Mastering Research Administration

A Complete Guide to the CRA®, CPRA®, and CFRA® Exams

Farin Kamangar, MD, PhD, CRA

University Distinguished Professor Associate Vice President for Research Morgan State University Baltimore, MD, USA

Lulu Jiang, PhD

Program Administrator
National Transportation/SMARTER Centers
Morgan State University
Baltimore, MD, USA

Rebecca Steiner, CRA

Grants Manager
Office of Research Administration
Morgan State University
Baltimore, MD, USA

Published: August 18, 2025

Disclaimer:

- These multiple-choice questions and the accompanying text were originally developed in 2022 and were reviewed and updated in August 2025. Grant policies, rules, and regulations may change over time. Please consult official sources for the most current information.
- While it is generally considered best practice to avoid negative phrasing and answer choices such as "all of the above" or "none of the above" in standardized multiplechoice questions, these materials were created for training purposes. In some instances, we have intentionally used such formats.

Correspondence to: farin.kamangar@morgan.edu

© 2025 Farin Kamangar. All rights reserved.

This material may not be reproduced, distributed, or sold without permission from the author.

Published: August 18, 2025

CHAPTER 1

Facilities and Administrative (F&A) Costs

Table of Contents

1.1. Introduction	4
1.2. Components of F&A Costs	4
1.3. Negotiating F&A Rates	4
1.4. F&A Rate Negotiation Methods	5
1.5. Methods of Assigning F&A Costs	5
1.6. The MTDC Method	5
1.7. Rates	6
1.8. Special Cases and Exceptions	7
1.9. Average F&A	8
1.10. Spending Reimbursed F&A	8
1.11. Summary	9
1.12. Practice Questions	10
1.13. Answers to Practice Questions	24
Annendix I	34

1.1. Introduction

Facilities and Administrative (F&A) costs—also known as **overhead** or **indirect costs**—are the real and necessary expenses that research institutions incur to conduct research, but which cannot be easily attributed to any single grant or project. These costs help keep the institution's research infrastructure running, supporting all projects collectively.

1.2. Components of F&A Costs

F&A costs are typically divided into two broad categories:

- 1. **Facilities** Costs related to the physical and technical infrastructure that supports research, such as building mortgage interest, building depreciation, library expenses, utilities, and maintenance.
- Administrative Costs associated with the administrative and management functions that support research. These costs may include those associated with central offices of research administration; portions of the salaries for the president, deans, department chairs, and departmental staff engaged in grant administration; compliance offices; and reporting systems.

1.3. Negotiating F&A Rates

To charge the correct amount of F&A to grants, every four years, the research institutions negotiate their F&A rates with the federal government. They calculate their research-related F&A costs and summarize them in standard forms – either a "long form" or a "short form" – issued by the Office of Management and Budget (OMB).

Negotiations are made with the **cognizant agency for indirect costs**, which is typically either:

- The Department of Health and Human Services (DHHS), or
- The Office of Naval Research (ONR)

The cognizant agency is determined by whichever one of these agencies provides the largest amount of grant funding to the institution.

F&A Costs 4 of 38

1.4. F&A Rate Negotiation Methods

Fixed: A fixed rate is established for a set period and is subject to adjustment after the period ends based on actual costs. This allows for over- or under-recovery to be reconciled

Predetermined: The rate is fixed and not subject to adjustment. Typically used when the federal government and the institution agree that the rate will not change, regardless of actual costs incurred.

Provisional: A temporary rate is used until a final rate is negotiated. Reconciled later with actual costs but not intended to lock in a rate for a full period.

Final: A rate based on actual costs for a completed period and not subject to adjustment.

The most common method of establishing these rates is **predetermined negotiation**, in which a fixed rate is agreed upon for a set period without later adjustments.

1.5. Methods of Assigning F&A Costs

There are three main methods to allocate F&A costs to grants:

- 1. Modified Total Direct Costs (MTDC) The most common method, MTDC calculates F&A on most direct costs with exclusions often including equipment and participant supports costs. Exclusions will be dictated by the funding agency or the funding announcement and should be closely monitored. MTDC is mandated on federal funding for institutions receiving over \$10 million annually in federal grants.
- 2. Total Direct Costs (TDC) Calculates F&A on all direct costs without exclusions.
- 3. **Salaries and Wages (S&W)** Bases the calculation solely on salary and wage expenditures.

1.6. The MTDC Method

Under MTDC, certain expenses are excluded from the base before calculating F&A costs. The funding announcement will clearly list or link to an agency specific listing of the specific exclusions. Below is the most common definition of MTDC.

F&A Costs 5 of 38

Items that Receive F&A under MTDC

- Salaries and wages
- Fringe benefits
- Travel
- Supplies and materials
- Services and contractual costs
- Subawards (first \$50,000 only)*

*Note that this increased from \$25,000 to \$50,000 for most institutions with the Uniform Guidance changes of 2024. However, F&A rates are negotiated for a set duration of time, and some institution's negotiated F&A rate Subaward determinations remain at \$25,000 until the end of the current negotiated period.

Items Excluded from F&A under MTDC

- Equipment purchases
- Construction and renovation
- Participant support costs
- Stipends and scholarships
- Tuition reimbursement
- Subaward amounts exceeding \$50,000*
- Off-campus rental facilities
- Patient care costs

The sum of dollar amount items that do receive F&A under this model is called MTDC. For example, if a project includes salaries and wages (\$200,000), fringe benefits (\$50,000), equipment (\$40,000), and participants support costs (36,000), only salaries and wages and fringe benefits are considered as part of MTDC. Therefore, MTDC will be \$250,000.

1.7. Rates

After negotiations with the cognizant agency, an F&A rate agreement specifying the exact rates and for which fiscal years will be signed by the Director of Cost Allocation Services (or designee). Please see **Appendix I** of this chapter, for an example.

F&A Costs 6 of 38

The rates are specified in Section I of the F&A agreement letter. The rates vary by the type of activity, and whether the activity is conducted on campus or off campus.

- On-Campus, Research: Includes administrative and full facilities rates. Typically 50% to 60%.
- On-Campus, Other Sponsored Activity. Includes administrative rates and partial facilities rates. Typically around 35% to 45%.
- Off-Campus (Research or Other Activities): Includes only administrative rate. Typically 26%.

Note: The Administrative component for institutes of higher education has been **capped** at 26% by federal regulation since 1991, but the Facilities rate varies depending on the institution's circumstances. This cap does not necessarily apply to other types of institutions.

1.8. Special Cases and Exceptions

By statute, or by agency regulation, some applicable F&A rate differs from the negotiated rates. Some exceptions are shown in the table below.

