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1 Introduction

1.1 Purpose

The School of Medicine (SOM), through collaboration between the SOM Division of Finance and the Office of Research Compliance & Integrity, is offering this 3-hour, comprehensive training session to address requirements for operating Service Centers and to improve their financial management. This binder is intended to serve as reference material.

The training will cover topics crucial to the successful financial management of SOM Service Centers. Topics include rate setting, invoicing, acquiring and depreciating equipment, Year-End Cost Analysis and reporting requirements.

The success of this initiative will be determined by the improvements made in the financial operations of all SOM Service Centers. This can only be accomplished through cooperation among those in SOM who have roles and responsibilities related to Service Center financial management. The most significant improvements will be accomplished by understanding the requirements, accepting responsibilities, and implementing strategies learned in this session.

1.2 SOM Service Center Committee

SOM Research Core Facilities Committee

Committee provides oversight for the SOM Research Core Facilities¹ and is an advisory committee to the Dean through the Office of the Executive Vice Dean and Chief Scientific Officer. The Committee assures the availability of timely, state-of-the-art scientific services and equipment to the SOM research community, and approves the initiation of new Core facilities, the addition of new core services and equipment, the fee structure for services, and the retirement of cores that are no longer needed.

SOM Service Center Working Group (Finance and Compliance)

Committee was established to address the numerous financial and compliance concerns of the SOM community as it relates to SOM Service Centers. This Committee also addresses policies, provides training & education, assists with financial performance and communicates best practices.

¹ “Research Core Facilities” are distinguished from “Service Centers.” (See definitions in Section 1.3)
1.3 Service Center vs. Core vs. Recharge Center

Overview of Service Centers
The term “Service Centers” is an all inclusive term to describe an operating unit within SOM that provides goods or services for a fee based on a rate schedule, to recover no more than the cost of the goods or services and to break-even over time. “Recharge Centers” and “Cores” are types of Service Centers.

Often times the terms “Core,” “Recharge Center” or “Service Center” are referred to incorrectly without clarifying why one Service Center can be referred to as a “Core” and another simply as a “Service Center.”

Different types of facilities can be classified as a Service Center. The following graphs illustrate how each classification of a Service Center is organized.

The University defines all operating units recharging for goods and services as a Service Center.  

Illustration 1-1: Types of Service Centers

---

2 University Policy No. 2115 Unallowable Costs.
The University then defines a Service Center that provides highly complex services, with revenue greater than one million dollars (>\$1M) and significant expenditures to federal awards (50% or more) as a **Specialized Service Facility**.

**Illustration 1-2: Two Types of Service Centers**

For example, the NIH National Center for Research Resources (NCRR) in 2000 established guidelines for animal facility costing models, adding a new type of Service Center designation; **Animal Research Facilities**, which are typically also Specialized Service Facilities.

**Illustration 1-3: Three Types of Service Centers**
The term *Recharge Center* is another term to define a Service Center that provides routine, non-specialized services. For example, a glass-washing Service Center would be considered a Recharge Center. Typical Service Centers operate more like a business competing for internal and external users to provide revenue to offset expenses, whereas a *Recharge Center* has a static population of users and predictable costs.

Illustration 1-4: Four Types of Service Centers

![Illustration of four types of service centers](image-url)
Finally, a **Research Core Facility** is a term strictly defined to be a **Service Center** deemed to provide an expertise or critical strength of an institution, determined by senior leadership (i.e., Provost, Dean, Executive Vice Dean and Chief Scientific Officer, etc.). Based on the nature of a **Research Core Facility**, this designation would be assigned to some (if not all) **Specialized Service Facilities**, some of the remaining **Service Centers**, and would typically exclude all **Recharge Centers**.

**Illustration 1-5: Five Types of Service Center**

For purposes of this training, all types of Services Centers will be referred to as simply **Service Centers**.
2 Policies and Other Resources

2.1 University Policy

The University Financial Policy Manual is published by the Office of the Vice President of Finance. This is the office responsible for the financial operation and fiscal control of the institution. The Financial Policy Manual is divided into sections based on subject areas of related topics identified by a four digit code. For example, General Accounting Policy – University Financial Activity is grouped in the 1100 series.

The University Financial Policy Manual can be found on-line:
http://www.finance.upenn.edu/vpfinance/fpm/

In this manual we are focusing on select policies from the University Financial Policy Manual and the Sponsored Project Manual published and administered by the Office of Research Services.

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2.2 Plant Assets

General Accounting Policy – *University Financial Activity* No 1106.0 through 1106.7, cover Plant Assets.

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1106.0 Plant Assets – Definitions

1106.0 Plant Assets: Definitions

Subject: Accounting
Title: Plant Assets: Definitions
No.: 1106.0
Effective: December, 1986
Revised: January 2008
Last Reviewed: January 2008
Responsible Office: Comptroller
Approval: Comptroller

Purpose

To define the parameters for capitalizing assets.

Policy

Plant Assets:
Capitalized plant assets include Land, Land Improvements, Buildings, Building Improvements, Fixed Equipment, Moveable Equipment, Software, Library Acquisitions, Rare Books, Museum Collections, Artwork, Donated Collectibles, other assets, and other expenditures which meet the criteria.

Land:
The cost to be capitalized as land includes all costs connected with the acquisition of the land. These costs include but are not limited to the cost of the land, appraisals, professional services, title insurance and other miscellaneous fees and costs associated with the acquisition.

Land improvements:
Land improvements eligible for capitalization include the cost of landscaping, infrastructures, utility systems and outdoor public recreational fields and facilities in excess of $100,000.

Buildings:
The cost to be capitalized as a building includes associated costs related to the acquisition or construction of the building. Acquisition costs include but are not limited to the cost of the building, professional services, appraisals, title insurance and other miscellaneous fees and costs associated with the acquisition. Construction cost includes but is not limited to the cost of professional services, test borings, materials, and site preparation.

Building Improvements:
Building improvements to be capitalized are significant alterations or structural changes that cost in excess of $100,000 or represent more than 20% of the net book value of the building and increase or amend the usefulness, enhance efficiency or prolong the useful life of the building for a period of greater than one year.
1106.0 Plant Assets - Definitions (continued)

Equipment:
Equipment to be capitalized refers to an item of non-expandable tangible personal property with a useful life of more than one year, a cost in excess of $5,000 per item, excluding freight charges and taxes, and the University has title to the asset. Equipment may be moveable or fixed. In addition, acquisitions of individual items of software with an acquisition cost of $5,000 or more will be considered a capital asset. Software also includes major systems which are purchased from an outside vendor or internally developed by the University. Refer to 1106.7 Plant Assets - Internal Use Software Costs, for more information on accounting of software purchased or developed for internal use.

"Moveable equipment" refers to equipment which can be easily moved from one area to another.

"Fixed equipment" is equipment which is attached or permanently fastened to a building that cannot be removed without costly or extensive alterations to the building or area to which it is affixed.

Equipment in Process (EIP):
Costs incurred for fabricating non-expandable, tangible personal property, that is not available elsewhere, by physically combining or assembling modular components and/or materials into one identifiable unit are considered EIP until the equipment is completed and placed in service. Costs incurred for standard items that are altered or customized to make them usable on a project do not qualify as EIP.

Refer to Policy 1106.6 Plant Assets-Equipment in Process.

Equipment Repairs:
Equipment repair costs to be capitalized are those repairs or equipment replacement costs in excess of $5,000 that is made to extend the useful life of equipment in excess of one year.

Library Contents, excluding Rare Books:
General library acquisitions are capitalized at cost plus associated expenses.

Rare Books & Collectibles:
Rare books, museum collectibles and artwork acquisitions are capitalized at cost plus associated expenses. Rare books and other collectibles are not depreciated.

Plant and Equipment Disposal:
The disposal of plant assets includes the sale, scrapping, demolition or other loss of plant assets. Plant asset disposals do not include plant assets placed temporarily in idle service or the dismantlement of a portion of a unit that does not affect its useful life.
1106.1 Plant Assets - Capitalization

1106.1 Plant Assets – Capitalization

Subject: Accounting
Title: Plant Assets: Capitalization
No.: 1106.1
Effective: December 1986
Revised: May 2006
Last Reviewed: January 2008
Responsible Office: Comptroller
Approval: Comptroller

Purpose

To provide a capitalization policy for Plant Assets.

Policy

1. The Office of the Comptroller is responsible for capitalization of all plant assets in accordance with applicable financial accounting pronouncements. The Property Management Group section of the Comptroller’s Office has this primary responsibility.

2. All capitalized plant assets regardless of funding source, will be recorded as Plant, net of depreciation on the Statement of Position.

3. Interest incurred on external debt used to fund plant assets during construction phase will be capitalized in accordance with applicable financial accounting pronouncements.

4. All land improvements, building improvements and equipment repairs not capitalized will be recorded as an operating expense.

5. Equipment to be capitalized refers to an item of non-expendable tangible personal property with a useful life of more than one year, a cost in excess of $5,000 per item, excluding freight charges and taxes, and the University has title to the asset.

6. Equipment in process shall be capitalized as set forth in Policy Number 1106.6, Equipment in Process.
1106.2 Plant Assets - Depreciation

1106.2 Plant Assets – Depreciation

Subject: Accounting
Title: Plant Assets: Depreciation
No.: 1106.2
Effective: December 1986
Revised: January 2008
Last Reviewed: January 2008
Responsible Office: Comptroller
Approval: Comptroller

Purpose

To provide the depreciation policy for plant assets.

Policy

1. The Office of the Comptroller is responsible for all depreciation of plant assets.

2. Depreciation of plant assets will be provided for as part of Plant, net of depreciation in the Statement of Position in accordance with applicable financial accounting pronouncements. Depreciation expense on depreciable assets will be shown as an operating expense on the Statement of Activities.

3. All plant assets will be depreciated using the straight line method. Assets will be depreciated over a useful life as determined by the Office of the Comptroller.

4. Assets with an in-service date prior to the mid-point of the month will begin being depreciated in the current month; assets with an in-service date after the mid-point of the month will begin being depreciated in the subsequent month.

5. Depreciation of newly constructed buildings will commence in the first period of useful occupancy.
1106.3 PLANT ASSETS – RETIREMENTS

PURPOSE

To properly account for plant asset retirements.

POLICY

1. Responsibility:
The Office of the Comptroller is responsible for ensuring that all retirements of plant assets are properly recorded at the time of disposal in accordance with applicable financial accounting pronouncements.

Schools and Centers are responsible for ensuring that the appropriate authorizations are obtained for asset retirements; for recording the asset retirement in the fixed asset system; and for maintaining documentation supporting asset retirements

2. Authorization Requirement for Retirements:
All retirements require the prior approval of the Business Administrator, Department Chair or Director.

   a. All disposals of plant assets with original acquisition cost in excess of $5,000 require the prior approval of the Senior Business Administrator.
   b. All disposals of plant assets with original acquisition cost in excess of $50,000 require the prior approval of the Associate Treasurer.
   c. All disposals of plant assets with original acquisition cost in excess of $250,000, requires prior approval of the Vice President for Finance.

If the assets were originally externally funded in whole or in part, the Office of Research Services (ORS) must be notified of the disposal before the asset is disposed to determine if there are any external requirements related to the disposal of the equipment.

It is the responsibility of the Asset Administrator to properly prepare an Authorization for Retirement of Equipment form and obtain the required approvals before the disposition of equipment. After completion of the form and disposal of the equipment, the Senior Asset Administrator should record the retirement in the fixed asset system.
3. **Externally Funded Assets:**
In the case of externally funded assets, ORS must follow the guidelines described in OMB Circular A-110 for equipment financed by federally funded grants or similar guidelines of any other organization that externally funded the acquisition of equipment. Paperwork regarding disposition of externally funded assets must be sent to ORS for approval to ensure compliance with sponsor requirements before the asset may be retired. Retirements also include equipment externally funded, taken by a faculty member to another institution.

4. **Sale of Assets:**
If the asset is to be sold, the Asset Administrator should review the asset information in the fixed asset system to determine the appropriate book value.

   If selling the equipment - establish the fair market value:

   a. Find current sale listings for the comparable equipment on an auction site, such as eBay.com, or by using other sources used for equipment valuation, such as Kelly Bluebook for vehicle values. Refer to Policy #1106.31 Plant Assets-Disposal of Computing Equipment, for more detailed information on computers.

   b. Calculate the average cost based on the equipment in the last hours/stage of the auction. Document this information.

   c. Sale proceeds for any University of Pennsylvania property belong to the University.
      i. Checks should be payable to the “Trustees of the University of Pennsylvania”.
      ii. State sales tax must be collected and remitted on these purchases. The tax may be included in the sales price. See Example for calculation of tax amount:

         \[
         \text{Sales price} = 100.00.
         \]

         \[
         \text{Tax Rate} = 8\% (PA=6\% + Phila=2\%) \text{ Effective October 8, 2009 [for sales prior to that date the sales tax is 7\% (PA=6\% + Phila=1\%) ]}
         \]

         \[
         \text{Sales Revenue} = 92.59 \times (100/1.08)
         \]

         \[
         \text{Tax Amount} = 7.41
         \]

      iii. Deposits should record the sale to object code 5602 Gain/Loss on Sale of Assets. Sales tax collected should be recorded to object 2111 A/P Sales Tax. The Sales & Use Tax worksheet should be completed and forwarded to Corporate Tax Office (see Sales & Use Tax Guidelines).
1106.31 Plant Assets - Retirement of Computing Equipment

1106.31 PLANT ASSETS - RETIREMENT OF COMPUTING EQUIPMENT

Subject: Accounting
Title: Plant Assets: Retirement of Computing Equipment
Effective: October 2004
Revised: September 2009
Last Reviewed: September 2009
Responsible Office: Comptroller
Approval: Comptroller

PURPOSE
To provide a retirement and disposal policy for computing equipment that no longer meets the current business needs of the department.

DETAILS

- Computing Equipment:
  - Desktop and/or Workstation - A computer primarily used to provide direct access (via a locally attached keyboard, mouse and monitor) to applications such as web browsers, email clients, office productivity and data analysis tools for use usually by one individual.
  - Server - A computer used primarily to provide network-based services (e.g. web, file, or email), for use typically by multiple users

- Re-Use - pass on to another person within same/or another department (i.e. cascade)

- Donate - present as a gift without reimbursement or payment for

- Recycle - transfer to a vendor licensed to handle CRT and other hazardous elements of computers

POLICY

1. Departments may donate, sell or recycle computing equipment that no longer meets either the current needs of the department or the minimum qualifications to remain on the campus network. Donations may be made through the Center for Community Partnerships (CCP) or other affiliated donor programs [refer to #7 below]. You may sell used and no longer needed equipment to employees, staff or faculty [refer to #5 below].
1106.31 Plant Assets - Retirement of Computing Equipment (continued)

2. The decision to donate, sell or recycle computing equipment should occur in consultation with the designated Information Technology (IT) support unit.

3. Before transferring computers containing any software, first make sure that Penn is properly licensed to transfer it, that it was not obtained illegally or in violation of license terms, and that the software was never copied illegally or in violation of license terms. Also, make sure that the transfer conforms to terms of the software license. Internal software license inventory records should be updated to reflect any transfer or deletion of software.

4. Determine the funds used to purchase the computing equipment and ensure the disposal method corresponds with the source fund’s instructions. Some source funds, i.e. grants, may prohibit the resale or donation of computing equipment.

5. If selling the equipment - establish the fair market value:
   a. First, find current sale listings for the comparable equipment on an auction site, such as:
      i. eBay.com (for both MACs and PCs)
      ii. dell auction.com (for Dell brand)
      iii. ThinkBid.com
      iv. uBid.com
   b. Second, calculate the average cost based on the computing equipment in the last hours/stage of the auction. Document this information.
   c. Third, the sale proceeds for any University of Pennsylvania property belong to the University.
      i. Checks should be payable to the “Trustees of the University of Pennsylvania”.
      ii. State sales tax must be collected and remitted on these purchases. The tax may be included in the sales price. See Example for calculation of tax amount:
         1. Sales price = $100.00
         2. Tax Rate = 8% (PA=6% + Phila=2% Effective October 8, 2009 [for sales prior to that date, sales tax is 7% (PA=6% + Phila=1%)]
         3. Sales Revenue = $92.59 (100/1.08)
         4. Tax Amount = $7.41
      iii. Deposits should record the sale to the appropriate revenue object and the sales tax should be recorded to object 2111 A/P Sales Tax. The Sales & Use Tax worksheet should be completed and forwarded to Corporate Tax Office (See Sales & Use Tax Guidelines).
   d. The University of Pennsylvania will not provide technical support for the ongoing use of the computer once the transaction has been completed.

6. Electronically wipe computers or destroy the physical media. Remove non-public data on a University computer or other electronic devices before the sale or transference out of the department’s direct control occurs.

   a. Use a secure file deletion utility that ensures that the data cannot be recovered by successively writing binary ones and zeros over files to be deleted. Pretty Good Privacy (PGP) includes a secure delete function and is freely available for non-commercial use for Windows and Macintosh.
1106.31 Plant Assets - Retirement of Computing Equipment (continued)


b. The same advice applies to storage media like computer tapes, disks, diskettes, etc. Be sure to completely remove any sensitive information before disposing of electronic storage media. University Archives and Records offer a standard service for secure destruction of confidential electronic records. For further details, see [http://www.archives.upenn.edu/home/URG.html](http://www.archives.upenn.edu/home/URG.html). If you need further help finding tools or services to do this, contact security@isc.upenn.edu.

