Hogan Lovells

REPORT TO
THE CITY UNIVERSITY OF NEW YORK (CUNY), AND
THE RESEARCH FOUNDATION OF CUNY (RF)

REVIEW OF CUNY AND RF RESEARCH FUNCTIONS AND THE
CUNY/RF RELATIONSHIP

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SCOPE AND PROCESS FOR THIS REPORT

Hogan Lovells US LLP was engaged by The City University of New York ("CUNY"), on behalf of itself and The Research Foundation of CUNY ("RF"), to analyze their organizational relationship and how well the RF operates in advancement of CUNY's research mission, across a range of domains and functions. This effort necessarily entailed consideration of the main components of the underlying CUNY research enterprise, and its apparent effectiveness, although ours was not a comprehensive review. Our work involved issues across many disciplines, including finance, law, government regulation and compliance, human resources, technology transfer, research integrity, and others.

To obtain information and obtain a balanced perspective on the CUNY/RF relationship, we (primarily Cliff Stromberg and Soraya Keskey, but at times also other Hogan Lovells experts on particular subjects, including Michael Williams (technology transfer) and Michael Vernick (research compliance)) met with and interviewed about 70 people from CUNY and the RF. They included:

– CUNY's Interim Chancellor and some other senior CUNY Officials;

– A number of CUNY College Presidents, Deans, research administrators, and other leaders;

– A number of CUNY faculty who are significant researchers and have experience working with the RF; and

– Most top management of the RF and many managers of particular RF functions.

– A list of the interviewees is attached at Exhibit A.

We also reviewed an extensive array of documents, including CUNY and RF policies; financial statements; web sites; reports; and other documents.

In order to place certain issues and findings in perspective, and to develop a potentially useful set of Recommendations for CUNY and the RF, we (including Anup Myneni) also reviewed certain policies and practices at other Universities.

It is important to note that this was a high-level organizational review. It was not a detailed "internal investigation" of particular events, and it did not involve any audit of financial transactions (we are not accountants). We do note some areas where CUNY and the RF may wish to obtain more detailed assessments, or strengthen their management policies and systems. But we focused primarily upon an overall assessment of RF performance. We have tried to address recurring areas of uncertainty, tension or problems—and not transitory or anecdotal items.

Fundamentally, we addressed two subjects:

(1)   The scope of the CUNY research enterprise; how robust it is; how well it functions; and what would be needed for it to have more impact; and

(2)   How well the RF does or does not support CUNY's research functions; the strong and weak points in the relationship; and how could it be improved.

In the final section, we offer Recommendations. These are based on our own judgment, including consultation with additional Hogan Lovells experts in various areas. Many Recommendations are also informed by suggestions from CUNY or RF personnel—who know the systems better than any outsider ever could. So we credit their commitment and thoughtfulness in meeting with us, sharing their information and making many suggestions. Naturally, individuals' proposed "solutions" varied. We did not subscribe to some of their suggestions, and ultimately the Recommendations reflect our judgment about the CUNY/RF situation. We also make suggestions based on our work in advising other leading Universities and research enterprises across the United States, where we have observed innovations or practices that worked well.

After preparing a draft of this Report, we re-interviewed some personnel to check factual accuracy and provide them an opportunity to comment on certain criticisms of functions made by other interviewees. We have tried to be judicious and fair, but naturally, individuals will continue to have sincere but disparate perceptions of how well certain functions work, or the causes. We stress that our review was not intended to, and does not, purport to evaluate the performance of particular individuals or to "adjudicate" all internal differences of views or the proper allocation of resources.

SOME OVERALL OBSERVATIONS

Frankly, we were surprised by some aspects of what we learned. First, contrary to what we experienced in performing an analogous review in 2011 of the State University of New York ("SUNY")/SUNY Research Foundation relationship—which was fraught with tension, frictions and alleged mismanagement (despite SUNY's impressive research achievements)—here, we found that for the most part, CUNY and RF personnel liked and respected one another and viewed their missions as well-aligned. Virtually everyone we interviewed rated the relationship as largely effective, and regarded the problems as potentially correctable.

Second, we were surprised that some areas of research administration that have drawn a great deal of attention and resources at U.S. Universities generally do not seem to have received as much focused attention at CUNY. These include training of principal investigators ("P.I.s"), pre-proposal mentorship, data sharing and data security, compliance and—very importantly, technology transfer.

Third, we were surprised to hear the recurring comment that "No one really knows what the role of research at CUNY is supposed to be." In some respects, this is not unexpected, but it is still a problem. CUNY is an unusually complex, diverse institution, distributed across some 25 campuses. It includes Community Colleges, specialized institutions, Senior Colleges, and some Senior Colleges that are also research-intensive entities. Their roles and missions justifiably vary. Moreover, as several leaders pointed out, what is counted as "research" at CUNY includes a lot of activity that is really more in the nature of training grants, or social service delivery, than basic knowledge-creation. Some projects may include an evaluative component, but this is different than, for example, basic science research in physics or structural biology.

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It is an impressive achievement in itself that CUNY has managed to craft a constellation of separate research enterprises that are "world class" in some areas, and that in overall size exceed the research of many more widely-renowned institutions. CUNY is a "gem" in many ways. Nevertheless, most leaders agreed that it has far to go in crafting an aligned approach that leverages all the resources across the University—to mutual benefit. In this regard, it is not alone—other great and complex Universities—including University of California, University of Texas, and SUNY—have faced similar challenges and are trying to develop plans to address them. But we were surprised that there was not yet an overall framework or plan for the role and aspiration for research at CUNY.

The CUNY personnel involved in research have created a remarkable research enterprise despite a variety of organizational and physical challenges. They function within a University that justifiably has many other critical missions—including accessibility, affordability, diversity, teaching quality, responsiveness to future job markets, playing an important role in upward mobility, serving important roles within New York City communities, and so on. Research may not be a top priority for overall resources. It takes remarkable commitment to weave into these missions a first-class research enterprise; CUNY researchers are to be commended.

CUNY is a great institution—with an impressive history, mission, culture and record of achievements. It is the nation's largest and most complex public urban University. CUNY includes eleven Senior Colleges (such as City College, Hunter, Brooklyn, Queens and College of Staten Island), seven Community Colleges, the Macaulay Honors College and five Graduate and Professional schools. For more than 100 years, CUNY has served a unique role as an engine of education and upward mobility for generations of immigrant groups, working class families, and people of modest means, as well as others. This mission is formally stated in Section 6201 of the New York Education law, declaring the "legislature's intent…that the City University" maintain "commitment both to academic excellence" and "to the provision of equal access and opportunity for students, faculty and staff from all ethnic and racial groups and from both sexes."

CUNY supports one of the most diverse student bodies in the nation. It now serves more than 275,000 students annually. It has maintained relatively low tuition, high accessibility, locally-based education options, high quality education, and effective preparation of students for the workforce—all at the same time. In an environment that has challenged many far better-endowed institutions, this is an amazing record of success. CUNY also performs an enormous volume of sponsored research and other sponsored activity, across many disciplines, and is supported by a broad range of funding sources (including many Federal agencies, New York State, the City of New York, private foundations and others). Overall, in 2018, CUNY received (and the RF administered) about $490 million in sponsored activity. The general view is that about $130–$150 million of this activity is true sponsored research. That function is the principal focus of this Report.

Fourth, when one interviews almost 70 people, it is hard not to acquire an overall sense of their *esprit de corps* (or lack thereof) or the corporate culture of the organization. We were honestly struck by the remarkable intelligence, professionalism, and dedication to mission of the RF personnel interviewed. They did not seem to be time-servers just getting on to the next task. They are bright professionals trying to achieve excellence, while working within tight budgets, tight timeframes, a growing volume of work, and with a myriad of potential clients who need to be served. Their achievement is impressive in that light.

Fifth, perhaps surprisingly given its large research enterprise, or perhaps understandably given its diverse institutions, most CUNY leaders commented on the lack of a coherent focus even within the CUNY research enterprise. They said that CUNY has "great researchers" doing "extraordinary work but with very little supportive resources." But CUNY cannot remain effective if it only does inexpensive science—it needs new equipment and labs and supportive infrastructure. Some say CUNY should not endeavor to compete in the fields of "big science." Others say that would be unacceptable and would degrade the core mission of instructing students to be successful in the jobs and knowledge areas of tomorrow would be degraded. Some say that urban science should be the focus based on CUNY's community role. Surprisingly, the most recent "CUNY Master Strategic Plan" was neither strategic nor a plan, at least with regard to research. It was largely a summary of disparate programs. CUNY leaders readily acknowledged there has been little effort and little success in crafting collaborations across CUNY institutions. The result is that CUNY's "nodes of excellence"—and there are many—do not leverage off one another. For all of these reasons, CUNY has not achieved the national recognition as a research enterprise that its size and quality warrant.

CUNY's research enterprise continues to be under-resourced in core areas, despite the large and notable investment in the Advanced Science Research Center (the "ASRC"). Resources do not, of course, magically appear. But if there were one area where a modest amount of funding could have the greatest impact, it would be in pre-proposal assistance and development of infrastructure to link up researchers across CUNY. That, in turn, might well increase sponsored research funding.

We elaborate on these points in the Report and Recommendations.