Situation	Applicable Rate	Base
NIH Training Grants	8%	MTDC
Foreign Grants	8%	MTDC
NIH Conference Grants	0%	N/A
NIH Individual Fellowships	0%	N/A
USDA/NIFA Grants	Up to 30% of total costs (≈43% of direct costs)	TDC or direct cost equivalent

F&A Costs 7 of 38

Foundations, State, or Local Governments	May use other rates, depending on their policy	Variable
No Negotiated Rate	15% (de minimis), starting 2024	MTDC

Some institutions may not have a negotiated rate. In that case, they can use a *de minimis* rate, which increased to 15% in 2024 and is applied to MTDC. Previously, this rate was 10%.

1.9. Average F&A

While some rates, particularly off-campus rates can be as high as 60%, it has to be noted that, on average, close to 25% of the total federal funds are spent on F&A. For example, in FY2023, the National Institutes of Health (NIH) provided approximately \$35B of external awards, of which \$9B (26%) was F&A.

This is because: 1) F&A is applied to MTDC only (not all expenses); 2) there are off-campus rates; and 3) there are many exceptions, such as exceptions for training grants, which receive only 8% F&A.

1.10. Spending Reimbursed F&A

The research institution spends the F&A costs for administration and facilities and is later **reimbursed** for those costs. Therefore, F&A is not a gift or additional money. It is solely a reimbursement.

Given that F&A recovery is a reimbursement, the institution is permitted to spend the funds as it pleases, as long as the expenses are allowable. This is comparable to dental insurance. A person may pay the dentist out of pocket and then be reimbursed – fully or partially – by the insurance. The reimbursed funds do not have to be used for dental health; they can be used for anything, including buying tickets to a movie theater.

F&A Costs 8 of 38

1.11. Summary

F&A costs – such as costs related to library and departmental administration of research – are a critical component of research funding, ensuring that institutions can maintain the facilities and administrative support necessary for high-quality research.

Understanding how rates are negotiated, which items are included or excluded under MTDC, and the exceptions for certain funding mechanisms are essential for effective grant budgeting and compliance.

F&A Costs 9 of 38

1.12. Practice Questions

- 1. What are some other names for facilities and administrative costs?
 - a. Overhead, direct costs
 - b. Overhead, indirect costs
 - c. Indirect costs, sponsored costs
 - d. Sponsored costs, direct costs
- 2. Which of the following is typically charged to facilities and administrative (F&A) costs?
 - a. Salary for the project key personnel
 - b. Supplies for the project
 - c. Library books and subscriptions for research
 - d. Stipend for undergraduate students
- 3. Which of the following is typically charged to direct costs?
 - a. Stipends for postdocs
 - b. Building depreciation
 - c. Departmental grant administration
 - d. Interest on building mortgages
- 4. Which of the following may NOT be considered as part of F&A costs for a building used for research?
 - a. Building depreciation
 - b. Mortgage interest
 - c. Mortgage principal
 - d. Utilities for the building
- 5. NIH provides F&A for _____ grants.
 - a. Conference
 - b. Kirschstein-NRSA individual fellowships
 - c. Research
 - d. Construction

F&A Costs 10 of 38

- Since 1991, the administrative costs of F&A have been capped at:
 a. 16%
 b. 21%
 - c. 26%
 - d. 31%
- 7. Which of the following bases may be used for F&A calculation?
 - a. Total direct costs
 - b. Modified total direct costs
 - c. Salaries and wages
 - d. Any of the above
- 8. For federally funded research grants, F&A costs are typically applied to:
 - a. Total project costs
 - b. Total direct costs
 - c. Modified total direct costs
 - d. Salaries of key personnel, supplies, and stipends
- 9. Which of the following is correct?
 - a. Total costs > Total direct costs > Modified total direct costs
 - b. Total costs > Modified total direct costs > Total direct costs
 - c. Modified total direct costs > Total direct costs > Total costs
 - d. Total direct costs > Total costs > Modified total direct costs
- 10. Which of the following receives F&A costs on federally funded grants under the MTDC model?
 - a. Equipment
 - b. Renovations
 - c. Participant support costs
 - d. Supplies
- 11. Which of the following receives F&A costs on federally funded grants under the MTDC model?
 - a. Travel for senior investigators
 - b. Patient care costs
 - c. Capital expenditures
 - d. Subawards beyond the first \$50,000

F&A Costs 11 of 38

- 12. Which of the following receives F&A costs on federally funded grants under the MTDC model?
 - a. Rental costs of off-site facilities
 - b. Scholarships for participant support
 - c. Student tuition remission
 - d. Subawards up to \$50,000
- 13. Which of the following is NOT an allowable cost for F&A rate negotiations?
 - a. General administration, such as costs associated with the Vice President for Research
 - b. Commencement costs
 - c. Depreciation costs
 - d. Interest on debts associated with buildings
- 14. Which of the following may be an allowable cost for F&A rate negotiations?
 - a. Alcoholic beverages
 - b. Lobbying
 - c. Alumni activities
 - d. Society memberships
- 15. F&A rate for on campus research for University X is 50%. University X applies for a research grant that will be done on campus, with a total direct cost of \$800,000 and modified total direct costs of \$500,000. However, University X receives only \$100,000 of F&A costs for this project. Under recovery of F&A for this project is:
 - a. \$150,000
 - b. \$250,000
 - c. \$300,000
 - d. \$400,000
- 16. University X receives a 3-year NIH grant that starts in FY2022. Notices of award come in every year. F&A rates included in the proposal were those that were negotiated in FY2019. In FY2023, University re-negotiated F&A rates, because of which the rates will increase. What happens to the F&A rate for this grant?
 - a. It remains constant throughout the 3-year period.
 - b. It will increase in FY2023.
 - c. It will remain unchanged in FY2023 but will increase in FY2024.

d. It depends on the policy of University X.

