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**CASE STUDY OF FACILITIES AND ADMINISTRATIVE COSTS IN SUPPORT OF RESEARCH**

**INTRODUCTION**

The purpose of this paper is to illustrate the role played by Facilities and Administrative (F&A) (often referred to as indirect) costs in supporting university research. The case study documents how F&A costs provide the necessary support services to enable a typical investigator's research program. The nature and derivation of F&A rates is a complex subject, especially for a researcher who has little time to spend unraveling its intricacies. This case study is an attempt to explain the role and importance of F&A costs to a faculty researcher and others unfamiliar with the rate determination process, by providing examples of the tasks and functional activities performed by other university staff that benefit and support the research enterprise. For more detailed information on F&A costs and a list of FAQs, visit the COGR web site at [www.cogr.edu](http://www.cogr.edu). Comments may be directed to [memberservices@cogr.edu](mailto:memberservices@cogr.edu).

**CASE STUDY**

Let us assume that you are a faculty researcher. As a faculty member, you will have office space where you can dedicate productive time for scientific investigations. Like many others you will also have access to a laboratory space where you can perform empirical experimentations. In addition, you may receive services from administrative and other specialized support units such as computing, library, telephone and digital communication, as well as grant or contract-related help. You receive support such as electricity, heating, air conditioning, custodial services, hazardous waste disposal, and other facility maintenance services. These infrastructure and administrative services are provided routinely and unobtrusively to you and the larger faculty community. It is easy to overlook the fact a significant amount of financial resources is invested to have these services available at all times.

**STARTING YOUR RESEARCH PROGRAM**

Generally, at the start of a new research project these support services are already established and operating. But at some point you may initiate a new research program at your institution that requires your conscious participation in the planning and implementation of the necessary research infrastructure and personnel before the research effort can proceed at full speed. So let us go through what you need to accomplish. Along the way we have numbered each item to demonstrate the support activities that are provided by the university and are accounted for in the F&A rate.

An important first step is to determine whether the institution can readily provide research space that is fully equipped for the intended purpose of the new research program. More often than not, the institution will need to renovate existing space, or build or lease new space.

Let us suppose that your institution has decided that the optimal choice is to renovate existing space on your campus. The Architect and Building Construction department (1) estimates that the renovation project will take twelve months from planning to service phase, at an estimated cost of one million dollars (2). Your institution decides to fund the project by using part of the proceeds from a recent bond issuance at 5 percent interest rate (3).

In the meantime, you need to acquire laboratory and other equipment items for your program (4) with the help of the Purchasing Office (5), for which the institution will budget half a million dollars funded from the same bond proceeds.

As you may have noticed, so far the institution has committed one and half million dollars to launch the program. This amount does not include the costs of the specialized services you have received from the institution's various specialized support staff: Architect, Building Construction, Purchasing, and Treasurer's Office (6).

## **RESEARCH ADMINISTRATION AND FACILITIES ASSISTANCE**

While the space is being remodeled, you will probably spend some time recruiting other researchers for the program, and writing a technical and budget proposal to a funding agency, such as the National Institutes of Health (NIH). For recruitment and hiring matters, your Chair (7), Dean (8), Provost (9), and Human Resources Office (10) provides assistance; while the Office of Grants and Contracts (11) will assist you, as principal investigator, in the review and submission of the funding and technical proposal documentation to NIH, and in the negotiation of any contentious terms and conditions of the award. If events unfold according to plan, you will start the first project at the time the space is released by the Building Construction department for your use.

As the project progresses, you may also need additional specialized support if the research involves the use of humans (12) or animal subjects (13), or substances that require professional experts in handling from acquisition to disposal (14). As a principal investigator, you also will receive support from Sponsored Projects Accounting (15), Equipment Management (16), Payroll and Personnel (17), Purchasing or Accounts Payable (18), compliance for administrative, fiscal and contractual terms, rules and regulations (19), pre and post award audit coordination (20), physical plant for facility related services such as utilities, repairs and maintenance (21), telecommunications including voice, data, video (22), library services (23), research data handling (24), research material transfers (25), Intellectual Property Office for evaluating, managing and commercializing your invention (26), cost or financial analysis for direct, indirect and employee fringe benefit costs determination (27), faculty and staff training regarding

compliance with institutional policies and governmental rules (28), Legal Counsel (29), and tracking of cost sharing commitments (30).

The Sponsored Project and Accounting Offices, in conjunction with departmental administrators, will collaborate to monitor the progress of your award from the administrative and fiscal standpoints. They will know each project's financial and administrative status at any given time. For example, you may receive reminders about deadlines for submitting interim and final technical reports to the funding agency, advice about booking your airline ticket to Europe with an American carrier, a reminder that you should not charge costs unallowable under the federal cost principles such as alcohol or entertainment to your project, and so on. Many of these activities are designed to help reduce your administrative chores, comply with your award requirements and protect you from cost disallowances and audit problems.