The RF Roles

In 1963, the State by legislation created the RF as a non-profit educational corporation. This was because of the recognition that the New York State legal requirements for employment, procurement, contracting, and financial accounting would not work well in the growing arena of sponsored research. Other states have reached similar conclusions, and so Research Foundations exist there as well. The CUNY RF has proven to be an indispensable service organization to CUNY. The RF's sole mission and purpose is to assist and facilitate the conduct of research by CUNY—by handling the nuts-and-bolts administrative tasks, while CUNY itself performs the scientific and academic components of research. Hence, as several people told us, "The CUNY RF is indispensable—as a State entity, at CUNY we simply could not perform these functions ourselves in the time frames required." Everyone we interviewed agreed that the RF performs indispensable functions, without which the CUNY research enterprise could not function.

The RF performs a high volume of complex work. Each year, the RF "on-boards" and hires research employees on behalf of CUNY about 14,000 times (involving about 6,500 individuals, some of whom of course serve on multiple or successive projects). It must perform background checks, verify citizenship, arrange payroll, and administer benefits. In a large workforce, human resources/employment disputes and claims inevitably arise, and the RF must play a role in resolving these.

The RF also administers thousands of contracts and purchase orders each year.

The RF has a particular challenge because unlike many major universities, CUNY does not function within one, integrated campus location. Instead, research is distributed across many campuses and components. Some (like Hunter, College of Staten Island and City College) are institutions within which organized, sponsored research is a major focus and function. Others, like John Jay and Lehman, are Senior Colleges where hybrid research/training/service are major activities. And still others, such as the Community Colleges, are institutions where there is less expertise in research, and more training of faculty in research processes may be needed. It is a challenge for the RF simultaneously to serve extremely sophisticated researchers, and also new faculty who want to learn about research and perhaps will apply for their first grant or contract in the future.

The types of sponsored projects within CUNY are also exceptionally diverse. They include research in fields as diverse as life sciences, physics, chemistry, engineering, environmental sciences, a huge range of social sciences and others. Even within one College, such as City College, research may traverse many fields.

Moreover, unlike some Universities, a good deal of CUNY-sponsored projects are not primarily research, but involve contract or grant work in fields such as criminal justice, educational training, curriculum development, community-based social services, and many other types of work. Some of these projects may have an evaluative or research component, but not all do. Even at a research-intensive institution such as Hunter, almost half of the sponsored activity funds are for training and curriculum development grants. The RF also administers these projects.

One result of this diversity of research is that the RF must intermediate relationships with a very broad range of sponsor institutions, including NIH, NSF, DOD, DOE, DOJ, DOT, NYS agencies, NYC agencies, private foundations and others. The RF must be familiar with the unique and complex rules of each of these sponsors, provide the reporting data, monitor finances, and engage in fund reporting and accountability.

This is a very complex array of tasks. Nevertheless, as will be detailed below, the overall assessment by the CUNY personnel we interviewed was that the RF performs most of these functions very well, or excellently. The overall "grades" people would ascribe are in the range of "B" to "A." For a complex organization with many sensitive functions and a high volume of work, in a complex, legally-charged field, this is a good record.

Despite that, there were important "pockets" of less good performance and one goal of this Report is to identify them so that CUNY and the RF can focus on improvements. And of course generally good RF performance does not really help a dedicated scientist who is about to submit her first, path-breaking grant application—if she finds that hers happens to be the one on which there are delays, or poor administration. The goal needs to be serving all researchers well and efficiently.

REPORT

1. **THE STRUCTURE AND PURPOSES OF THE CUNY/RF RELATIONSHIP**.

   1.1 **The Purposes of the RF and the Key Terms of the 1983 CUNY/RF Agreement**.

   The RF's Charter and Bylaws (attached at <u>Exhibit B</u> and <u>Exhibit C</u>, respectively) make clear that the purposes for which it was created are:

"To assist CUNY to provide more extensive educational opportunities and service to the CUNY community and the general public by making and encouraging gifts, grants, contributions and donations of real and personal property to or for the benefit of CUNY;

To receive, hold and administer gifts or grants, and to act without profit as trustee of educational or charitable trusts of benefit to and in keeping with the educational purposes and object of CUNY;

To finance and otherwise facilitate the conduct of studies and research in any and all fields of intellectual inquiry of benefit to and in keeping with the educational purposes and objectives of CUNY and to enter into contractual relationships appropriate to the purposes of the RF; and

To provide prudent stewardship of research funds to satisfy the requirements of the State, the City, sponsors and CUNY."

Grant Administration

   The October 20, 1983 Agreement between CUNY and the RF (the "1983 Agreement"), attached at <u>Exhibit D</u>, is designed to define clearly the roles of the RF, and its service relationship to CUNY. The RF only has one customer—CUNY. The 1983 Agreement is fairly brief (11 pages) and straight-forward. It states at the outset that "the Foundation was chartered in 1963 by the Board of Regents as a non-profit, educational corporation," and that it is charged by the CUNY Board of Trustees (the "CUNY Board") with "administering all grants and contracts awarded to any unit in the University." It further states that all grant and contract applications are to be made by the applicable CUNY College and by the RF "as joint applicants" (unless the College requests otherwise) and that the RF shall act as "fiscal agent in administering all resulting awards." In addition to administering all University grants and contracts, the RF is "mandated to develop procedures that will ensure that its operations are fully responsive to the needs of the College." It is clear that the touchstone of RF policy is and should be—not what it prefers to do or aspire to—but what functions and ways of operating will best be "fully responsive to the needs of the [C]ollege."

Pre-Proposal Work

   Section 1 states that the RF "shall assist the University in the identification of opportunities, procurement, use and disposition of funds from the federal, state, and municipal governments and other sources to support all sponsored programs." Likewise, Section 6 seems to place major responsibility for pre-proposal activity on CUNY rather than on the RF, saying that "each [C]ollege will have responsibility for information and supportive services to faculty,

including identification of grant opportunities, advice and assistance on proposals, review of proposals, etc." Perhaps surprisingly, this pre-proposal function of identifying grant sponsors and opportunities has not really been developed within CUNY. Only recently has the RF itself developed a "pre-award office" to assist CUNY. *See* Section 2.1 below for further discussion.

Scope of Research

The 1983 Agreement also says that "Sponsored programs shall be deemed to be those for which funds are made available for a specified purpose or objective, for which the sponsor usually requires periodic fiscal and programmatic reports, imposes time limitations for the use of such funds, and ordinarily provides for the reversion of unused funds to the sponsors." As noted below, some Colleges and P.I.s take a more limited view that research is only activity for which there is a grant for basic knowledge creation. Hence, for training and social service contracts, some P.I.s seek to avoid running them through the RF process, in order to avoid RF fees and oversight. This is viewed negatively by the RF as an "end run" that ultimately both unfairly shifts fees to others and risks non-compliance.

Employment

Importantly, Section 4 specifies that the RF's functions should include "[the] employment of personnel necessary for the conduct of the [research] programs, who shall be deemed [for such purposes] to be employees of the [RF] and not of the University." The P.I.s choose the personnel they wish to engage in the first instance, and the RF only challenges that if some administrative problem actually arises—such as problems with citizenship or the results of background checks.

Fund Accounting

Section 4 says the RF also handles "purchases of necessary equipment and supplies, its receipt and disbursement of funds…and the maintenance of appropriate reserve funds…The Foundation shall also provide administrative functions, including controlling and accounting for expenditures, preparing periodic reports…and managing cash flow and investments." Fundamentally, the RF performs all these functions and generally does them well.

Purchasing

The 1983 Agreement also states that "[T]he conduct of the sponsored program, including the professional and technical decisions as to personnel and the selection of the…equipment and supplies to be purchased, but not their method of acquisition, shall be within the exclusive province of the project director [consistent with CUNY rules]." P.I.s choose items to purchase and the RF generally challenges that only if there is a problem with the vendor or the permissibility of the purchase.

Compliance

The 1983 Agreement says that "The [C]ollege will comply with sponsor requirements, University policy and applicable governmental laws and regulations, and will expedite the processing of applications." Critically, it is the responsibility of the College to "see that the [P.I.] carries out a sponsored research project in compliance with the terms of the award, University

policy, and [C]ity and [S]tate requirements." Thus, compliance functions are in fact shared—but the Agreement does not clarify that.

The 1983 Agreement does place certain aspects of compliance squarely in the RF's hands, such as that "The Foundation shall monitor all expenditures for availability of funds, for compliance with Foundation policies and sponsor requirements, and shall maintain suitable auditable accounts and render periodic expenditure reports."

On the other hand, there seems to be an understanding on both the CUNY and RF sides that issues such as IRB review, human subjects' compliance, protocol integrity, etc. are part of the academic/scientific integrity functions of the University and not within the RF's domain. Still, some confusion is evinced by reference on the RF website to the RF's role in "overseeing" the "compliance with applicable standards in research involving human subjects, animal care, environmental and radiological safety, and conflicts of interest."