F&A Costs 12 of 38

- 17. In the example above, after the 3-year period, University X applies for competitive renewal of the grant, to begin in FY2025. What F&A rate should be used?
 - a. The same rate as in FY2022, when the initial grant was awarded.
 - b. The new rate that was approved in FY2023.
 - c. A weighted average of the FY2022 and FY2023 rate.
 - d. It depends on University X's policy.
- 18. Negotiated F&A rates for a university change in the middle of a grant. The university later receives a supplement to this grant, after the rates change. Which F&A rate will the supplement use?
 - a. It depends on the university policy.
 - b. It depends on the state in which the university resides.
 - c. The F&A rate of the original grant.
 - d. The new F&A rate, except for NSF which usually uses the original rate.
- 19. The negotiated rates for FY2024, FY2025, and FY2026 of University U are 50%, 50%, and 52%, respectively. The university fiscal year starts on July 1 of each year. The first year of a certain grant starts on May 1, 2025. What rate does University U use for this grant for its first year?
 - a. 50%, because the appropriate rate is the one when the grant starts.
 - b. 52%, because most of the Year 1 period will be in FY2025.
 - c. A simple average of the two rates (51%).
 - d. A weighted average of the two rates, with weights based on length of time in each period (51.6%)
- 20. Cost principles for development of F&A rates for institutes of higher education is included in:
 - a. 2 CFR 200, Appendix I
 - b. 2 CFR 200, Appendix III
 - c. FAR, Part 31, Subpart 31.2
 - d. FAR, Part 34, Subpart 34.2
- 21. Which of the following describes an F&A negotiation method that establishes a rate for a period with no carry-forward provision?
 - a. Predetermined
 - b. Fixed

F&A Costs 13 of 38

C.	Provisional
d.	Final
22. Which	of the following describes an F&A negotiation method that establishes a
rate for	r a period, but allows for over- or under-recovery?
a.	Predetermined
b.	Fixed
C.	Provisional

23. Which of the following describes an F&A negotiation method to come up with a temporary rate, until all calculations are done?

a. Predetermined

b. Fixed

d. Final

c. Provisional

d. Final

24. What is the most common type of rate negotiation?

a. Predetermined rates

b. Fixed rates with carry forward

c. Provisional rates

d. Negotiated lump sum for F&A costs

25. Beginning in 2024, institutions that do not have an F&A rate agreement with the federal government can use a *de minimis* rate of:

a. 8%

b. 12%

c. 15%

d. 26%

26. Negotiated F&A rates apply to:

a. Grants

b. Cooperative agreements

c. Cost-reimbursable contracts

d. All of the above

F&A Costs 14 of 38

- 27. What is the cap on F&A rate for USDA/NIFA grants?
 - a. 10% of total costs
 - b. 30% of modified total direct costs
 - c. 10% of total costs
 - d. 30% of total costs
- 28. A university has a negotiated indirect cost rate of 55% for on-campus research. The university applies for a USDA/NIFA research grant that will be done on campus. All items on the grant budget receive indirect costs. The F&A rate will be approximately:
 - a. 17%
 - b. 30%
 - c. 43%
 - d. 55%
- 29. A university has a negotiated indirect cost rate of 60% for on-campus research. The university applies for a USDA/NIFA research grant that will be done on campus. The requested items are salaries and fringe benefits (\$500,000), supplies (\$100,000), and a piece of equipment (\$100,000). How much is in the maximum F&A dollars that can be requested?
 - a. \$260,000
 - b. \$300,000
 - c. \$360,000
 - d. \$420,000
- 30. A university has a negotiated indirect cost rate of 50% for on-campus research. The university applies for a USDA/NIFA research grant that will be done on campus. The requested items are salaries and fringe benefits (\$400,000), supplies (\$100,000), and a piece of equipment (\$200,000). How much is in the maximum F&A dollars that can be requested?
 - a. \$250,000
 - b. \$300,000
 - c. \$350,000
 - d. \$400,000

F&A Costs 15 of 38

- 31. A federal grant is given to a university via a state agency as a pass-through entity. The F&A rate on this grant should be:
 - a. Zero
 - b. 10%
 - c. The usual rate that the state gives to universities
 - d. The federally negotiated rate
- 32. An institution had predetermined rates for F&A costs, which are in effect from 2020 to 2024. The period ended but for various reasons the institution did not have time to collect the data to renegotiate the rates with DHHS. What happens after 2024? The institution will:
 - a. Receive no indirect costs for its research until the negotiations are done.
 - b. Have to use a *de minimis* rate of 10%.
 - c. Have the chance to request a one-time extension of the previous rates, up to 4 years.
 - d. Be able to increase its rates, but no more than 5%, for a total of 4 years.
- 33. An institution receives full (capped) administrative F&A costs for federal grants. This institution submits a grant application with a total direct cost of \$300,000 and a modified total direct cost of \$200,000. The project is considered off-campus, and hence does not receive any facilities costs. How much will the F&A costs be?
 - a. \$52,000
 - b. \$78,000
 - c. \$94,000
 - d. \$109.000
- 34. An institution has an F&A cost rate of 60%. The institution submits a federal grant that includes the following: a) salaries and fringe benefits: \$200,000; b) equipment: \$50,0000; c) renovations: \$100,000; and c) supplies: \$50,000. How much is the requested F&A costs?
 - a. \$50,000
 - b. \$60,000
 - c. \$150,000
 - d. \$240,000

F&A Costs 16 of 38

- 35. An institution has a fringe benefit rate of 25% and an indirect costs rate of 50%. The institution submits a grant for a total amount of \$250,000 that includes salaries and fringe benefits, supplies, and equipment. Assuming that the direct cost of supplies is \$50,000 and the direct cost of the equipment is \$25,000, how much has been allotted to salaries and fringe benefits, respectively?
 - a. \$75,000, \$25,000
 - b. \$80,000, \$20,000
 - c. \$100,000, \$20,000
 - d. \$100,000, \$25,000
- 36. The total amount charged to a grant is capped at \$200,000. University A has an F&A cost rate of 60% and uses the funds for salaries and fringe (\$25,000), supplies (\$25,000), equipment (\$25,000), and a subaward to University B, which also has an F&A cost rate of 60%. University B uses all the funds for salaries and fringe, supplies, and travel. Up to what dollar amount can University B use for its direct costs?
 - a. \$30.125
 - b. \$40,625
 - c. \$50,500
 - d. \$60,325
- 37. A PI decides to reallocate \$20,000 given to him by the NSF for equipment purchase because a new PI has moved to the next lab and has allowed him to use their equipment, which can generate the required results. The PI uses the \$20,000 to provide more funds for participant support costs, a cost allowable under the award. How does this transfer change availability of funds for items other than equipment and participant costs? (the indirect cost rate is 60%).
 - a. Does not change the rest
 - b. Increases the rest by \$12,000
 - c. Decreases the rest by \$12,000
 - d. Decreases the rest by \$6,000
- 38. A university submits a proposal to the NSF to acquire a piece of equipment worth \$1,000,000. The on-campus research, on-campus other sponsored activities, and off-campus F&A rates are 50%, 40%, and 26%, respectively. How much F&A should be added to this proposal request?

F&A Costs 17 of 38

- a. \$0
- b. \$260,000
- c. \$400,000
- d. \$500,000
- 39. F&A cost reimbursements to an institution may be used for:
 - a. Library costs, administrative costs.
 - b. Administrative costs, renovation of facilities.
 - c. Library costs, administrative costs, and upkeep of equipment.
 - d. Any item that the institution deems necessary and is allowable under its policies.

