item to the sponsor, rather than to Caltech. A Deliverable is not an Equipment Fabrication. Facilities and Administrative (F&A) rates will be applied to deliverables, unless either of the following conditions exists:

1. The Deliverable is space hardware (major spacecraft subsystems and scientific instruments carried on space missions), whether purchased or fabricated, that otherwise meets Caltech's definition of "equipment".
2. The Deliverable meets Caltech's definition of "equipment" and is installed in a facility where Caltech faculty will have access to the instrument for research purposes.

In such circumstances the costs of the acquisition or building of the deliverable will not be subject to the application of the F&A rate, and a fabrication account as defined below will be set up.

Equipment Fabrication

An Equipment Fabrication is the creation of an item of equipment or scientific instrument that is designed and built or assembled by Caltech personnel from individual parts or components that may be produced by internal staff or provided by external entities or vendors, and meets all of the following criteria:

1. Meets unique specifications (typically as outlined in a research proposal or award).
2. Has a total estimated cost of \$10,000 or more.
3. Has an estimated useful life of more than one year.
4. When completed, will not be affixed permanently to a building or structure.

5. Is tangible and capable of specific identification and continuous control through tagging and periodic physical inventory.
6. Is owned by Caltech when completed.

In such circumstances, the costs of the acquisition or building of the Equipment Fabrication are not subject to the application of Facilities and Administrative (F & A) rates.

A completed experimental or prototype device built to obtain data or to demonstrate the feasibility of a particular process may be considered an Equipment Fabrication only if the cost of the device is \$5,000 or more, and it's initial useful life is one years or more.

Software development might be considered "fabrication" in the broadest sense of the term, but is not considered an Equipment Fabrication under Caltech's policy, unless the software is an integral component of an Equipment Fabrication, *i.e.*, is necessary in order for the fabricated equipment or instrument to operate and can be considered part of the fabricated item.

An instance where components are simply connected in a system, either physically or "virtually" also does not constitute an Equipment Fabrication, *e.g.*, when individual computers and servers are joined to create a network.

Fabrication Account

A Fabrication Account is a Caltech account (known also as a "PTA") that has been established for the purpose of recording the costs of an approved fabrication activity. Upon completion of the fabrication, the aggregated costs in the fabrication account constitute the total cost of the resulting item of equipment. The fabrication PTA is closed following the Post Award Administration closeout procedure after the fabrication is completed and it is placed into service.

POLICY

Inclusion of Fabrication Project in Proposals

Equipment fabrications should be clearly identified and appropriately budgeted in proposals. This includes a discussion of the nature of the fabricated equipment in the proposal narrative and inclusion of the estimated costs in the proposal budget and budget justification. Detailed information supporting the fabrication budget should be included in the proposal itself.

When a proposal includes costs for fabrication, requests for internal Caltech review and approval of the fabrication should occur well in advance of the proposal submission deadline. If that is not possible, the proposal budget should be calculated with the F&A rate applied to Modified Total Direct Costs (MTDC), including the fabrication costs. If the fabrication is later approved, OSR will work with the PI and sponsoring agency, as appropriate, to renegotiate the budget and/or scope of the award. If the fabrication is not approved prior to submission and the proposal is submitted "at the last minute" (*i.e.*, within less than five working days prior to the deadline) without including indirect costs, the F&A rate will nevertheless be applied if the approval of the fabrication request is later denied.

If the need for fabricated equipment arises only after the award has been made, the PI should provide a detailed expenditure category level budget to OSR. When prior approval of the sponsor is required, OSR will work with the PI to obtain that approval.

Accounting for Fabrication Costs

When a fabrication is contemplated, a special PTA must be established to accumulate the costs of all the individual elements that will constitute the fabrication upon its completion. Before a fabrication account may be established, the proposed fabrication must first be reviewed and approved. The review and approval process are described in below.

Review and Approval of Fabrications

The review and approval process for an equipment fabrication is dependent upon the dollar value of the proposed fabrication.

Valuation Table

<i>Proposed value</i>	<i>Review and Approval</i>
\$10,000 - \$99,999	Property Services and OSR ¹
\$99,999 - \$250,000	Division Chair, Property Services, and OSR ²
Over \$250,000 or 'special circumstances' (i.e. the proposed fabrication of an item or components that may not have been anticipated at the time that the fabrication policy was drafted)	Division Chair, Provost, OSR, and Property Services ³

Caltech's Facilities and Administrative rate (F&A, rate, indirect cost rate or overhead rate) will not apply to costs accumulated in an equipment fabrication account. Only costs integral to the fabrication and allowable under Caltech's policy may be charged to a fabrication account. The PI is responsible for ensuring that only allowable and allocable costs are charged to a fabrication account.

