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**UNIVERSITY FACILITIES AND ADMINISTRATIVE COSTS:  
WHAT THEY ARE AND WHY THEY ARE IMPORTANT**

This document presents a neutral, general description of the rates universities negotiate with the federal government to recover the infrastructure and administrative (F&A) costs that support research. In addition to technical detail, it provides historical context and presents university rates in comparison to other sectors in society.

Clearly this document is not intended for university staff involved in the documentation and negotiation of these rates. The intended audience includes faculty, who may wish to place their individual university practices into a larger context, policymakers, members of the general public who may wish to educate themselves further on these matters or members of federal agencies involved with program management, who may not be familiar with the calculation and negotiation process.

We invite you to consider two additional papers that supplement this F&A discussion. They provide more “applied” detail to the otherwise general discussion.

**I. INTRODUCTION**

Buildings, utilities, equipment and administrative support are required for universities to conduct sponsored research activities. Universities are partially reimbursed for these costs through the application of facilities and administrative (F&A) cost rates in federally sponsored agreements. These F&A costs represent real, significant costs to the university. They are not readily identifiable with a particular research project or other sponsored activity but are necessary to the general operation of a university and the conduct of its activities. Examples include the costs of operating and maintaining buildings and grounds, campus security and fire protection, library costs, and the costs of providing administrative services at the university, college and department levels, including such activities as accounting, payroll and purchasing.

The purpose of this document is to provide a straightforward explanation of these costs, explain how F&A rates are calculated and negotiated, how they are applied, and how the recoveries of these costs are utilized. Illustrations are provided where appropriate. However, the goal here is to describe the general theory of F&A reimbursements and the systems needed to respond to an account for federal requirements for management of F&A cost recovery under federal awards, rather than to provide detailed discussion of individual university implementing practices.

## **II. BRIEF HISTORY OF INDIRECT COSTS**

Federally funded research is a prominent feature at all major U.S. research universities today. Prior to World War II, federal support for research as we know it was virtually nonexistent. The situation changed dramatically during the war as the federal government, initially through the Office of Scientific Research and Development, invested heavily in the discovery and development of new technological tools to support the war effort. Success achieved by the scientific, medical, and engineering communities at U.S. universities created a new awareness of the potential of university-based science and technology.

During and after the war, the Office of Naval Research (ONR) engaged faculty members at universities to carry out contract research for special projects. By 1947, ONR began to formalize such funding programs. In the process, the issue of institutional costs (later designated indirect costs) was addressed. It became apparent that a successful university-based research program could expand and improve only if the costs incurred to provide an adequate research infrastructure were reimbursed. ONR recognized that the costs of a research project included the cost of this infrastructure and that a reimbursement policy was needed to provide for the recovery of these costs. As a result, ONR formally acknowledged principles for reimbursing universities for indirect costs.

Other government funding agencies accepted the ONR indirect cost principles. However, the practice of most government agencies in the early years was to provide a flat-rate reimbursement for indirect costs. The National Institutes of Health (NIH) limited recovery of indirect costs to 8% of total direct costs (currently still the mandatory rate for most NIH training grants). This limitation was later raised to 15%, then 20%, and was ultimately made a statutory limitation imposed by Congress. During the postwar years, discussion of indirect cost reimbursement continued between universities and government representatives. In 1958, government-wide guidelines for determining indirect costs were issued by the federal government as Bureau of the Budget Circular A-21. The Circular A-21 guidelines included criteria for justifying costs, methods for distributing the costs between instruction and research, and documentation requirements. Certain costs were declared unallowable.

Circular A-21 now is under the purview of the Office of Management and Budget (OMB) and has been revised many times since its original issuance. However, the basic concepts and approaches to indirect costs remain unchanged. In 1966 it became the policy of the federal government to reimburse universities for the indirect costs incurred in conducting research projects based on negotiated rates with each institution. A major revision to Circular A-21 occurred in 1979, which among other things increased reporting requirements and modified and expanded the guidelines on indirect costs. In 1986, because of budget pressures, OMB and the Department of Health and Human Services (DHHS) proposed a ceiling for indirect costs. While these proposals were not successful, the December 1986 revision of Circular A-21 did set a fixed allowance for faculty administrative costs, establishing a precedent for using a uniform fixed allowance in establishing the indirect cost rate.