40. F&A costs:

- a. Remain constant over time for each institution.
- b. Are usually applied to total direct costs.
- c. Are negotiated with the federal government every few years.
- d. Remain unchanged when an award is transferred to a different institution.
- 41. When using pre-determined rates, the rates usually change on:
 - a. January 1 of each year.
 - b. July 1 of each year.
 - c. October 1 of each year (the new federal government fiscal year).
 - d. The day of the new fiscal year of the non-federal entity (NFE).
- 42. Which two agencies act as cognizant agencies on behalf of the federal government to negotiate Facilities and Administrative (F&A) Costs with universities?
 - a. Department of Defense (DoD), Department of Transportation (DOT)
 - b. Office of Naval Research (ONR), Department of Health and Human Services (DHHS)
 - c. Department of Health and Human Services (DHHS), Department of Transportation (DOT)
 - d. Air Force (AF), Office of Naval Research (ONR)

F&A Costs 18 of 38

43. Which	of the following is the cognizant agency for all Indian tribal governments?
a.	Department of Health and Human Services (DHHS)
b.	Department of Interior (DoI)
C.	Department of Education (DoEd)
d.	Office of Naval Research (ONR)
44. Which	agency becomes the default cognizant agency for a university? The one that
a.	Has larger overall intramural research funding.
b.	Is in closer proximity to the university.
C.	Provides the largest amount of funding to that university.
d.	Has traditionally offered the highest rate.
45. Who s	signs the DHHS-approved negotiated F&A rates?
a.	The Director of the National Institutes of Health
b.	The Director of the Cost Allocation Services
C.	The Assistant Secretary for Administration
d.	The Secretary of Health and Human Services
46. In DH	HS F&A rate agreements, F&A rates are included in of the agreements.
a.	Cover letter
b.	Section I
C.	Section II
d.	Section III
47. In DH	HS F&A rate agreements, Special Remarks are included in of the
agree	ments.
a.	Cover letter
b.	Section I
C.	Section II
d.	Section III
48. F&A c	cost rates for NIH-supported training grants are:
a.	8% of total direct costs
b.	8% of modified total direct costs
C.	26% of total direct costs

F&A Costs 19 of 38

d. 26% of modified total direct costs

- 49. F&A cost rate for the NIH K awards are:
 - a. 8% of total direct costs
 - b. 8% of modified total direct costs
 - c. 26% of total direct costs
 - d. 26% of modified indirect costs
- 50. Which recipients may charge full F&A rate for NIH K awards?
 - a. R1 universities
 - b. R2 universities
 - c. HBCUs
 - d. State agencies
- 51. F&A cost rate for US Department of Agriculture (USDA) research grants is no more than:
 - a. 18% of total direct costs
 - b. 18% of modified total direct costs
 - c. 43% of total direct costs
 - d. 43% of modified total direct costs
- 52. Off-campus rates are applied typically when:
 - a. The PI is asking for a lower rate, such that the project has more funds.
 - b. More than 50% of the work is done outside facilities belonging to the institution.
 - c. More than 50% of the work is done in facilities belonging to the institution, but outside the main campus.
 - d. The research does not require sophisticated lab equipment.
- 53. F&A cost reimbursements:
 - a. Are considered a bonus given to the institution for research contributions they are doing on behalf of the society.
 - b. Are paid to the institution for legitimate research-related costs that have already incurred.
 - c. Must be directly sent to the department where research occurred.
 - d. Must be spent only on certain items that are used for F&A cost calculations.

F&A Costs 20 of 38

- 54. Cost sharing on federal grants:
 - a. Reduces F&A rates
 - b. Increases F&A rates
 - c. Has no bearing on F&A rates
 - d. Will affect the F&A rate in unpredictable ways.
- 55. Let the dollar amount of allowable F&A costs, overall modified total direct costs, and costs share amount portion of modified direct costs be F, M, and C, respectively. The formula for F&A rate is:
 - a. F÷M
 - b. $F \div (M+C)$
 - c. $F \div (M-C)$
 - d. $(F+C) \div M$
- 56. Which of the following usually does NOT have indirect costs on federal grants?
 - a. Travel
 - b. Contractual payments to employees
 - c. Subcontracts to other institutions beyond \$50,000
 - d. Consultancy fees
- 57. University X has a total modified direct research cost of \$200 million. The University spends \$60 million for administrative costs and another \$60 million for facilities costs for research. What is the indirect cost rate?
 - a. 48%
 - b. 52%
 - c. 56%
 - d. 60%
- 58. What is the threshold of annual federal funds given to an institution for using the Simplified Method (short form) for negotiating F&A costs?
 - a. \$5 million
 - b. \$10 million
 - c. \$20 million
 - d \$50 million

F&A Costs 21 of 38

- 59. What is the F&A rate for grants given to foreign universities using NIH-funded grants?
 - a. The federally negotiated rates
 - b. 10% of total direct costs
 - c. 10% of modified total direct costs
 - d. 8% of modified total direct costs
- 60. Waiver or reduction of F&A costs:
 - a. Is never justified.
 - b. May be justified if the seed grant money is likely to bring in more funds.
 - c. May be allowable when receiving funds from a for-profit entity.
 - d. Is allowable only with permission from the federal cognizant agency.
- 61. Waiver or reduction of F&A costs may be justified under which of the following circumstances? When the institution:
 - a. Is committed to help junior faculty with grants that may not have F&A costs.
 - b. Believes establishing a strategic partnership is important, even with reduced or waived F&A costs.
 - c. When the grant may bring in money for students who are in need of funds.
 - d. All of the above.
- 62. Changes to Uniform Guidance allow for a change in the level of capitalization (from \$5,000 to \$10,000). Universities receiving grants:
 - a. Can immediately change the F&A charged to existing grants.
 - b. Can immediately change the level in their grant proposals.
 - c. Can change the rate after the university changes their level of capitalization as well.
 - d. Need to wait for the next F&A rate negotiation.
- 63. Which of the following sets forth the accounting practices to distinguish direct costs from F&A costs?
 - a. SF-424A
 - b. SF-424B
 - c. DS-2
 - d. SF-42

F&A Costs 22 of 38

- 64. Which of the following sets forth the accounting practices to distinguish direct costs from F&A costs?
 - a. R1 Universities, by law, receive the highest F&A rates.
 - b. R2 Universities will receive a minimum of 48% F&A for on-campus research.
 - c. F&A rates are always higher for on-campus than off-campus research.
 - d. F&A rates always increase with inflation over time.
- 65. The 26% cap on administrative rate part of F&A rate applies to:
 - a. Institutions of higher education (IHEs)
 - b. Independent research institutions
 - c. Hospitals
 - d. All of the above
- 66. Assume that the average on-campus research F&A rate of universities is 55%. This means that:
 - a. F&A is 55% of total proposal cost.
 - b. F&A (overhead) is 55% of total direct costs.
 - c. Universities substantially benefit from research grants.
 - d. None of the above.