After a fabrication account has been initiated, Project Accounting and Property Services may review and request additional information on the appropriateness of some costs charged to that fabrication account. In the absence of adequate justification, the costs may be transferred from the fabrication account onto an appropriate non-fabrication account. Depending on the account to which the cost is transferred, indirect costs may be applicable to the costs that are transferred.

Costs that are Allowable on Fabrication Accounts

Costs that may be charged to an Equipment Fabrication account must be integral to the construction of that fabrication and are limited to:

- Materials and supplies

¹ Requires at least three working days

² Requires at least five working days

³ Requires at least ten working days

- Shop labor
- Individual items of capital equipment (as defined in the Caltech Property Manual) that will be incorporated into the fabrication
- Shipping and transportation charges
- Salaries and wages of non-academic Caltech staff (*e.g.*, engineers and technicians) working directly on the fabrication
- Travel directly related to installation of the fabricated equipment
- Subawards for components that will be incorporated into the fabrication

Note that the terms and conditions of specific awards funding an equipment fabrication may further restrict the types of costs that can be charged to the fabrication account.

Costs that are Not Allowable on Fabrication Accounts

Examples of costs that are not allowable charges to an equipment fabrication include, but are not limited to, the following:

- Academic personnel labor costs (*e.g.*, salaries for faculty, graduate research assistants, postdocs, senior research associates)
- Books, periodicals, memberships
- Computer maintenance and repair
- Copying and fax usage
- Entertainment
- Equipment maintenance and repair
- Facility rental
- Food
- Legal expenses
- Meetings, conferences, symposia
- Travel (unless directly related to the installation of the fabricated equipment)
- Software acquisition and/or development unless necessary in order for the fabricated equipment or instrument to operate
- Visa applications

Salaries of academic staff for work performed directly on the fabrication may be allowed as an exception on a fabrication project in highly unusual circumstances. Such exceptions require the approval of the Division Chair and the Provost.

Questions about the allowability of a particular cost can be referred to the Office of Sponsored Research (OSR) or the Post Award Administration Office (PAA).

Caltech's F & A (indirect) cost rate will not apply to costs accumulated in an Equipment Fabrication account. The PI is responsible for ensuring that only allowable and allocable costs integral to the fabrication are charged to a fabrication account.

Establishing a Fabrication Account

A fabrication account may be established at the same time as the account for the main award is established. The Principal Investigator should complete and sign an Equipment Fabrication PTA Request Form. The completed form(s) should be sent to Property Services. Property Services will circulate the request form for internal Institute approval, as appropriate. If the fabrication is approved, OSR will work with the investigator to establish an equipment fabrication account. If the

fabrication is not approved, the investigator will be notified by OSR. The notification will identify the reason(s) why the request was not approved.

Once a fabrication has been approved and a fabrication PTA has been initiated, subsequent requests to increase the estimated cost of the fabrication by an amount greater than 20% of the original fabrication amount will require an updated Equipment Fabrication PTA Request Form that provides an explanation of the reasons for the increase. The revised cumulative fabrication budget will determine the level of review required.

Capitalization of Completed Fabrication

A Caltech Equipment Fabrication will be capitalized, *i.e.*, recorded as an asset on the Caltech's Financial Statement, when it is ready to be placed in service. In those rare instances mentioned above where Caltech will not hold title to the fabricated item, *i.e.*, where the item is a "deliverable" rather than a "fabrication," the item is not capitalized. Once the fabrication process has been completed, Property Services records the fabricated items as Caltech assets and tags the fabricated items. Property Services will contact the PI within 30 days of the estimated placed-in-service date (listed in the fabrication request form) to arrange a time to verify completion of the fabrication and apply the appropriate tag(s). If the item is not completed at that time, a revised estimated placed-in-service date should be provided.

Following the end date of the main funding award, Project Accounting will notify the PI/contact person and Property Services that the main account and the fabrication account are being closed. During the close-out process, any costs considered inapplicable may be transferred to the main research account, and overhead will be applied. Property Services will contact the appropriate division personnel to arrange tagging of any items that have not already been tagged.

Subsequent Modification

Subsequent modifications to the fabricated equipment or replacement of individual parts after the original fabrication has been completed do not qualify for an indirect cost exemption under this policy, unless the subsequent modification or replacement itself costs \$10,000 or more and extends the useful life of the fabricated equipment by more than a year.

