

Northwestern University

Title: Calculation of Recharge Center Rates (Step-by-Step Guidance)

Applicable to: Deans, Directors, Department Heads, Business Administrators, Faculty, Finance Personnel, and Sponsored Project Personnel

Effective Date: October 15, 2010

Introduction

The purpose of these guidelines is to establish a general set of step by step guidelines for the calculation and establishment of recharge center rates. The Office of Cost Studies, through their website (www.northwestern.edu/coststudies), has provided templates that may be used for both the surplus/deficit analysis and the recharge rate calculation. Instructions on using the templates are also provided on the website. The guidelines below provide more general descriptions of how to develop the rate calculation and how to determine the price that can ultimately be charged to the users.

General Principles

- Charges to users of products/services provided by University units must be based on a schedule of established rates (i.e., a published and distributed “price list”).
- A given rate must be based on actual/estimated costs (versus an amount derived from the market or a “historical” rate that cannot be documented) and charged based on actual usage.
- Rates cannot discriminate between internal users (i.e., one internal user cannot subsidize the cost of providing the same product/service to another internal user).
- A unit may “sell” its products/services to external users (individuals and/or organizations outside of the University), but such sales should be incidental.
- Over time, a unit which charges users should **break even, or recover no more than the total cost** of providing the good(s)/service(s). A unit may lose money on its operations, but it may **not** earn a profit (except in the case of external users). “Total cost” is defined by the rate calculation methodology/recharge rate type established for that unit (see Step 2 below).

Step 1: Identify Core Products/Services

A separate rate must be calculated for each discrete product/service offered to users. “Bundling” of certain products/services may be possible; the level of aggregation should be analyzed with the Office of Cost Studies.

- 1A. Develop a comprehensive listing of all products and services.
 - Ensure that all new products/services to be offered are included on this list.
 - Exclude products/services that will no longer be offered.
 - Define the lowest level at which a purchase may be made.
- 1B. Develop/update brief descriptions of the products/services identified in 1A.

Step 2: Identify the Rate Calculation Methodology/Rate Type

- 2A. Determine the rate type. The rate type will define costs to be included in the calculation.

Unless the products/services within a unit differ markedly from each other, an individual unit will develop one of three rate types as defined below and in the University’s

Guidelines. Most units will develop pass-through or partially costed rates. Fully costed rates will be developed only for selected units and when mandated by the Federal Government (such as for animal care facilities). The final determination of the rate calculation methodology/rate type will be made with the Office of Cost Studies and the Office of Budget Planning.

Pass-through rates – applicable to departmentally-based activities where costs are collected in a single chartstring and then transferred to other departmental chartstrings based on actual usage. No value from department personnel is provided. The cost (rate) transferred represents only the invoiced or direct cost of the product/service; no unit-specific or University-wide indirect costs are included.

Partially costed rates – applicable primarily to units with the specific purpose of providing products/services to University users, but may apply to certain departmentally-based activities of a specialized nature. Value from unit personnel is provided. Rates represent the direct cost of the products/services and the unit-specific indirect costs. The University's organized research F&A rate is applied to these charges.

Fully costed rates – applicable to units designated as "specialized service facilities," where the activity is of a highly complex and specialized nature. Rates represent the direct cost of the products/services, the unit-specific indirect costs, and an allocation of University-wide indirect costs. The University's organized research F&A rate is not applied to these charges.

Step 3: Identify the Direct Costs of Providing Each Product/Service

Direct costs are those that are directly assignable to specific products or services with relative ease and a high degree of accuracy. (OMB Circular A-21 definition)

All direct costs should be identified, regardless of how they are funded. This includes costs that historically have been funded in both appropriated and non-appropriated chartstrings within the unit's area and any costs in chartstrings outside of the unit's area.

3A. Identify the direct labor costs of providing each product/service.

- Identify the key direct activities required to produce each product/service.
- Determine who performs the activities.
- If an individual spends time on activities related to > 1 product/service, estimate the percentage of time spent on each product/service. The sum of the individual product/service estimates for a given person must = 100%.
- If an individual spends time on activities outside of the unit, estimate the percentage of time spent in the unit (and then between products/services, if necessary). The time estimates should be consistent with the effort reporting documentation maintained by the University.
- For each individual, multiply time spent on each product/service by their projected salary (net of salary recovered through sponsored sources) & fringe (at the Full Federal Rate).