F&A Costs 23 of 38

1.13. Answers to Practice Questions

1. B

- 2. C Library costs attributed to research are often charged to the facilities part of F&A. It is difficult to know if a certain journal is used for one single research project. Therefore, library costs are charged for all projects together, hence to F&A.
- 3. A Stipends are paid from a single project, hence they are charged to direct costs. The other items are charged to F&A.

Item Cost Type		Why	
Building depreciation	Indirect (F&A)	Not tied to a single project; part of facilities cost recovery	
Departmental administration	Indirect (F&A)	General admin support is not unique to one project; part of administrative recovery	
Interest on building Indirect (F&A) mortgages		Buildings are not for a single project. Therefore, financing costs (including interest) to acquire or to construct buildings are charged to the facilities portion of F&A.	

4. C Mortgage principal – NOT allowable as part of F&A costs. The repayment of loan principal is considered a capital expense, not an allowable cost for reimbursement through F&A rates. Allowable F&A Costs for a Research Building:

ltem	Allowable in F&A?	Explanation	
Building depreciation Yes		Recoverable over the building's useful life	

F&A Costs 24 of 38

Mortgage interest	Yes (with restrictions)	May be allowable if incurred after Jan 1, 1981 and properly documented.
Utilities	Yes	Necessary operating cost and often included in the facilities component of the F&A rate

5. C NIH does not pay F&A for certain types of grants, including conference grants, construction grants, or individual fellowship grants.

6. C

- 7. D Any of these methods may be used. However, if the research institution spends over \$10 million of federal awards per year, only MTDC can be used with federal funding.
- 8. C Given that most grants are given to universities or research institutions with over \$10 million expenditure per year, the large majority use the MTDC method.
- 9. A Total Costs = Total Direct Costs + F&A Costs, therefore total costs is larger than total direct costs. Total direct costs is divided into two groups: those that receive F&A (MTDC) and those that do not receive F&A. Therefore, total direct costs is larger than MTDC.

10. D

11. A

12. D

13. B

Cost Item	Allowable for F&A Negotiations?
General administration (e.g., Office of the Vice President)	Allowable under Administrative category

F&A Costs 25 of 38

Commencement costs	NOT Allowable – considered unrelated to research or sponsored programs.
Depreciation costs	Allowable – under Facilities category
Interest on debts associated with buildings	Allowable, if the building is used for research and meets federal guidelines.

14. D In the context of Facilities & Administrative (F&A) rate negotiations, only certain types of indirect costs are allowable under OMB Uniform Guidance (<u>2 CFR §200</u>). Let's review each option:

Cost Item	Allowable?	Reference	
Alcoholic beverages	Not allowable	Explicitly unallowable under Uniform Guidance (§200.423)	
Lobbying	Not allowable	Prohibited under §200.450	
Alumni activities	Not allowable	Unrelated to sponsored projects (§200.424)	
Society memberships	Allowable (in some cases)	If related to the performance of a federal award (§200.454)	

15. A Under recovery of F&A means how much the university received less than it should have received.

In this case, the university should have received 50% of the MTDC, or $0.5 \times \$500,000 = \$250,000$. Instead, the university received only \$100,000. Therefore, under recovery is \$150,000.

F&A Costs 26 of 38

16. A For federal grants like NIH awards, the F&A rate applied to a grant typically remains the rate negotiated and in effect at the time the grant is awarded (FY2022 in this case), even if the negotiated rates increase in later years.

Annual notices of award confirm funding but generally do not change as a result of new negotiated rates.

Any new grants, new supplements, or competing continuation grants starting after the original period may use the newly negotiated rates.

17. B

18. D When a supplement to an existing grant is awarded after the negotiated F&A rates have changed, generally the new F&A rate applies to the supplement. The exception is the National Science Foundation (NSF), which typically applies the original grant's F&A rate for supplements.

19. A

- 20. B <u>2 CFR 200</u>, also known as Uniform Guidance, summarizes rules and regulations for federal awards. The full name is the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. Uniform Guidance has several appendices, including Appendix III, which is entitled "Indirect (F&A) Costs Identification and Assignment, and Rate Determination for Institutions of Higher Education (IHEs)".
- 21. A Predetermined rates are not subject to adjustment for under- or over-recovery, regardless of actual costs incurred.
- 22. B Fixed rates are established for a set period and subject to adjustment after the period ends based on actual costs, allowing for over- or under-recovery to be reconciled.

23. C

24. A

F&A Costs 27 of 38

- 25. C Under the Uniform Guidance, institutions that do not have a negotiated F&A rate agreement with the federal government may elect to charge a *de minimis* rate of 15% of Modified Total Direct Costs (MTDC). A *de minimis* rate of 15% started in 2024. Prior to that, this rate was 10%.
- 26 D
- 27. D
- 28. C For USDA/NIFA grants, the maximum F&A is capped at 30% of total cost. That means if the total cost is \$100, F&A will be at most \$30 and direct costs will be \$70. Given that all items receive F&A, direct costs = MTDC.

Max F&A rate = F&A / MTDC =
$$30 / 70 \approx 0.43 = 43\%$$

Therefore, while the negotiated rate is 55%, the university can charge only 43%. For USDA/NIFA grants, the LESSER will of the MTDC method and 30% of total is the final rate.

29. B The lesser of the MTDC or 30% of total will be the correct number. 30% of total means $\frac{3}{7}$ of direct.

MTDC:

MTDC base = \$500,000 (salaries and fringe) + \$100,000 (supplies) = \$600,000

$$F&A = 60\% \times $600,000 = $360,000$$

30% of total (or 3 seventh of direct):

Given that the direct is \$700,000, $^{3}/_{7}$ of direct is $^{3}/_{7} \times $700,000 = $300,000$.

The lesser of the two is \$300,000.

30. A The lesser of the MTDC or 30% of total will be the correct number. 30% of total means $\frac{3}{7}$ of direct.

F&A Costs 28 of 38

MTDC:

MTDC base =
$$$400,000$$
 (salaries and fringe) + $$100,000$ (supplies) = $$500,000$
F&A = $50\% \times $500,000 = $250,000$

30% of total (or $^3/_7$ of direct):

Given that the total direct is \$700,000, $^{3}/_{7}$ of direct is $^{3}/_{7} \times $700,000 = $300,000$.

The lesser of the two is \$250,000.