7. If donating or recycling
   a. Computer Donations Programs
      i. Penn's Center for Community Partnerships (CCP) accepts certain computer equipment donations. Equipment that can be refurbished is upgraded and donated to various organizations. Refer to: [http://www.upenn.edu/ccp/digitaldivide/](http://www.upenn.edu/ccp/digitaldivide/)
   b. Recycle
      i. Recycling may be arranged through your school or center's computing services group.
      ii. Computing equipment may be disposed of through buyers of surplus and used computer equipment
      iii. Check the Information Systems and Computing web site for names of buyers and electronic salvagers. [http://www.upenn.edu/computing/provider/recycle.html](http://www.upenn.edu/computing/provider/recycle.html)

8. Departments may not discard computing equipment.
   a. Do not place any electronic equipment in the trash, even if it is broken. Electronic equipment may contain heavy metals and other materials that can be hazardous to human health and the environment. The U.S. Environmental Protection Agency (EPA) considers some discarded electronic equipment as characteristic hazardous waste under the Resource Conservation and Recovery Act. Unwanted electronic equipment must therefore either be sold/donated for reuse or sent for recycling. See additional information from Environmental Health and Radiation Safety web page: [http://www.ehrs.upenn.edu/resources/waste/puter_disposal.html](http://www.ehrs.upenn.edu/resources/waste/puter_disposal.html)

9. Maintain records documenting all related transactions.

10. If the equipment had an original acquisition cost of $5,000 or greater and is recorded in the University's equipment inventory system, BEN Assets, the disposition must also be properly authorized by completion of the Authorization of Retirement of Equipment form in accordance with policy 1106.3 Plant Assets: Retirements. The Authorization of Retirement of Equipment form can be found on the Comptroller's web site in the Document/Forms Library at: [http://www.finance.upenn.edu/comptroller/Forms/forms.shtml](http://www.finance.upenn.edu/comptroller/Forms/forms.shtml)

REFERENCES

1. Information Systems and Computing (ISC)

2. Office of Environmental Health and Radiation Safety (EHRS)

[3]
1106.31 Plant Assets - Retirement of Computing Equipment (continued)

e. Computer Recycling and Disposal
   Options http://www.ehrs.upenn.edu/resources/waste/puter_disposal.html

3. Center for Community Partnerships (CPP)
   a. Partnership with Americorps to Bridge the Digital Divide in West
      Philly http://www.upenn.edu/ccep/digitaldivide/

4. Office of the Comptroller
   Forms Library: Property Management - Authorization of Retirement of
   Equipment http://www.finance.upenn.edu/comptroller/Forms/forms.shtml

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RISK OF NON-COMPLIANCE

The use of automated tools and break-in scripts makes it easy for an unauthorized person to quickly access
computing equipment and stored data if not properly processed for disposal. Systems that are not properly
disposed of are likely to be discovered and broken into. Break-ins can also result in the destruction, alteration or
disclosure of sensitive data. Improper disposal of computing equipment may be in violation of EPA regulations.

[4]
1106.4 Plant Assets - Plant Construction Costs

1106.4 Plant Assets – Plant Construction Costs

Subject: Accounting
Title: Plant Assets: Plant Construction Costs
No.: 1106.4
Effective: December 1986
Revised: May 2007
Last Reviewed: January 2008
Responsible Office: Comptroller
Approval: Comptroller

Purpose

To properly account for the costs of construction of University plant.

Policy

1. The Office of the Comptroller is responsible for accounting for all costs of construction (new building construction, building and land improvements), in accordance with the applicable financial accounting pronouncements.

2. All gifts received for the purpose of funding plant construction will be recorded in the Capital Gift Funds. Refer to Capital Project Accounting Procedures on recording of gifts and capital funding transfers associated with gifts. ‘http://www.finance.upenn.edu/comptroller/accounting/cppd/’

3. All construction costs will be recorded as Construction-in-Progress in the Capital Construction Fund until the construction is complete and capitalized to the appropriate plant asset account. Refer to Capital Project Accounting Procedures. ‘http://www.finance.upenn.edu/comptroller/accounting/cppd/’

4. At the time the newly constructed building is completed and has useful occupancy, construction costs will be capitalized as buildings and fixed equipment and depreciated in accordance with the University depreciation policy 1106.2.
1106.5 Plant Assets - Property Management

1106.5 Plant Assets – Property Management

**Subject:** Accounting  
**Title:** Plant Assets: Property Management  
**No.:** 1106.5  
**Effective:** December, 1986  
**Revised:** March 2008  
**Last Reviewed:** March 2008  
**Responsible Office:** Comptroller  
**Approval:** Comptroller

**Purpose.** To ensure proper management and control of fixed and moveable equipment.

**Policy**

1. All equipment obtained by the University, including equipment purchased through sponsored programs, is the property of the University of Pennsylvania and is subject to University property management policies and procedures.

2. The safeguarding and use of moveable equipment assigned to a department is the responsibility of the department head. This responsibility may be designated to a Custodian as assigned by the department.

3. The use of University equipment for personal or private use is prohibited.

4. The use of University property at an off-campus location must be approved in writing by the Department head. The department’s Asset Administrator must be promptly notified of any assets used at an off-campus location and the location of the asset must be updated within the fixed asset system to reflect the off-campus location.

5. The University assumes no responsibility for personal equipment brought onto campus, even if it is for a University purpose.

6. The Office of the Comptroller is responsible for maintaining a permanent, detailed record of all fixed and moveable equipment owned by the University including sponsored programs acquisitions for which the University retains title and equipment gifts. Responsibility for updating certain information within the fixed asset system has been delegated to the Asset Administrators. The Asset Administrators are responsible for updating the fixed asset system for changes in location, description, model number, serial number, manufacturer, custodian and phone number, tagging, contact and phone number, tag numbers, tagging date and taggable status. Additionally, responsibility for recording retirements within the fixed asset system has been delegated to Senior Asset Administrators.

7. The Central Gifts Processing Office must notify the Office of the Comptroller of all gifts of equipment that have been received and recorded. A copy of any relevant
1106.5 Plant Assets - Property Management (continued)

backup received for these equipments should be provided to the Property Management Group for review. Any donated equipment received with a fair value of $5,000 or more will be capitalized in the general ledger and recorded in the fixed asset system. Any donated equipment with a value of less than $5,000 will be expensed.

8. All changes in status such as relocation, sale, disposal, theft, obsolescence, donation, etc must be recorded in the fixed asset system by the responsible School/Center Asset retirements should be authorized and recorded in accordance with policy 1106.3 Plant Assets: Retirements.

9. The University Office of Public Safety and the Office of Risk Management must be notified whenever an item of equipment is stolen or is damaged or destroyed due to casualty.
1106.6 Plant Assets - Equipment in Process

Subject: Accounting
Title: Plant Assets - Equipment in Process
No.: 1106.6
Effective: May 2005
Revised: March 2008
Last Reviewed: March 2008
Responsible Officers: Senior Business Officers, Comptroller, AVP-Office of Research Service
Approval: VP Finance

Purpose
To ensure proper accounting for Equipment in Process (EIP).

Definition
Costs incurred for fabricating non-expendable, tangible personal property, that is not available elsewhere, by physically combining or assembling modular components and/or materials into one identifiable unit are considered EIP until the equipment is completed and placed in service. Costs incurred for standard items that are altered or customized to make them usable on a project do not qualify as EIP.

Policy
1. EIP costs are capitalized as incurred when all of the following criteria are met:
   - Upon completion, aggregated cost of the fabricated unit exceeds $5,000
   - Title is retained by the University
   - Upon completion, the equipment will be used by the University beyond the expiration of any grant that funded the fabrication and it has a remaining useful life in excess of one year.

2. EIP costs that do not meet the capitalization criteria in number 1 above are expensed.

3. The School/Center fabricating the asset should notify the Property Management Group (PMG) in advance of purchasing components to be used for fabricating the asset so that PMG may create the in-process asset in the fixed asset system. At the time of creating the asset, the School/Center should also provide PMG with the necessary property information required to be tracked in the fixed asset system, including asset description, category code, asset location, tagging contact and phone number, and custodian and
1106.6 Plant Assets - Equipment in Process (continued)

Phone number. Upon creation, PMG will notify the requestor within the School/Center of the asset number assigned to the newly-created in-process asset.


4. When the equipment is placed in service, the School/Center fabricating the equipment will notify PMG in writing. PMG will then change the status of the asset from an in-process asset to a capitalized asset in the fixed asset system and begin depreciating the asset.

5. Costs related to the repair or upgrading of fabricated equipment in service, which does not extend its remaining useful life, must be expensed.

6. Retirements of fabricated equipment should be approved using the “Authorization for Retirement of Equipment” form and recorded in the fixed asset system by the Senior Asset Administrator in the month of disposal in accordance with Financial Policy 1106.4 Plant Assets – Retirements.

Examples

1. A department will fabricate two research widgets. It is estimated that the costs of materials and labor for both widgets will be $5,500. Since the individual aggregate unit cost is $2,250 and less than $5,000, all costs are to be expensed as incurred.

2. A department will fabricate a super widget at an estimated cost of $1,000,000. It has an estimated useful life of 5 years after completion. The costs will be incurred and funded by a sponsor over a 3 year period. The University retains title and will use the equipment beyond the related grant expiration. These costs meet all of the policy criteria in number 1 above and must be capitalized.

3. Same as (2) above except the equipment is to be transferred to the sponsor. All costs must be expensed as incurred since the University does not retain title.

4. The same as (2) above except the equipment will only be used once in an experiment at the end of the grant period. All costs must be expensed as incurred since the useful life of the equipment after completion is less than one year.

5. A fabricated research widget has been in service. One of the components has to be replaced or upgraded. While the component must be replaced or upgraded for the widget to function properly, it does not extend the useful life of the widget. The cost of the replacement component is considered a repair/upgrade and must be expensed.
1106.6 Plant Assets - Equipment in Process (continued)

Responsibility

1. Each School and Center has the primary responsibility for EIP related controls including asset tracking, tagging, and safeguarding in compliance with this policy. This includes, but is not limited to, implementation of monitoring procedures, at least quarterly, in the School/Center that:

   - Ensure that EIP costs are associated with the proper in-process asset in the fixed asset system
   - Ensure that the central Property Management Group (PMG) has been provided the appropriate property information for inclusion in the fixed asset system as discussed above
   - Ensure that PMG is notified to change the status of the EIP asset from in-process to capitalized in the same period the equipment is placed in service.
   - Ensure that the equipment is tagged upon being placed in service
   - Ensure that retirements of fabricated equipment are properly authorized prior to disposal, that the retirement is recorded in the fixed asset system in the period of disposal and that the “Authorization for Retirement of Equipment” form is maintained

2. PMG is responsible for creating the in-process asset in the fixed asset system upon request from the School/Center; accumulating the acquisition costs related to each asset in the fixed asset system as identified by the Buyer at the time of creating the requisition; changing the status of the asset from “in-process” to “capitalized” upon written notification by the School/Center; and reconciling the fixed asset system to the general ledger.

3. PMG has the primary responsibility for the maintenance and interpretation of this policy

4. The Office of Research Services (ORS) has the primary responsibility for interpretation of this policy with respect to compliance with research grant rules and regulations. ORS will monitor School/Center compliance with removing costs from EIP object codes before grants are closed and the proper charging of equipment expense to object codes that do and do not draw overhead.
1106.7 Plant Assets - Internal Use Software Costs

Subject: Accounting
Title: Plant Assets: Internal Use Software Costs
No.: 1106.7
Effective: July 2005
Revised:
Last Reviewed: January 2008
Responsible Office: Comptroller
Approval: Comptroller

Purpose

Establish guidance for the proper accounting of software purchased or developed for internal use.

Scope

This policy applies to all schools and centers that incur software costs.

Policy

1. Internal-use software (including application, operating system, infrastructure, and utilities) has the following characteristics: (a) the software is acquired, internally developed or modified solely to meet Penn's internal needs and (b) during the software's development or modification, no plan exists to market the software externally.

2. The external cost of purchased internal use software applications in excess of $5,000 (exclusive of maintenance, support and/or training costs) with a useful life of one year or more must be capitalized. If the software price includes maintenance, support, or training, the costs related to these components must be separated and expensed. If these costs cannot be separated on a reasonably cost-effective basis, the software must be totally expensed.

3. External costs incurred under a software agreement to provide (1) unspecified upgrades and enhancements to existing functionality or (2) combined maintenance and unspecified upgrades and enhancements should be expensed over the contract period. The external costs of upgrades and enhancements that enable the software to perform additional features that are software extensions, new functionality or "bolt-ons" previously not incorporated into the software design must be capitalized.
4. Costs related to both package and internally-developed software are expensed or capitalized depending on the nature of the cost and the stage of development.

5. All costs incurred during the Preliminary Project Stage (PMAPI: Definition and Planning Phases) must be expensed. The Preliminary Project Stage generally includes the following activities:
   - Making strategic decisions to allocate resources between alternative projects at a given point in time. For example, should IT staff develop a new payroll system or direct their efforts toward correcting existing problems in the current payroll system?
   - Determining the functional requirements (what do we need the software to do) and the technical systems requirements for the computer software project that has been proposed.
   - Inviting vendors to perform demonstrations of how their software will fulfill our needs.
   - Exploring alternative means of achieving specified functional requirements. For example, should we make or buy the software? Should the software run on a mainframe, Unix or Linux server, be web based or client server?
   - Determining that the technology needed to achieve functional requirements exists.
   - Selecting a vendor if an entity chooses to obtain externally developed software.
   - Selecting a consultant to assist in the development or installation of the software.

6. When the aggregate software project costs (exclusive of hardware costs) will equal or exceed $500,000 during the Application Development Stage (PMAPI Design and Development Phases), the costs must be capitalized. The Application Development Stage generally includes: 1) design of the chosen path including software configuration and software interfaces, 2) coding, 3) installation of hardware, and 4) testing including parallel testing. Capitalization will occur when both:
   - The preliminary project stage is complete, and
   - Management, with the relevant authority, authorizes and commits to funding the computer software project and it is probable that the project will be completed and the software will be used to perform the function intended. Examples of authorization include the execution of a contract with a third party to develop the software, approval of expenditures related to internal development, or a commitment to obtain the software from a third party.

7. Costs incurred during the Application Development Stage that are to be capitalized include only the following:
   - External direct costs of materials and services consumed in developing or obtaining internal-use computer software. Examples of those costs include, but are not limited to, fees paid to third parties for services provided to develop the
1106.7 Plant Assets - Internal Use Software Costs (continued)

Software during the application development stage, costs incurred to obtain computer software from third parties, and travel expenses incurred by employees in their duties directly associated with developing software.

- Payroll and payroll-related costs (for example, costs of employee benefits) for both functional and technical employees who are directly associated with and who devote time to the internal-use computer software project, to the extent of the time spent directly on the project. Examples of employee activities include, but are not limited to, coding and testing during the application development stage.

- Interest costs incurred while developing internal-use computer software if software project costs are externally financed.

8. All costs incurred during the Post Implementation Operation Stage are to be expensed. These costs generally include training, support services, system operation and application maintenance.

9. Costs incurred for data conversion from old to new systems, including purging or cleansing existing data, and reconciliation or balancing old data to data in the new system, all training and maintenance costs, and general and administrative costs and overhead costs are to be expensed regardless of when they are incurred during the project.

10. Internal costs of upgrades and enhancements made to existing software are expensed or capitalized based on the same criteria that are applied to newly developed software. If internal costs of minor upgrades and enhancements cannot be separated from maintenance costs on a cost-effective basis, all such costs should be expensed as incurred.

11. If the software relates to research and development, it must be expensed unless, at the conclusion of the research, it has an alternative internal use.

1 Project Management at Penn
2.3 Sponsored Project Policy

*Sponsored Project Policies* are grouped in the 2100 series. The source of the *Sponsored Project Policies* is the Office of Research Services.

The following relevant policies are included in this section for your reference. They also can be found in the University Financial Policy Manual and are linked from the ORS web site.

**Sponsored Project Policies:**

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No. 2108, Cost Accounting Standards (CAS)

http://www.finance.upenn.edu/vpfinance/fpm/2100/2108.asp

2108 Cost Accounting Standards (CAS)

Subject: SPONSORED PROJECTS

Title: COST ACCOUNTING STANDARDS (CAS)

No.: 2108
Effective: August 1998
Last Reviewed: May 2008
Last Revision: October 2004
Resp. Office: Research Services
Approval: Research Services

PURPOSE:

To ensure compliance with the Federal Cost Accounting Standards applicable to educational institutions, as follows:


2. CAS 502: Consistency in Allocating Costs Incurred for the Same Purpose.

3. CAS 505: Accounting for Unallowable Costs.

4. CAS 506: Cost Accounting Period.

POLICY:

1. Principal Investigators must ensure compliance with CAS 501 by maintaining consistency in the manner in which budgets are prepared for proposal submission and funds are budgeted and expenses accounted for after awards are received.

2. Costs incurred for the same purpose, in like circumstances, must be given consistent treatment in the accounting system in order to comply with CAS 502. That is, each type of cost must be charged consistently as either a direct cost or as part of the F&A rate costs (unrestricted fund).

3. Unallowable costs must be identified and excluded from any billing, claim, or proposal submitted to the Federal government.

4. Rates (e.g., service center, F&A) used for estimating, accumulating, and reporting costs must be based on the costs incurred during the University fiscal year.

5. Research Services is responsible for determining the appropriate treatment of costs and for the maintenance of the CAS Disclosure Statement.

The source of this document is Research Services.
No. 2110, Federal Direct Cost Expenditures
http://www.finance.upenn.edu/vpfinance/fpm/2100/2110.asp

2110 Federal Direct Cost Expenditures

Subject: SPONSORED PROJECTS
Title: FEDERAL DIRECT COST EXPENDITURES

No.: 2110
Effective: December 1986
Last Revision: March 2005
Last Reviewed: May 2008
Resp. Office: Research Services
Approval: Research Services

PURPOSE:
To establish guidelines for the charging and approval of direct cost expenditures on federal awards.

DEFINITION:
The cost of a sponsored project is comprised of both direct costs incident to its performance plus a portion of the Facility and Administrative (F&A) costs of the University. Direct costs are those costs that can be specifically identified with a particular sponsored project, an instructional activity, or any other institutional activity relatively easily and with a high degree of accuracy. Typical costs charged directly to a sponsored project include but are not limited to: the compensation of employees working on the project; employee benefits; the cost of supplies and equipment used in the performance of the project; travel; salary costs; service center charges; human subject fees and long distance telephone costs.

POLICY:

1. The principal investigator is responsible for the management and administration of his/her award within the constraints imposed by the sponsor and in accordance with University policies. The principal investigator must authorize all expenditures of project funds.

2. In some cases, the terms and conditions of the award may require that the sponsor give specific approval for certain direct costs either as part of the specific grant or contract, or subsequent to the initiation of the project.

3. For grants, many federal agencies have delegated most of these required direct cost prior approvals to the University under the “expanded authorities” or “waiver of authorities” set forth in OMB Circular A-110. The University has further delegated this authority to the Principal Investigator, subject to his/her providing and/or maintaining documentation of the appropriateness of the expense in conjunction with the project, and having applied the factors of allowability, allocability, and reasonableness regarding the cost prior to processing the expenditure.

4. For federal contracts, prior approvals are often required for certain direct cost expenditures, and it is the principal investigator’s responsibility to ensure that such approvals are obtained, in writing, through Research Services from the agency before funds are expended.

5. In order for a direct cost to be an allowable cost on a sponsored project, the cost must be:
   a. Reasonable. The cost must be necessary for the performance of the award and reflect the action that a prudent person would have taken.
2110, Federal Direct Cost Expenditures (continued)

b. Allocable. The cost can easily be identified with the project and assigned to the project in accordance with benefits received.

c. Consistently Applied. The cost must be accounted for consistently as either a direct cost or as an F&A cost.

d. The fact that a proposed cost is awarded as requested by an applicant does not in itself indicate a determination of allowability.

6. Sponsor limitations on specific items of direct cost expenditures are included in, or referred to, the Account Information Sheet (AIS) or the Notice of Award.

7. The principal investigator or the departmental business administrator must maintain adequate supporting documentation to relate expenditures to the purpose of the award.