Moreover, there is an important third category of compliance issues as to which neither CUNY nor RF officials were exactly clear on where one institution's responsibility ended and the other's began. CUNY has attempted to clarify certain provisions of the 1983 Agreement, such as assuming sole responsibility for Federal-Wide Assurance ("FWA") compliance with respect to human subjects protection, and for any Assurance of Compliance with respect to animal subjects protection. In addition, CUNY has taken responsibility for compliance with responsible conduct of research, biosafety, misconduct in science and conflict of interest. However, as discussed in Section 2.8 below, the allocation of responsibility is not always clear. Either through clarification of the Agreement, or other understandings, there should be greater clarity about who is responsible for compliance issues such as data security, effort reporting, export controls, and employee misconduct. Both RF and CUNY personnel repeatedly said these are "grey" areas where things can "fall between the cracks."

Cost Recovery

Section 7 addresses the responsibility of the RF and Colleges to "attempt to obtain from sponsors the maximum possible reimbursement for indirect costs and for faculty released time." Thus, "the [RF] with the assistance of the [C]olleges and the University, will develop data for, and negotiate, the indirect cost rate." The RF is required to maintain separate accounts for "released time" and overhead recoveries for each College. This is essentially what occurs. But how indirect cost recoveries are (or are not) allocated back, and how they are then used, is largely a CUNY function, not an RF one. And at times it has given rise to concerns.

Collective Bargaining Agreement

Section 8 further requires that the RF administers the CUNY research programs in accordance with the collective bargaining agreement between CUNY and the Professional Staff Congress ("PSC").

RF Fees

The RF submits an annual budget or plan for sponsored research costs, RF fees etc. It is subject to approval by the University and the State Director of Budget. Annual financial statements and audits are also required. Not surprisingly, the RF believes that it operates very

efficiently on a tight budget and that everyone works hard. While many CUNY people said the RF fees are "high"—they were unable to state any benchmark that led them to that belief, and they thought faster service by more personnel might be helpful; but of course, this would entail higher fees. *See* Section 2.12 below.

Agreement Term

The 1983 Agreement continues without expiration, unless either party serves a notice of termination with one year's notice. Either party may request a review of the Agreement, or the State Budget Director may do so.

Revising the 1983 Agreement

In sum, the 1983 Agreement seems more or less adequate in some areas, but lacking adequate detail in others. The latter category includes important areas such as pre-proposal functions, legal compliance, the definition of "research," use of recovery funds, data security, technology transfer and training of P.I.s. Of course, re-opening the Agreement would involve certain effort and might be an activity on which people would project a large range of issues or expectations. Hence, it should not be undertaken lightly. CUNY should consider whether the operational issues can best be addressed by operational changes, and whether revision of the Agreement itself would contribute materially. But if there is a widespread feeling that it remains inadequate to current challenges, then it should be carefully revised. CUNY and the RF should at least consider whether the need warrants the effort.

Other Functions

RF-DANY

One might question whether it is within the RF's core mission to manage the New York County District Attorney's Office ("DANY") programs that involve social services (some $42 million in 2016). As the RF's 2016 Annual Report states "The [Office of Manhattan District Attorney] had selected the RF to act as fiscal agent for a number of projects under its Criminal Justice Investment Initiative. [1] Programs included "Saturday Night Lights, a community-based program to support youth development and the Sexual Assault Kit project to support their testing of rape kits." More projects are being added. These include: College-in-Prison Reentry Initiative to award grants to New York State educational institutions to deliver College-level instruction and re-entry support in select prisons; Family and Youth Development to fund non-profits specializing in family and youth through innovative programming; and Youth Opportunity Hubs, providing coordinating service, again through local non-profits. While all of these may be worthwhile programs, some seem more closely tethered to CUNY's educational role than do others.

Building

The RF's ownership of its building as landlord yields incremental dollars (about $2.5 million annually) to support its core activities, and does not seem to divert most RF personnel (who are not involved in this function anyway) from their basic jobs.

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[1] 2016 RF Annual Report, *available at* https://www.rfcuny.org/RFWebsite/about/annual-report/.

Grants Plus

The Grants Plus program seems unnecessary, unless some ancillary inter-organizational alliances or other benefits can be demonstrated. It yields about $100,000/year and does not seem organically tied to the RF mission. We were told that the RF is planning to wind down this program anyway.

Annuities

The RF's management of annuities for another organization seems far afield from its mission, poses some risks, and doesn't seem to be an effective use of resources.

1.2   The Role and Functioning of the RF Board.

The RF Board of Directors (the "RF Board") is comprised of 17 people: the CUNY Chancellor (who serves as Chair); the President of the Graduate School and University Center (who serves as Vice Chair); two people appointed by the Chancellor; two Senior College Presidents; two Community College Presidents elected by the Council of Presidents; four active research faculty appointed by the Faculty Advisory Council (the "FAC"); four outside directors; and one doctoral student elected by the Doctoral Student Council. The RF Bylaws establish six Committees—Executive, Budget and Finance, Audit, Personnel, At-Large Nominating Committee and an Employee Benefits Committee. The RF Board usually meets twice yearly.

Some interviewees said it made no sense to them that for long periods of years, many of the leading CUNY research institutions had not been represented on the RF Board, while some that were little involved in research were represented. Several individuals noted that some RF Board members have served for a very long time without new members replacing them. A few interviewees said sponsors sometimes question the level of diversity on the RF Board.

We interviewed several RF Board members, and others who were familiar with Board functioning. Most said it functions in a high-level governance role, overseeing major policy. But since it meets just twice yearly, it cannot perform an active oversight role. We were told— including by Board members themselves—that it is "passive"; that it does not often challenge management; and that it rarely, if ever, issues any directives. We were told that largely it just receives reports and ratifies management actions. Several people described the Board as primarily a "rubber stamp" and said there was a culture that discouraged active questioning by the Board at meetings. If true, this is very problematic.

In addition, there is little if any backgrounding/education for new Board members (even public members who may not be very familiar with the CUNY/RF process). (In response to this, the RF provided us with emails welcoming new Board Members, but it does not appear they have the formal new member packet or training materials that you would expect to see in a large non-profit organization.)

This is not really reflective of best practices of non-profit corporations—and certainly not for ones that perform functions as critical as that of the RF. On the contrary, the universal trend over the last few decades is for non-profit Boards to exercise their fiduciary overweight duties more actively, intensively, and frequently. Board meetings have become more frequent. Boards challenge management to provide data and reports well in advance. Boards grill management on

performance, and they require corrective actions where needed. Frankly, we were very surprised by the description of how the RF Board functions.

To obtain some verification beyond reports from participants, we reviewed a number of sets of minutes of RF Board meetings and RF Board Committee meetings.

The RF Board minutes generally reflect relatively little discussion or exchange of ideas, even on seemingly important subjects, including proposed resolutions. Even for Committee reports presenting significant data, few questions by Board members are recorded. A lot of the minutes are devoted to a long series of matters—but with cursory treatment of them. They also include minor ceremonial matters (e.g., visits, celebrations).

Just for example, at the December 18, 2014 Board meeting, even after seemingly significant observations were noted in the minutes such as "Overall, there does not seem to be much growth" in sponsored award submissions and awards received by CUNY faculty—there was not a single word recorded of inquiry about why that is so, or any comment or discussion.

Likewise, according to the May 20, 2015 Board minutes, the RF President stated that "In the face of constantly rising costs, whether for goods, services, collectively bargained salaries and fringe benefits, unfunded mandates, and more, we counseled last year that absent appreciable growth in administrative fee revenues, our choices were limited to: Raising the fee; Dramatically reducing central office expenditures (and thereby services); or Increasing award activity." This is a pretty stark warning about operations going forward; yet no discussion of the implications was recorded in the minutes.

In the December 18, 2014 Board minutes, it was noted that the Office of Management and Budget ("OMB") had issued new guidelines on "what is allowable under direct and indirect costs"—an important subject. One Board member asked if the RF was "comfortable with the new guidelines and regulations and about its preparedness to implement them." The RF representative said yes, and that is the end of the discussion in the minutes. There was no Board inquiry recorded about what important requirements had changed, or what the financial impact on CUNY might be, or how the RF was ready to assure compliance.

The December 20, 2016 Board minutes note that "The [RF] has developed a procedure to inform staff of their obligation to safeguard sensitive and confidential information and the consequences of their failure to do so." Why did this arise? Have there been lapses? What is the procedure? No such discussion was recorded.

The minutes of the RF Audit Committee from April 23, 2018 also present lots of issues—but little discussion or questioning—and only one Committee Member was present. He was recorded as suggesting that one issue be brought to the full RF Board.

For Committee meetings, in some cases only the Committee Chair was present (along with staff). The minutes were often long but cursory. Some facts were noted, along with comments and actions to be taken, but there was little reference to context, to benchmarking of performance, of options/alternatives or of deep exploration of issues. Perhaps this did occur, but it was not reflected in the minutes.

Now in fairness, minutes do not always record all the oral discussion that may have occurred. For example, at a number of meetings where there was discussion of budgets, the minutes say "Additional discussion ensued." But if the minutes accurately reflect what transpired, they suggest a lack of in-depth discussion of the agenda items generally. And surely if the discussion led to instructions to management of the RF, those should have been recorded in the minutes.

This is all especially surprising because the composition of the RF Board was established so as to reflect the views and needs of its customers—the CUNY Colleges. Since those customers do have concerns, there should be routine processes by which these are conveyed to the Board, and the Board determines whether added steps are needed. If not much information is provided to the Board, and there is only cursory consideration of process changes, wise fiduciary oversight cannot occur.