Exceptions

Any exceptions to this policy must be approved by the Provost and the Vice President for Business and Finance.

ROLES AND RESPONSIBILITIES

Principal Investigator

- Ensures compliance with the Equipment Fabrication Policy.
- Identifies fabrication projects in proposal budgets, whenever possible.
- Confirms when a fabrication has been completed and should be placed in service.
- Certifies that all items purchased under the fabrication account were used for the construction of the fabricated item.
- Monitors the progress of the fabrication efforts and notifies Property Services when the fabrication has been completed.
- Assists in making tagging arrangements with Property Services.
- Ensures that Property Service is kept informed of any administrative issues related to the fabrication or deliverable project.

Division Chairs

- Provide initial approval on the Division Approval Form (DAF) for the charging of salaries of academic staff for work performed directly on a fabrication project in highly unusual circumstances on an individual project basis.

Division Administration

- Requests fabrication PTA using the Oracle Grant Management PTA Setup form.
- Assists in communications between Property Services, Post Award Administration, Office of Sponsored Research, and the PI and his/her group.
- Assists Property Services with coordinating tagging of the completed fabrications.
- Requests from Post Award Administration to close the account once the fabrication is completed.

Office of Sponsored Research

- For fabrications, reviews proposals to verify whether the sponsor approved budget included the fabrication and/or that the sponsor allows for the fabrication of the equipment in the award terms.
- Activates fabrication PTAs after receiving electronic approval from Property Services and the signed Equipment Fabrication Setup Form from the PI or the Division.
- Extends end date for approved fabrication PTA, as appropriate.
- Approves and processes budget modifications for supplemental or incremental funding.

Post Award Administration Office

- Performs periodic expenditure reviews on fabrication PTAs to ensure allowability of the costs charged.
- Works with the Division to move unallowable costs out of the fabrication PTA.
- Realigns fabrication budgets once the necessary approvals are in place.
- Activates, deactivates, and closes fabrications PTAs.

Property Services

- Confirms that the proposed activity qualifies as a fabrication under this policy and that the expenses budgeted under the Fabrication are appropriate.
- Reviews and approves Fabrication PTAs.
- Reviews and approves changes to Fabrication PTAs *i.e.* end-date extensions, budget realignments or adjustments, etc.
- Tags the completed fabrication and posts the fabrication in Oracle Fixed Assets.
- Submits equipment reports as needed by fabrication or deliverable sponsors.
- Prior to year-end closing, obtains information from Campus regarding the status of “high risk” equipment fabrications and expected completion dates. Provides results of the risk assessment to the Funds Accounting Office.
- Provides training to Campus regarding policies and practices related to the administrative regulatory compliance related to equipment fabrication as well as government owned and non-government owned “deliverable” projects.
- Works with the Office of Sponsored Research and the Campus to ensure that Caltech is complying with federal regulations and Institute policies in the management of government owned “fabrications” and “deliverables” projects.

RELATED REFERENCES

Office of Management and Budget’s Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards 2 CFR, Part 200

Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations, commonly referred to as OMB Circular A-110 or 2 CFR, Part 215

Office of Management and Budget’s Cost Principles for Educational Institutions, commonly referred to as OMB Circular A-21 or 2 CFR, Part 220

Caltech Property Manual

Caltech Fabrication PTA Set-up Flowchart

Caltech Fabrication PTA Processing

Caltech Fabrication Set-up Form

POLICY AND PROCEDURE ISSUED BY

This policy is issued by the Office of Financial Services and the Office of Research Administration.

EFFECTIVE DATES AND UPDATES

Action Take	Effective Date	Description of Action
Original Policy	May 2009	Approved by Provost's Office, Office of Financial Services, and Office of Research Administration
Revised Policy	December 26, 2014 Issued February 17, 2016	Revised for consistency with Uniform Guidance, current practices and to put the document into new policy format. Reviewed and revised by Post Award Administration. Reviewed by the Office of Sponsored Research, Office of Research Administration, and the Office of Financial Services. Approved by the Provost's Office.
Revised Policy	February 3, 2017	Revised to change the useful life criteria to more than one year instead of two years to ensure consistency in the definition of equipment with the Uniform Guidance.. Reviewed and approved by the Office of Financial Services.
Revised Policy	February 20, 2025	Updated the equipment cost threshold from \$5,000 to \$10,000 to match the new threshold established by Uniform Guidance.