8. Certain costs may not be charged to sponsored projects either as direct costs or as part of the F&A rate. See Policy No. 2111 for a description of unallowable costs.

9. Administrative and clerical salaries should not normally be charged directly to federally sponsored projects. Other costs not normally charged directly include office supplies, postage, telephone line and equipment costs and membership costs. In order to charge these costs directly to Federal projects, the following conditions must be met:

   a. The costs must be clearly identified in the University approved proposal budget with a detailed explanation provided which justifies the necessity for the costs. In such cases where detailed budgets are not provided to the sponsor and therefore such costs are not evident, specific prior approval of Research Services is required. If such costs are determined to be necessary after the award is received and not included in the proposal a determination of allowability must be made by Research Services as well as determining sponsor prior approval requirements;

   NOTE: For some sponsors, the fact that a proposal cost is awarded as requested by an applicant does not in itself indicate a determination of allowability;

   b. The costs must be specifically identified with the project. Individuals performing administrative or clerical activities can accomplish that through certified effort reports;

   c. The project must conform with the examples of Exhibit C of OMB Circular A-21 as follows:

   "Exhibit C – Examples of "major project" where direct charging of administrative or clerical staff salaries may be appropriate.

   • Large, complex programs such as General Clinical Research Centers, Primate Centers, Program Projects, environmental research centers, engineering research centers, and other grants and contracts that entail assembling and managing teams of investigators from a number of institutions.

   • Projects which involve extensive data accumulation, analysis and entry, surveying, tabulation, cataloging, searching literature, and reporting (such as epidemiological studies, clinical trials, and retrospective clinical records studies).

   • Projects that require making travel and meeting arrangements for large numbers of participants, such as conferences and seminars."
2110, Federal Direct Cost Expenditures (continued)

- Projects whose principal focus is the preparation and production of manuals and large reports, books and monographs (excluding routine progress and technical reports).

- Projects that are geographically inaccessible to normal departmental administrative services, such as research vessels, radio astronomy projects, and other research fields sites that are remote from campus.

- Individual projects requiring project-specific database management; individualized graphics or manuscript preparation; human or animal protocols; and multiple project-related investigator coordination and communications.

These examples are not exhaustive nor are they intended to imply that direct charging of administrative or clerical salaries would always be appropriate for the situations illustrated in the examples (emphasis added). For instance, the examples would be appropriate when the costs of such activities are incurred in unlike circumstances, i.e., the actual activities charged direct are not the same as the actual activities normally included in the institution's facilities and administrative (F&A) cost pools or, if the same, the indirect activity costs are immaterial in amount. It would be inappropriate to charge the cost of such activities directly to specific sponsored agreements if, in similar circumstances, the costs of performing the same type of activity for other sponsored agreements were included as allocable costs in the institution’s F&A cost pools. Application of negotiated predetermined F&A cost rates may also be inappropriate if such activity costs charged directly were not provided for in the allocation base that was used to determine the predetermined F&A cost rates.”

The source of this document is Research Services.
### No. 2111, Unallowable Costs


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**2111 Unallowable Costs**

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<td>Title: UNALLOWABLE COSTS</td>
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**PURPOSE:**

To establish policy for the accounting of costs which are unallowable charges against federally sponsored projects.

**POLICY:**

1. The following costs are unallowable charges to sponsored projects as either direct costs or as part of the F&A rate. They must be identified by the general ledger object code designated for those expenses.
   a. Advertising, other than for help wanted or for the procurement of goods or services necessary for the performance of the award (e.g. human subjects);
   b. Alcoholic beverages;
   c. Bad Debt Expense;
   d. Entertainment, unless specifically provided for in the award;
   e. Fines and Penalties;
   f. First class travel;
   g. Goods and Services for personal use, such as automobiles;
   h. Housing and personal living expenses for officers;
   i. Internal interest expense;
   j. Memberships in social, dining or country clubs.

2. In addition to the specific costs listed above, costs associated with the following activities are unallowable direct charges to sponsored projects. They must be identified and accounted for in funds specified for their purpose:
   a. Alumni activities
   b. Commencement and convocation costs
   c. Executive and Legislative lobbying
   d. Fund raising costs
   e. Investment management costs
   f. Losses on sponsored agreements
   g. General Public Relations costs
   h. Costs for prosecuting claims against the Federal government
   i. Restricted fund overdrafts

The source of this document is Research Services.
No. 2115, University Service Centers

http://www.finance.upenn.edu/vpfinance/fpm/2100/2115.asp

2115 University Service Centers

Subject: SPONSORED PROJECTS

Title: UNIVERSITY SERVICE CENTERS

No.: 2115
Effective: December 1986
Last Reviewed: May 2008
Last Revision: November 2003
Resp. Office: Research Services
Approval: Research Services

PURPOSE:

To ensure compliance with Federal regulations for accurately developing and costing service center charges to federally sponsored projects.

DEFINITION:

A service center is defined as a department, or functional unit within a department, which performs specific technical or administrative services for a fee. Examples of service centers are cell sorting facilities, magnetic resonance imaging facilities, or animal care facilities.

POLICY:

1. Services provided are charged directly to all users, including sponsored agreements, based on actual use of the services, through a schedule of cost rates that do not discriminate against federally supported projects of the institution. Charges for services provided to sponsored projects must be made monthly, to accommodate accurate accounting and facilitate timely financial reporting of sponsored projects.

2. Charges for services rendered are to be structured to recover not more than the aggregate cost of the services. It is not necessary that the rates charged for services are equal to the cost of providing those services during any one fiscal year, as long as the rates are reviewed periodically and adjusted, at least annually, with the intent to balance revenue with expenses over a period normally no greater than three years.

3. Research Services is responsible for the review and approval of all service center budgets and charge rates. Each service center must be separately budgeted each fiscal year. A copy of the annual budget and the proposed fees for services must be submitted to Research Services at the beginning of each fiscal year. Specialized service facilities, those with annual budgets exceeding $1 million and that charge 50% or more of their costs to sponsored projects, must also identify the location of the facility, building, floor, and room. Research Services is responsible for ensuring that indirect costs associated with these facilities are not included in the research F&A rate calculation.

4. Consolidation of various types of services into one budget is not permissible, except under special circumstances. In those instances, Research Services must approve the consolidation, in writing, prior to budget submission.

5. Variances (surplus or deficit) between annual costs and recovery can be carried forward into the next fiscal year. However, these variances must be incorporated into the calculation of the rates to be charged during the succeeding fiscal year. In certain circumstances, with Research Services approval, variances may be spread over longer periods.
2115, University Service Centers (continued)

6. Departments that experience deficits in any type of service center that exceed 15% of the budgeted expenditures, or $25,000, whichever is less, may be required to write off the deficit at the discretion of Research Services, in conjunction with the Office of the Comptroller and in consultation with the responsible center. Deficits that need to be written off will be charged to the applicable school/center.

The source of this document is Research Services.
No. 2116, Facilities and Administrative (F&A) Costs

http://www.finance.upenn.edu/vpfinance/fpm/2100/2116.asp

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PURPOSE:

To establish policy regarding the charging of Facilities and Administrative (F&A) Costs to Sponsored Projects.

DEFINITION:

The total costs of a sponsored project include (a) those directly attributable to its performance, e.g., salaries of project personnel, supplies, materials, equipment and travel, and (b) F&A costs, e.g., depreciation of buildings and equipment, utilities, administration and libraries. These latter costs are recovered through the application of an F&A cost rate, calculated in accordance with the cost principles set forth in the Office of Management and Budget Circular A-21 (Cost Principles for Educational Institutions).

POLICY:

1. It is the policy of the University to charge all sponsored projects F&A costs at the appropriate federally approved rate. The only exceptions to this policy are as follows:
   a. Awards from not for profit sponsors which have a stated policy of awarding funds with an F&A cost at other than the negotiated rate, e.g., foundations and charitable organizations;
   b. Clinical trials of drugs and devices; and
   c. Other awards which have been specifically approved by the dean/director of the cognizant school/center at an F&A cost rate other than the negotiated rate in accordance with Item 2. below.

2. All waivers of F&A cost recovery on sponsored projects must be approved by the cognizant dean/resource center director. Waivers or reductions of $25,000 or more in F&A cost recovery must seek additional approval from the Vice Provost for Research and the Senior Vice President for Finance & Treasurer.

3. The University negotiates with the Federal Government F&A cost rates for the following categories:
   a. Research (on/off campus)
   b. Instruction
   c. Other Sponsored Projects

Current F&A cost rates are available at the following URL:
http://www.upenn.edu/researchservices/penndata.html

The source of this document is Research Services.
2.4 **Procurement/Disbursement Policies**


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**Financial Policy Manual**

**Authority and Responsibility For Acquiring Goods & Services**

Please Note:
All updated Financial Policies are now in PDF format only. Please click to description below to go to the appropriate PDF.

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2.5 Internal Controls

2.6 School of Medicine Policy

SOM Policy and Procedures, Service Center Equipment and Depreciation Policy No. FA-FIN-0001,

http://www.med.upenn.edu/policy

I. PURPOSE

To establish procedures for charging depreciation expense to Service Centers for capital equipment and using the recovery of depreciation to replace Service Center equipment. To comply with University of Pennsylvania financial policy and procedures, particularly Sponsored Projects Policy No. 2113, University Service Centers and federal costing standards relevant to sponsored programs, including Office of Management and Budget (OMB) Circular A-21 (2 CFR, Part 220).

II. POLICY STATEMENT

- Capital equipment purchases for equipment to be used in a Service Center cannot be charged directly to a Service Center account (i.e. 20-digit account number with the following ORG 47XX and Fund 000011 combination).
- Depreciation expense calculated for the use of the capital equipment by the Service Center may be included as a direct operating cost when formulating the Service Center rates.
  Note: If you purchase equipment for use by a Service Center directly from federal sponsored project funds, you may not include the depreciation of this equipment in the Service Center rates.
- A capital reserve account will be established for Service Centers that have been approved to include depreciation expense in their annual operating costs used to calculate the billing rates. Service Center rates should be set with the objective to break even (i.e. revenues less expenditures netting to zero), whether depreciation expense is included or excluded.

The capital reserve account will be funded based on the actual amounts of depreciation expense charged each fiscal year. Use of this account will be restricted to offset the cost of future capital purchases for the Service Center, and pay for repairs or maintenance to existing Service Center equipment.

III. WHO SHOULD KNOW THIS POLICY?

Individuals responsible for financial management of Service Centers in the School of Medicine, including business administrators, scientific directors or center directors, department chairs, Service Center managers or supervisors, and any other interested parties responsible for financial operations or oversight of Service Centers in the School of Medicine and in University central offices, such as the Director of Cost Analysis in the Office of Research Services.
IV. DEFINITIONS

Break-even—when revenue equals expenses, whereby there is no variance between the two, prohibiting a surplus (revenue greater than expenses) or a deficit (expenses greater than revenue).

Capital Equipment—Equipment to be capitalized refers to an item of non-expendable tangible personal property with 1) a useful life of more than one year; 2) a cost in excess of $5,000 per item; excluding freight charges and taxes; and 3) the University has title to the asset. Equipment may be moveable or fixed. In addition, acquisitions of individual items of software with an acquisition cost of $5,000 or more will be considered a capital asset.

Depreciation—a decline in value of an asset because of use, wear or obsolescence. The purpose of depreciating assets is to have the value of the assets in the accounting system reflect its likely market value over the life of the asset.

Depreciation Expense—amount expensed each accounting period to reduce the value of an asset in the accounting system. The accounting transaction does not involve a use of cash.

Service Center—a broad term to define an operating unit within the School of Medicine that provides goods or services for a fee based on a rate schedule, to recover no more than the cost of the goods or services and to break-even over time. Some Service Centers can be further classified as the following:

- Recharge Center—a Service Center that provides routine, non-specialized services based on a rate schedule, to recover no more than the cost of the goods or services and to break-even over time (e.g., a copy center or glass-washing center would be considered a Recharge Center).
- Research Core Facility—a highly complex or specialized Service Center designated by the School of Medicine as a core facility.
- Specialized Service Facility—as defined by OMB Circular A-21; a Service Center that provides highly complex or specialized facilities, generally with an annual budget over $1,000,000 and significant charges to federal projects (i.e., 50% or more).

Straight-Line Method—a common and fairly simplistic method to calculate depreciation expense, by starting with the purchase price of an asset and dividing it by the useful life of the asset to arrive at the annual depreciation expense. This is charged each accounting period in equal installments until the book value of the asset (value in the University General Ledger) is reduced to zero (the expected market value of the asset at the end of the useful life of the asset). For example, assuming a $25,000 piece of equipment has a 10 year useful life, the depreciation expense calculation is as follows:

\[
25,000 \text{ (purchase price) } / 10 \text{ years (useful life)} = 2,500 \text{ (annual depreciation expense)}
\]

Useful Life—the estimated life of equipment determined by the University Controller's Office Property Management Group based on established asset capitalization Category Codes that is recorded into the Property Management System.

V. GENERAL INSTRUCTIONS / PROCEDURES

In order for a capital reserve account to be established and funded, the following must occur whenever capital equipment is purchased, leased (capital leases only), or transferred to a Service Center:

1. Capital equipment has been entered into the University of Pennsylvania Property Management System,
2. Service Center must submit a request to the School of Medicine, Department of Finance (SOM Finance) that includes the following information:
   - Item description,
   - Penn barcode number,
   - Purchase Order (PO) number,
   - Annual depreciation expense and depreciable life of the asset (as it appears in the Property Management System),
   - Any changes in useful life of the equipment (as it appears in the University Property Management System), or notification of sale or disposal of the equipment, needs to be communicated to SOM Finance.
3. Depreciation expense must be included into the Service Center billing rates,

SOM Finance will forward the annual depreciation expense amount to the Office of Research Services. A journal entry will be processed by SOM Finance at the end of each quarter to recognize the depreciation expense that should be charged to each Service Center, along with recording the corresponding depreciation revenue recovery. The revenue will be transferred to a capital reserve account to fund future Service Center equipment purchases, using the following journal entry:

Debit (DR.) 400-47xx-1-000011-5340-0000-0000 (Service Center Account)
Credit (CR.) 400-47xx-2-014001-5340-0000-0000 (Capital Reserve Account)

Each fiscal year, the Service Center must provide SOM Finance, with the following information:

- List of all approved capital equipment used in the Service Center,
- Amount of depreciation expense to be expensed to the Service Center in the upcoming fiscal year,
- Appropriate ORG code, and
- Total depreciation amount that will accumulate over the useful life of the equipment.

---

2 Calculate depreciation using the straight-line method, which is an equal amount over the useful life of the equipment. To calculate, start with the book value of the asset divided by number of years in the useful life, which equals the annual depreciation expense. Here is an example to demonstrate how to calculate depreciation expense for a $25,000 piece of equipment with a 10-year useful life: $25,000 / 10 = $2,500 depreciation expense per year.
VI. ADDITIONAL PROCEDURES

Restrictions on Use of Capital Reserve Account

The capital reserve account, (400-47xx-2-014001-5340-0000-0000), will be restricted to the following:
1. The capital reserve account must only be used to replace equipment used in the Service Center and the funds must not be transferred to any other ORG codes.
2. The revenue cannot be used to offset or eliminate deficits in the Service Center.
3. As long as the equipment is being used in the Service Center, the Department must depreciate the equipment until the end of its useful life and include annual depreciation expense in the Service Center rates.
4. Any proceeds generated from the sale or disposal of Service Center capital equipment must be credited to a departmental special purpose account.
5. When closing a Service Center, use of any balance in the capital reserve account will require authorization from the School of Medicine, Department of Finance.

The capital reserve account funds may only be used for the purposes outlined in this policy. Annual depreciation will be placed in the capital reserve account whether the Service Center has a surplus or deficit throughout the year. No other types of credit entries can be made to the capital reserve account other than depreciation journal entries outlined in this policy.

VII. RELATED POLICIES AND RESOURCES

- University Office of Research Services, *Sponsored Projects Manual, Chapter 17 Service and Recharge Centers*, found online at: [http://www.upenn.edu/researchservices/Manual.html](http://www.upenn.edu/researchservices/Manual.html)
- School of Medicine Department of Finance, online Service Center information: [http://www.med.upenn.edu/finance/centers.html](http://www.med.upenn.edu/finance/centers.html)
**Service Center Equipment and Depreciation Policy No. FA-FIN-0001 (continued)**

<table>
<thead>
<tr>
<th>Responsible Offices for School of Medicine Service Centers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research or Scientific Inquiries</td>
</tr>
</tbody>
</table>
| **Office of the Executive Vice Dean and Chief Scientific Officer**  
354 BRB II/III / 6100  
Philadelphia, PA 19104  
Telephone: (215) 898-2874  
Fax: (215) 573-7845  
http://www.med.upenn.edu/vdresearch |
| **Department of Finance**  
356 Anatomy-Chemistry Bldg / 6061  
Philadelphia, PA 19104  
Telephone: (215) 898-3190  
Fax: (215) 898-1174  
http://www.med.upenn.edu/finance |
| **Office of Research Compliance and Integrity**  
240 John Morgan Bldg  
Philadelphia, PA 19104  
Telephone: (215) 573-3125  
Fax: (215) 573-7845  
http://www.med.upenn.edu/comply |

**ISSUED BY:** Signature on file  
**DATE:**  
Vice Dean for Administration and Finance
2.7 Federal Regulation

Office of Management and Budget, Circular A-21, Cost Principles for Educational Institutions,

CIRCULAR A-21 Revised 05/10/04

TO THE HEADS OF EXECUTIVE DEPARTMENTS AND ESTABLISHMENTS

SUBJECT: Cost Principles for Educational Institutions

1. Purpose. This Circular establishes principles for determining costs applicable to grants, contracts, and other agreements with educational institutions. The principles deal with the subject of cost determination, and make no attempt to identify the circumstances or dictate the extent of agency and institutional participation in the financing of a particular project. The principles are designed to provide that the Federal Government bear its fair share of total costs, determined in accordance with generally accepted accounting principles, except where restricted or prohibited by law. Agencies are not expected to place additional restrictions on individual items of cost. Provision for profit or other increment above cost is outside the scope of this Circular.


3. Applicability.

a. All Federal agencies that sponsor research and development, training, and other work at educational institutions shall apply the provisions of this Circular in determining the costs incurred for such work. The principles shall also be used as a guide in the pricing of fixed price or lump sum agreements.

b. In addition, Federally Funded Research and Development Centers associated with educational institutions shall be required to comply with the Cost Accounting Standards, rules and regulations issued by the Cost Accounting Standards Board, and set forth in 48 CFR part 99; provided that they are subject thereto under defense related contracts.

4. Responsibilities. The successful application of cost accounting principles requires development of mutual understanding between representatives of educational institutions and of the Federal Government as to their scope, implementation, and interpretation.