- 31. D Even though the grant is passed through the university via the state, the federal rate still applies, as the source of the grant is federal.
- 32. C According to <u>2 CFR 200.414(g)</u> and guidance from the Office of Management and Budget (OMB), an institution that has a federally negotiated F&A rate (e.g., with DHHS) may request a one-time extension of its current negotiated rate for up to four years, without additional negotiation.

This extension is:

- Optional (must be requested)
- Allowed only once
- Intended to reduce administrative burden

After the extension, the institution must renegotiate.

33. A The project is off-campus, therefore the F&A rate will include only the administrative element. The university receives a full (capped) administrative rate, which is 26%.

$$F&A = rate \times MTDC = 0.26 \times $200,000 = $52,000$$

F&A Costs 29 of 38

35. B Assume salaries is S. Fringe benefits, which is 25% of salaries, will be $0.25 \times S$.

Total direct costs will be: salaries + fringe + supplies + equipment. Of this, the first three will receive 50% F&A.

Total costs = (salaries + fringe + supplies) \times 1.5 + equipment \rightarrow

$$$250,000 = (S + 0.25 \times S + $50,000) \times 1.5 + $25,000 \rightarrow$$

$$$225,000 = (1.25 \text{ S} + $50,000) \times 1.5 \rightarrow$$

$$$150,000 = 1.5 \times 1.25 \times S \rightarrow$$

$$S = $80,000.$$

Fringe =
$$0.25 \times S = $20,000$$

Note: Even without any calculations, only answers B or D could be correct, because they are the only ones that have a fringe that is 25% (a quarter) of the salary.

36. B Let's first calculate University A's expenses. This university will receive F&A on the first \$50,000 of the subaward.

University A's expenses = (salaries and fringe + supplies)
$$\times$$
 1.6 + \$50,000 \times 0.6 + equipment = (\$25,000 + \$25,000) \times 1.6 + \$30,000 + \$25,000 = \$135,000

Given that the total is \$200,000 and University A will use \$135,000, the remaining \$65,000 will be for University B. Let's call University B's direct costs D.

University B's expenses = D
$$\times$$
 1.6 \rightarrow \$65,000 = D \times 1.6 \rightarrow D = \$40,625

- 37. A Neither equipment, nor participant support costs, receives F&A. Therefore, a shift of funds between these two categories does not change the F&A or availability of total direct funds.
- 38. A Equipment receives no F&A.

F&A Costs 30 of 38

39. D While F&A costs are reimbursed to the university because the university has already paid for building depreciation, library costs, administrative costs, etc., the reimbursed funds can be used for any purpose that are allowable under the university's policies.

This is similar to a situation that a person has a dental insurance. The person may pay the dentist out of pocket and then be reimbursed – fully or partially – by the insurance. The reimbursed funds do not have to be used for dental health; they can be used for anything, including buying tickets to a movie theater.

40. C F&A costs are typically negotiated with federal government every four years. The rates will change when the award is transferred to a new university.

- 41. D
- 42. B
- 43. B
- 44. C
- 45. B
- 46. B Review a copy of a signed F&A rate agreement.
- 47. C Review a copy of a signed F&A rate agreement.
- 48. B
- 49. B
- 50. D "For career awards other than the R00 phase of the K99/R00 and other than State, local, or Indian tribe (or federally recognized Indian tribes), recipients will receive F&A costs at 8 percent of modified total direct costs. State and local agencies, and Indian tribes (or federally recognized Indian tribes) are eligible for full F&A cost reimbursement. For this policy, State universities or hospitals are not considered governmental agencies."

Reference:

https://grants.nih.gov/grants/policy/nihgps/html5/section_12/12.8.4_facilities_and_administrative_costs.htm (last accessed August 16, 2025).

F&A Costs 31 of 38

51. C 52. B 53. B 54. A 55. B This formula shows why cost share reduces rates. 56. C 57. C Facilities rate = \$60M / \$200M = 0.3 = 30%Administrative rate = \$60M / \$200M = 30% (but ···) Please note that the administrative rate is capped at 26%. Therefore, the total F&A rate will be 30% (for facilities) + 26% (for administration) = 56%. 58. B 59. D 60. B 61. D 62. D 63. C On-campus rate is always higher than off-campus rate. Off-campus rates 64. C only include administrative costs, while on-campus rates include both administrative and facilities costs.

F&A Costs 32 of 38

- 65. A §200.414(c)(1) states that the 26% cap on administrative costs applies only to IHEs (Institutions of Higher Education). Nonprofits and hospitals negotiate F&A rates without the administrative cap, though they are still subject to general cost principles (reasonable, allocable, allowable).
- 66. D This means that F&A for on-campus research grants is 55% of the modified total direct costs. Many items, such as equipment, do not receive F&A.

As discussed earlier, some grants are not research, and some are off-campus, therefore they receive lower F&A. Some grants, such as training grants, receive only 8%. And some grants, such equipment grants, receive 0%.

On average, approximately 25% of federal funds are spent on F&A, while 75% are spent on direct costs.

F&A Costs 33 of 38

Appendix I.

Per **1.7. Rates**, an example of a F&A rate agreement:



DEPARTMENT OF HEALTH & HUMAN SERVICES

Program Support Center Financial Management Portfolio Cost Allocation Services

5600 Fishers Lane | Office 08N144 Rockville, MD 20857 EMAIL: CAS-Bethesda@psc.hhs.gov

June 24, 2024

Mr. David LaChina
Executive Vice President, Finance & Administration
Morgan State University
1700 E. Cold Spring Lane
307 Truth Hall
Baltimore, MD 21251-0001

Dear Mr. LaChina:

A copy of the facilities and administrative (F&A) cost Rate Agreement is being faxed to you for your signature. This agreement reflects an understanding reached between your organization and the Division of Cost Allocation concerning the rate(s) that may be used to support your claim for F&A costs and fringe benefits on grants and contracts with the Federal Government.

Please have the agreement signed by an authorized representative of your organization and returned to me, retaining the copy for your files. We will reproduce and distribute the Agreement to the appropriate awarding organizations of the Federal Government for their use.

The Office of Management and Budget (OMB) has requested that we reach an agreement with each institution on the components of the published indirect cost rates. The attached form(s) are provided for that purpose. Please sign the form(s) and return them with the original agreement.

An F&A cost proposal, together with the supporting information, are required to substantiate your claim for indirect costs under grants and contracts awarded by the Federal Government. Therefore, your next indirect cost rate proposal based on actual costs for the fiscal year ending 06/30/25 is due in this office by 12/31/25.