3B. Identify the direct non-labor costs of providing each product/service.

- Determine the non-labor (e.g., materials and supplies) costs necessary to perform the key direct activities identified in 3A.
- Based on projected (or historical) costs, estimate the non-labor costs for each product/service.
- For items that are kept in inventory, the estimated cost should reflect the cost of product/service sold and not the cost of purchasing the total inventory. The inventory valuation method (FIFO, LIFO, average cost, etc.) should be consistent between products/services.
- If certain materials/supplies are used in the provision of > 1 product/service, determine the most equitable method for allocating the estimated cost between products/services based on a causal-beneficial relationship. To the extent

possible, use transaction-level detail to specifically and directly identify costs to a product/service. Document the basis for any allocation.

- For capital equipment, see 3C. This applies only to partially costed and fully costed recharge rates.

3C. identify the direct capital equipment costs of providing each product/service.
Applicable to partially costed and fully costed rates only.

The definition of capital equipment must be consistent with the University's definition: items of equipment with an acquisition cost of \$5,000 or more and a useful life of more than one year.

The capital equipment cost to be included in any rate is the depreciation expense and any external interest cost associated with debt financing for that equipment. Current year purchase amounts may not be included. Similarly, principal payments on any debt and any internal interest costs may not be included. Costs associated with any federally-funded equipment may not be included.

A separate capital reserve chartstring should be established which captures the revenues generated by the depreciation expense portion of each rate and from which equipment purchases are made.

- Work with Accounting Services Equipment Inventory Coordinator, to obtain a listing of all capital equipment identified to the unit in the University's asset system.
- On an item by item basis, identify the equipment to a product/service.
- Identify any missing items of capital equipment and work with Accounting Services to locate them in the system.
- Calculate the annual depreciation expense for each item, based on its estimated useful life and the straight-line method (dividing the depreciable cost [less any federal contribution] by the number of years of useful life). Work with the Office of Cost Studies to identify any discrepancies between the useful life estimated for this calculation and the life assumed in the University's calculation for financial statement purposes [for any given item, the depreciation expense should be consistent].
- If an equipment item is used in the provision of > 1 product/service, determine the most equitable method for allocating the estimated cost between products/services based on a causal-beneficial relationship. To the extent possible, use transaction-level detail to specifically and directly identify costs to a product/service. Document the basis for any allocation.
- Work with Nancy Pinchar, Director of Accounting Services, to obtain the annual interest expense associated with any debt financing for capital equipment with an acquisition cost of \$10,000 or more. Include these amounts with the depreciation expense of the related equipment items.

Step 4: Identify the Indirect Costs of Providing Each Product/Service

Applicable to partially-costed and fully-costed rates only.

Indirect costs are those that are incurred for common or joint objectives and cannot be identified readily and specifically to a product or service. (OMB Circular A-21 definition)

There are 2 types of indirect costs related to a recharge unit:

1. *Unit-specific indirect costs (e.g., the salary and fringes of the unit director)*
2. *University-wide indirect costs (e.g., building depreciation, utilities, President's office, Accounting Services)*

All unit-specific indirect costs, regardless of how they are funded, should be identified, including those in both appropriated and non-appropriated chartstrings within the unit's area and those in chartstrings outside of the unit's area.

The inclusion of University-wide indirect costs is dependent on the recharge rate type that is determined. The specific amounts to be included should be determined with the Office of Cost Studies.

4A. Identify the unit-specific indirect costs of providing each product/service.

- Identify the key indirect activities required to produce each product/service.
- Determine who performs the activities and any non-labor costs necessary to perform the activities.
- For each item of labor and non-labor cost, determine the most equitable method for allocating the estimated cost between products/services based on a causal-beneficial relationship. Document the basis for any allocation. In many cases, the non-labor costs may simply “follow” the associated labor cost. Possible bases include:
 - Effort
 - Usage
 - Costs
 - Revenues
 - Space
- Allocate the unit-specific indirect costs, using projected (or historical) costs, to each product/service based on the determined allocation statistic.

4B. If applicable [only for fully costed rates], identify the University-wide indirect costs of providing each product/service. *See further description of University-wide indirect costs located in Appendix A.*

- Work with the Office of Cost Studies to determine the amounts of University-wide indirect costs to be included in the rates.
- Once total amounts are determined, allocate to each product/service using the same basis that was used to determine the unit’s total portion.