5. Attachment. The principles and related policy guides are set forth in the Attachment, "Principles for determining costs applicable to grants, contracts, and other agreements with educational institutions."
6. **Effective date.** The provisions of this Circular shall be effective October 1, 1979, except for subsequent amendments incorporated herein for which the effective dates were specified in these revisions (47 FR 33658, 51 FR 20908, 51 FR 43487, 56 FR 50224, 58 FR 39996, 61 FR 20880, 63 FR 29786, 63 FR 57332, 65 FR 48566 and 69 FR 25970). Institutions as of the start of their first fiscal year beginning after that date shall implement the provisions. Earlier implementation, or a delay in implementation of individual provisions, is permitted by mutual agreement between an institution and the cognizant Federal agency.

7. **Inquiries.** Further information concerning this Circular may be obtained by contacting the Office of Federal Financial Management, Office of Management and Budget, Washington, DC 20503, telephone (202) 395 3993.

**Attachment**

47. **Specialized service facilities.**

a. The costs of services provided by highly complex or specialized facilities operated by the institution, such as computers, wind tunnels, and reactors are allowable, provided the charges for the services meet the conditions of either subsection 47.b. or 47.c. and, in addition, take into account any items of income or Federal financing that qualify as applicable credits under subsection C.5. of this Circular.

b. The costs of such services, when material, must be charged directly to applicable awards based on actual usage of the services on the basis of a schedule of rates or established methodology that

   (1) does not discriminate against federally supported activities of the institution, including usage by the institution for internal purposes, and

   (2) is designed to recover only the aggregate costs of the services. The costs of each service shall consist normally of both its direct costs and its allocable share of all F&A costs. Rates shall be adjusted at least biennially, and shall take into consideration over/under applied costs of the previous period(s).

c. Where the costs incurred for a service are not material, they may be allocated as F&A costs.

d. Under some extraordinary circumstances, where it is in the best interest of the Federal Government and the institution to establish alternative costing arrangements, such arrangements may be worked out with the cognizant Federal agency.
2.8 Additional Resources

Additional resources are available and in development to assist in the management of Service Centers. Please see the following sources for additional information.

- University Office of Research Services, Sponsored Project Manual, Chapter 17 Service and Recharge Centers:
  http://www.upenn.edu/researchservices/Manual.html

- SOM Division of Finance, online Service Center information:
  http://www.med.upenn.edu/finance/centers.html

- School of Medicine Service Center Brown Bag Sessions:
  Look for future lunch time learning sessions in Knowledgelink for topics and dates.
3 Key Terms and Responsibilities

3.1 Definitions

1) **Accounting Methods:**
   
   a) **Accrual Accounting**—an accounting method that records entries of debits and credits when the liability arises, rather than when the income or expense is received and disbursed.
   
   b) **Cash-Basis Accounting**—an accounting method that considers only cash actually received as income and cash actually paid out as an expense.

2) **Accounts Receivable**—the amounts of money due or owed to a Service Center by its users.

3) **Aged Accounts Receivable**—a report showing the accounts receivable that includes the length of time the amounts have been outstanding. Typically, an aging report categorizes receivables as "Current," "30 days," "60 days," "90 days," and "120 days and over." The purpose of this report is to show what receivables need to be dealt with more urgently based on how long the invoices have been overdue.

4) **Bad Debt**—an uncollectable financial obligation owed to the Service Center after all collection efforts have been exhausted.

5) **Break-even**—when revenue equals expenses, whereby there is no variance between the two; prohibiting a surplus (revenue greater than expenses) or a deficit (expenses greater than revenue).

6) **Capital Equipment**—a non-expendable tangible personal property with 1) a useful life of more than one year; 2) a cost in excess of $5,000 per item excluding freight charges and taxes; and 3) the University has title to the asset. Equipment may be moveable or fixed. In addition, acquisitions of individual items of software with an acquisition cost of $5,000 or more will be considered a capital asset.

   a) **Rentals**—a formal legal binding contract with an external supplier that commits the University to pay stipulated term payments for the use of an asset (either equipment or real estate) for a specific period of time. A rental is considered to be the commitment to pay for the use of the asset for a period of one (1) year or less, or with total contracted payments over the full term of the rental period less than $5,000. Purchasing Services is responsible for reviewing and approving all supplier rental agreements.

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agreements and related purchase orders prior to their final approval in BEN Buys. Rental amounts are encumbered when a purchase order is created and expense is incurred.

b) **Leases** - a formal legal binding contract with external suppliers that commit the lessee to pay stipulated term payments for the use of an asset (either equipment or real estate) for a specific period of time. A lease is considered to be the commitment to pay for the use of the asset for longer than one (1) year, with total contracted monthly payments over the full term of the lease of $5,000 or greater. Capital leases are considered long-term financial obligations of the University. Therefore, all capital leases and lease renewals are considered a use of the University’s debt capacity.

i) **Operating Lease** - an operating lease does not meet the definition of a capital lease below. Operating lease payments are expensed as incurred.

ii) **Capital Lease** - an equipment lease that is capitalized if the total anticipated payments over the term of the lease, excluding any transportation costs, are greater than or equal to $100,000, on a per contract basis, and at least one of the following criteria is met:

1. By the end of the lease term, ownership of the leased property is transferred to Penn.
2. The lease contains a bargain purchase option that Penn reasonably expects to exercise.
3. The lease term is substantially (75% or more) equal to the estimated useful life of the leased equipment.
4. At the inception of the lease, the value of the minimum lease payments is 90% or more of the fair value of the leased equipment.

Capital leases are reported as an asset and a liability on Penn's financial statements and interest and depreciation are expensed. Capital leases are generally not cost effective for the University and are not recommended in most cases. Please see Internal Equipment Financing Program[^4] for information on internal financing.

7) **Cost Analysis**—identification of current and anticipated costs associated with operating a Service Center with an examination of the impact of those costs on setting Service Center rates with the anticipation to break-even (i.e. Revenue = Expenses) at the end of each fiscal year.

[^4]: [http://www.purchasing.upenn.edu/buyinfo/eplp.pdf](http://www.purchasing.upenn.edu/buyinfo/eplp.pdf)
Key Terms and Responsibilities

a) **Costs**—the collection of expenditures necessary to achieve the final cost objective of the Service Center.

b) **Volume**—the amount of units sold or units of services provided to users of the Service Center.

c) **Market**—the environment in which the Service Center operates and competes with other providers of the same goods and/or services.

d) **Rates**—the prices charged to users for goods and/or services provided by the Service Center (part of the formula in the equation to calculate Revenue when multiplied by Volume).

e) **Assumptions**—elements of decisions made by the Service Center BA and Scientific Director in developing the Service Center Cost Analysis. These assumptions work as baseline principles when comparing projected outcomes with actual information.

f) **Constraints**—limitations that could affect any element of a Cost Analysis. For example, considering maximum output when projecting volume—if a machine can only perform 1 test at a time over 60 minutes and a technician works 8-hour days, a constraint would be no more than 8 tests can be completed per day.

8) **Deficit**—a negative balance caused when expenses incurred to operate a Service Center are greater than the revenue generated by those operations.

9) **Depreciation**—a decline in value of an asset because of use, wear or obsolescence. The purpose of depreciating an asset is to have the value of the asset in the accounting system reflect its likely market value over the useful life of the asset.

a) **Useful Life**—the estimated life of equipment recorded in the Property Management System, as determined by the University Comptroller’s Office based on established asset capitalization Category Codes.

b) **Depreciation Expense**—amount expensed each accounting period to reduce the value of an asset in the accounting system. The accounting transaction does not involve a use of cash.

10) **Straight-Line Method**—a common and fairly simplistic method to calculate depreciation expense, by starting with the purchase price of an asset and dividing it by the useful life of the asset to arrive at the annual depreciation expense. This is charged each accounting period in equal installments until the book value of the asset (value in the University General Ledger) is reduced to zero (the expected market value of the asset at the end of the useful life of the asset). For example, assuming a $25,000 piece of equipment has a 10 year useful life, the depreciation expense calculation is as follows:
$25,000 (purchase price) \over 10 \text{ years (useful life)} = $2,500 \text{ (annual depreciation expense)}

11) **Inventory**—a detailed list of assets available for sale by the Service Center (listed in order of progress) including:

   a) **Raw Materials**—materials or supplies to be used to create goods available for sale.

   b) **Work in Process**—partially completed items of inventory.

   c) **Finished Goods**—items produced by a Service Center available for sale to users.

12) **Invoice**—a bill sent by the Service Center for a product or service to a user. The invoice establishes an obligation on the part of the user to pay, creating an account receivable. An invoice should include:

   - Unique invoice number
   - Invoice date (which may be different than the date(s) of service)
   - Date(s) of service
   - Name and address of the Service Center
   - Contact information for the Business Office generating the invoice
   - Name and addresses of user
   - User contact name(s)
   - Description of services rendered and/or items purchased
     - Quantity
     - Unit price (based on rate schedule)
     - Extended price
   - “Remit to” location (May be different than the Service Center contact information.)
     For example, a Service Center located in Blockley Hall may have a Business Office at 3535 Market Street,
   - Terms of payment
     For example, the Service Center may specify "net 30 days," which means that the entire amount is due within 30 days (discounts are not permitted).
• User payment information (if already obtained by the Service Center)

  Internal Users: 26 – digit account number
  External Users: purchase order number, credit card number (typically only the last 4 characters are shown, for example: xxxx xxxx xxxx 1234 would appear on the invoice), or wire instructions

• Current amount due (for initial invoice)

  Subsequent notices should list any past due amounts owed, payments received, and outstanding balance due.

13) **Revenue Cycle** - the entire accounts receivable process from order initiation to receipt of payment. Efficiency in the revenue cycle is measured by the average number of days in outstanding accounts receivable, percentage of invoices billed compared to amounts collected in a time period, and proportion of uncollectable accounts receivable (i.e. bad debt) as a percentage of total revenue.

14) **Sales Journal** – subsidiary ledger recording the detailed sales transactions supporting total sales booked to the general ledger.

15) **Service Center**—a broad term to define an operating unit within the SOM that provides goods or services for a fee based on a rate schedule, to recover no more than the cost of the goods or services and to break-even over time. Some Service Centers can be further classified as the following:

   a) **Recharge Center**—a Service Center that provides routine, non-specialized services based on a rate schedule, to recover no more than the cost of the goods or services and to break-even over time. For example, a copy center or glass-washing center would be considered a Recharge Center.

   b) **Specialized Service Facility**—a Service Center that provides highly complex or specialized facilities, generally with an annual budget over $1,000,000 and significant charges to federal projects (i.e. 50% or more).

16) **Surplus**—a positive balance caused when expenses incurred to operate a Service Center are less than the revenue generated by those operations.

17) **Subsidy**—a financial contribution made to a Service Center in order to create a benefit to users of that Service Center, typically in terms of a reduced rate. The difference between the reduced rate and full cost is the amount of the subsidy.

18) **Uncollectible Accounts Receivable**—See Bad Debt (above).
19) **Write-off**—reducing the book value of an account receivable balance determined to be uncollectible to zero by recording the bad debt expense.

### 3.2 Roles and Responsibilities

As with any successful endeavor, the clear delineation of roles and responsibilities is critical to the success of the operation and to ensuring efficient operations and oversight. All roles and responsibilities should be in writing. This responsibility is usually delegated to the Scientific Director and/or Service Center Administrator.

Each role/position in the Service Center should be matched with specific responsibilities and this information should be clearly communicate to all personnel working in a Service Center and/or responsible for any element of the Service Center. Examples of necessary positions that contribute to the success of the Service Center include:

- Service Center Administrator
- Service Center Director or Operational Manager
- Scientific Director
- Technical Staff
- Business Administrator (may be different than the Service Center Administrator)

SOM and University offices with oversight and support responsibility include:

- SOM Division of Finance
- SOM Office of Research Compliance and Integrity
- ORS, Director of Cost Analysis
- SOM, Executive Vice Dean and Chief Scientific Officer
4  **Appropriate Items of Cost**

This section provides an overview of the types of costs which are appropriate items to be charged to the ORG 47xx series\(^5\). For appropriate costs consider the following:

(a) they must be reasonable;
(b) they must be allocable to the Service Center;
(c) they must be given consistent treatment as a cost of the Service Center operations in like circumstances; and
(d) they must conform to any limitations or exclusions.

**Policies**

The allowability of cost is covered in numerous federal regulations and policies. The spirit of these policies and the funding source collectively provide guidance on the allowability of any one cost item. Familiarity with the following regulations and policies will assist in determining the allowability of individual cost items to be charged to the Service Center ORG.

**University Policy**

- Financial Policy Manual, Policy 2110 *Federal Direct Cost Expenditures*
- Financial Policy Manual, Policy 2111 *Unallowable Costs*
- Financial Policy Manual, Policy 2116 *Facilities and Administrative (F&A) Costs*

**Federal Regulation**


**Principles**

- Direct-cost expenditures charged to a Service Center must meet the same requirements as those charged to the federal awards.
- Only allowable items of cost may be charged to a Service Center.
- All allowable costs related to the operation of the Service Center should be consistently charged.

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\(^5\) SOM Service Centers begin with ORG 47XX series. The ORG 48XX series is reserved for future use. All SOM Service Center ORGs use the FUND 000011 to record normal operating revenue and expenditures.
Unallowable items of cost must NOT be charged to Service Centers. Costs should be monitored regularly to ensure only allowable and allocable costs are charged to Service Centers.

Unallowable Costs

The following are examples of costs specifically prohibited (i.e. unallowable) under University policy and/or OMB Circular A-21. Under no circumstance can these items be charged to a Service Center.

- Alcoholic beverages
- Bad debts
- Donations and contributions to organizations/individuals
- Entertainment or anything remotely connected
- Fines and penalties
- Goods or services for personal use
- Housing and personal expenses
- Interest expense
- Memberships and professional or other organizations
- Profits and losses on disposition of plant equipment or other capital assets
- Scholarships and student aide
- Unfunded subsidies

Notes

Costs for such items as telephones and PennNet portals may be allowable for those individuals charged with administering the activities of the Service Center. In order for these costs to be directly related to the operations of the Service Center, effort charged to the Service Center for the individual must be significant. However, these costs are not allowable for individuals who only have a minor contribution to the Service Center.

Action Items

- Maintain and provide (if requested) all copies of documentation pertinent to the activities of Service Centers, including related costs. This is the responsibility of all departments that oversee the Service Center’s operations.
- Review and reconcile all costs being charged to the Service Center to ensure they are allowable, allocable, reasonable, and are consistently treated.
- Remove any charges deemed “unallowable” from the Service Center.
Recommendations

- Use the Cost Charging Guidelines in the next section as a reference for determining the allowability of costs.

- Any questions regarding allowability of expenses to Service Centers should be addressed to the Office of Research Compliance and Integrity.

- Service Centers are NOT a place to charge costs unrelated to Service Center operations (i.e., loss of federal funds, unfunded FTE temporarily charged to Service Center, bridge funding, etc.).

4.1 Allowable Cost Charging Guidelines

Illustration 4-1: Allowable Cost Guidelines

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>Service Center Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Personnel - Other (Salary, Wages &amp; Benefits)</td>
<td>Allowable if provides a benefit to Service Center activity</td>
</tr>
<tr>
<td>Personnel - Science Related (Salary and Benefits)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Advertising - Other</td>
<td>Unallowable</td>
</tr>
<tr>
<td>Advertising - Personnel recruitment, goods/services procurement</td>
<td>Allowable</td>
</tr>
<tr>
<td>Donations</td>
<td>Unallowable</td>
</tr>
<tr>
<td>Equipment Depreciation</td>
<td>Allowable</td>
</tr>
<tr>
<td>Equipment Purchases over $5,000 (Capitalized)</td>
<td>Unallowable</td>
</tr>
<tr>
<td>Equipment Purchases under $5,000 (Minor Equipment, not capitalized)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Equipment repairs and maintenance</td>
<td>Allowable</td>
</tr>
<tr>
<td>Fines &amp; Penalties</td>
<td>Unallowable</td>
</tr>
<tr>
<td>Interest Expense</td>
<td>Unallowable</td>
</tr>
<tr>
<td>Lab Supplies</td>
<td>Allowable</td>
</tr>
<tr>
<td>Leases (Operating Leases) &amp; Rentals</td>
<td>Allowable</td>
</tr>
<tr>
<td>Leases (Capital Leases)</td>
<td>Unallowable</td>
</tr>
<tr>
<td>Costs of Legal Proceedings</td>
<td>Unallowable</td>
</tr>
<tr>
<td>Cost Category</td>
<td>Service Center Activities</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>----------------------------------------------------------------</td>
</tr>
<tr>
<td>Meetings, &amp; Conferences</td>
<td>Allowable if benefit to Service Center activity</td>
</tr>
<tr>
<td>Memberships - Scientific, Professional</td>
<td>Allowable</td>
</tr>
<tr>
<td>Office Supplies</td>
<td>Allowable (only as associated with Service Center administration)</td>
</tr>
<tr>
<td>Office Supplies - Science Related</td>
<td>Allowable</td>
</tr>
<tr>
<td>Phones - Line &amp; Equipment Charges</td>
<td>Allowable if benefit to Service Center activity</td>
</tr>
<tr>
<td>Phones - Long Distance &amp; Fax Charges</td>
<td>Allowable</td>
</tr>
<tr>
<td>Postage - Administrative</td>
<td>Allowable if benefit to Service Center activity</td>
</tr>
<tr>
<td>Postage - Science Related</td>
<td>Allowable</td>
</tr>
<tr>
<td>Postage - Overnight Delivery</td>
<td>Allowable</td>
</tr>
<tr>
<td>Repairs &amp; Maintenance to Service Center Equipment</td>
<td>Allowable</td>
</tr>
<tr>
<td>Reproduction - Administrative (photocopying)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Social Activities &amp; Entertainment</td>
<td>Unallowable</td>
</tr>
<tr>
<td>Subscriptions - Scientific/Professional</td>
<td>Allowable if benefit to Service Center activity</td>
</tr>
<tr>
<td>Travel</td>
<td>Allowable if benefit to Service Center activity</td>
</tr>
</tbody>
</table>
5 Capital Purchases and Depreciation

This section will explore leasing vs. purchasing of equipment, depreciation, and useful life as these topics relate to Service Centers.

5.1 Equipment Procurement

Definitions

Rentals - governed by a formal legal binding contract with external suppliers that commit the University to pay stipulated term payments for the use of an asset (either equipment or real estate) for a specific period of time. A rental is considered to be the commitment to pay for the use of the asset for a period of one (1) year or less, or with total contracted payments over the full term of the rental period less than $5,000. Purchasing Services is responsible for reviewing and approving all supplier rental agreements and related purchase orders prior to their final approval in BEN Buys. Rental amounts are encumbered when a purchase order is created and expense is incurred.