Sincerely,
Darryl W. Mayes Digitally signed by barryl W. Mayes. S Date: 393407.05 0835:19-04/00

Darryl W. Mayes Deputy Director Cost Allocation Services

Enclosures

PLEASE SIGN AND RETURN THE ORIGINAL OF THE RATE AGREEMENT

F&A Costs 34 of 38

COLLEGES AND UNIVERSITIES RATE AGREEMENT

EIN: 52-6002033 ORGANIZATION: Morgan State University 1700 E. Cold Spring Lane Truth Hall 307 Date: 06/24/2024 FILING REF.: The preceding agreement was dated 05/08/2020

Baltimore, MD 21251

The rates approved in this agreement are for use on grants, contracts and other agreements with the Federal Government, subject to the conditions in Section III.

SECTION I: INDIRECT COST RATES

RATE T	YPES: FIXE	FINAL PRO	V. (PROVIS	SIONAL)	PRED. (PREDETERMINED)
	EFFECTIVE PI	ERIOD			
TYPE	FROM	IO	RATE(%)	LOCATION	APPLICABLE TO
PRED.	07/01/2023	06/30/2024	51.00	On-Campus	Organized Research
PRED.	07/01/2024	06/30/2025	53.00	On-Campus	Organized Research
PRED.	07/01/2024	06/30/2026	54.00	On-Campus	Organized Research
PRED.	07/01/2023	06/30/2024	62,00	On-Campus	Instruction
PRED.	07/01/2024	06/30/2026	64.00	On-Campus	Instruction
PRED.	07/01/2023	06/30/2024	38.00	On-Campus	Other Sponsored Activity
PRED.	07/01/2024	06/30/2026	42.00	On-Campus	Other Sponsored Activity
PRED.	07/01/2023	06/30/2026	26.00	Off-Campus	All Programs
PROV.	07/01/2026	Until Amended			Use same rates and conditions as those cited for fiscal year ending June 30, 2026.

*BASE

Modified total direct costs, consisting of all salaries and wages, fringe benefits, materials, supplies, services, travel and subgrants and subcontracts up to the first \$25,000 of each subgrant or subcontract (regardless of the period covered by the subgrant or subcontract). Modified total direct costs shall exclude equipment, capital expenditures, charges for patient care, student tuition remission, rental costs of off-site facilities, scholarships, and fellowships as well as the portion of each subgrant and subcontract in excess of \$25,000.

Page 1 of 3 U64626

F&A Costs 35 of 38

ORGANIZATION: Morgan State University
AGREEMENT DATE: 06/24/2024

SECTION II: SPECIAL REMARKS

TREATMENT OF FRINGE BENEFITS:

The fringe benefits are specifically identified to each employee and are charged individually as direct costs. The directly claimed fringe benefits are listed below.

TREATMENT OF PAID ABSENCES:

Vacation, holiday, sick leave pay and other paid absences are included in salaries and wages and are claimed on grants, contracts and other agreements as part of the normal cost for salaries and wages. Separate claims are not made for the cost of these paid absences.

OFF-CAMPUS DEFINITION: For all activities performed in facilities not owned by the institution and to which rent is directly allowed to the project(s) the off-campus rate will apply. Grants or contracts will not be subject to more than one F&A cost rate. If more than 50% of a project is performed off-campus, the off-campus rate will apply to the entire project.

Fringe Benefits include: FICA/Medicare, Retirement, Tuition Remission, TIAA/CREF, Workers' Compensation, Unemployement Insurance, and Health Insurance.

The next indirect cost proposal based on actual costs for the fiscal year ending 06/30/2024 is due in our office by 12/31/2024.

Equipment means tangible personal property (including information technology systems) having a useful life of more than one year and a per-unit acquisition cost which equals or exceeds the lesser of the capitalization level established by the non-Federal entity for financial statement purposes, or \$5,000.

Page 2 of 3

U64626

F&A Costs 36 of 38

ORGANIZATION: Morgan State University AGREEMENT DATE: 06/24/2024

SECTION III: GENERAL

A. LIMITATIONS:

The rates in this Agreement are subject to any statutory or administrative limitations and apply to a given grant, contract or other agreement only to the extent that funds are available. Acceptance of the rates is subject to the following conditions: (1) Only costs incurred by the organization were included in its facilities and administrative cost pools as finally accepted: such costs are legal obligations of the organization and are allowable under the governing cost principles; (2) The same costs that have been treated as facilities and administrative costs are not claimed as direct costs; (3) Similar types of costs have been accorded consistent accounting treatment; and (4) The information provided by the organization which was used to establish the rates is not later found to be materially incomplete or inaccurate by the Federal Government. In such situations the rate(s) would be subject to renegotiation at the discretion of the Federal Government.

B. ACCOUNTING CHANGES:

This Agreement is based on the accounting system purported by the organization to be in effect during the Agreement period. Changes to the method of accounting for costs which affect the amount of reimbursement resulting from the use of this Agreement require prior approval of the authorized representative of the cognizant agency. Such changes include, but are not limited to, changes in the charging of a particular type of cost from facilities and administrative to direct. Failure to obtain approval may result in cost disallowances.

C. FIXED RATES:

If a fixed rate is in this Agreement, it is based on an estimate of the costs for the period covered by the rate. When the actual costs for this period are determined, an adjustment will be made to a rate of a future year(s) to compensate for the difference between the costs used to establish the fixed rate and actual costs.

D. USE BY OTHER FEDERAL AGENCIES:

The rates in this Agreement were approved in accordance with the authority in Title 2 of the Code of Federal Regulations, Part 200 (2 CFR 200), and should be applied to grants, contracts and other agreements covered by 2 CFR 200, subject to any limitations in A above. The organization may provide copies of the Agreement to other Federal Agencies to give them early notification of the Agreement.

E. OTHER:

If any Federal contract, grant or other agreement is reimbursing facilities and administrative costs by a means other than the approved rate(s) in this Agreement, the organization should (I) credit such costs to the affected programs, and (2) apply the approved rate(s) to the appropriate base to identify the proper amount of facilities and administrative costs allocable to these programs,

BY THE INSTITUTION:	ON BEHALF OF THE GO	VERNMENT:
Morgan State University (INSTITUTION) (SIGNATURE)	DEPARTMENT OF HEALTH A (AGENCY) Darryl W. Mayes -S (SIGNATURE)	Digitally signed by Darryl W.
David LaChina (NAME) EVP for Finance and Administration (TITLE) HIGHE	Darryl W. Maves (NAME) Deputy Director, Cost Allo (TITLE) 06/24/2024	cation Services
(DATE)	(DATE) HHS REPRESENTATIVE: TELEPHONE:	Steven Zuraf (301) 492–4855
	Page 3 of 3	U64626