Overall, it does seem that the RF Board has operated somewhat passively, and this should be corrected. It may be obvious, but in noting this important point, we are addressing an institutional function issue, not criticizing any individual Board member's conduct. We have advised the Boards of dozens of the leading Universities, foundations, health systems and research institutions across the United States. For the most part, their Boards are comprised of the same kinds of people—intelligent, accomplished, civic-minded, sincere people who want to do a good job to advance the organization's mission. Despite that similarity, some Boards develop a "culture" of intensive micromanagement of management; some exercise careful but balanced oversight; and some are passive and play little true role in shaping the organization. Somehow, these divergent cultures develop and endure—until a major crisis or inflection point changes them. The RF Board members doubtless have been fine and dedicated people. But as an institution, the RF needs to pivot toward more intensive Board engagement.

1.3   Best Practices and the Operation of the RF Board

Within the field of corporate governance, it is widely recognized that the functions of the non-profit Board include: defining the mission, approving major strategic plans and actions, carefully reviewing reports on operations—and holding management accountable. The job of management is to execute on the Board's priorities and directives, to keep the Board informed, and to manage operations. Thus "the governance of any [non-profit] corporation is the shared responsibility of management and the Board…[This] contemplates the bifurcation of responsibility for governance (major decisions and oversight in the hands of the Board) and management (implementation)." (ABA, "Non-Profit Governance and Management" (2011)). But for many years now, there has been increasing public, legislative and legal pressure on corporate Boards—including non-profit Boards—to exercise their obligations with greater diligence and attention. As further noted by the American Bar Association:

"Distinguishing between time-consuming interference and legitimate inquiry can be difficult for both the board and management. Since the early 2000s, there has been increasing legal, regulatory and public pressure on non-profit boards regarding their oversight of management and operations…. [Management should] acknowledge that many day-to-day issues may have governance implications requiring board understanding and attention, and should focus on how the board's understanding of the organization and its issues can be satisfied without overburdening management or interfering with management functions."

Likewise: "The management and governance of [both] investor owned and non-profit organizations are being placed in the white hot spotlight of public discussions. [Stakeholders]…are calling for more accountability, greater transparency and better performance by the persons who manage and govern those organizations." (Grant Thornton, "Governance in High Performing Community Health Systems" (2009)).

The corporation must "define explicitly the roles and responsibilities of board members to best leverage their leadership, time, and resources." (Larcker et al., "2015 Survey on Board of Directors of Nonprofit Organizations," Stanford Graduate School of Business (2015)).

Because non-profit directors/trustees have duties of diligence, care, and fidelity to the mission of the organization, "Board members must test where the policies are being followed. That means directors must have detailed management oversight, debate and deliberation on proposals…and when necessary, request all detailed information from management or outside experts." (National Center for Non-Profit Boards, "Bridging the Gap Between Non-Profit and For-Profit Boards" (1992)). "A strong, talented, independent, engaged, informed, active board of directors is the first line of defense for safeguarding any charitable (or, for that matter, tax-exempt) corporation. The ideal board: Has a chair who sets (or at least approves) the agendas for its meetings (rather than allowing the CEO to do so); Meets regularly; Asks management the tough questions; Actively requests, receives, and reviews financial reports (including the annual IRS Form 990); Reviews and approves annual budgets; Reviews and sets management compensation based on comparative data for similar positions; Articulates clear goals for the organization and its management and then holds management accountable for them; [and] Sets and regularly reviews the organization's policies and goals, as well as its own performance." (William Manne, "Best Practices of Charity and Nonprofit Boards," 30 Tax'n Exempts 4 (November/December 2018)).

Ultimately, "the Board of Directors has the final legal authority for the well-being of the organization….The Board not only helps create the organization's mission, it thereafter becomes the guardian of that mission." (National Center for Non-Profit Boards, "Board Assessment" (1996)).

"A director has a duty to attempt in good faith to ensure that (1) a corporate information and reporting system exists and (2) the reporting system is adequate to ensure the Board that appropriate information as to compliance with applicable laws will come to its attention in a timely manner as a matter of ordinary operations." (Office of Inspector General, US Department of Human and Health Services and AHLA, "The Healthcare Director's Compliance Duties: A Continuous Focus on Attention and Enforcement"; *see also* In re Caremark Int'l Derivative Litigation, 698 (Del. Ch. 1996)).

As the ABA has noted, "[N]on-profit Boards often do not exercise the full scope of their authority. The direction of overall managerial control sometimes ceases to flow from the board and emanates instead from the corporate officers and other managerial employees. The 'capture' of board by management may arise." (ABA, "Non-Profit Governance and Management" (2011)).

Nevertheless, the relationship of the Board to management is complex. Errors can arise from Board micromanagement of matters as well. Thus, "Directors are not managers. Because directors do not actually manage organizations, non-profit statutes permit Boards of Directors to

create committees and appoint managers." (Houle, "Governing Boards" (1996)). Indeed, the New York Not-For-Profit Corporation Law states that "the board may create committees of the board" that "shall have the authority of the board to the extent provided in a board resolution or in the certificate of incorporation or by-laws" and that the "board may elect or appoint a chair or president…and such officers as it may determine" who "shall have such authority and perform such duties in the management of the corporation as may be provided in the bylaws or to the extent not so provided, by the board." (*See* NY NPCL § 712-713).

The role of management must be made clear by the Board—"The work of [an] organization will be more easily accomplished and problems will be avoided if all involved understand what is expected of them and the limits of their authority. A comprehensive description of the chief executive officer's job should make clear that person's responsibilities in the day-to-day activities of the organization and set forth exactly what information is expected by the board and when it must be communicated." (Office of the NYS Attorney General Charities Bureau, "Internal Controls and Financial Accountability for Non-profit Boards," Guidance Document 2015 – 3, V 1.0 (April 13, 2015)).

"While the board is not usually involved in the day-to-day activities of the organization, it is responsible for managing the organization and making important decisions, such as adding or removing board members, hiring and firing key officers and employees (more specifically, the executive director/CEO), engaging auditors and other professionals, as well as authorizing significant financial transactions and new program initiatives… The duty of care requires that a non-profit board member participate actively in governance and oversight of an organization's activities. This includes attending board and committee meetings, reviewing and understanding the organization's financial documents, helping to frame strategic plans, identifying and managing risks as well as opportunities, and taking prudent steps to advance the organization's mission goals." These kinds of engagement activities educate and prepare Board members to exercise effective oversight. "A non-profit board of directors has clear fiduciary responsibilities and is charged with safeguarding the assets of the organization. One way to ensure prudent financial management is for the board of directors to adopt financial policies that clarify the roles, authority, and responsibilities for essential financial management activities and decisions." (NYC Nonprofit Board Development Coalition, "NYC Good Governance Blueprint," NYC Service, Office of the Mayor (updated January 2018)).

In general it appears that the RF Board has ceded too much autonomous functioning to management without the intensive level of oversight that is recognized as good practice. If CUNY and the RF itself were to consider assessing further the RF Board's manner of functioning, they should take into account applicable and generally recognized "best practices" among non-profit Boards. There may be good reasons to vary from them in the RF's situation, but understanding common practices may at least help frame the discussion. We outline below some important areas of "best practices."

Board Size

The average non-profit Board size has slightly decreased over the past 20 years. In 2004, the average Board size was 17, and in 2017 the average Board size was 15. (BoardSource, "National Index of NFP Board Practices" (2017)). For an institution like the RF, there are a number of factors to consider as to optimal Board size. On the one hand, a small Board may not

adequately represent the voices and needs of the CUNY universe or include the scope of required competencies. On the other hand, a large Board may dampen meaningful engagement by individual Board members and complicate meetings. "The board of a charitable organization should establish its own size and structure and review these periodically. The board should have enough members to allow for full deliberation and diversity of thinking on governance and other organizational matters." (Independent Sector, "Principles for Good Governance and Ethical Practice: A Guide for Charities and Foundations," 2nd Ed. (Updated 2015)).

The Absolute Charter of the RF and Section 226 of the NY State Education Law provide that there shall be "no less than five and no more than twenty-five" directors of the RF. The RF Bylaws currently require 17 directors. This is in the range of typical non-profit Boards, as noted. In addition, the chart below shows a small sample of comparable Research Foundation's Board sizes and average term limits for reference.

Institution	Board Size	Average Term Limit
State University of New York	Not less than 13 nor more than 17 (currently 16)	3 years; no more than 3 consecutive 3-year terms (staggered)
University of Kentucky Research Foundation	Not fewer than 9 nor more than 12 (currently 11)	3 years; silent on renewal
University of Rhode Island Research Foundation	13	3 years; renewal for 2 additional 3-year terms (staggered)
University of South Florida Research Foundation	No fewer than 5 nor more than 18 (currently 16)	2 years; eligible for reappointment
Georgia Tech Applied Research Corporation	12	3 years; no more than 2 consecutive 3-year terms
Purdue Research Foundation	No fewer than 9 nor more than 15 (currently 15)	3 years; silent on renewal
University of Iowa Research Foundation	No fewer than 11 nor more than 25 (currently 18)	3 years; no more than 2 consecutive 2-year terms (staggered)

Source: Publicly available Research Foundation governance documents.