Leases - formal legal binding contacts with an external supplier that commit the lessee to pay stipulated term payments for the use an asset (either equipment or real estate) for a specific period of time. A lease is considered to be the commitment to pay for the use of the asset for longer than one (1) year, with total contracted monthly payments over the full term of the lease of $5,000 or greater.

Capital leases are considered long-term financial obligations of the University. Therefore all capital leases and lease renewals are considered a use of the University's debt capacity.

Capital Lease - is an equipment lease that is capitalized if the total anticipated payments over the term of the lease, excluding any transportation costs, are greater than or equal to $100,000, on a per contract basis, and at least one of the following criteria is met:

a. by the end of the lease term, ownership of the leased property is transferred to Penn;
b. the lease contains a bargain purchase option that Penn reasonably expects to exercise;
c. the lease term is substantially (75% or more) equal to the estimated useful life of the leased equipment; or
d. at the inception of the lease, the value of the minimum lease payments is 90% or more of the fair value of the leased equipment.

Capital leases are reported as an asset and a liability on Penn's financial statements and interest and depreciation are expensed. Capital leases are

---

6 http://www.purchasing.upenn.edu/buyinfo/lease-request-approval.php
generally not cost effective for the University and are not recommended in most cases. Please see Internal Equipment Financing Program\(^7\) for information on internal financing.

**Operating Lease** - does not meet the definition of a capital lease above. Operating lease payments are expensed as incurred.

### Principles

- Equipment may **never** be purchased using Service Center funds (i.e. the combination of ORG 47xx and FUND 000011). OMB Circular A-21 permits charging depreciation expense to a Service Center, but not the original acquisition of that equipment.

- Leases classified as capital leases are treated similarly to purchased equipment where the lease payments and subsequent interest\(^8\) may **never** be charged to a Service Center fund (i.e. the combination of ORG 47xx and FUND 000011).

- Leases **not** classified as capital leases are by default an operating leases. Payments made to non-Penn entities for equipment **are allowable** direct costs to a Service Center fund (i.e. the combination of ORG 47xx and FUND 000011) if the lease is classified as an operating lease, **does not include interest** payments, and the cost to the lease **does not exceed the fair market value** if someone were to purchase the same item.

- Rentals are treated similar to operating leases. When payments are made to non-Penn entities for equipment, rental payments **are allowable** direct costs to a Service Center fund (i.e. the combination of ORG 47xx and FUND 000011).

- **Internal loans** are typically used to purchase equipment. Loan payments made from a department to the University **cannot** be charged to a Service Center fund (i.e. the combination of ORG 47xx and FUND 000011) because ownership of the equipment belongs to Penn, regardless of how it was funded internally. The federal government views this as an equipment purchase by the University of Pennsylvania, and thus the loan payments are **unallowable** direct costs to a Service Center fund.

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\(^7\) [http://www.purchasing.upenn.edu/buyinfo/eplp.pdf](http://www.purchasing.upenn.edu/buyinfo/eplp.pdf)

\(^8\) See OMB Circular A-21, Section J.26 (a) Interest
### Allowability of Service Center Equipment

<table>
<thead>
<tr>
<th>Acquisition Type</th>
<th>Can be charged to a Service Center (ORG 47xx, FUND 000011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rental</td>
<td>YES</td>
</tr>
<tr>
<td>Operating Lease</td>
<td>YES *</td>
</tr>
<tr>
<td>Capital Lease</td>
<td>NO</td>
</tr>
<tr>
<td>Purchase</td>
<td>NO</td>
</tr>
<tr>
<td>Internal Loan</td>
<td>NO</td>
</tr>
</tbody>
</table>

* The operating lease does not include interest payments, and the cost to the lease does not exceed the fair market value if someone were to purchase the same item.

### Policy or Regulation:

- OMB Circular A-21 (see Section 2.7 Federal Regulation)
5.2 Useful Life

Useful life is the estimated life of equipment, as determined by the Property Management Group in the University Office of the Comptroller. The useful life is determined by an established asset capitalization category code that is recorded in the Property Management System (BEN Assets).

The buyer completes a requisition in BEN Buys. When Object Code 18xx is used, the buyer will be prompted to complete a property management form in BEN Buys. Here all necessary information is inputted and stored in the Property Management System (BEN Assets).

The Property Management Group is responsible for assigning a category code\(^9\) to each asset entered into the Property Management System (BEN Assets). When an asset is entered into the Property Management System (BEN Assets), the useful life will be assigned based on the category code associated with the type of equipment purchased.

The book value is the value of an asset as recorded in BEN Assets in a given accounting period. The book-value is initially recorded at acquisition cost and subsequently reduced based on the recorded depreciation amount.

Useful life is the factor used to determine annual depreciation expense by dividing the book value at time of acquisition by the useful life. (See next section on Depreciation for more information.)

---

Note: The Department is responsible to tag the asset to ensure the Property Management System (BEN Assets) is up to date.

---

5.3 Depreciation

This section provides an overview on the topic of depreciation as it relates to equipment used in a Service Center.

Definition

*Depreciation* - a decline in value of an asset because of use, wear or obsolescence. The purpose of depreciating assets is to have the value of the assets in the accounting system reflect its likely market value over the useful life of the asset.

*Useful Life* - the estimated life of equipment determined by the University Comptroller’s Office Property Management Group based on established asset capitalization Category Codes that is recorded into the Property Management System.

*Depreciation Expense* - amount expensed each accounting period to reduce the value of an asset in the accounting system. The accounting transaction does not involve a use of cash.

*Straight-Line Method* - a common and fairly simplistic method to calculate depreciation expense, by starting with the purchase price of an asset and dividing it by the useful life of the asset to arrive at the annual depreciation expense. This is charged each accounting period in equal installments until the book value of the asset (value in the University General Ledger) is reduced to zero (the expected market value of the asset at the end of the useful life of the asset). For example, assuming a $25,000 piece of equipment has a 10 year useful life, the depreciation expense calculation is as follows:

\[
\frac{\$25,000 \text{ (purchase price)}}{10 \text{ years (useful life)}} = \$2,500 \text{ (annual depreciation expense)}
\]

Principles

- Initial outlay to acquire the equipment must **not** be from federally-sponsored award funds.

- Annual depreciation expense included in the Service Center Cost Analysis must be based on the actual annual depreciation expense recorded by the University.

- The University must have title to the equipment, or if the equipment is leased, it must be deemed a capital lease and not an operating lease (See Section 1.1 Definitions)
Policy or Regulation

University Policy

- Financial Policy Manual,
  - No 1106.0 through 1106.7, *Plant Assets*

- Sponsored Projects Policy
  - No. 2108, *Cost Accounting Standards (CAS)*,
  - No. 2110, *Federal Direct Cost Expenditures*,
  - No. 2111, *Unallowable Costs*,
  - No. 2115, *University Service Centers*,
  - No. 2116, *Facilities and Administrative (F&A) Costs*,

School of Medicine Policy

- *Service Center Equipment and Depreciation Policy No. FA-FIN-0001*

Federal Regulation


Additional Resources

- University Office of Research Services, Sponsored Projects Manual, Chapter 17
  Service and Recharge Centers: [http://www.upenn.edu/researchservices/Manual.html](http://www.upenn.edu/researchservices/Manual.html)

- SOM Division of Finance, online Service Center information:
  [http://www.med.upenn.edu/finance/centers.html](http://www.med.upenn.edu/finance/centers.html)
Action Items

- Confirm the equipment has been recorded in the Property Management System (BEN Assets).
- Include depreciation in the Annual Cost Analysis in order for the cost to be included in the Service Center Rates.
- Notify SOM Division of Finance of any new equipment acquired during the fiscal year where the Service Center will be including the depreciation expense in the billing rates.

SOM Division of Finance will process periodic journal entries to charge the depreciation expense to the Service Center (i.e. ORG 47xx and Fund 000011) and credit revenue to a Service Center Capital Reserve Account (i.e. Service Center Special Purpose Account, the combined ORG 47xx and Fund 014001). This will typically occur on a quarterly basis. (For more information, refer to SOM Policy Service Center Equipment and Depreciation Policy No. FA-FIN-0001, [http://www.med.upenn.edu/policy](http://www.med.upenn.edu/policy))

Note: The Capital Reserve Accounts is a special purpose account designated for future capital purchases identified by account combination of the ORG and Fund.

Capital Reserve Account (i.e. ORG 47xx and Fund 014001)

Recommendations

- Use the Capital Reserve Account as a funding source for future Service Center equipment needs.
- Aim to consistently include depreciation expense in the Service Center rates.
- Be aware of the useful life of the equipment and the annual accumulated depreciation expense when including depreciation expense figures in the Annual Cost Analysis. The University may periodically re-class equipment, which could affect the amount of depreciation that may be charged to the Service Center.
- Never include depreciation expense in Service Center rates for equipment purchased from federal sponsored awards.
- For equipment purchased partially from a federal sponsored award(s) and partially from Penn funds, consider the following:
  - Only include depreciation for the non-federal portion in the Annual Cost Analysis and
• Be sure there are no restrictions on the federal award(s) for placing this equipment into service in the Service Center (refer to the terms and conditions of the sponsored award notice, and sponsoring agency guidelines).
6 Cost Analysis Overview

Managing the financial operations of a Service Center requires a combination of skills and knowledge about the operation of the Service Center. Conducting a Cost Analysis incorporates financial accounting principles, cost accounting practices, and practical knowledge about the Service Center operations. This section will provide an overview of the principles related to carrying out a successful Cost Analysis.

Definitions

Cost Analysis - identification of current and anticipated costs associated with operating a Service Center with an examination of the impact of those costs on setting Service Center rates with the anticipation to break-even (i.e. Revenue = Expenses) at the end of each fiscal year.

The relationship between the factors - Costs, Volume, Market, Rates - of a Cost Analysis and the underlying Assumptions and Constraints is best illustrated in the graphic below. Each factor appears independent of one another; however, the Cost Analysis is more complete and reliable when all factors are analyzed together.

1. **Costs**— the collection of expenditures necessary to achieve the final cost objective of the Service Center.
2. **Volume**—the demand for the goods and/or services, represented in units sold or units of services provided to users of the Service Center.
3. **Market**—the environment in which the Service Center operates and competes with other providers of the same goods and/or services.
4. **Rates**—the prices charged to users for goods and/or services provided by the Service Center; (part of the formula in the equation to calculate Revenue when multiplied by Volume).
5. **Assumptions**—decisions made by the Service Center BA and Scientific Director in developing the Service Center Cost Analysis. These assumptions work as baseline principles when comparing projected outcomes with actual information.
6. **Constraints**—limitations that could affect any element of a Cost Analysis. For example, considering maximum output when projecting volume—if a machine...
can only perform 1 test at a time over 60 minutes and a technician works an 8-hour day, a constraint would be no more than 8 tests can be completed per day.

**Policy or Regulation**

- OMB Circular A-21 (See Section 1, Policies and Other Resources)
- University Financial Policy No. 2115 *University Service Centers*

### 6.1 Elements of a Cost Analysis

The remainder of this section will explore in more detail each factor or element of a Cost Analysis. Each Service Center will be required to submit a Cost Analysis in this format at the end of every fiscal year. This analysis will yield a more reliable Service Center budget as it considers all elements of a proper Cost Analysis. During the fiscal year, the BA is responsible for analyzing the actual financial performance (Revenue and Expenses) with the approved Service Center budget. This analysis should provide variances that can be explained in relation to the Cost Analysis.

**Costs**

Service Centers, like any operational unit of the institution, consist of a variety of items of cost. Service Centers typically include some of the following items of cost:

- **Personnel**—salary and wages multiplied by percentage of effort devoted to the Service Center.
  - Scientific Directors should devote effort to the Service Center for which they are responsible for overseeing.
  - Technical Staff are charged based on their level of actual effort devoted to Service Center activities.
  - Administrative Staff should only be charged to a Service Center if the Service Center requires administrative tasks above and beyond routine departmental administration responsibilities. If Administrative Staff are charged to a Service Center, the charges must be based on their level of actual effort devoted to carrying out their Service Center administrative duties and not routine department administration.

- **Employee Benefits**—rates vary depending on type of employee; appropriate rate is multiplied by the compensation amount to arrive at a cost for employee benefits.

- **Equipment**—federal regulations allow for lease payments (for operating leases) or depreciation expense (for equipment purchased from non-federal funds) to be charged directly to a Service Center fund. Equipment must never be charged directly to a Service Center fund as it is unallowable to do so (see OMB Circular A-21).
Cost Analysis Overview

- **Maintenance Contracts**—typically firms providing maintenance service for equipment conduct ongoing and routine services for a fee on a periodic basis (e.g. monthly, quarterly, or annually).

- **Supplies**—a variety of supplies are necessary for the operation of a Service Center. The volume of supplies used generally varies depending on the volume of services provided by the Service Center.

- **Raw Materials**—are supplies intended to be converted into goods for sale by a Service Center. Comparing costs for raw materials to historical volume will provide a proportion to estimate the cost of raw materials.

- **Travel/Professional Training**—most Service Centers provide highly-specialized technical services. Service Centers generally require the technical staff to have ongoing professional development to enhance or refine their skill-sets, which directly benefit the services provided by the Service Centers. This cost is usually estimated per employee on an annual basis, consisting of the costs of conference registration, airfare/train fare, car rental/local taxi/public transportation, meals or per diems, and lodging.

- **Telecommunications/Software**—the cost of specialized software to operate Service Center equipment or to provide data analysis are also common costs associated with operating a Service Center. This category also includes telecommunication costs for networks, computer servers, and related items.

- **Misc/Other**—there are other costs required to operate a Service Center that may fall under other categories not mentioned above.

All Service Center costs can be classified into *Fixed Costs* or *Variable Costs*:

- **Fixed Costs**—not contingent on Service Center volume; obligations predictable with high degree of certainty.

- **Variable Costs**—change in proportion to volume or activity in the Service Center; obligations can only be estimated based on analysis of historical and prospective Service Center volume or activity.
Applying these concepts to perform a Cost Analysis of your Service Center:

**Typical Fixed Costs**

- Salaries (exempt, monthly-paid staff) and related Employee Benefits
- Equipment Maintenance Contracts
- Equipment Lease Payments
- Equipment Depreciation
- Telecommunications/Penn Net Charges

**Typical Variable Costs**

- Hourly Wages (non-exempt, weekly-paid staff) and related Employee Benefits
- Outside Services (e.g. sub-contractors, HUP personnel, and one-time service contracts)
- Supplies
- Raw materials used in producing Service Center goods for sale
- Inventory to re-sell (e.g. gases, chemicals, or animals)
- Direct lab supplies consumed in providing services (e.g. reagents, media, and pipettes)
• Indirect supplies (e.g. administrative supplies, database software, media and/or document storage)

**Issues for New Service Centers**

• Fixed costs should be estimated by knowledge of what resources (staff, equipment, etc.) will be needed to run the Service Center.

• Variable costs should be estimated based on volume estimates.

**Issues for Existing Service Centers**

• Use historical information as starting point for Cost Analysis.

• Variance analysis between Last Fiscal Year Budget vs. Last Fiscal Year Actual financial performance.

• Re-visit assumptions made last year and compare them to the actual outcomes.

• Look for trends in financial data (e.g. calculate supply cost as a percentage of revenue or utilization of staff if using a billable hours model).

**Volume**

Volume is the use of the Service Center by internal and external users. This is the quantification of the demand for the goods and/or services. When performing a Cost Analysis, actual volume figures are available from historical usage. The challenge arises when predicting future user volume demand for the upcoming fiscal year. This can be accomplished by working with the Scientific Direct to analyze potential users or looking at historical trends to predict future usage. The most important principle in understanding volume is realizing a Cost Analysis is performed based on an estimate of future volume. This estimate needs to be analyzed during the course of the fiscal year to determine if the predicted or projected volume is coming in as planned. **This analysis is on-going and may affect the solvency of the Service Center.**

For example, assume you anticipate user volume to be 1,000 units per year and your total costs are estimated to be $150,000. If only one service is offered, your rate should be $150 per unit.

**Initial Analysis:**

• Estimated Units: 1,000

• Estimated Costs: $150,000

• Per unit cost: $150 ($150,000 / 1,000 units = $150 per unit)
Then during the course of the fiscal year, assume you are analyzing 6 months worth of data and see actual volume is at 400 units. At that time, a decision would have to be made to assure the Service Center does not operate at a loss at the end of the fiscal year.

6-Month Analysis

- Actual Units: 400
- Estimated Costs: $150,000

Here are two of the possibilities:

1. The months of July and August produce lower volume, which will pick up during the fiscal year. The anticipated volume of 1,000 units will materialize. If this is the case, then the Service Center is on target to break-even at year-end.

2. Factors in the market place such as competition, new technology, or reduced need for the service are driving volume down in the Service Center. The 400 units appear to be on target for finishing the year at 800 units. If this were the case, then 800 units would produce $120,000 in revenue and with operating costs estimated to be $150,000 per year, this would result in a $30,000 deficit.

New Estimated Analysis:

- Estimated Units: 800
- Revenue: $120,000 (800 x $150 = $120,000)
- Deficit: $30,000 ($120,000 Revenue - $150,000 Costs = -$30,000)

The Service Center would need to consider some actions before year-end to avoid a deficit:

1. reduce operating costs.
2. increase rates.
3. plan a strategy to advertise the goods and/or services to create awareness.
4. evaluate the effectiveness of the Service Center to improve service or meet demands the users want.
5. a combination of all of these efforts.

Below are some additional recommendations when analyzing volume:

- Estimate Internal Users:

  1. Prepare a list of users and sort by PI, funding source, and likely volume in units and/or dollars (if available). Compare this data for the past 2 or 3 fiscal years to determine trends. Are some users going up or going down? Is there a correlation between actual
usage and some other factor such as available funding, rates, or technology?

2. Review users by award activity to determine whether the user’s award has ended and subsequently the need for the service has also ended.

- **Estimate External Users:**

  1. Analyze types of users (universities, hospitals, independent research organizations, pharmaceutical companies, non-profit, biotechnology firms, and so on, to determine whether there is an external market for the services of the Service Center.

  2. Also analyze sources of funding (if available) and likely volume in units and/or dollars (if available), similar to the analysis for internal users.

- **For new Service Centers:** use the following information to make volume estimates:

  1. PIs who may already be collaborating with the scientific director;

  2. potential users in your department; and

  3. estimate new collaborations with external users.

### Market

Market is the term used to describe the group of users who consume the types of goods and/or services offered by a Service Center. This group consists of all current, past, and future users, and users who may never use your Service Center, but who may use the types of services in a competing Service Center.