F&A Costs 37 of 38

ON OFF ON OFF ON FV 26 PY 24 - 26 FY 24 - 26 FY 24 - 26 FY 24 - 26 FY 24 - 26 FV 26 PY 26 - 26 FY 24 - 26 FY 24 - 26 FY 25 - 26 FY 25 - 26 950 2.0 2.0 2.0 2.0 2.0 0.3 2.0 2.0 2.0 0.0 0.0 15.6 2.0 2.0 0.0 0.0 0.0 26.0 26.0 26.0 26.0 26.0 26.0 38.0 54.0 26.0 26.0 64.0 26.0 38.0 38.0	Rate: Oky 1, 2029 from Jume 30, 2026 Oky 200 Oky 200 Oky 20	/ Rate:		morgani orace oracesing							
Rate: Overland Research OPF ON OFF ON <	Ratio. Organized Research Instruction Other Sponsored Activity OMPONIENTS: ON ON </th <th>9</th> <th>hru June 30, 2026</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	9	hru June 30, 2026								
OMPONENTS. ON ON ON ON ON OFF ON OFF Introv - Dept/Use Allow 7.8 9.0 9.50 FY 24 - 26 FY 25 - 26 FY 24 - 26 F	Out-Oole/OLE/LIS: OLIV OLE/LIS: OLIV OLIV OLE/LIS: OLIV OLIV OLE/LIS: OLIV OLIV OLE/LIS: OLIV OLIV OLIV OLE/LIS: OLIV OLIV OLIV OLIV OLIV OLIV OLIV OLIV	of Nation	Organiza	ed Research			Instruction		#BO	er Sponsored A	ctivity
nptiov - Déprif Use Allow 7.8 9.0 9.50 7.0 8.0 nnt - Deprif Use Allow 2.5 0.5 0.6 0.2 2.0 2.0 nnt astructure 0.6 0.2 0.3 2.0 2.0 2.0 ns & Maintenance 13.2 16.5 16.8 17.0 21.8 26.0 ns & Maintenance 0.9 0.6 8.0 4.0 26.0 26.0 26.0 native Component 26.0 25.0 26.0 26.0 26.0 26.0 51.0 53.00 54.00 26.0 26.0 26.0 26.0	Trib Depir/Lise Allow 7.8 9.0 9.50 7.0 8.0 2.0 5.0 Int- Depir/Lise Allow 2.5 0.5 0.6 0.2 0.3 2.0 2.0 2.0 1.0 9.8 Intrastructure 0.6 0.2 0.2 0.2 2.0 2.0 0.0 0.2 0.0 0.0 0.2 0.0 </th <th></th> <th>EV 25</th> <th>N 15</th> <th>OFF FY '24 - '26</th> <th>PY 24</th> <th>FY 25 - 26</th> <th>OFF FY 24 - 26</th> <th>ON FY '24</th> <th>FY '25 - '26</th> <th>OFF FY 24 - 26</th>		EV 25	N 15	OFF FY '24 - '26	PY 24	FY 25 - 26	OFF FY 24 - 26	ON FY '24	FY '25 - '26	OFF FY 24 - 26
nt-Depr/Use Allow 2.5 0.5 0.6 2.0 2.0 2.0 nfrashucture 0.6 0.2 0.3 2.0 2.0 2.0 ns & Maintenance 13.2 16.5 16.8 17.0 21.8 ns & Maintenance 0.9 0.6 8.0 4.0 nstive Component 26.0 26.0 26.0 26.0 51.0 53.00 54.00 26.0 26.0	mt-Depril/se Allow 2.5 0.5 0.6 0.5 0.6 0.7 2.0 2.0 2.0 0.9 0.0 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	_	9.0	9.50		7.0	8.0		2.0	5.0	9
infrastructure 0.6 0.2 0.3 2.0 2.0 0.0 0.2 0.2 0.2 0.0 0.0 0.2 ns & Maintenance 13.2 16.5 16.8 17.0 21.8 17.0 21.8 nsitive Component 26.0 26.0 26.0 26.0 26.0 26.0 26.0 26.0 51.0 53.00 54.00 26.0 26.0 26.0 26.0 26.0 26.0	nrhastfucture 0.6 0.2 0.3 2.0 2.0 2.0 0.9 0.3 nrs & Maintenance 13.2 16.5 15.8 77.0 21.8 6.1 9.3 nrsive Component 26.0 26.		0.5	9.0		2.0	2.0		1.0	9.6	
13.2 16.5 16.8 17.0 21.8 17.0 21.8 18.0 19.0 10.2 19.0 10.2 19.0 19.0 19.0 19.0 19.0 19.0 19.0 19.0	ns & Maintenrarioe 13.2 16.5 16.8 17.0 21.8 0.0 0.2 0.0 0.2 0.0 0.2 13.8 13.0 0.6 0.5 15.8 15.8 17.0 21.8 0.0 0.4 0.0 0.2 13.0 0.4 0.0 0.2 0.0 0.4 0.		0.2	0.3		2.0	2.0		6.0	6.3	
ns & Maintenance 13.2 16.5 16.8 17.0 21.8 17.0 21.8 17.0 21.8 17.0 21.8 17.0 21.8 17.0 21.8 17.0 21.8 17.0 21.8 17.0 21.8 17.0 21.8 17.0 21.8 17.0 21.8 17.0 21.8 17.0 21.8 17.0 21.8 17.0 21.8 17.0 21.8 17.0 21.8 17.0 25.0 17.0	13.2 16.5 16.8 17.0 21.8 6.1 9.3 18.8 18.8 17.0 21.8 6.1 9.3 18.0 18.8 18.8		0.2	0.2		0.0	0.2		0.0	0.2	
0.9 0.6 8.0 4.0 rative Component 26.0 26.0 26.0 26.0 51.0 53.00 54.00 26.0 26.0 26.0	Traitive Component 28.0 0.6 0.6 8.0 4.0 28.0 0.4 8.0 0.4 8.0 0.4 8.0 0.5 0.6 0.4 8.0 0.5 0.6 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5		16.5	16.8		17.0	21.8		6,1	9.3	
istrative Component 26.0 26.0 26.0 26.0 26.0 26.0 26.0 26.0	istrative Component 26.0 26.0 26.0 26.0 26.0 26.0 26.0 26.0		9.0	9.0		8.0	4.0		2.0	9.4	
51,0 53,00 54,00 26,0 64,0 64,0 26,0	SI.0 53.00 26.0 64.0 26.0 38.0 42.0		26.0	28.0	26.0	26.0	26.0	26.0	26.0	28.0	26.0
			53.00	54.00	26.0	62.0	64.0	26.0	38.0	42.0	26.0
		/P for Finance and Administration	1								
Signature David LaChina Name EVP for Finance and Administration	e and Administration	Hicky	1								

F&A Costs 38 of 38