During the 1990s, increasing budget pressures and allegations of serious cost accounting errors resulted in increased scrutiny of indirect costs at universities. In 1991 new restrictions were imposed in a Circular A-21 revision, including a 26% cap on the administrative cost component. Circular A-21 changes in 1993 included restrictions on direct charging administrative and clerical salaries and a formal grouping of indirect cost “pools” into two broad categories—facilities costs, and administrative costs. In 1996 the Circular was revised to include new requirements on interest costs, a requirement to file a detailed Cost Accounting Standards disclosure statement, an increase in the equipment capitalization threshold, fixed indirect cost rates for the competitive segment of an award, and the replacement of the term indirect costs with the term Facilities and Administrative (F&A) costs. Further revisions in 1998 imposed additional requirements on facilities construction and depreciation costs, and established a utility cost adjustment factor for certain institutions to recover higher energy costs incurred for research space.

### **III. FACILITIES AND ADMINISTRATIVE COST CONCEPTS**

Facilities and administrative costs are costs incurred for common or joint objectives, that cannot be identified readily and specifically with a particular sponsored project, an instructional activity, or other institutional activity. F&A costs involve resources used mutually by different individuals and groups making it difficult to assess precisely which users should pay what share. The basic concept is that these costs represent shared university infrastructure costs, for which it is more reasonable and cost effective to charge sponsors through the F&A rate mechanism.

Direct costs, on the other hand, are those that can be identified with a particular sponsored project relatively easily with a high degree of accuracy. In most cases the distinction can be made readily. For example, if an investigator has to buy a chemical for a specific experiment, that clearly is a direct cost to the grant. However, an investigator’s use of electrical power, water and other utilities, or the services of the purchasing and accounting offices, are not normally charged directly because it is not practical to identify them to individual research projects.

For example, attributing an appropriate amount for the use of space to a specific research project would be extremely difficult. If, as is typical, a building houses dozens of investigators who are involved in teaching, research, public service and other functions, determining the building costs that should be attributed to a particular faculty member’s research project is difficult to do with a high degree of precision. Each faculty member may have several grants, which may use common space differentially. Often, for rate computation purposes (see Part V), space studies are performed by universities to determine the gross square footage used for research

In unusual circumstances, costs ordinarily charged as F&A might be considered direct. The mitigating circumstances relate to the size, nature or complexity of the project. For example, although administrative and clerical staff salaries ordinarily are defined as F&A costs in Circular A-21, if the project requires a very high level of administrative support

because of its size and complexity, then those salaries might be considered direct costs to the project. Typical F&A costs, like postage, photocopying, office supplies, and local telephone service might be considered a direct cost if justified by the nature of the project, e.g. mail or telephone surveys or supplies for participants in a training program. Circular A-21 prescribes guidelines for universities to follow in making these determinations.

In 1988, an Ad Hoc Committee on Indirect Costs established by the Association of American Universities (AAU) stated in a report that “Most faculty members who have looked at the basic data acknowledge that there are real costs associated with carrying out the research programs on their campus, that many of these costs cannot be efficiently charged to each grant, and that they can be aggregated on an institutional basis into indirect cost pools.” It is important to recognize that F&A costs directly support research, and are just as important to the performance of research as direct costs. The issue is not whether these costs are real, but who will pay for them. **Without the ability to recover through the F&A rate mechanism the real and significant shared infrastructure costs incurred in support of sponsored research, a university would be unable to perform the research or other sponsored activities.**

#### IV. F&A COST COMPONENTS

F&A costs are grouped into seven categories or “pools.” Circular A-21 provides a general framework for the costs that are allowable to be included in each pool and how the pools should be allocated to university functions (e.g., research, instruction, public service). The cost pools are classified into two broad categories: *Facilities* and *Administrative* costs. The components that make up these categories are discussed below.

##### A. A. Facilities Costs

*Depreciation or use allowance* - This pool consists of depreciation or use allowance on university investments in buildings, improvements, and equipment not funded directly by federal sources. Interest on debt associated with buildings, equipment and capital improvements also is included. These costs are allocated to research projects proportionally based on estimates of the percentage of building or equipment use that can be attributed to the research effort. Universities conduct extensive “space surveys” for this purpose. The surveys are also used to allocate physical plant operations and maintenance costs.