For example, assume your Service Center offers a service called “bionics” where bionic body parts are created for use. Your current users may be:

<table>
<thead>
<tr>
<th>Penn Internal Users</th>
<th>Number of PIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>School of Medicine</td>
<td>5</td>
</tr>
<tr>
<td>School of Engineering</td>
<td>1</td>
</tr>
</tbody>
</table>
However, the entire market may consist of:

<table>
<thead>
<tr>
<th>Users</th>
<th>PIs who use SOM Bionics Core</th>
<th>PIs who use Competing Service Center</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penn SOM</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Penn School of Engineering</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>CHOP</td>
<td>2</td>
<td>Exact volume unknown</td>
</tr>
<tr>
<td>Drexel</td>
<td>1</td>
<td>Exact volume unknown</td>
</tr>
<tr>
<td>Jefferson</td>
<td>0</td>
<td>Exact volume unknown</td>
</tr>
<tr>
<td>Temple</td>
<td>0</td>
<td>Exact volume unknown</td>
</tr>
<tr>
<td>Wistar</td>
<td>1</td>
<td>Exact volume unknown</td>
</tr>
</tbody>
</table>

If the service offered is very specialized, the market could extend much farther than the Philadelphia metropolitan area, and possibly across borders into foreign markets.

Understanding the market for which the Service Center is operating is crucial to making appropriate assumptions in terms of performing a reliable Cost Analysis.

Here is a list of questions that should provide valuable information to consider when understanding the market for which the Service Center competes:

- Does the Service Center provide a unique service with no basis for cost?
- Does the Service Center provide a homogeneous service offered by competing firms? If so what do competitors charge?
- Do internal users have funding sources to pay for the services? If not, are you aware the SOM cannot discriminate against federal awards or provide
discounts or free services to any users? Decipher how this will impact your Cost Analysis.

- Is the service provided considered cutting-edge technology or could possibly be obsolete fairly soon?

- Where will revenue for the Service Center come from? What are the sources of revenue (sponsored awards, internal funds, or external contracts)? Are there subsidies for internal users? How will this impact demand for your services?

Once anticipated or projected volume in units and/or dollars can be determined, compare this with your volume analysis to double check the validity and likelihood of your assumptions.

**Rates**

Rates are the fees paid by users to procure the goods and/or services of a Service Center. The overarching financial goal of a Service Center is to break-even. The rates for each good and/or service are determined by the Cost Analysis. There are a few competing goals to keep in mind:

1. Recover the cost of providing the service.
2. Do not price the Service Center out of the market.
3. Rates are based on the total costs divided by anticipated volume.
4. Rates are a derivative of total cost estimates to operate the Service Center based on all Cost Analysis factors.

Rate schedules need to be published and adhered to so that internal users charging federally sponsored awards do not pay more than other users for a service, as required in OMB Circular A-21.

There are instances where a variety of rate schedules would exist depending on the type of user. Internal users would pay an internal rate, while external users would pay a rate similar to the internal rate but marked up with a premium to recover F&A costs associated with providing the service. In some cases, there may be multiple rate schedules for internal users based on potential subsidies. For example, Senior Leadership (i.e. Provost, Dean, Executive Vice Dean and Chief Scientific Officer, etc.) may provide subvention funding to off-set the cost of particular services to graduate students or young investigators who require those services but may not have adequate means to pay for them. Remembering the requirement from OMB Circular A-21 to **not** discriminate against users charging federal awards, the subsidized rate plus the subsidy should be equivalent to the cost of providing the service to federal users.
Here is an example illustrated, assume the following rate schedule:

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal User Rate</td>
<td>$100</td>
</tr>
<tr>
<td>Graduate Student Rate</td>
<td>$40</td>
</tr>
</tbody>
</table>

The $40 rate to the graduate student could only be offered, provided it does not discriminate against users charging federally sponsored awards. On the surface, it appears as though there is discrimination against the internal user rate; however, if there is an internal subsidy of $60 for every service unit consumed by graduate student users, then this practice would be compliant. The reduced rate plus the subsidy equals the internal rate:

\[ \text{$40 \text{ graduate student rate} + $60 \text{ subsidy} = $100 \text{ internal user rate}} \]

It is important to note there is no such thing as a free or reduced rate without a corresponding subsidy. If a department does not want to charge graduate students for using Flow Cytometry services, then the department must fund the entire cost of providing that service. From the perspective of the graduate student the service appears to be “free;” however, the department pays the $100 rate for every “free” service it provides to its graduate students.

Principles to setting rates appropriately:

1. Remember the goal is to break-even at the end of the fiscal year.
2. Review rates in terms of costs, volume, and market considerations.
3. Determine whether rates be increased or decreased.
4. Incorporate any deficit or a surplus from the prior fiscal year.
5. Provide updated rate schedules based on your final Cost Analysis.
6. Perform Break-even Cost Analysis:

   \[ \sum (\text{Rate}_{each \ service} \times \text{Volume}_{each \ service}) = \text{Total Costs} \]

   Sum of the rates for each service multiplied by the volume for each service should equal the total cost of operating the Service Center.

   • For example, $200,000 in total Service Center costs divided by 5,000 units will yield a rate of $40 per measurable unit (hour, job, item, etc.).

Additional Items to Consider:

1. Multiple services or items require more complex calculations to allocate costs.
2. OMB Circular A-21 requires the Service Center as a whole to break-even, allowing margins on some items and deficits on others.
3. With reliable cost, volume and market estimates, rates should not change during the year unless significant variances appear likely (i.e. surplus or deficit >5%).

4. Consider charging external users a higher rate that includes indirect cost recovery (i.e. approved rate plus F&A rate for external user rate).

5. Never discriminate against federal awards by charging lower rates to users charging non-federal funding sources.

6. Never provide free service to any users.

7. Work with the scientific director and technical staff to consider all billable milestones.

8. Use rate schedules and volume schedules to forecast revenue:
   - Multiply (Anticipated Volume) times (Rate).
   - Compare to historical Revenue figures.
   - Look for trends (upward, downward, or flat) to decipher solvency of the Service Center.
   - Determine Volume of external users and indirect cost recovery from external users.

Assumptions
Assumptions consist of all of the decisions about trends in volume, costs, market, and rates that become the essence of your Service Center Cost Analysis. Consistency in making assumptions will yield the most reliable Cost Analysis.

For example, if volume trends over the past 3 fiscal years show an upward trend of 10% growth each fiscal year, yet the market analysis shows demand for the service is decreasing, then you must be consistent in your Cost Analysis.

Consider the following schedule:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Volume in Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>25,000</td>
</tr>
<tr>
<td>2008</td>
<td>27,500 (10% increase)</td>
</tr>
<tr>
<td>2009</td>
<td>30,250 (10% increase)</td>
</tr>
<tr>
<td>2010 Projected</td>
<td>Not yet known; to be determined</td>
</tr>
</tbody>
</table>
If you were just analyzing volume by itself, it would be fair to predict FY2010 would continue an upward trend of 10% growth and would be 33,275 units (30,250 FY2009 Volume multiplied times 110% = 33,275).

If the following market analysis proved demand for the service to be decreasing over time, then predicting a 10% increase in volume may not be reliable or consistent with the assumptions made about the market. Consider the following schedule:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>Moderate</td>
</tr>
<tr>
<td>2008</td>
<td>High</td>
</tr>
<tr>
<td>2009</td>
<td>Moderate</td>
</tr>
<tr>
<td>2010</td>
<td>Low</td>
</tr>
</tbody>
</table>

The key to making assumptions is bringing all of this information together to make an informed decision. If the demand in the market was estimated to be Moderate in FY2007 and the Service Center produced 25,000 units, and now for FY2010 the market demand is estimated to be Low, then a good assumption would be to consider volume in FY2010 to be lower than fiscal years 2007, where demand was deemed to be Moderate. Of course there is no such chart that can simply provide a forecast of the market. This is where using information about users, the rates necessary to break-even, and competition in the market place will give you an idea about the demand for the services in any given fiscal year.

After assumptions are made in a Cost Analysis, be sure to keep in mind the following best practices:

1. Document the assumptions used to create the initial costing model and rate schedule.

2. Analyze variance between the original model and the actual performance and determine what happened.

   1. Were all items of cost considered?
   2. Were the rates appropriate with the cost of performing the service?
   3. Was the volume of expected users higher or lower than projected and why?
   4. Was the market not receptive to your service or over-receptive (possibly meaning the rates could be too low)?
5. Were there any other significant events affecting the operation of the Service Center?

Most importantly, remember assumptions are only reliable based on the information available at the time the assumptions are made. For example, a Cost Analysis performed at the end of the fiscal year will appear less reliable than the same analysis done a few months into the fiscal year. What needs to be consistent is the interpretation of data and consistency of decisions made because of those interpretations.

**Constraints**

Constraints are the limitations of what is possible in terms of costs, volume, rates, market, and assumptions.

For example, if a Service Center needs to generate 500,000 units of an item in order to break-even, but the demand is only 100,000 units and the capacity of the Service Center is only 200,000 units, than a constraint would be the Service Center is not able to achieve the needed volume to meet its break-even requirements without increasing the rates.

Another example involving rates would be if a Service Center needs to charge $250 per unit in order to recover all costs and break-even (based on reliable volume estimates). There are also competing Service Centers charging $100 per unit for the same service. The constraint would be the Service Center cannot compete at a rate of $250 per unit.

There are remedies to these obstacles:

1. Explore whether costs could be reduced to arrive at a rate of $100 per unit or
2. Explore whether a combination of cost reduction and advertising to procure additional volume would produce a costs analysis that allows the Service Center to charge a more competitive rate, closer to $100 per unit.

Keep in mind better technology or some other competitive advantage may support charging a higher rate. The Service Center may have cutting edge technology or yield scientific results much faster than a competing Service Center. In this case, there may not be a constraint to keep the rate at $100 if the market sees the $250 service as more specialized.

Consider the following limitations when developing your rate schedule and performing the Cost Analysis:

1. Is the expected output feasible considering the level of resources dedicated to the Service Center?
2. Was the demand appropriately estimated or is the market saturated with your service?
3. Was the original Service Center proposal too optimistic and if so, can it sustain operations with lower volume?
4. Are there other factors limiting achieving optimal Service Center operations in order to break-even?

Summary
In summary, a Cost Analysis is not one analysis—but rather a series of analyses, consisting of a variety of competing factors. The goal is always to arrive at a break-even analysis (i.e. Revenue = Expenses). This is achieved when all of the following occur:

- When volume is accurately projected.
- Costs are accurately projected and managed during the fiscal year.
- Rates are set to recover the costs associated with operating a service center and charged appropriately.
- The market responds to the quality of the service offered at the approved rate.
- All assumptions are explored and documented in the Cost Analysis.
- All constraints are considered and adhered to for completeness.

These are good fundamentals to follow when operating any business.
7 Setting Rates

7.1 Rates to External Users

This section provides an overview for billing Service Center users who are outside the University of Pennsylvania (i.e. External Users).

Definition

*External User* is a user of a SOM Service Center who is not a member of the faculty or staff of the University of Pennsylvania. Faculty with courtesy appointments with SOM, paying for services from funds from their home institutions or organizations, would also be considered *External Users*.

Another element to help determine *Internal Users vs. External Users* is the method of payment. *Internal Users* pay for their services via journal entry charging a Penn 26-digit account number, while *External Users* are invoiced and pay via check, wire transfer, or credit card from external funds (i.e. funds not under the stewardship of the University of Pennsylvania).

Principles

- Rates for external users cannot be discounted when compared to rates for internal users charging federal awards.

- External user rate schedules are subject to annual review and approval by SOM Division of Finance and the University Office of Research Services, Direct of Cost Analysis.

- External users can be charged a rate based on the internal rates schedule, with an added premium based on the applicable F&A rate. This premium would be used to recover the indirect costs associated with providing the service to the external user.

\[
\begin{align*}
\text{Fixed and Variable Direct Costs} & \quad \text{External User Rate} = \$159 \text{ per unit} \\
\text{Associated with Providing the Service} & \quad = \$100 \\
\text{Premium to Recover F&A Costs} & \quad (59\% \times \$100 = \$59)
\end{align*}
\]
For example, if the F&A rate for a federal research award is 59% and the fee to internal users is $100, external users can be charged $159:

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Internal Rate</th>
<th>External Rate*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>$ 100</td>
<td>$ 159</td>
</tr>
<tr>
<td>Draw</td>
<td>$ 50</td>
<td>$ 80</td>
</tr>
<tr>
<td>Repair</td>
<td>$ 75</td>
<td>$ 119</td>
</tr>
<tr>
<td>Analyze</td>
<td>$ 150</td>
<td>$ 239</td>
</tr>
</tbody>
</table>

*Calculated by taking the cost to provide the service to internal users multiplied by the F&A rate (e.g. $100 x (1+59%) = $159)

Subsidies to the Service Center for internal users should not be applied to the rates charged to external users—unless the external users, such as CHOP, Wistar Institute, or Drexel University are conducting formal collaborative research with Penn within the scope of the subsidy purpose. (See the following section for more details on subsidies.)

Subsidies are usually intended to benefit the internal user population. It is prudent to check the terms of the subsidy to ensure that the intended beneficiary is the recipient of the subsidized rate.

For example, assume an internal user pays 80% of the cost of providing a service and the School or University subsidizes 20%. At a minimum, the external users should pay the full 100% of the cost of providing the service and the applicable F&A rate to recover the associated indirect costs.

### Policy


Action Items

- Develop a separate rate schedule for external users incorporating the full rate plus a premium, if applicable, for indirect costs associated with providing that service. The Service Center may charge external users rates that are higher than what is charged to internal users, but it must never be lower than what is charged to internal users.

- Analyze subsidies to ensure the intended benefits of the subsidies are being given to the correct user groups. When a federally sponsored award is providing the subsidy, refer back to the terms and conditions of the award.

- Develop and document a formal billing and collection plan for external users. (See Section 8.2, Accounts Receivable)

Recommendations

- Do not deviate from the approved rate schedule when charging external users. For example, do not charge the internal rate to University A, and an external rate to University B. The best practice is to be consistent with charging internal users the internal rate, and external users the external rate.

- All rate schedules must be published. However, the best practice for internal user rate schedules would be to secure the rate schedule behind a Penn firewall. The firewall would make the rate schedule accessible only to the Penn network or off-site with Penn key authentication. External user rate schedules must be published and accessible to everyone via the internet.

- Revenue generated from external users of the Service Center must be accounted for properly. There are a few steps to ensure this process is performed correctly. The following illustrates the steps necessary to allocate premium revenue generated from external users (i.e. revenue derived from charging external users a rate consisting of the direct costs of providing the services plus an amount to recover F&A costs):
  - External rates are calculated to include the full cost of providing the service. This is a best practice that can be done for each good or service offered by a Service Center.
When revenue is collected from External Users, the gross invoice amount will be deposited into the Service Center Fund (ORG 47XX, FUND 000011).

After the deposits have posted, notify SOM Division of Finance on a monthly basis to allocate the revenue associated with the premium to the SOM:

1. 100% of the premium is remitted to the School via journal entry
2. The debit side of the journal entry is processed as a Resource Transfer Out of the Service Center:

**IMPORTANT—Resource Transfers Out** of the Service Center should only occur to transfer revenue associated with the **F&A Premium** included in the rates to external users. The premium represents the recovery of F&A costs associated with providing those services to the external users. SOM Division of Finance processes these journal entries on a monthly basis, after being notified by the Service Center Business Administrator.
7.2 Rates to Internal Users (with and without Subsidies)

This section will explore issues associated with subsidies to internal users.

Definition

Subsidy—a financial contribution made to a Service Center in order to create a benefit to users of that Service Center, typically in terms of a reduced rate. The difference between the reduced rate and full cost is the amount of the subsidy.

Principles

- Consistently apply rates to user groups when subsidies fund a portion of the cost of operating a Service Center.
- Rates cannot discriminate against users charging federal awards, awarded to the University of Pennsylvania.
- Service Centers funded by federal core grants or other sponsored awards must factor in the level of support when charging those awards for services provided by the subsidized Service Center.

Policy

- OMB Circular A-21 (See Section 2 Policies and Other Resources)

Overview

Service Centers may have internal subsidies to offset the costs of providing the service to internal users classified into a particular group. For example, the Provost, Dean or Chief Scientific Officer may offer subvention funding to off-set the cost of particular services to a sub-group of users, particularly graduate students. The rate plus subsidy must not be less than what is charged to internal users charging federally sponsored awards.

OMB Circular A-21\(^\text{10}\) prohibits discriminating against the federal government. This is interpreted to mean an internal user charging a federal award must not pay a rate higher than the aggregate cost of providing the service. When subsidies are applied, they are applied to the aggregate cost of that service. (See Examples Illustrated below)

There are also sponsored awards where the purpose of those awards is to fund internal core facilities. Terms and conditions of the award will dictate which internal users receive benefit from this subsidy. Each Service Center receiving subsidies must develop rate schedules appropriate for each set of users. Users may not benefit from a subsidized rate if they are not in a group that qualifies for a rate subsidy. For example, an external pharmaceutical

\(^{10}\) OMB Circular A-21, Section J.47 (b (2)

company may not take advantage of a reduced rate that was subsidized for internal graduate students.

A Service Center cannot provide “free” or reduced rate services to any user without an unrestricted funding source specifically subsidizing the Service Center.

The following illustration demonstrates how a subsidy from the SOM is used to pay the difference between the full $100 rate the federal award pays and the subsidized $60 rate the graduate student pays. On the surface, it would appear the graduate student pays less. However, coupled with the corresponding subsidy, the revenue per unit received for the internal user and graduate student user are $100 per unit.

**Illustration 7-1: Comparison of Rate Schedules showing School Subsidy**

The same concept applies in a similar fashion when a sponsored award supports (e.g. Core Grant) the operation of a SOM Core Facility (i.e. Service Center). Typically, a SOM subsidy offsets the revenue associated with providing a service to a particular sub-group of users. A Core Grant offsets the costs associated with operating the Core Facility.

The following example will take you through a Cost Analysis for a fictitious Bionics Core Facility. The example starts with total costs and total volume to operate the Service Center, and then applies a subsidy for internal users, ending with proper rate setting for external users.

Below is an illustration of all costs associated with operating the Bionics Core Facility and all volume, not distinguishing between the types of users (this will be shown later). Take note the per-unit gross cost to provide the service is $100 per unit.
Illustration 7-2 Comparison Total Costs for Bionics Core Facility

<table>
<thead>
<tr>
<th>Bionics Core Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costs:</td>
</tr>
<tr>
<td>Compensation</td>
</tr>
<tr>
<td>Service Contracts</td>
</tr>
<tr>
<td>Supplies</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
<tr>
<td>Volume:</td>
</tr>
<tr>
<td>Cost per unit:</td>
</tr>
</tbody>
</table>

Now assume the Bionics Core Facility is funded by an NIH grant to support bionics services for internal SOM users. We will refer to this award simply as the NIH Core Grant. Below is a breakdown of internal and external users. Take note internal users account for 90% of all user volume, while external users account for 10% of all volume.