Board Terms and Term Limits

The issue of how long Board members should serve presents an unavoidable tension in values that must be balanced. On the one hand, you want Board members who are knowledgeable, who have learned the organization and its issues, and who have the confidence to hold management accountable. That takes some time. On the other hand, you don't want directors to remain in office so long that they feel they personally "own" the institution and that their personal views should always prevail. You want some turnover, in order to bring in "new blood" and new ideas. And an organization like CUNY may want the ability to rotate appointments among component Colleges. So a balance must be struck.

"Recently, organizations have moved toward implementing term limits for a number of reasons: Term limits allow for board members to 'recharge their batteries'…; Term limits allow

for the removal of underperforming board members; [and] Term limits ensure that there is a constant element of board renewal and diversity with the addition of new talents and perspectives to the board." (NYC Nonprofit Board Development Coalition, "NYC Good Governance Blueprint," Office of the Mayor (updated January 2018)). Likewise, "Organizations that do limit the terms of board services should consider establishing a staggered term process that provides a continual flow of new participants while retaining a cadre of more experienced members." (Independent Sector, "Principles for Good Governance and Ethical Practice: A Guide for Charities and Foundations," 2nd Ed. (Updated 2015)).

There is available empirical data. Approximately 72% of non-profit Boards have instituted some limit on the length of an individual member's term and on how many consecutive terms a member can serve. The most common term limit structure is a three-year term with one consecutive renewal term, for a total of six years of services. Only 9% of term lengths are over four years, and only 28% of Boards have no limit on the maximum number of terms. (BoardSource, "National Index of NFP Board Practices" (2017)). As seen in the chart above, the most common structure is to allow a maximum of two consecutive three-year terms or six years.

RF Board member composition over the last ten years suggests that the term limits established by the RF Bylaws (last updated on December 20, 2016) have not always been actively observed. 2/ For example, there is a two-year term limit with one renewal term for the "Chancellor's Appointee" to the Board. However, one individual appointed to this position apparently served for ten consecutive years—six years longer than the RF Bylaws allow. "At-Large Directors" are nominated by the Nominating Committee and serve a four-year term, with the option for one renewal, for a total of 8 years. Three of the four At-Large Director positions were held by the same three individuals for ten years, and the fourth position was vacant from January 2008 until October 2017. For most of the last decade, the RF Board effectively had 16 members—not 17, as the RF Bylaws require, losing a potential additional voice.

The RF Bylaws state that the terms of office of the three non-Chair Faculty Advisory Council members "shall be determined by the University Faculty Senate such that two terms of Faculty-directors expire annually"—meaning there should hopefully be an annual infusion of different faculty voices to provide insight to the Board. This has not always been the case—from January 2008–September 2012, the four faculty appointees did not change and two of these faculty appointees sat on the Board until November 2015.

We were told that generally, when an individual served longer than the established term limits for a position, it was because no replacement had been found. The Bylaws give the RF Board some flexibility in this process: "Directors whose terms have expired, and who are not eligible for an additional term, may continue to serve until replacements are named…provided that they would otherwise be eligible to serve." Obviously, situations requiring a Director to serve longer than the established term limits arise, as anticipated by the Board in the Bylaws. But the RF Board intended for set term limits to be complied with in establishing different terms for different types of appointees. The RF Board should be more active in identifying a pool of

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2/   Source: Chart provided by the RF with RF Board members from January 2008–December 2018; *see also* RF Annual Reports from 2010–2016, *available at* https://www.rfcuny.org/RFWebsite/about/annual-report/ (last accessed March 7, 2019).

good candidates in advance, and in recruiting and replacing Board members with expired terms or filling vacant positions. At a minimum, established term limits <u>must</u> be complied with.

Board Composition

As noted, the critical principle recognized today is that a Board's membership must be "competency based", i.e., it must have within its ranks people who have expertise in the key areas needed—including those with knowledge about the field of its mission; finances; business or governance; and people who can embody community or stakeholder responsiveness. "Boards are encouraged to be inclusive of and sensitive to diverse backgrounds when recruiting members, in addition to recruiting board members with expertise and professional or personal experiences that will be beneficial to the organization." (Independent Sector, "Principles for Good Governance and Ethical Practice: A Guide for Charities and Foundations," 2nd Ed. (Updated 2015)). A 2015 Survey on Board of Directors of Nonprofit Organizations conducted by Stanford University found that "too often board members lack the skill set, the depth of knowledge, and the engagement required to help their organizations succeed. Non-profit boards would greatly benefit from a more rigorous process for setting goals and measuring performance." (Larcker et al., "2015 Survey on Board of Directors of Nonprofit Organizations," Stanford Graduate School of Business (2015)).

Of course the composition of the RF Board is dictated by statute, but it should be possible to achieve these competencies within its defined categories of members—it all depends on who the empowered appointing officers choose. To us, it would seem logical for the RF Board to have more representation of the major research College components of CUNY and broad representation of the researchers themselves. Some expertise on compliance, tech transfer, ethics, management, and financial accountability also would be desirable.

Many Colleges across the CUNY universe have never been represented by their President on the RF Board. For example, we understand that Baruch, Hunter and Lehman have never had their Presidents serve on the RF Board, despite the significant volume of research they produce. Community Colleges have generally been well represented, but Bronx and BMCC have never had leadership appointed. In addition, there is no representation on the RF Board from the seven Graduate, Honors and Professional Schools.

Board Orientation

Both non-profit governance, and the requirements for research compliance and effectiveness, have become so complex that there should be a formal, routine orientation process for new RF Board members. They would be trained about its mission, processes, and systems. Just by comparison, a survey showed that 95% of non-profit hospitals had formal orientation processes for their new Board members. (Health Research and Education Trust, "Hospital Governance: Initial Summary report" (2006)). "Regardless of their prior board experience or training, every board member should receive a copy of the organization's governing instruments with an orientation to the organization's governing policies and practices, finances and program activities…The board should establish and include in the orientation process clear guidelines for the duties and responsibilities of each member, including meeting attendance, preparation and participation; committee charters and assignments; and the kinds of expertise board members are expected to have or develop in order to provide effective governance." (Independent Sector,

"Principles for Good Governance and Ethical Practice: A Guide for Charities and Foundations," 2nd Ed. (updated 2015)). As noted above, there is no formal orientation process for new RF Board members. It should be developed.

Board Self-Evaluation

Many non-profit Boards engage periodically in self-evaluation, to address how well they are functioning and how they can improve. In general, "Boards that assess their performance regularly perform better on core responsibilities." (BoardSource, "National Index of NFP Board Practices" (2017)). "Board members should evaluate their performance as a group and as individuals no less frequently than every three years, and should have clear procedures for removing board members who are unable to fulfill their responsibilities." (Independent Sector, "Principles for Good Governance and Ethical Practice: A Guide for Charities and Foundations," 2nd Ed. (Updated 2015)).

The RF Board has no formal self-evaluation process. It should undertake one.

Board Committees

Most non-profit Boards have several Committees, including at least a Finance and Audit Committee, a Strategic Planning Committee, and a Quality or Operations Committee. The duty of care requires directors to "Attend board and committee meetings and actively participate in discussions and decision-making, such as setting of policies. [Directors should] carefully read the material prepared for board and committee meetings prior to the meetings and note any questions they raise." (Office of the NYS Attorney General Charities Bureau, "Right from the Start: Responsibilities of Directors of Non-profit Corporations," Guidance 2015 – 6, V. 1.0 (May 15, 2015)).

The CUNY RF has six Committees—Executive, Budget and Finance, Audit, Personnel, At-Large Nominating Committee and an Employee Benefits Committee. The RF Bylaws also provide that the RF can establish *ad hoc* Committees. The RF Board might consider creating a Compliance Committee, given the importance of that function to its role. Apparently, a number of RF Committees functioned for a long time without a full complement of members. Such vacancies should be promptly filled. There should be no reason for ongoing, long-term vacancies.

In addition, the RF Bylaws govern the Faculty Advisory Council ("FAC") "whose purpose is reviewing the state of research at CUNY annually and suggesting improvements in policy or practice to the [RF] Board of Directors, who at their discretion may pass the suggestions along to the appropriate CUNY officials." The RF Board might consider asking the FAC to prepare a more formal annual deliverable that is passed on to the CUNY Office of Research and other CUNY research stakeholders.

Conduct of Board Meetings

Board materials should crisply pose the key decisions, directives, or other guidance that management needs from the Board. Boards should make clear to management what information they want to see in the materials and Board books. Usually this includes dashboards and financial reports on year-over-year and year-to-date performance on key metrics, determined by

the Board. It should also include summaries of operational performance, successes and problems. "Regular meetings provide the chief venue for board members to review their organization's financial situation and program activities, establish and monitor compliance with key organizational policies and procedures, and address issues that affect the organization's ability to fulfill its charitable mission." (Independent Sector, "Principles for Good Governance and Ethical Practice: A Guide for Charities and Foundations," 2nd Ed. (Updated 2015)).