*Physical plant operation and maintenance* - This category includes the costs of utilities, routine maintenance and repair, custodial and janitorial services (for both buildings and grounds), campus security and fire protection, environmental health and safety, transportation services, facilities management and building design.

*Libraries* - This pool includes expenses incurred for operation of centralized university libraries. Costs include library staff, book and periodical acquisitions and administration such as cataloging and shelving. The various groups utilizing library services must be identified and assigned a portion of library costs when establishing what percentage of the total cost of the library enterprise is attributable to the research activities of the university. (Libraries operated by academic departments are normally considered departmental administration and are recoverable through that cost pool).

## **B. Administrative Costs**

*General university administration* - This category includes the costs of offices that provide services to most activities of the university. It encompasses personnel administration, payroll and purchasing services, financial management, and other central administrative functions (e.g. equal opportunity). Expenses of the offices of the President, the Provost, and other executive offices are included in this cost pool.

*Departmental administration* - This category includes expenses for program support and administration that occur at college/school and departmental levels. It includes a fixed allowance (3.6% of MTDC) for the administrative effort of faculty and other academic personnel. In addition, this cost pool includes a calculation of the portion of personnel costs for administrative and supporting staff, and for supplies, travel, telephone services, postage etc.

*Sponsored projects administration* - This cost pool includes the costs of organizational units established primarily to support and administer sponsored research and training and other sponsored activities. The category includes the costs of offices such as the Dean or Vice President for Research, Office of Sponsored Programs, and Grant and Contract Services.

Costs of certain items are unallowable under OMB Circular A-21 either as direct or F&A costs. These include alcoholic beverages; alumni activities; institution-furnished automobiles for personal use; legal costs of criminal and civil proceedings, appeals and patent infringement; donations and contributions made by an institution; fund raising activities; entertainment; executive and legislative lobbying; insurance against defects; fines and penalties; goods and services for personal use of employees; housing and personal living expenses of an institution's officers; memberships in any civic, community or social organization or country club; and selling or marketing of goods or services. These costs can neither be directly charged to federal funds nor allocated through the F&A cost pools. Universities must carefully identify these costs and certify that they have been excluded.

## V. F&A RATE COMPUTATION

Once all of the F&A costs have been assigned to one of the cost pools, they must be distributed across the major functions of the university. These functions are set forth in OMB Circular A-21. The categories include instruction, organized research, other sponsored activities, and other institutional activities. Circular A-21 suggests an allocation base for each F&A cost pool. It also provides for consistent treatment of like costs according to certain Cost Accounting Standards, which are incorporated into the Circular.

The facilities costs normally are allocated on the basis of square footage assigned to functions as determined by a space survey. General administration is allocated on the basis of modified total costs (see below) of all the functions noted above. Likewise, departmental administration for each department is allocated to its major functions based on modified total costs. Sponsored projects administration is allocated based on MTDC of sponsored projects within each major function. Library costs usually are allocated on the basis of the population of library users. Student services usually are assigned to instruction, and only a small fraction of these costs if any is allocated to research.

The F&A rate represents the average F&A costs incurred per MTDC organized research dollar of expense. Circular A-21 defines organized research as all research and development activities of an institution that are separately budgeted and accounted for, i.e., sponsored research and university research directly supported by institutional funds). A simple formula is used for this determination.

$$\frac{\text{Facilities and Administrative Costs Allocated to Research}}{\text{Modified Total Direct Costs (MTDC)}} = \text{F\&A Cost Rate}$$

MTDC consists of all direct costs of research, whether charged by the university to sponsors or contributed, with a number of items subtracted based on the principle that they are not considered good measures of the demand for the services covered by F&A costs. The items excluded are:

- a) capital equipment (as defined by the institution with a threshold of up to \$5000),
- b) subcontract costs in excess of \$25,000,
- c) the tuition component of graduate student compensation,
- d) other costs, such as patient care costs, training stipends, plant construction and renovation, and building rental costs.

As discussed in **II.** above, since 1991 the overall administrative component of the F&A rate has been capped at 26%.