The preponderance of these supporting tasks is part of the costs included in the institution's negotiated F&A rate. The above list highlights at least 30 specialized support activities or systems that are essential to provide the necessary infrastructure and expert support so that you may concentrate productively on your research project, while keeping in compliance with federal regulations.

## **CALCULATING THE F&A COSTS OF A RESEARCH PROJECT**

In preparing budget proposals for federal agency support, faculty need not specifically identify the support activities they have received and will continue to receive from their institution. But it is a fact of life that someone has to pay for all these support costs that are not explicitly listed in the budget proposal as a line item. Government policy recognizes that the sponsoring federal program should pay its fair share of these costs. The mechanism for charging these costs to a given project is "Facilities and Administrative" (F&A) costs; previously known as indirect costs.

Under federal rules established by the Office of Management and Budget, direct costs typically arise from activities or expenses that are readily attributable to the research project, and F&A costs from activities that are not directly or easily identifiable to a given project because they simultaneously provide benefits for your project and many other projects. The calculation of the allowable F&A costs attributable to your project is the result of the multiplication of two factors: the institutional negotiated F&A rate, and your project Modified Total Direct Costs (MTDC). The F&A rate is negotiated by the university with the federal government for all its research projects, as a percentage rate for a given fiscal year. The project MTDC is the sum total of the direct costs of your project, excluding certain items, which are specifically excluded in the universities negotiated rate for all projects.

The F&A rate represents the average F&A costs incurred per MTDC organized research dollar of expense. A simple formula is used for this determination.

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

MTDC consists of all direct costs incurred for research purposes, whether charged by the university to sponsors or contributed. It is called “modified” because a number of items are 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.

Here is an illustration of an individual grant budget:

Direct salaries to be charged to the grant:

20% of Principal Investigator time (.20 x \$100,000)	\$20,000
Other research staff salaries	36,000
Graduate student researcher	14,000
Fringe Benefit costs on salaries at 25%	<u>17,500</u>
Total Salaries and Fringe Benefits	\$87,500
Materials and Supplies	\$15,000
Travel Expenses	10,000
Equipment	15,000
Graduate student tuition remission	<u>12,000</u>
Total Direct Costs	\$139,500
F&A Costs (.50 x \$112,500)	<u>\$56,250</u>
Total Project Costs	\$195,750

It is clear from the illustration that the total cost of this project consists of direct costs of \$139,500 and F&A costs of \$56,250. The institution’s negotiated F&A rate of 50% is applied to MTDC of \$112,500 - which is the total direct costs of \$139,500 minus equipment cost of \$15,000 and tuition remission of \$12,000 - to arrive at F&A costs to be charged to the project.

Note that the \$56,250 of F&A costs represents about 29% of total project costs. This should correct a common misconception that an F&A rate of 50% means that half of the grant amount goes towards indirect costs. In fact the negotiated university F&A rates are generally considered not only reasonable, but have been constant during the decade from

1990 – 2000. Data compiled by the federal agencies themselves reveal that the percentage of total funds awarded to universities for F&A costs is approximately 30% of total funds awarded. According to a 1996 study conducted by The RAND Corporation for the Government-University-Industry Roundtable, federal research laboratories spent 33% of total award funds on F&A costs, while industry performers spent 36% on F&A costs.

## SUMMARY

**It must be remembered that payments of F&A costs made by the project sponsor represent partial recovery of costs already incurred by the institution in support of research.** This case illustrates the fact that the universities spend significant resources prior to receiving research awards, and demonstrates the broad scope of support services needed for the management of a federally funded research project. Through the services paid for by F&A cost reimbursement, institutions help their faculty to manage their projects as efficiently and effectively as possible. Therefore, the effective recovery of F&A costs is vital to the institution's ability to provide a suitable research environment for its researchers. In addition to funding the ongoing institutional support costs for individual projects, the dollars recovered through F&A cost reimbursement replenish the capital costs associated with renovating facilities and equipping research projects at the outset, and provide a source of funds for other new investigators.

This case study can do no more than provide a general view of the F&A cost system. The system is dynamic, and changes with many developments, such as the number of new governmental laws and regulations that are enacted by Congress, the Executive Branch, and state and local governments. Overall, the outlook is uncertain. On one hand, the increased funding for biomedical research has raised direct as well as indirect project support funds. On the other hand, additional federal policy and regulatory directives increase the pressure on F&A recovery. The continued cap on administrative costs challenges universities' ability to comply with issues such as research integrity, research data disclosure and retention, protection of human subjects, animal welfare, individual and institutional conflicts of interest, security of dangerous biological materials, as well as changing financial compliance requirements. The continued pressure on universities to cost share on federally funded projects represents a form of cost shifting which must be weighted carefully, because it threatens to deplete university resources that are urgently needed, and intended for other educational purposes.