Illustration 7-3: Projected Volume

| Bionics Core Facility: Cost Analysis for Internal SOM Users
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Projected Volume</td>
</tr>
<tr>
<td>Internal Users</td>
</tr>
<tr>
<td>External Users</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

The volume distribution will determine how much support is requested from the NIH in the Core Grant proposal. If the purpose of the Core Grant is to fund half of the costs of providing bionics services in the SOM, then the costs associated with internal users will drive the cost basis for the Core Grant proposal budget.
Below is a list of costs submitted in the proposal intended to fund half of the costs associated with internal users for the Bionics Core Facility.

The subsidy drives the rates for internal users. If the gross cost per unit is $100, with a 50% subsidy from the Core Grant, internal users will pay $50 per unit. External users will pay at least the $100 gross cost per unit. This is because in this example, external users do **not** benefit from the Core Grant subsidy. We will assume the Bionics Core Facility does include a premium to recover F&A costs in the rate to external users. This set of assumptions produce the following rate schedule:

### Illustration 7-5: Support from NIH Core Grant

<table>
<thead>
<tr>
<th>NIH Core Grant</th>
<th>Costs:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compensation</td>
<td>$60,000</td>
</tr>
<tr>
<td>Service Contracts</td>
<td>$30,000</td>
</tr>
<tr>
<td>Supplies</td>
<td>$ -</td>
</tr>
<tr>
<td>Other</td>
<td>$ -</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$90,000</strong></td>
</tr>
</tbody>
</table>

### Illustration 7-6: Rate Schedule

| Bionics Core Facility: Rate Schedule for Internal and External Users |
|------------------------|------------------|-------|
| **Rates**              | Fee to User      | Subsidy |
| Internal Users         | $50              | $50    |
| External Users         | $159             | $-     |
Most of the discussion has centered on analyzing costs. The following illustration breaks down the revenue collected from the Service Center (ORG 47XX, FUND 000011) and charges directly to the Core Grant:

**Illustration 7-7: Revenue Analysis**

<table>
<thead>
<tr>
<th>Bionics Core Facility: Revenue Analysis from All Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projected Revenue</td>
</tr>
<tr>
<td>Internal Users</td>
</tr>
<tr>
<td>External Users</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

The last step in this process is to net out the revenue associated with charging a premium to external users to recover F&A costs. External users are charged $159 per unit, where the $59 revenue associated with recovering the premium for F&A costs is transferred out of the Service Center by SOM Division of Finance as a Resource Transfer Out.

**Illustration 7-8: External Revenue Analysis**

**Bionics Core Facility: Revenue from External Users**

**Determine Revenue from External Users related to F&A Premium**

- Revenue from External Users $ 31,800
- Direct costs recovery to provide service @ $100 per unit $ 20,000
- Premium for F&A Costs @ 59% premium $ 11,800

**Revenue from F&A Premium to External Users**

- F&A Premium transferred to SOM $(11,800)

This example demonstrates there are multiple rate schedules depending on the type of user to be aware of the conditions of any subsidy. It is important to consistently apply the correct rate schedules when charging multiple types of user groups.
The following illustration is the break-even analysis:

**Illustration 7-9: Internal User Cost Analysis**

<table>
<thead>
<tr>
<th>Projected Volume</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internal Users</strong></td>
<td>1800</td>
</tr>
<tr>
<td><strong>External Users</strong></td>
<td>200</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2000</td>
</tr>
</tbody>
</table>

**Bionics Core Facility: Cost Analysis for Internal SOM Users**

<table>
<thead>
<tr>
<th>Costs</th>
<th>Service Center Costs</th>
<th>NIH Core Grant Costs</th>
<th>Total Costs to Provide All Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compensation</td>
<td>$40,000</td>
<td>$60,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>Service Contracts</td>
<td>$20,000</td>
<td>$30,000</td>
<td>$50,000</td>
</tr>
<tr>
<td>Supplies</td>
<td>$25,000</td>
<td>$-</td>
<td>$25,000</td>
</tr>
<tr>
<td>Other</td>
<td>$25,000</td>
<td>$-</td>
<td>$25,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$110,000</td>
<td>$90,000</td>
<td>$200,000</td>
</tr>
</tbody>
</table>

Cost per Unit: $100

**Rate Schedule for Internal and External Users**

<table>
<thead>
<tr>
<th>Rates</th>
<th>Fee to User</th>
<th>Subsidy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internal Users</strong></td>
<td>$50</td>
<td>$50</td>
</tr>
<tr>
<td><strong>External Users</strong></td>
<td>$159</td>
<td>$-</td>
</tr>
</tbody>
</table>

**Revenue Analysis from All Sources**

<table>
<thead>
<tr>
<th>Projected Revenue</th>
<th>Service Center Revenue</th>
<th>NIH Core Grant Support</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internal Users</strong></td>
<td>$90,000</td>
<td>$90,000</td>
<td>$180,000</td>
</tr>
<tr>
<td><strong>External Users</strong></td>
<td>$31,800</td>
<td>$-</td>
<td>$31,800</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$121,800</td>
<td>$90,000</td>
<td>$211,800</td>
</tr>
</tbody>
</table>

**Revenue from External Users**

- Determine Revenue from External Users related to F&A Premium
  - Revenue from External Users: $31,800
  - Direct costs recovery to provide service @ $100 per unit: $20,000
  - Premium for F&A Costs @ 59% premium: $11,800

- Revenue from F&A Premium to External Users
  - F&A Premium transferred to SOM: ($11,800)

Total Surplus/(Deficit): 0.00
8 Managing Accounts Receivable

8.1 Invoicing Internal and External Users

This section provides an overview on the topic of invoicing as it relates to both internal and external users.

Definitions

*Invoice*—a bill sent by the Service Center for a product or service to a user. The invoice establishes an obligation on the part of the user to pay, creating an account receivable. An invoice should include the following elements:

- Unique invoice number
- Invoice date (which may be different than the date(s) of service)
- Date(s) of service
- Name and address of the Service Center
- Contact information for the Business Office generating the invoice
- Name and addresses of user
- User contact name(s)
- Description of services rendered and/or items purchased
  - Quantity
  - Unit price (based on rate schedule)
  - Extended price
- “Remit to” location (May be different than the Service Center contact information)
  For example, a Service Center located in Blockley Hall may have a Business Office at 3535 Market Street.
- Terms of payment
  For example, the Service Center may specify "net 30 days" which means that the entire amount is due within 30 days. (Discounts are not permitted.)
- User payment information (if already obtained by the Service Center)
  - Internal Users: 26 – digit account number
  - External Users: purchase order number, credit card number (typically only the last 4 characters are shown, for example: xxxx xxxx xxxx 1234 would appear on the invoice), or wire instructions
- Current amount due (for initial invoice)
  - Subsequent invoices should list any past due amounts owed, payments received, and outstanding balance due.
Principles

- Internal users should be invoiced and billed via journal entry. Posting of the charges or feeder batches is the completion of the invoicing process.

- External users should be invoiced via paper invoice or electronically. Revenue is collected by check remittance, payment via credit card, or wire transfer. Collection of cash is the completion of the invoicing process for external users.

- Billing information from external users should be independently confirmed as accurate and reliable when an order is first received.

- External users must be invoiced on a monthly basis.

- Invoices must be reconciled with quotes, partial orders fulfilled, or advance payments to ensure the highest degree of accuracy.

Policy or Regulation


  “Charges for services provided to sponsored projects must be made monthly, to accommodate accurate accounting and facilitate timely financial reporting of sponsored projects. ”

Action Items

- Create or revise a Service Center invoice template to satisfy all of the required elements of an invoice stated in the definition.

- Inform the external users of the payment terms when an order is placed and as a condition of providing the goods and/or services to the end user.

- Verify all billing and contact information prior to providing the goods or services to the user. This includes, but is not limited to, validating a credit card number, a purchase order number, or a 26-digit account number.

- Clearly communicate the expectation for prompt payment. Additional payment terms, such as a fee for processing late payments (external users only) should also be communicated during the initial order request. There should be no confusion as to the method and ability for users to pay an invoice by the time it is generated.

- Invoice monthly. The Service Center Administrator is responsible for generating invoices on a monthly basis. Work with the Technical Staff, the Service Center Managers, and the Service Center Director to obtain information in order to successfully meet this requirement.
Consider the following examples of billing terms:

- Internal users: “26-digit account referenced above will be charged at time of feeder posting.”
- External users: “Payable upon request, 30 days past due invoices subject to 2% processing fee.

- Create a record of all invoices sent to each user, include date of invoice, date of payment, balance due and any late fees associated with the payments. This record can be included in the subsidiary ledger or sales journal as discussed in the *Accounts Receivable* section.

**Recommendations**

- Communicate with technical staff to ensure all eligible billable milestones are invoiced on a monthly basis. Incomplete projects may have achieved certain milestones that should be billed rather than waiting for the entire produce/service to be completed. Verify the feasibility of this with the Service Center Manager or Scientific Director.

- Aim to consistently and routinely invoice both internal and external users. The billing cycle for internal and external users does not have to occur on the same day, as long as all invoices are sent at least monthly. For example, internal user invoices could be processed on the 10th of the month and external user invoices processed on the 20th of the month.

- Be aware of past due invoices and users who are consistently late with payments. Set reminders to follow-up with users on past due invoices at regular intervals. (See *Bad Debt* section.)

- Stress the importance of timely payments to users by incorporating a fee for processing late payments and discontinuing future services to the user.
8.2 Accounts Receivable for External Users

This section provides an overview of collecting accounts receivable for external users.

Definitions

Accounts Receivable - the amount of money due or owed to a Service Center by its external users. Internal users are billed for services immediately and revenue is recorded. There is no account receivable balance for internal users.

Aged Accounts Receivable - a report showing the outstanding accounts receivable amount based on length of time. Typically, an aging report categorizes receivables as "Current," "30 days," "60 days," "90 days," or “over 120 days”. The purpose of this report is to show what receivables need to be dealt with more urgently based on how long the invoices have been overdue.

Revenue Cycle - the entire accounts receivable process from order initiation to receipt of payment. Efficiency in the revenue cycle is measured by the average number of days in outstanding accounts receivable, percentage of invoices billed compared to amounts collected in a time period, and proportion of uncollectable accounts receivable (i.e. bad debt) as a percentage of total revenue.

Principles

- Detailed records must be maintained for all sales to external users.
- Follow-up efforts should be made after invoices are sent to ensure timely payment from external users. This can be accomplished by using an Aged Accounts Receivables Schedule and calculating other performance metrics.
- Outstanding payments should be communicated to technical staff to ensure no additional goods and/or services are provided to the external user until pass due payments can be secured.
- Aging accounts receivable should be grouped into “aging buckets” as described in University Policy 2700 series on Internal Controls to determine the likelihood of collection and the related reserve that should be set aside. Determine uncollectable accounts receivable after all reasonable collection efforts have been exhausted and documented.
- Quantify write-off costs, if necessary, of uncollectable accounts.
Policies

University policies in the 2700 series labeled: Internal Controls include several policies that discuss the revenue cycles, reconciliation of data and collection efforts with the resulting write-off of uncollectable accounts.

Action Items

- Track external activity in a subsidiary ledger. A subsidiary ledger may be in the form of an excel spreadsheet or database which satisfies the following informational requirements:
  - Total sales by internal and external user by invoice
  - Payment information – invoices sent and payment received
  - Aging of the outstanding accounts receivable

- Maintain detailed records of all sales to external users. Records must include the collection of revenue along with any outstanding accounts receivable.

- Document all collection efforts. This documentation demonstrates “good faith” effort to collect the past due payment and provides a proper audit trail when resolving outstanding, uncollectable revenue.

- Determine the likelihood of collecting on an account by using the aging of accounts receivable. The following illustration shows “aging buckets” as described in University policy, where a corresponding reserve is put aside for each age range in order to off-set potential bad debt.

Illustration 8-1: Aging Buckets for Reserve

<table>
<thead>
<tr>
<th>Aging (Days)</th>
<th>Reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 30</td>
<td>0%</td>
</tr>
<tr>
<td>31-60</td>
<td>5%</td>
</tr>
<tr>
<td>61-90</td>
<td>10%</td>
</tr>
<tr>
<td>91-120</td>
<td>50%</td>
</tr>
<tr>
<td>121-150</td>
<td>75%</td>
</tr>
<tr>
<td>151-180</td>
<td>100%</td>
</tr>
<tr>
<td>Over 180</td>
<td>100%</td>
</tr>
</tbody>
</table>

This chart is useful for departments when planning the level of resources needed to fund bad debt (via resource transfer into the 11-fund). See Section 8.3 Bad Debts below for a comprehensive overview of aging receivables and write-off process.
Recommendations

- Create a subsidiary record, commonly referred to as a Sales Journal. The purpose of this ledger is to record all sales, while keeping track of invoices sent to users, payments received to date (external invoice remittance and internal journal entries posted), and invoices outstanding-to-date. This can effectively be accomplished using a spreadsheet application or for more complex cases, an electronic database. Note: invoices can never simply be deleted.
  - If an invoice was created in error, the invoice needs to be immediately voided and kept on file for future audits.
  - If an invoice is deemed to be uncollectable, proper accounting requires writing off that receivable as bad debt. (See Section 8.3 Bad Debts)

- All invoices need to have a unique invoice number, not to be duplicated on future invoices. Invoice numbers should be in a logical sequence that can be easily audited. All invoices on file should match all invoices sent to users, plus any errors. For example, examine the following list of invoices:
  - INV # 2009-0123, Drexel University, Dr. Jones
  - INV # 2009-0124, CHOP, Dr. Xiu
  - INV # 2009-0125, Temple University, Dr. Barker
  - INV # 2009-0129, Thomas Jefferson, Dr. Chan
  - INV # 2009-0130, BioMed Tech, Inc, Dr. Feliz
  - INV # 2009-0131, VA Hospital, Dr. Victor

  From this list, you will see there is a gap between INV # 2009-0125 and INV # 2009-0129. An auditor will ask you to produce INV # 2009-0126, INV # 2009-0127, and INV # 2009-0128. These invoices should be retained on file and logged in your Sales Journal or Subsidiary Ledger—even if they were created in error, or deemed uncollectible. They should never be destroyed or skipped.

NOTE: Executed sale quotes and invoices are official documents. They must be kept in accordance to University Record Retention Policy. All executed sales quotes and invoices must be kept for seven (7) years.

- Guarantee of payment (i.e. purchase order number or credit card number) should be confirmed prior to delivery of goods or services to external users wherever possible.

  For example, if Dr. Jones, in the Biology Department at Drexel University, is ordering services using a Purchase Order (PO) number, a best practice would also be to obtain the name and contact information of her business administrator and verify the accuracy of the PO number.

  Another approach would be to call the Purchasing Department at Drexel University directly to request an official copy of the purchase order. Credit card payments can also be verified by contacting the Credit Card Issuer.
Refer to guidelines for credit card pre-authorizations from the Office of the Treasurer (more information can be found online at: http://www.finance.upenn.edu/treasurer/cashman/ccprocessing.shtml).

- Timely deposits should be recorded in BEN Deposits, as well as in the Service Center sales journal. Deposits should be entered into the system with the invoice number of each invoice being paid. This will provide a proper audit trail and assist in management of the account receivables. The image below is a screen shot from the BEN Deposits Financial Training Manual, which indicates only the first 30 characters of the Description field will appear in BEN Financials.

For example, enter “INV#2009-0123 DREXEL DR JONES”

Illustration 8-2: BEN Deposits

- Reconciliation between Ben Deposits and the Service Center sales journal should be done at least quarterly.
8.3 Bad Debts

This section provides an overview on determining and writing-off uncollectible accounts receivable as bad debts.

Definitions

**Bad Debt** - an uncollectable financial obligation owed to the Service Center after all collection efforts have been exhausted.

**Write-off** - removing the book value of an asset or an uncollectible account receivable from the Service Center by reducing the book value to zero.

**Sales Journal** - sometimes referred to as a subsidiary ledger to record all detail records of sales to internal and external users.

Principles

- Follow standard procedures for invoicing, follow-ups, and collection attempts for all outstanding invoices using tools such as an *Aged Receivable Report* and frequent analysis of the Service Center subsidiary ledger or sales journal.

- Identify uncollectable accounts receivables. An account receivable can be deemed uncollectable when all of the following are completed:
  1. a reasonable amount of time has passed (typically more than 180 days);
  2. after all collection efforts have been exhausted and properly documented; and
  3. no assurance of payment has been received from the user.

- Uncollectable accounts receivable are deemed to be Bad Debt after all collection effort have been exhausted, as stated above.

- On an annual basis, at least at the end of each fiscal year, all uncollectible accounts receivables that have been identified as Bad Debt must be resolved. As part of this resolution, the department must fund the Bad Debt, using unrestricted departmental funds. A sponsored project 5-fund or a Service Center 11-fund may never be used to fund a Bad Debt.

Policy

University Policy 2701.3 *Addendum - Internal Control Standard #3: Revenue Cycle* refers to the accounts receivable and accounts to be written off.

"Accurate records should be maintained of accounts receivable which have been written off."

"Establish a proper reserve for uncollectible accounts."
Action Items

- Document the standard procedures for collection efforts and follow them consistently within the Service Center. The steps to determine bad debt must be based on the payment terms of the Service Center; be easily documented; and be enforced to ensure consistency.

- Convey accounts receivable information within the Service Center. The Service Center Administrator is responsible for communicating with the Scientific Director regarding all outstanding accounts receivable balances on a monthly basis (or more frequently if necessary).

- Consult with the Scientific Director to limit any future new requests from the external user as long as uncollectable invoices remain unpaid.

- Document the journal entry to write-off Bad Debt in the subsidiary ledger or sales journal. The BEN journal entry should be processed as a “Resource Transfer In” to the Service Center from an unrestricted departmental account.

Here is a sample journal entry to record a write-off transaction:

**Debit**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department Unrestricted Account</td>
<td>$ ##</td>
</tr>
<tr>
<td>400-4xxx-x-xxxxxx-4825-xxxx-xxxx</td>
<td></td>
</tr>
</tbody>
</table>

**Credit**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Center Account</td>
<td>$ ##</td>
</tr>
<tr>
<td>4000-47xx-1-000011-4820-xxxx-xxxx</td>
<td></td>
</tr>
</tbody>
</table>

Illustration 8-3: Receivable Aging

<table>
<thead>
<tr>
<th>Receivable Aging</th>
</tr>
</thead>
<tbody>
<tr>
<td>FYE June 30, 2009</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aging</th>
<th>Current balance</th>
<th>% Collected to date</th>
<th>Required reserve</th>
<th>Reserve amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-30 (Current)</td>
<td>50,000</td>
<td>0%</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>31-60</td>
<td>6,000</td>
<td>5%</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>61-90</td>
<td>4,000</td>
<td>10%</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>91-120</td>
<td>7,500</td>
<td>50%</td>
<td>3,750</td>
<td></td>
</tr>
<tr>
<td>121-150</td>
<td>5,000</td>
<td>75%</td>
<td>3,750</td>
<td></td>
</tr>
<tr>
<td>151-180</td>
<td>2,500</td>
<td>100%</td>
<td>2,500</td>
<td></td>
</tr>
<tr>
<td>Over 180</td>
<td>-</td>
<td>100%</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

| Total | $ 75,000 | $ 10,700 * |

*This number represents the potential bad debt you may have to write-off because of uncollectible AR.*
Below is an example of reasonable procedures for determining Bad Debt:

- Start: record and send initial invoice to external user.