Typically a rate is also calculated for off-campus projects, and there may be separate rates calculated for instruction and other sponsored programs as well as the research function. The off-campus rate calculation includes only the administrative rate

components and is applied to those projects that are conducted predominantly in facilities not owned by a university where rent is directly charged. Some universities also may have separate rates for special facilities or particular functions.

Increases and decreases in the F&A rate may occur over time. Clearly, the rate is dependent on the relative levels of the costs included in the rate calculation. A rate increase would occur when costs included in the numerator grow faster than the MTDC costs in the denominator; for instance, when a new building is added without a commensurate increase in research activity, or when utility costs rise faster than direct costs. Similarly, if total research volume shrinks while the costs included in the F&A cost pools do not, a rate increase will be generated. Conversely, rates will decrease when research volume increases and F&A costs decline, or when direct costs increase more quickly than the costs included in the F&A cost pools.

## **VI. F&A RATE NEGOTIATION**

Once the F&A cost information is assembled and appropriately documented, it is submitted by a university in the form of a formal F&A cost rate proposal to its cognizant federal cost negotiating agency. For most universities, this is the Division of Cost Allocation (DCA) of the Department of Health and Human Services. For a small number of universities, the Office of Naval Research serves as the cognizant cost agency. DHHS/DCA is organized regionally. ONR is organized centrally, but rate proposals under ONR cognizance are audited by regional staff from the Defense Contractor Audit Agency (DCAA).

The proposal is evaluated by the cognizant agency cost negotiators. They review the proposal to determine if a university has accurately identified its F&A costs and allocated these costs to benefiting functions in accordance with the methods prescribed by OMB Circular A-21. Typically there are some differences in the interpretation of the rate development that lead to negotiations and compromises between the federal negotiators and university officials in arriving at a final rate agreement. The federal negotiators seek to negotiate rates as low as possible. Once the negotiation is concluded, the F&A rate agreement is signed by both the cognizant agency negotiators and the university. **The resulting research F&A rate is the product of close scrutiny and vigorous negotiation between universities and federal rate negotiators.**

Universities and federal negotiators usually negotiate predetermined rate agreements for multiple years. This type of negotiated rate settlement provides a degree of assurance for both the government and universities as to the general level of future F&A funding that can be estimated for budget purposes. However, on occasion the rate agreements may be extended for several years before new rates are negotiated. OMB Circular A-21 currently requires that the rate in effect at the time of initial funding be fixed for the life of a project funding agreement even if it extends for multiple years and into time periods for which a new rate agreement has been negotiated.

Universities also have experienced different interpretations and approaches used among federal cost negotiators. ONR and DHHS/DCA do not necessarily agree on the appropriate interpretations of certain provisions of OMB Circular A-21, and within DHHS/DCA the various regions have applied different interpretations and approaches to rate negotiations. There also is a lack of clear consistent communication between the federal cost negotiators and federal funding agencies as to the meaning and interpretation of various agency terms and conditions that impact the rate negotiation process. For example, federal cost negotiators may classify vague commitments made in proposal texts as required cost sharing when they are not viewed as such by either the institution or the federal funding agency. These differences have complicated the ability of universities to develop common approaches, and led to a wide variety of outcomes in rate negotiations. Further complicating the situation is the fact that nongovernmental sponsors of university research are not bound by the federal F&A rate agreement, and often may arbitrarily restrict F&A cost reimbursement or have their own policies and requirements in this area. For these reasons, despite the seeming uniformity provided by OMB Circular A-21, F&A cost rate negotiation is a highly complex undertaking in the experience of many universities.

## **VII. F&A RATE VARIABILITY**

Questions frequently are raised about the reasons for the variability of F&A rates among universities. There is no simple answer. Major factors include the size, age and intensity of research use of a university's research facilities and buildings. An institution that has a large number of research facilities, with some built recently at higher cost, will have higher depreciation expenses than an institution that has a smaller and/or older physical plant. Universities that are able to spend funds to renovate existing research facilities and construct new research facilities experience a higher level of costs than universities that are unable to do so, which is reflected in a higher rate of recovery of building use costs. For example, all other factors being constant, if two universities have the same direct cost research base and one has more net square feet of space assigned to research, the facilities rate component for the university with more net square footage will be higher than that of the other university.