Less obviously but equally important, management should give the Board information as needed to provide an "early warning system" about problems that may be developing. Some Boards complain that management gives them too little; that it "filters" the information so management looks good; and that little "context" is provided. Other Boards complain that they receive reams of information but it is not well-focused. One major study of governing boards cited as a typical complaint that "We have plenty of information, but we have no idea what it all means. Board packets bulge with raw, non-interpreted data, and trustees suffer from a deluge not a dearth of information." (American Council on Education, "Improving the Performance of Governing Boards"; *see also* Association of Governing Boards of Universities and Colleges, "Board Responsibility for Institutional Governance" (2010)). As a commentator noted, "A paper blizzard allows administrators to later claim that some critical items—buried in the interstices of a ten pound package—were indeed presented to the Board, but that, lo and behold, no one had expressed any interest, much less disagreement, at the time." (Cabranes, "How to Make Trustees Worthy of Their Constituents' Trust," The Chronicle of Higher Education, October 18, 2002). Once again, a reasonable balance must be struck. But the decision is not that of management— the RF Board needs to tell them what kind of information it would find necessary and helpful to its decision-making.

As can be seen from the summary above, the RF Board functioning departs from "best practices" and even "ordinary practices" of non-profit organization Boards in a number of respects.

− Some RF Board members suggested that greater representation by actual faculty P.I.s would be helpful, and that the RF would benefit if there were fewer College Presidents and instead they were represented by their Vice President for Research or a similar official closer to the College's research function. CUNY and the RF should at least consider that.

− There should be a routine orientation program for all new Board members.

− The Board should meet at least four times per year.

− Board members should receive Board books at least one week in advance of meetings, to allow serious review of the material.

− The Board should require that Board books provide broad, practical and meaningful information, including benchmarking where appropriate, and dashboards on RF performance measures and how performance changes over time.

− The Board meetings should include active, intensive Board discussion of information and management actions and clear guidance to management on Board concerns and decisions.

    − The Board should establish an early warning process for staff to inform the Board of impending or growing problems.

    − Management should provide options to the Board as to how to handle matters, recommendations and supporting rationales.

    − The Board should require that management obtain advance Board consent to undertaking significant new functions.

2. KEY RF FUNCTIONS

2.1 Pre-Proposal Functions and Expanding CUNY Research

It is widely recognized that before an institution can have a successful sponsored research enterprise, it must plant the "seed corn" by supporting those researchers who are now submitting grant applications, or are learning how to do so for the future. As noted, CUNY as a whole does not have a robust program to identify and effectively target funding opportunities. Doubtless there is informal mentoring by experienced researchers of more junior ones. And some of the researchers say "Everyone in the field already knows who sponsors research in their areas." But that is surely an overstatement. The reality is that young researchers very well may not know this, and in any event, sponsors' interests, priorities, and even funding "fads" do change. Maximizing institutional research requires frequent contact with major funding sources to identify opportunities. It requires training P.I.s on how best to design research, how best to configure projects to submit for grants, and to whom to submit the proposals with the greatest likely effect. Some believe that the RF Project Administrators ("RF PAs") are aware of sponsors' interests since they deal with sponsors all the time—but to expect them to devote any significant level of effort to those types of "business development" activities seems unreasonable given their already significant workloads and the importance they must place on efficiently administering sponsored projects.

Several interviewees said that the RF officers need to do a better job of "keeping their ear to the ground" and alerting Colleges to trends in research funding and what research areas will be even more valued over time. They said they especially need to know about the growing arena of internationally sponsored research. It is not clear how the RF could effectively disseminate that knowledge—since they cannot possibly know the specific research interests of thousands of faculty. There needs to be some more formal administrative nexus for research stimulation efforts between the RF, the CUNY Office of Research, and administrators at each of the Colleges that are most deeply involved in research.

We asked if the RF routinely goes to the Colleges and offers training to P.I.s. We were told that they do in various ways, but they could be improved. The RF occasionally holds "town halls" to orient researchers to the RF process, sponsor expectations and grant mechanics. In addition, the Grants Officers on campus do a lot of "one-off" advising and the RF provides specific training if asked. But there is not an overall "Orientation and Training" session for new P.I.s. This could be a useful addition to the process, though it would consume time. But the RF personnel seemed to feel this would be worthwhile since new P.I.s have a huge "knowledge gap."

In fairness, it must be noted that growing the CUNY research portfolio has not historically been seen as within the RF province. But because of the felt need, and in response to the 2014 Cohn Reznick Report, the RF stepped into the breach and hired a very experienced, former National Science Foundation ("NSF") director to staff an RF "Office of Award Pre-Proposal Support." He has visited most campuses; met with researchers and administrators and counselled some P.I.s on how to best structure grant applications. His initiatives include developing a proposal pre-submission peer review program to provide discipline-specific feedback; creating a program offering faculty financial support to visit external sponsor program officers; creating a targeted workshop series for faculty interested in submitting grants; expanding pre-proposal tools, including providing faculty access to searchable databases on grant opportunities like Pivot and GrantForward 3/; and developing a CUNY-wide strategy for preparing "center" grants involving multiple CUNY Colleges or institutes.

Even though this function is relatively new, it was remarkable how uniformly those we interviewed said that this RF Officer is well qualified, knowledgeable, respected, energetic and effective. Only a certain level of impact can be expected from a small office, but this seems an important step forward. This Office should be expanded with substantially increased staffing support.

Some leaders however questioned why this function was not instead placed within CUNY Central administration. Conceptually, perhaps it should be—since pre-proposal planning involves an academic/scientific component, which expertise more naturally resides in CUNY than in the RF. But many interviewees expressed skepticism that this function could be effectively placed in CUNY, because there would "always be fights between CUNY Central and the Colleges", and between the "haves and have nots" among the Colleges. They predicted that such an effort within CUNY would get bogged down in bureaucracy, whereas if it were expanded within the RF, it could prosper.

We are not able to discern whether such skepticism is warranted. What we can say is that the level of pre-proposal assistance should be expanded—wherever it is located. At the end of the day, CUNY's extraordinary faculty are its primary resource, its "crown jewel." At leading research Universities, many P.I.s have administrative assistants as well as other research-focused personnel and students to help with grant writing, etc.—who are dedicated to them or their Departments. That is not so at CUNY due to limited resources. Thus, even if it takes a few more FTEs in a centralized RF pre-proposal office to mine the faculty's abilities and attract more sponsored funds to support them—it could be the wisest investment CUNY could make.

But this alone would not cure the problem. CUNY cannot expect its researchers to be competitive if they not only have a teaching load far heavier than their colleagues at most Universities—but also must do their own research administration paperwork and handle many of the administrative processes required of them, even in collaboration with the RF. CUNY should develop at least some added resources to assist them.

3/   Pivot is a tool that "integrates funding and collaborator discovery" and is a "comprehensive global source of sponsored funding opportunities" that "provides scholarly profiles to match researchers with financial partners and collaborators." Source: https://www.proquest.com/products-services/Pivot.html. GrantForward is a "funding opportunity database and recommendation service built by academics for researchers." Source: https://www.grantforward.com/index. GrantForward "specializes in social science/humanities, private foundation, and domestic funding."

2.2   <u>Financial Administration and Fund Accounting</u>.

Overall, in 2018, the RF administered almost $500 million of sponsored activity—up 9% from 2017 when it totaled $456 million. Total Facilities and Administrative ("F&A") recoveries were about $80 million. This is a very large volume of research administration.

Once an award or contract is in place, the RF will handle the project's fiscal administration. This involves establishing the sponsored account, billing, transaction review during the life of the project, close-out, and any financial or administrative reporting requirements. This work is accomplished by a team of approximately 55 employees in the Grants and Contracts Department. The line-level employees handling the day-to-day are Project Administrators ("RF P.A.s") who are divided into a number of teams. We understand there are six two-person federal teams that are allocated by funding sponsor, and eight two-person teams charged with administering the city-state portfolio of sponsored research.   And there are personnel dedicated to handling summer salary and faculty release time.

We have seen this approach of specialization by sponsor at other Universities. The benefits of this approach are that there is variation across sponsors in terms and conditions, styles and expectations, and allowing administrators to develop true expertise in a specific area can yield real benefits in terms of outcomes and efficiency. The downside is, of course, that if someone leaves the RF it can be difficult to backfill their sponsor-specific expertise in the short-term.

The RF teams are very busy and probably understaffed, particularly at the City/State level where we understand that vacancies are requiring the teams to triage issues and prioritize some work over others.   There is a fair bit of turnover at the RF P.A. level, with the RF not infrequently losing seasoned administrators to other local Universities that can offer higher compensation. We understand there is a currently an RF hiring freeze so any personnel losses are not being replaced, which over time will increase the strain on those remaining.

In light of the workload and turnover, we inquired into whether technology could be better leveraged. We were told the grant management technology tools are generally home-grown and, although there are always new tools that would be helpful, the team felt the technology support it has is adequate. Indeed, they touted the RF's willingness to allow them to coordinate closely with the RF's Systems and Information Services Department ("SIS") to develop and implement new technologies. This coordination is achieved through a variety of different working groups and *ad hoc* committees.