- 60 days from initial invoice: send second notice (i.e. statement) marked ***Past Due***.

- 30 days after second notice (90 days from original invoice date): The responsible individual should contact the external user to notify them of the past due invoice with a copy to the external user’s business office. ***Amount is 90 days past due. Payment due immediately***.

- 30 days after third notice (120 days from original invoice date): The responsible individual should call the external user and/or their responsible business office in an attempt to collect the outstanding invoice(s). Again, this communication should be documented. A 4th notice should also be sent at this time.

- 30 days after forth notice (160 days from original invoice date): The Scientific Director or responsible individual should attempt a final call to the external user, should again document the call in the subsidiary ledger, and should send a final notice to the external user (the Company or University, not an individual) stating this is the final attempt to collect the outstanding payment, and all future requests for goods and services may be rejected until said payment is received.

- 30 days after the final communication (190 days from original invoice date): The account should be deemed “uncollectable” and must be written off. This action must be communicated to SOM Finance.
Illustration 8-4: Database log documenting communications

<table>
<thead>
<tr>
<th>Date</th>
<th>Type/Action</th>
<th>Performed by</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/1/2009</td>
<td>Quote</td>
<td>Tech A</td>
<td>Quote to Dr. Jones at University of Colorado.</td>
</tr>
<tr>
<td>3/15/2009</td>
<td>Invoice</td>
<td>System</td>
<td>First invoice sent to Dr. Jones.</td>
</tr>
<tr>
<td>5/15/2009</td>
<td>2nd Invoice</td>
<td>System</td>
<td>Notice resent (2nd stmt) - 60 days after first invoice.</td>
</tr>
<tr>
<td>6/15/2009</td>
<td>3rd Invoice</td>
<td>Tech A</td>
<td>3rd notice sent - copy sent to BA per phone call with Dr. Jones. BA is Ann Smith, Room 123, John Morgan Building</td>
</tr>
<tr>
<td>7/15/2009</td>
<td>4th Invoice</td>
<td>SC Admin</td>
<td>4th notice sent. Phone call to Jing Lui. They are waiting for state to approve budget. Dr. Jones ran out of money.</td>
</tr>
<tr>
<td>8/15/2009</td>
<td>5th Invoice</td>
<td>Scientific Dir</td>
<td>5th notice sent. Spoke to Dr. Jones and stated new business from University of Colorado will not be accepted until this invoice is paid</td>
</tr>
</tbody>
</table>

Recommendations

- Based on decisions made by the Scientific Director:
  - When external users are affiliated with for-profit companies, the company should be prohibited from placing new orders until outstanding debt is collected.
  - When external users are faculty members at hospitals or universities, determining whether the entire institution is prohibited from placing new orders until outstanding debt is collected should be at the discretion of the Scientific Director.
8.4 Recording payments received from a previously written-off AR

- While every effort is made to collect payments due the Service Center in a timely manner, it is possible for extremely late payments to be made after a debt has been written off as a Bad Debt. If this should happen, proceed with the following:

1. Confirm the check is truly for the invoice previously written-off
2. Reverse the write-off journal entry used to fund the bad debt

   The new entry will be the reversal of the previous “Resource Transfer In”

   **Debit** Service Center Account:
   
   4000-47xx-1-000011-4820-xxxx-xxxx $ ##
   
   **Credit** the Department Unrestricted Account:
   
   400-4xxx-x-xxxxxx-4825-xxxx-xxxx $ ##

   Ensure the journal line description sufficiently captures
   - Invoice number
   - Proper explanation for Resource Transfer Out (e.g. REV W/O INV #2009-1023, DREXEL DR JONES)

3. Deposit the check in BEN Deposits, using proper documentation of the transaction (e.g. INV #2009-1023, DREXEL DR JONES)

Note: You can NOT simply post the payment to reimburse the unrestricted account previously used to cover the Bad Debt.
9 Communication with SOM Division of Finance

9.1 SOM Division of Finance Responsibilities

SOM Division of Finance oversees the following Service Center activities:

1. **Establishment of a Service Center** - the SOM Executive Vice Dean for Research and Chief Scientific Officer is responsible for approving all service center requests in the School of Medicine. SOM Division of Finance will review service center proposals in consultation with the SOM Office of Research Compliance and Integrity to determine reasonableness, allocability, allowability and consistent treatment of costs to conform to OMB Circular A-21 and University policy. SOM Division of Finance will also work up various costing models that consider the following:
   a. include all appropriate items of cost.
   b. understand all services or billing milestones requiring a rate.
   c. clarify assumptions necessary to allocate costs to each service or billing milestone correctly.
   d. determine if any market forces necessitate changes in rates for individual services while adhering to a break-even costing model.

   If the proposal meets all financial criteria, SOM Division of Finance coordinates the approval from the SOM Executive Vice Dean for Research and Chief Scientific Officer and the Vice Dean for Administration and Finance. After approval the SOM Division of Finance submits the request to the University Office of Research Services, Director of Cost Analysis as well as coordinates the establishment of the new account number in the BEN Financial System.

2. **Monitoring Financials** - on a monthly basis, SOM Division of Finance reviews Fiscal Year-to-Date (FYTD) activity in comparison to the budget. This analysis considers the following: accelerated spending outpacing revenue, cash received, and charges to object codes for potentially unallowable costs. The goal is to work with the Department to ensure the Service Center will break-even by the end of the fiscal year. The Department is responsible for clarifying reasons for deficits (uncollected accounts receivable, unbilled accounts receivable, work-in-process, inventory, or reduction in volume) or surpluses (unbilled accounts payables, or excess volume).

3. **Financial Reporting** - the following reports are generated by or submitted to SOM Division of Finance:
   a. Quarterly Reports - SOM Division of Finance prepares quarterly financial reports that are shared with the SOM Executive Vice Dean for Research and Chief Scientific Officer.
   b. Year-End Financial Reports for all Service Centers – SOM Division of Finance sends a request with guidance to report on the following:
      i. Analysis of Current Fiscal Year Performance
      ii. Cost Analysis and Budget for Next Fiscal Year
      iii. Revision of Rate Schedule for Next Fiscal Year (if applicable)
   c. Annual Reports for Core Service Centers - SOM Division of Finance works with the SOM Executive Vice Dean for Research and Chief Scientific Officer
to create financial reporting templates to distribute to all Service Center Core Facilities. The completed reports are discussed at a SOM Service Center Committee meeting, which is attended by representative(s) of SOM Division of Finance.

4. **Policy and Procedure Guidance** - SOM Division of Finance provides financial guidance to Service Centers considering University Policy and Procedures, SOM Policy and Procedures, and OMB Circular A-21. This is typically accomplished with cooperation from the Office of Research Compliance and Integrity, SOM Executive Vice Dean for Research and Chief Scientific Officer, SOM Vice Dean for Administration and Finance, University Office of Research Services, and University Office of the Comptroller.

SOM Division of Finance and the Office of Research Compliance and Integrity developed a SOM Service Center Equipment and Depreciation policy. The purpose of this policy is to establish procedures for charging depreciation expense to Service Centers for capital equipment and using the recovery of depreciation expense to replace future Service Center equipment.

5. **Capital Requests** - SOM Division of Finance coordinates requests for financial support for capital expenditures, some of which include equipment or capital projects involving Service Centers.

6. **Equipment Depreciation** - SOM Division of Finance collects Service Center equipment depreciation schedules and communicates with the University Office of Research Services, Director of Cost Analysis when depreciation expense is included in Service Center rates in order to 1) ensure ORS does not include this depreciation expense when calculating the Facilities and Administrative (F&A) Rate, 2) ensure depreciation expense agrees with the amounts and useful life recorded in the University Property Management System (BEN Assets), and 3) process journal entries to fund capital reserve accounts for future Service Center equipment purchases.

7. **Closing Service Centers** - SOM Division of Finance coordinates the closing of a Service Center to ensure any balances are resolved and all outstanding invoices are accounted for as well as Service Center Equipment.
9.2 Opening a New Service Center

In order to establish a Service Center, a formal proposal with a comprehensive Cost Analysis must be submitted to SOM Division of Finance. The proposal must address and include the following:

Proposal

- Narrative describing the scientific and business plans for the Service Center, including a list of services to be offered, need for the services, scope of the market place, physical location and space, list of equipment (existing or new) to be used in the Service Center, funding source to absorb any potential deficits, list of subsidies, and whether this is a departmental Service Center or SOM designated Core Facility.

Detailed Budget

- List all staff, titles, levels of effort, and roles in the Service Center.
- List all fixed costs (e.g. service contracts, equipment depreciation, telecommunications, etc.).
- Estimate all variable costs (e.g. supplies, raw materials, etc.).
- All costs need to be summed by Object Code.

Projected Volume of Users

- Estimate top users by PI name, department or institution, funding sources, and volume in units.

Equipment Depreciation Schedule

- When annual equipment depreciation expense is included in the Cost Analysis, a schedule of Equipment is needed.
- Include equipment description, asset ID#, PO# used to purchase the item, original funding source, acquisition cost, date placed in service, original useful life, accumulated depreciation expense booked to date, and the remaining useful life.

Rate Schedule

- Provide a list of rates for each item to be charged to different user groups: Internal Users, Users eligible for subsidies, and External Users.
- Each rate schedule needs to be developed considering the variable costs to provide each service plus an allocation of the fixed costs.
- The rate schedules cannot be arbitrary—they must be developed based on the projected costs to provide the service divided by the anticipated volume for each service.
Break-Even Analysis

- This analysis is the final step to bring your Cost Analysis together, presented in a profit and loss statement format.
- University policy allows a small surplus or deficit variance at the end of the fiscal year; however, a Service Center must be set-up with the intention to break-even, where budgeted revenue less expenses will equal zero.
- Revenue must tie to the schedule of projected volume multiplied by the rate for each service.
- Expenses must tie to the detailed budget.
- Revenue less expenses must equal zero.

The SOM Executive Vice Dean for Research and Chief Scientific Officer is responsible for approving all service center requests in the School of Medicine. The proposal is reviewed by SOM Division of Finance in consultation with the Office of Research Compliance and Integrity to determine reasonableness, allocability, allowability and consistent treatment of costs to conform to OMB Circular A-21 and University policy. SOM Division of Finance coordinates the approval from the SOM Executive Vice Dean for Research and Chief Scientific Officer and the Vice Dean for Administration and Finance. After approval, the SOM Division of Finance submits the request to the University Office of Research Services, Director of Cost Analysis as well as coordinates the establishment of the new account number in the BEN Financial System.
9.3 Closing a Service Center

This section provides an overview on the topic of closing a Service Center. A Service Center is identified by the 26-digit account number. Service Centers begin with ORG 47xx (currently) or ORG 48xx (reserved for future use) and use FUND 000011. When a Service Center is closing, the ORG must be disabled, all revenue must be billed and collected, and any remaining deficits or surpluses must be resolved.

A Service Center may be closed if it is deemed to be no longer necessary and/or viable.

Principles

- Communicate intentions to close a Service Center to SOM Division of Finance as soon as this information is available.

- The department responsible for the Service Center is also responsible for funding any outstanding cumulative deficits. The department will provide the funding source(s) to SOM Division of Finance when closing the Service Center.

Policy or Regulation

- There currently is no dedicated policy that governs this process.

- Circular A-21 requires any applicable credits to be applied where the cost was incurred. (See Section 2 Policies and Other Resources)
Illustration 9-1: OMB Circular A-21

5. Applicable credits.

a. The term "applicable credits" refers to those receipts or negative expenditures that operate to offset or reduce direct or F&A cost items. Typical examples of such transactions are: purchase discounts, rebates, or allowances; recoveries or indemnities on losses; and adjustments of overpayments or erroneous charges. This term also includes "educational discounts" on products or services provided specifically to educational institutions, such as discounts on computer equipment, except where the arrangement is clearly and explicitly identified as a gift by the vendor.

b. In some instances, the amounts received from the Federal Government to finance institutional activities or service operations should be treated as applicable credits. Specifically, the concept of netting such credit items against related expenditures should be applied by the institution in determining the rates or amounts to be charged to sponsored agreements for services rendered whenever the facilities or other resources used in providing such services have been financed directly, in whole or in part, by Federal funds. (See Sections F 10, J 14, and J 47 for areas of potential application in the matter of direct Federal financing.)

For example:

To apply this requirement, assume the following facts regarding leased equipment charged to a Service Center:

- Quarterly lease payments of $3,000 charged to the Service Center.
- There is no penalty to break the lease.
- The vendor will refund Penn for any un-used portion of the lease where payment was made.

Assume the following situation occurred:

- Payment of $3,000 was made on December 20th for the upcoming lease period of January 1st through March 31st.
- The Service Center decides to return the equipment on January 31st and close the Service Center.
- The Service Center is entitled to a refund of $2,000 for the un-used portion of the lease, which was paid for on December 20th.
When the vendor remits a refund check to Penn, the BA must apply this refund to the Service Center ORG-FUND in order to comply with OMB Circular A-21.

**Action Items**

- **Disable ORG code:**
  - Any requests to disable an ORG code must be processed using this form: [http://www.finance.upenn.edu/forms/req_org.pdf](http://www.finance.upenn.edu/forms/req_org.pdf).
  - Submit the *Disable ORG* request to SOM Division of Finance, who will be responsible for having the ORG disabled in the BEN Financial System.

- **Any cumulative deficits must be resolved by the department:**
  - SOM Division of Finance will work with the department to identify what department resources will be used to satisfy the deficit.
  - Federal sponsored awards may *never* be used to satisfy deficits.

- **Any cumulative surplus balance will be handled on a case-by-case basis to ensure some of the following items have been explored:**
  - All items of cost necessary to operate the Service Center have been appropriately charged to the Service Center account.
  - Revenue credited to the Service Center was properly charged and applied accordingly.
  - Any expenditure removed from the Service Center account were not done so in error or charged inappropriately to another funding source.
  - All current fiscal subsidies to the Service Center have been analyzed.

- **SOM Division of Finance will notify the University Office of Research Services, Director of Cost Analysis of the closing of any Service Center.**

**Recommendations**

- **A prompt close-out of a Service Center should only occur after:**
  - the business need for the Service Center has been fully evaluated, and
  - all financial transactions have occurred.
9.4 Year End Actions

At year-end, a comprehensive Cost Analysis must be submitted to SOM Finance. The year-end Cost Analysis must include the following:

- **Year-End Narrative**
  
  - SOM designated Core facilities are required to submit an annual report to the SOM Core Committee. This effort does not have to be duplicated for SOM Division of Finance unless there have been significant events between the annual report submission and year-end that will materially affect the Cost Analysis.
  
  - Departmental Service Centers must submit a narrative that discusses the overall operation of the Service Center. This information should correspond with the financial schedules provided in the year-end Cost Analysis. Below are suggested areas to discuss in the narrative:
    
    - **Volume** - explain volume fluctuations - did it increase, decrease, stay the same, or did any notable users begin or stop using the Service Center? Compare what actually happened this fiscal year with what you projected to happen at the beginning of the fiscal year.
      
      For example, if you projected a 20% drop-off in revenue because Dr. Maloney was moving to another institution yet revenue stayed the same, explain in detail what events made that possible (e.g. new awards, new faculty, new users, new services, etc.).
    
    - **Rates** - were there any mid-year rate changes; if so explain what factors led to that decision and the impact of that decision.
    
    - **Costs** - explain in detail any fluctuations in costs from budget to actual based on occurrences during the year.
    
    - **Market** - this is an opportunity to discuss the role of the Service Center and how changes in demand from internal and external users affect the solvency of the Service Center. Other market forces can be new technology, change in scientific need, and so on. This element is important because it may clarify issues raised elsewhere.

- **Detailed Budget**
  
  - Prepare a budget for the upcoming fiscal year, including the following:
    
    - List all staff, title, levels of effort, and role in the Service Center
    
    - List all fixed costs (e.g. service contracts, equipment depreciation, telecommunications, etc.)
    
    - Estimate all variable costs (e.g. supplies, raw materials, etc.)
    
    - All costs need to be summed by Object Code
Projected Volume of Users for Upcoming Fiscal Year

- Show last fiscal year actual volume but listing the top users by PI name, department or institution, funding sources, and volume in units
- Estimate volume for upcoming fiscal year by also listing the top users by PI name, department or institution, funding sources, and volume in units

Updated Equipment Depreciation Schedule

- When annual equipment depreciation expense is included in the Cost Analysis, a schedule of Equipment is needed.
- Include equipment description, asset ID#, PO# used to purchase the item, original funding source, acquisition cost, date placed in service, original useful life, accumulated depreciation expense booked to date, and the remaining useful life.

Rate Schedule for Upcoming Fiscal Year

- Provide a list of rates for each item to be charged to different user groups: Internal Users, Users eligible for subsidies, and External Users for the upcoming fiscal year
- Each rate schedule needs to be developed considering the variable costs to provide each service plus an allocation of the fixed costs
- The rate schedules cannot be arbitrary—they must be developed based on the costs to provide the service divided by the anticipated volume for each service.
- Rates should not stay the same when the Service Center has volume and/or cost changes coupled with a surplus or a deficit. Every Service Center is different but their end goal remains the same, which is to break-even.
Break-Even Analysis

- This analysis is the final step to bring your Cost Analysis together, presented in a *profit and loss statement* format.
- University policy allows a small surplus or deficit variance at the end of the fiscal year; however, a Service Center **must** be set-up with the intention to break-even, where budgeted revenue less expenses will equal zero.
- Revenue must tie to the schedule of projected volume multiplied by the rate for each service.
- Expenses must tie to the detailed budget.
- Revenue less expenses must equal zero.
- The break-even analysis must include any cumulative surplus or deficit, where the end result is a zero balance.

The annual cost analysis is submitted to SOM Division of Finance at year-end and is reviewed for accuracy, completeness, and adherence to compliance requirements. Errors, omissions, and clarifications will be worked out between the Service Center Financial Administrator and SOM Division of Finance. The final cost analysis will be presented to the University Office of Research Services, Director of Cost Analysis for institutional approval.

Any requests to change rates mid-year follow the same process where the Service Center Financial Administrator contacts SOM Division of Finance, who will consult with and present the final action to the University Office of Research Services, Director of Cost Analysis for institutional approval.