The extent of debt financing also can have a major impact on F&A rates. Under current federal policy, interest on debt is reimbursed as a facility cost, while no equivalent reimbursement is provided when the institution uses other non-federal funding sources.

The location of a university also has a significant effect on the costs of facility operations. The universities that have the best combination of climactic conditions and utility rates will generally have a lower rate for facility operations. For example, one study showed electricity costs in the New York were ten cents per kilowatt hour compared to two cents per kilowatt hour in the Seattle area. While costs in Seattle since have gone up significantly, they still are lower than other areas of the country. Similarly, heating and air conditioning costs vary widely across the country, as do labor and construction costs. The "mix" of research among universities also contributes to the variances in the facilities components of F&A costs. For example, the cost per square foot of



constructing or renovating biomedical research laboratories is more costly than the cost per square foot of space for mathematicians.

Administrative costs are not a major contributing factor to differences in F&A rates among universities, because of the 26% cap on the administrative component of F&A costs imposed in 1991. A 2000 COGR study showed that 120 of the 150 major research universities have negotiated rates for administration of 26%, while most of the others had negotiated rates close to 26%. However, the **actual** median administrative cost rate for these same institutions is 28.34%, with a range of 19% to 40%. The same study showed that the negotiated facilities rate component ranges from 14% to 46%, with the median at 23.5%.

## **VIII. USES OF F&A COST REIMBURSEMENT**

**One of the most important aspects of F&A costs is that they represent a reimbursement for expenses already incurred.** Typically they are deposited as unrestricted general income and become part of the pool from which the general funds budget is developed for the university. Most universities have established policies to return a portion of the F&A cost recoveries to the faculty or department in which the funded research occurs, which then become part of the general operating budget of that department. However, some state universities are required to apply recovered F&A costs as a budget offset (i.e. reduction) in accord with state policies.

Where recovered F&A costs are included in the general university operating budget, some portion may be allocated for the support of various research initiatives or special funding requests that enhance the research enterprise. These initiatives may be designated with titles such as Research Incentive Fund or other special designation. The specific accounting and uses of these funds varies among universities, and a comprehensive discussion is beyond the scope of this document.

## **IX. F&A COST COMPARISONS WITH OTHER TYPES OF ORGANIZATIONS**

Congress has had a longstanding interest in facilities and administrative costs in higher education. The 1998 National Science Foundation Authorization Act included a request to the White House Office of Science and Technology Policy (OSTP) for a detailed report. In response, OSTP requested the RAND Science and Technology Policy Institute to compile and analyze information to assist OSTP, Congress and the public to understand and discuss policy choices for facilities and administrative cost recovery. The analysis was structured around the six issues raised by Congress. The first issue was to analyze federal F&A cost reimbursement rates paid to universities in comparison to those paid to other entities, such as industry, government laboratories, research hospitals and nonprofit institutions.

The RAND analysis found that on the basis of available evidence, the fraction of true costs in universities that are classified as F&A costs is generally comparable with or somewhat smaller than indirect costs for other performers of research. For all the sectors

studied, F&A costs accounted for about one-third of true total costs. For universities, F&A costs are about 31 percent of total costs. Comparable figures for other sectors are 33 percent for federal laboratories, and 36 percent for industrial laboratories. The RAND analysis further found that average federal agency payments cover between 24% and 28% of F&A costs. Cost sharing by universities accounts for the difference between these lower figures for payments and the 31 percent figure for total F&A costs.

RAND also reviewed statistics compiled by the NIH on F&A reimbursements. The NIH data included only grant programs for which fully negotiated F&A rates are allowed. That data indicated that for the covered NIH awards to higher education institutions, between 29 and 33 percent went for F&A cost reimbursement, depending on the region of the country. Awards to hospitals in two regions were similar in composition to those for higher education; in the other two regions, hospital awards were somewhat lower for F&A costs (23.6 and 26.4 percent). Research institutes received higher fractions of awards as indirect in three of the four regions (the range was 34.5 to 36.8 percent).