Step 5: Identify and exclude unallowable costs.

As specified in OMB Circular A-21, section J, unallowable costs cannot be included in rates (as either direct or indirect costs). However, when allocating both unit-specific and University-wide indirect costs to products/services, unallowable direct costs must receive their share of the indirect costs. After allocation, the unallowable direct costs and associated indirect costs must be removed from the total product/service cost prior to rate calculation.

*The data in Appendix B lists unallowable categories, corresponding NU account codes in which unallowable costs may be captured, and criteria for when they are unallowable. **Note that the principal unallowable cost is the fringe benefit rate increment that relates to the dependent tuition benefit [1.5% of salaries and wages for FY 2011].***

Any costs that represent charges from other University units or Central Administration must be supportable. To the extent that they are not, these become unallowable costs that must be excluded from the rate calculations.

5A. By account codes, identify and exclude unallowable direct costs from the rate calculations.

- For each product/service, identify any unallowable costs (typically, non-labor) that have been directly assigned to it. In a spreadsheet model, this is usually done by running a search for specific account codes and “stripping out” any resulting finds.

5B. By account code, identify and exclude unallowable (unit-specific) indirect costs from the rate calculations.

Unallowable costs should have already been removed from University-wide indirect costs in the determination of the allocation to the unit.

- Determine whether unit-specific indirect costs include unallowable amounts. In a spreadsheet model, this is usually done by running a search for specific account codes.
- If unallowable account codes appear in unit-specific indirect costs, determine the totals by account code.
- Using the same statistics that were used to originally allocate the costs to each product/service, calculate the pro-rata share of the total unallowable amounts to remove from each product/service.

Step 6: Determine the Variance Amount Associated with Each Product/Service

The annual rate review/calculation must include an analysis of the variance between revenue (including imputed revenue) and actual cost on a product-by-product basis. The resulting surplus or deficit must, in most cases, be carried-forward into the next year’s rate calculation. Cross-subsidization (netting one product’s surplus against another product’s deficit) will only be permitted when the user base of those products is essentially identical. Cases of significant variance should be addressed with the Office of Cost Studies and Office of Budget Planning.

Periodic (e.g., monthly) variance analysis is encouraged to minimize the variance at fiscal year-end. Rates may be adjusted mid-year based on periodic analysis.

To facilitate the variance calculation, revenues and costs should be identified (accumulated in the accounting system) by product/service. At a minimum, each unit must have its own dedicated chartstring into which all revenues and costs are recorded.

Year-end transactions that transfer funds to remove deficits must be flagged to ensure exclusion from the F&A rate calculation.

6A. Determine the variance for each product/service.

- Compare actual revenues generated from recharges to actual costs, calculated according to the established rate methodology (amounts related to capital equipment should be excluded).
- Actual revenues should include imputed amounts (revenue that would have been earned if all users were charged the established rates instead of discounted amounts, including free products/services).
- Deficit amounts and any surplus amounts representing > 60 days’ working capital should be included in the total cost of the product/service.
- If the variance amount is significant, work with the Office of Cost Studies and the Office of Budget Planning to determine the proper treatment.

Step 7: Determine the Usage Basis for Each Product/Service

- 7A. Determine the usage basis for each product/service.
- Determine the usage basis for each product/service. The basis should be such that actual usage is readily measurable and results in equitable distribution of costs to users.
 - Estimate the total number of usage units. This estimate must include all users, internal and external to the University, regardless of the amount they will pay for the product/service. The estimate should also reflect any expected changes in usage for the coming year.

Step 8: Calculate the “Total Cost” Recharge Rate for Each Product/Service

- 8A. Divide the total cost, as defined by the established rate methodology/type (i.e., pass-through vs. partially costed vs. fully costed) by the total estimated usage.

Step 9: Determine the Recharge Rate that will Be Charged for Each Product/Service

OMB Circular A-21 prohibits the establishment of discriminatory prices. However, this does not prohibit the establishment of different prices for different users. The fundamental requirement is that no internal user may be charged more than the “total cost” rate for that product/service. Different “total cost” rates may be established for the same product/service provided to internal users so long as the unit can support the price differential.