Most people said the RF performs the grant fund administration function reasonably well, or very well. One senior CUNY finance official said they are "very efficient and responsive." They give a great deal of attention to this function. Some RF personnel said that occasionally, P.I.s will try to "game the system" and may even succeed, such as by making purchases without approval, receiving an invoice, and then getting it approved after the fact. But they said true abuse (such as improper purchases) was virtually nonexistent. And of course, grant conditions vary. Federal sponsors allow relatively broad financial flexibility in terms of re-budgeting between cost categories as long as the overall budget is adhered to. Essentially, the P.I. can move funds around subcategories within the budget, within reason. But New York State and the

City of New York sponsor agencies are much more exacting, and "re-budgeting" across categories is generally not allowed, so the RF is very exacting in monitoring these funds.

We asked what would happen if an expenditure was submitted under a grant for items that might be impermissible. The RF said that some kinds of items, such as costs for alcoholic beverages, would just be automatically rejected by the payment system. Other expenditures in a grey area, such as business class foreign travel, are routinely reviewed, but the P.I. usually can provide a satisfactory explanation (e.g., he/she is presenting at a conference where business class travel is approved by the sponsor). Still other types of non-approved expenses, such as hiring a lobbying firm, might or might not be "caught" by the RF—depending on how obvious the issue is. Just a $5,000 item for "Services by ABC Company"—might not announce itself as suspect. Conceivably a more detailed coding system could trigger rejection and that might be desirable, but it would entail more work and would still ultimately need to rely on the honesty of each P.I. in describing the expenditure. But the vast majority of expenditure categories are coded and purchase orders must conform to the vendor codes, etc., and generally do not appear to pose problems. The RF might consider reviewing categories of expenses that still cause confusion among P.I.s and preparing guidance, or adding an open field for P.I.s to preemptively provide justification (as applicable) to streamline the process. The recently developed "All Funds Expense Matrix" (the "CUNY Expense Matrix") (as further discussed in Section 2.11) has also helped clarify what is and is not permissible spending under sponsored projects.

The RF system is designed to flag and reject duplicate payments. But this is more complicated than might appear, because, just as an example, three duplicate orders for "Centrifuge Model 8500" might be erroneous duplicates—or might be legitimate sequential purchases of three centrifuges. The RF says it routinely flags these and asks the P.I. to justify or explain the purchases. This in turn has caused resentment by the P.I.s, some of whom say in effect: "Look, I am busy. I know what I am doing. I am staying within my grant budget. Now I have to take time to explain what is in the budget anyway?" Other examples criticized by P.I.s were where the sponsor wants all conference attendees to mingle at the same hotel—but the RF will only approve the General Services Administration (GSA) rate, which requires staying at another hotel; or where a graduate student uses their credit card for some minor purchase for research materials—but then the RF questions the purchase and the poor grad student must wait nine months for reimbursement. We do not know if such anecdotal events are rare or common. They may simply reflect the RF's commitment to meticulous enforcement of requirements. But naturally, individuals will want some degree of common sense flexibility, if it is possible.

If funds remain unexpended at the end of the grant, the RF system is supposed to flag what must occur, consistent with the sponsor rules. Some sponsors require refunds while others do not. Each of the RF P.A.s is familiar with their sponsor rules, and tries to ensure adherence.

There is no simple answer to how much RF questioning/challenging of P.I.s about purchases is enough. But our general sense was that the RF is rightly dedicated to accuracy in expenditure approvals and processing. This works well overall. Meticulous verification of expenses against budgets and applicable cost allowability rules is essential to the integrity of the process and to relations with sponsors, even if it is occasionally annoying to P.I.s.

However, there were recurring comments—including from some RF Board members—that the RF needs to speed up and streamline its processes. They are too slow in some areas.

Specific suggestions were not made at this level. Several people described the RF as "bureaucratic", "risk-averse" and "not customer-oriented." Some say the RF sees a one-in-a-million risk as a real problem. The overall conclusion that seems warranted is that the RF is trying hard to do the right thing—ensure proper fund management. But perhaps they could be more "user-friendly" when working with P.I.s through delays or problems or unique situations.

2.3   Grants and Contract Processing

Repeatedly we were told that the grant submission and contracting process works pretty well for the experienced, repeat P.I.s, but that it is far more challenging for new P.I.s. Many P.I.s we talked to complained about seemingly redundant RF processes, where P.I.s fill out forms; then they get documents back from the RF; then the application must be enrolled onto the RF system and must be checked online; and then a third time they get it back in paper for final approval and use. Paperwork is also not always prepared by the P.I.; the P.I.'s research staff often prepare the paperwork and then must wait on the P.I.'s approval, adding another layer to the submission process. RF personnel responded that often P.I.s make mistakes in preparing documentation, or omit required documentation, or they fail fully to comply with the technical sponsor requirements. Hence, the RF needs to review and revise documentation and correct deficiencies prior to submission. Of course this takes time, and it annoys P.I.s; but it is a necessary part of the process.

Some researchers complained that the RF is not very "user-friendly." We heard of occasions where there are long delays—such as six or nine months—in processing contracts. In a few cases we were told that CUNY did or almost did lose the grant. Yet, the RF staff told us that to their knowledge, this had never happened. On the contrary, they sometimes stepped in before an emergency and fixed it. But since some such instances were cited by many people, this seems to be at least an issue worth addressing. Some CUNY personnel say the holdup usually is on the legal side, but of course they may not have been aware of the reasons the legal department could not resolve the problem. In any event, it may be advisable to establish a process—sort of an early warning system—so that grants or contracts that are "in process" for more than a defined period are flagged as priorities and accelerated. The RF legal team said they do "triage" these agreements, but others felt otherwise.

Some researchers complained that it is especially difficult to effect international subcontracts through the RF. However, the RF responds that the compliance issues in international funding and personnel naturally complicate the process.

There is a Grants Officer ("G.O.(s)") at each CUNY Senior and Community College and most of the Honors and Professional Schools. Some of the more research-heavy Colleges, like Hunter and Queens, have more fully-staffed Grants Offices (i.e., five dedicated individuals) while the Community Colleges tend to only have one dedicated G.O. The G.O.s straddle a line between the College and the RF. As was explained to us, they try to be as supportive as they can of their faculty when it comes to administering sponsored projects while also ensuring that all RF and sponsor requirements are followed.

Their job is to provide expertise and advice, facilitate the grant process, and resolve problems. The G.O.s also have a broad portfolio in the sense that they play key administrative roles from a pre- and post-award perspective. They are involved in research administration, HR

functions, purchasing, and coordinating between various offices in areas of scientific compliance such as conflicts of interest and IRBs. They are generally viewed as very competent and helpful. The G.O.s we met with appear to have a close working relationship with one another and a good working relationship with the RF. One comment we heard from the G.O.s was that campuses do not always have access to or are not always made aware of all of the information necessary to address compliance issues that may arise. One specific compliance concern they highlighted was the desire of some campus personnel to run projects through College Foundations as opposed to the RF, so as to avoid paying the RF administrative fee. One by-product of not running a project through the RF is that it may not be subject to the necessary controls such as IRB approval and conflict of interest analysis. This is an area that requires attention because it could lead to potentially significant compliance issues.

One issue raised was whether it would be more effective for the G.O.s to be CUNY or RF employees. The important point is that the G.O.s are the "emissaries" of the RF to the campuses; they provide expertise and advice. Many we spoke with perceived G.O.s to be a part of the RF. Our understanding is that currently, only a handful are RF employees, and the rest are CUNY employees. Our sense is that most faculty don't know or care who employs the G.O.s. Some administrators said the G.O.s work well, except that some can be too campus-centric, especially if they are put under pressure by the College President (e.g., to run a grant through the campus Foundation rather than the RF). But that alone seems curable by other means and is not a reason to realign all the G.O.s under the RF. We assume the G.O.s have a close relationship with their home campus as well as the RF—regardless of their employment—because that is conducive to their doing an excellent job. But it was apparent during a Grants Council meeting we attended that the G.O.s have camaraderie, and respect for the common function they are performing in bridging the gap between the RF and CUNY. Hence, we would not perceive any compelling reason for a change in the locus of employment, unless there are other reasons not shared with us.

The main recurring complaint by researchers was that the RF process is so complex, it leads to delays and unhelpful finger-pointing. Sometimes the G.O. says the problem is not with the RF but with CUNY; CUNY says the problem is with the College or the RF; the RF says the P.I. did not provide the needed information; and so on. There is no easy solution to avoid such problems. But it does seem that the RF and CUNY should devise an "escalation process" akin to what occurs with mission-critical IT problems—where if a crisis is about to occur, an RF "SWAT team" steps in to resolve it. CUNY and the RF should also consider actively using training and materials so that P.I. research staff, not just P.I.s, are aware of grant administration processes and requirements.

2.4   **HR Administration**.