The RAND study concluded that these comparisons overall “are only broadly indicative of cost structures, because they are premised on comparing quite different organizations with different accounting regulations and reimbursement structures. What evidence is available indicates that the fraction of awards to universities that pays for F&A costs is generally comparable with or somewhat smaller than indirect costs for other performers of research.” The RAND report also noted that based on government data covering between 145 and 153 universities, the average negotiated F&A rates for universities changed very little between 1988 and 1999. However, during that time frame there was some shift in the major components of the rate. The average negotiated administrative rate for these universities declined from 27.3 to 25.2 percent, and the average facilities rate increased from 23.2 to 25.4 percent. (A copy of the full RAND report, which was released in 2000, may be ordered through [order@rand.org](mailto:order@rand.org)).

More recently, COGR was asked by the Association of American Universities (AAU) to prepare a study on the increasing costs of compliance with federal regulations related to federal research. As part of this study, COGR evaluated overall trends in the recovery of facilities and administrative costs. The COGR study included a representative sample of twenty universities, among them some of the largest recipients of federal research dollars.

Both the COGR study (released in June, 2002 and available on the COGR website) and the earlier RAND report discussed the reasons why universities do not recover their full F&A costs in federal awards. The RAND report estimated that universities are recovering between 70 and 90 percent of the F&A expenses associated with federal projects based on negotiated rates. The COGR study also found a surprisingly large under-recovery based on the difference between full recovery of F&A costs at the universities’ negotiated rates, and the actual F&A cost recovery. For the sample universities, the total under recovery was approximately 15 percent of the total costs eligible for reimbursement at the fully negotiated rates. The major factor in this under recovery was agency-specific limitations, such as the NIH and Department of Education limit of 8 percent on career awards and training grants and the statutory limitation (14 to

19 percent) on F&A cost recovery on competitive research awards from the U.S. Department of Agriculture. Agency cost sharing practices, which often encourage universities to cost share through reducing the level of requested F&A cost reimbursement, are another contributing factor. The National Science Foundation and some of the smaller federal research funding agencies were particularly prone to this practice.

## **X. OUTLOOK**

Universities are critical participants in the federal research system. They engage in federally supported research and invest in the enabling infrastructure in good faith to advance science, in the expectation that government reimbursement provided by the F&A cost recovery system will balance out their investment in the long term. Of course, the conduct of federal research projects brings prestige both to faculty and to institutions. There also are economic development effects, as in recent years universities have been increasingly successful in transferring federal research results into new products and new companies, with economic benefits both to the university and the local region. The partnership in science and technology between the federal government and U.S. universities since World War II has been exceptionally productive, successfully promoting the discovery of new knowledge, stimulating technological innovation, improving the quality of life, educating the next generation of scientists and engineers, and contributing to America's economic prosperity.

Despite these successes, there is some evidence that the partnership has come under increasing strain, in part due to tensions arising from the present inability of universities to recover their full share of infrastructure costs associated with federally supported research. A number of reports during the 1990s documented these strains (and are summarized in the COGR report on costs of compliance discussed in **IX.** above). As federal compliance mandates and expectations have continued to expand, universities have expressed growing concern about their ability to meet these new requirements and expectations.

Studies have demonstrated both that university infrastructure expenses expressed through F&A costs are in line with, and in many cases lower than, those incurred by other sectors. While for at least the past 35 years federal policy has been to reimburse universities for these costs associated with federal projects, government agencies have consistently refused to do so. Misunderstanding and mistrust between federal policy makers in both the legislative and executive branches as to the nature and legitimacy of these costs has been a continued source of tension. As noted above, these costs are real and significant costs to the universities. Where the government does not provide universities with appropriate reimbursement for these costs, the universities must pay for them with other sources of funds, or forego other desirable institutional objectives.

Given increasing concerns about the ability of universities to fund these costs from these other sources and the continued tension, it may be timely to reexamine some of basic concepts of cost reimbursement expressed through OMB Circular A-21. These concepts

date from the post war period and may need some fundamental adjustments or new paradigms. One alternative might be increased use of a service center concept to pay some of the costs of university infrastructure now typically expensed through F&A rates. In effect, universities would directly charge the users of particular services fees to cover the costs of providing the services. For example, this concept could be used in areas such as human subjects compliance. However, it is important to recognize that moves in this direction may compromise the basic concept of shared university infrastructure costs that have characterized the system of federal research support to universities for decades. It is important for all stakeholders in this system to fully understand the nature of these costs and the implications of such changes.