In cases where the University chooses to charge less than the “total cost” rate for internal users as calculated according to the established rate methodology/type, the subsidy must be flagged in the accounting system to ensure its exclusion from the F&A rate calculation.

In the case of an external sale, the unit may choose to set the rate to recover at least the cost of providing the goods or services (direct and indirect).

- 9A. For each product/service, determine the actual rate(s) that will be charged.
- Consider whether the internal market can bear the “total cost” rate (compare to historical internal rates, external market rates) and the extent of year-to-year fluctuations.
 - Consider the institution’s objective for this unit – should it be fully self-supporting or is the institution willing to subsidize it?
 - What, if any, type of discounts does the unit want to offer and to which users? Does the unit want to encourage increased usage through a price break?
 - If applicable, what price(s) should external users be charged?
- 9B. If the shared/core facility receives federal support, the rate charged to a research project using non-approved stem cell lines must be an “unsubsidized from federal sources” rate.

Step 10: Verify the Accuracy of and Document the Rate Calculations

- 10A. Verify the accuracy of the rate calculations
- If historical (i.e., previous fiscal year) costs were used as the basis for the calculations, reconcile the total costs to expenditures recorded in NUFS. If projected costs were used, reconcile the total costs to the budgets recorded in NUFS. At a minimum, all costs that were charged/budgeted to the unit’s area should be included in the calculations, with the exception of any unallowable costs (which should be represented as reconciling items).
 - Ensure that all cost inputs and formulas are correct.
- 10B. Document the Rate Calculations

- Ensure that all assumptions are documented.
- Describe all allocation bases used.
- Describe the flow (linkage) of the calculation model.

APPENDIX A
University-wide Indirect Costs

University-wide indirect costs are those costs that comprise the University's Facilities & Administrative (F&A) rate, which is charged as a percentage of direct costs on sponsored research grants and contracts. The components of the F&A rate are listed in the table below.

For select units, the proportionate share of these costs will be included in the recharge rate calculations. The determination of whether these costs should be included in a unit's rate calculations and how the amounts should be determined must be done with the assistance of the Office of Cost Studies. When costs are included in the rate calculations, the Office of Cost Studies must exclude them from the corresponding University-wide indirect cost pools.

Overhead Costs included in F&A Rate
Facilities
Building depreciation/use allowance
Equipment depreciation/use allowance
Interest
Operations and maintenance
Library
Administrative
General administration
Department administration
Sponsored programs administration
Student services

APPENDIX B

Unallowable Categories

Advertising and Public Relations

- Corresponding NU Account Codes: 76715 (Promotion), 76720 (Special Events Development), 76725 (Special Events – Educational), 76760 (Special Subsistence)
- When costs are Unallowable: any advertising and PR costs not included in Sections J1C and J1D of OMB Circular A-21 are unallowable. Examples include:
 - Costs of convocations or other events related to instruction or other institutional activities including costs of displays, demonstrations, and exhibits; costs of meeting rooms, hospitality suites, and other special facilities used in conjunction with shows and other special events; and salaries and wages of employees engaged in setting up and displaying exhibits, making demonstrations, and providing briefings.
 - Costs of promotional items and memorabilia, including models, gifts, and souvenirs.
 - Costs of advertising and public relations designed solely to promote the institution.

Alcoholic Beverages

- Corresponding NU Account Code: 76727 (Alcoholic Beverages)
- When costs are Unallowable: ALWAYS

Bad Debts

- Corresponding NU Account Codes: 78680 (Collection Expense), 78685 (Bad Debt Expense).
- When costs are Unallowable: ALWAYS. Any losses, whether actual or estimated, arising from uncollectible accounts and other claims, related collections costs, and related legal costs, are unallowable.

Commencement and Convocation Costs

- Corresponding NU Account Code: 75710 (Commencement Expense)
- When costs are Unallowable: ALWAYS, except as provided for in Section F.9 of OMB Circular A-21.

Fringe Benefits

- Corresponding NU Account Code: 60185 (Fringe Benefits – Acad), 60186 (Fringe Benefits – Full)
- When costs are Unallowable: Tuition benefits for family members other than the employee are unallowable.

Insurance & Indemnification

- Corresponding NU Account Code: 75540 (Insurance)
- When costs are Unallowable: Insurance costs are unallowable if...
 - The types and extent and costs of coverage are not in accordance with sound institutional practices.
 - The costs are for insurance or any contributions to any reserve covering the risk of loss of or damage to federally-owned property (unless specifically required or approved by the Federal Government).
 - The costs are for insurance on the lives of officers or trustees (unless insurance is part of an employee plan which is not unduly restricted).
 - Contributions to a reserve for a self-insurance program are unallowable to the extent to which the types of coverage, the extent of coverage, and the rates and premiums for the coverage would not have been allowed (i.e., insurance was not purchased to cover the risks).
 - Actual losses which could have been recovered by permissible insurance are unallowable, unless expressly provided for in the sponsored agreement.
 - Costs of insurance with respect to any costs incurred to correct defects in the institution's materials or workmanship are unallowable.
 - Medical liability insurance is an unallowable cost of research programs if the research does not involve human subjects.

Memberships, Subscriptions, and Professional Activity Costs

- Corresponding NU Account Codes: 75030 (Membership Dues), 76730 (Professional Development)
- When costs are Unallowable: Costs of membership in any civic or community organization are unallowable, as are costs of membership in any country club, social, or dining club organization.

Professional Services Costs

- Corresponding NU Account Code: 75010 (Professional and Technical Services)
- When costs are Unallowable:
 - The costs are unreasonable in relation to the services rendered.
 - The costs are contingent upon recovery from the Federal Government.
 - Retainer Fees, if they are not reasonably supported by evidence of services rendered.

Recruiting Costs

- Corresponding NU Account Codes: 76735 (Faculty/Staff Recruitment), 76740 (Student Recruitment)
- When costs are Unallowable:
 - In publications, costs of help wanted advertising that includes color, advertising material for other than recruitment purposes, or is excessive in size.
 - Costs of help wanted advertising, special events, fringe benefits, and salary allowances incurred to attract professional personnel from other institutions that do not meet the test of reasonableness or do not conform with the established practices of the institution.
 - Where relocation costs incurred incident to recruitment of a new employee have been allowed either as an allocable direct or F&A cost, and the newly hired employee resigns for reasons within his control within 12 months after hire, the institution will be required to refund or credit such relocation costs to the Federal Government.

Rental Costs of Buildings and Equipment

- Corresponding NU Account Codes: 75470 (A/V Equipment Rental), 75480 (Film Rental), 75485 (Plant Rental), 75490 (External Space Rental), 75493 (Internal Space Rental), 75495 (Furniture/Equipment Lease Rental – External), 75650 (Internal – Office Systems Equipment)
- When costs are Unallowable:
 - Rental costs under “sale and lease back” and “less than arms-length arrangements are unallowable if they exceed the amount that would be allowed if the institution continued to own the property.
 - When significant rental costs are incurred under leases which create a material equity in the leased property, they are unallowable if they exceed the amount that would be allowed if the institution purchased the property on the date the lease agreement was executed.

Royalties and Other Costs for Use of Patents

- Corresponding NU Account Codes: 75100 (Copyright/Publish Royalty Fees), 78670 (Royalties)
- When costs are Unallowable:
 - Royalties and other costs for the use of patents are unallowable if the Federal Government has a license or the right to free use of the patent.
 - The patent has been adjudicated to be invalid or has been administratively determined to be invalid.
 - The patent is considered to be unenforceable.
 - The patent has expired.

Scholarships & Student Aid Costs

- Corresponding NU Account Codes: 78050 (Stipend), 78060 (Stipend-Service), 78070 (Stipend – Supplement)
- When costs are Unallowable: The costs of scholarships, fellowships, and other programs of student aid are unallowable if the purpose of the sponsored agreement is not to provide training to selected participants and if the charges are not approved by the sponsoring agency.

Travel Costs

- Corresponding NU Account Code: 76710 (General Travel)
- When costs are Unallowable:
 - Airfare costs in excess of the lowest available commercial discount airfare, Federal Government contract airfare (when authorized and available), or customary standard (coach or equivalent) airfare, are unallowable except when such accommodations would: require circuitous routing; require travel during unreasonable hours; excessively prolong travel; greatly increase the duration of the flight; result in increased costs that would offset transportation savings; or offer accommodations not reasonably adequate for the medical needs of the traveler.
 - Air travel costs via institution-owned, -leased, or –chartered aircraft is unallowable if it exceeds the cost of allowable commercial air travel.