There was significant disparity in perceptions of how well the RF personnel administration process works. Overall, the consensus seemed to be that the RF performs the basic "blocking and tackling" of this function extremely well. That is impressive given that it is a huge task, and has many parts. We were told that in any given year, the RF runs the on-boarding process about 14,000 times. But since many employees perform several brief projects in a year, the number of unique individuals being fully processed is more like 6,500. That is an enormous task. Also, given the complexity of employment law, and the sensitivity of some

research projects, the steps in the process are complex. For example, for each on-boarded employee, the RF routinely performs at least these functions:

1. Conducting background checks;

2. Checking the federal debarment list, Department of Health and Human Services ("HSS") list of excluded persons, and other lists;

3. Verifying immigration status;

4. Recording intake information with a complex array of fields;

5. Creating a payroll system account;

6. Monitoring payments based on the project budget and projected duration of work;

7. Resolving "glitches" that inevitably occur with large numbers of people entering and leaving employment; and

8. Addressing and resolving employment disputes as needed.

Not surprisingly, P.I.s complain that it sometimes takes too long to on-board employees and load them onto the payroll system. They say they have to do too much paperwork themselves, and the RF says it is still working to streamline the process. Equally unsurprisingly, the RF counters that sometimes the problem is beyond its control, such as a failure by the P.I. to submit citizenship documentation or to enter information correctly. Also, apparently, there are many "last minute" proposals for which it is impossible to complete the background checks, on-boarding, etc. in the desired time frame. In a few instances, the paperwork is submitted after the employee has started working—which should not occur. The RF says that once it gets complete information, the on-boarding occurs very fast. The RF is in the process of transitioning from paper-based on-boarding to a new "e-Onboarding" system that is currently being tested by a few schools.

Most people said the basic RF "Cyborg" payroll system works well, even though it has been in place for a very long time. Occasionally there are delays, but these seem to be only episodic. In a few instances, people were on the payroll and paid before they actually worked. But these instances are said to be rare, and they are corrected and reconciled. Naturally, the adequacy of systems is tested most when unusual circumstances arise. We probed the interviewees about what problems have arisen or could arise. Overall, we were surprised that so few problems, and no serious problems of which we were informed, had arisen. This bespeaks a high degree of day-to-day dedication by the staff. Nevertheless, there are some personnel-related areas where ongoing attention is warranted.

Sometimes there are rate-of-pay changes, and they don't match the budget, or the fringe rate was loaded wrong by the P.I., or there are other computational errors. We asked whether the payroll system is set up such that it would not be possible for a lab technician or statistician assistant to be paid for periods in which they did not work, for example, because a projected timeline for work was completed early. We got complicated answers; in sum, the responsibility

is on P.I.s to submit and approve timesheets. If they do it right, the payroll system will cut off payment; but if they do not, there is no way for the RF to know.

The unavoidable paradox of the CUNY-RF relationship is that all research employees are selected by the P.I.s and are accountable to them for their work, but as a matter of employment law, they are employed and paid by the RF. The RF performs various background checks and if there is an issue, an "alert panel" reviews it, but the P.I.s usually are not contacted yet due to confidentiality. But if there is a grey area, the RF will make a recommendation to the P.I. Most appreciate it; a few "heavy hitters" say they know better. Such flags arise, we were told, for perhaps 7–8% of the proposed hires, i.e., a small but not inconsequential number. And sometimes, there is a good reason for delay. The example given was that obviously, a training grant program addressing ex-felons, and employing other prior felons as instructors, will entail more pre-employment issues than might be customary for other kinds of sponsored projects.

When employment misconduct legal issues arise, it is sometimes unclear in whose domain the problem lies. Things can be complex because sometimes there are CUNY "tax levy" employees working on the campus with or supervising RF employees, so two employers may be involved in the alleged misconduct. If it is clear who the alleged offender is, their employer takes the lead; but sometimes it takes time to figure that out. For some issues, it is fairly obvious which institution should take the lead in resolving the problem. For example, if a lab technician or statistician were ever to "dry bench" the data, or perform computations sloppily—that would be a matter of scientific integrity that should be resolved by the P.I. or his/her Department. Conversely, if the employee lied to the RF about his/her alienage/citizenship status, that is within RF responsibilities and the RF should take the lead in resolving the issue.

But what if the employee sexually harasses co-workers? Who should take the lead in resolving the matter? The P.I. may know more of the facts, but the RF has legal experts on employment law whereas the P.I. is not such a person. The RF interviewees said basically that they handle such matters on a one-by-one basis and consult with the P.I. in all areas where they might know the situation better. They said it works well and there are not big problems. We asked if the CUNY and RF personnel often disagree on whether to litigate or settle a claim, and they said no. Plaintiffs usually sue both the RF and CUNY institutions—they don't differentiate responsibility. Allocation of ultimate liability is done on a case-by-case basis. That is a sensible approach. But both organizations might benefit from more explicit guidelines on how they should collaborate in resolving HR issues. That would help resolve issues faster and possibly with better results.

We also asked if there was any "early warning system" for circumstances that might give rise to later claims. The RF personnel could not point to any process or data system that would trigger special review, but said they would think about it. This also is worth pursuing.

We understand that the basic full time employee fringe rate of 35% is applied to all those who work more than 20 hours per week. A part-time rate of 8% is applied to others. Some questioned whether the fringe rate was too high and overly burdened research budgets, but this was not a major issue among those we interviewed.

It was not clear that there was a full understanding of the scope of exposure for "deemed export" activity. *See* Section 2.8 below. The RF people seemed well aware of the visa type

review needed if a P.I. wishes, for example, to employ a national of certain nations (e.g., North Korea, Yemen, Libya, Iran). But they were not as aware of the regulatory issues of sharing responsive data with such nationals even if they are in the U.S. lawfully. Because of ongoing international developments, nationals of China may also incur further review in some areas of research. Sometimes, a P.I. or College wants to terminate a foreign national but the RF then needs time to work out a visa process. The RF works with the P.I.s to correct these issues as they arise.

2.5   Purchasing

Another core function of the RF is to manage the supply chain process for the CUNY research enterprise, which includes negotiating and administering contracts, making purchases and resolving payment issues. (For small purchases, such as those under $5,000, P.I.s are allowed to process their own purchases, so long as they stay within the project budget). Once again, most interviewees on both the CUNY and RF sides said the RF performs this function quite competently and efficiently. In such a large-volume function, naturally, there are occasions for people (perhaps justifiably) to complain about particular incidents. Hence, some referred to situations where they wanted to change a purchase and the RF was slow to implement it, or where prices changed and the RF rejected processing the purchase, etc. But we found no evidence of endemic or serious problems in the purchasing area.

A few issues of more recurring nature were mentioned. For example:

− The volume of RF purchases is very large, often from recurring vendors. For some of these recurring vendors, such as Apple or Staples, the RF negotiates volume discounts that can be passed on to a P.I.'s project budget. But it seemed that the RF could do more in identifying all the vendors from which discounts could be negotiated, and in tracking the performance of good vs. unreliable vendors. The RF does not search out other vendors who might offer better quality, price or reliability. Selecting vendors is the responsibility of the P.I.s. But there is no overall coordination of vendor selection, which means that if an equipment vendor is poor, the other P.I.s or campuses may not know about it. If a vendor rating process accessible to P.I.s could be implemented with modest effort, that might be advisable.

− All vendors are assigned vendor I.D.s, so a payment to an unregistered and perhaps questionable vendor would not go through. Travel and related expenses must be consistent with GSA rules. But sometimes, P.I.s are sloppy or in a hurry—they might have an existing relationship with a vendor and get a discount but not tell the RF so then the purchase order ("P.O.(s)") does not accord with the actual bill. Glitches like this inevitably require attention.

− P.I.s are supposed to verify P.O. expenses as conforming to the qualified prices, but often they just don't do so.

− Sometimes, P.I.s try to "game the system." For example, if an approval process applies to purchases over $5,000—they may submit three P.O.s for $3,000 each—to avoid the approval process.

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- For those sponsors who permit budget reallocations, it should not be an administrative problem for a P.I. to reallocate within his/her budget, and pay more for X but less perhaps for Y. For those situations, the RF usually should allow the purchases even in excess of the specific budget sub-item—as long as the overall budget is not exceeded, the items are permissible, and the sponsor rules permit such re-budgeting. The RF tries to ensure sponsor approval, where the sponsor rules require it. But some P.I.s complained of the RF not allowing this budget flexibility—even where the sponsor would.

- Purchases from vendors who are family members or others associated with the P.I. should be prohibited or strictly limited. The RF said, quite reasonably, that there is no realistic way for them to detect this. The RF Code of Ethics requires that "RF employees must disclose any financial interest they or their immediate family have in any entity that conducts business with the Foundation to the President or his/her designee." P.I.s certify lack of conflict in the research itself, but a P.I. certification of no conflicts of interest as to vendors would be a good and not labor-intensive addition.

- In general, the RF P.O. system is designed to reject wrong or improper purchases. Occasionally, P.I.s will ask for equipment to be delivered to their home rather than their office. This immediately raises a question with the RF since the P.I. is at least required to register the equipment with the campus property manager. But it is not clear how this "loop" is actually closed between RF and CUNY.

- Some RF personnel said there could be a tighter and improved purchasing system—not to avoid impropriety, but to achieve savings and better product selection. At present, the P.I.s just pick what they want. As an RF employee said: "They buy; we pay." Sometimes, the RF does not even know if the product was actually delivered—the P.I.s are not good about informing them unless there is a problem.

- Some sponsors require the return of major equipment at the end of the grant; others (such as most Federal sponsors) allow retention and reuse for similar research at the institution. P.I.s are supposed to clear this with the campus property manager, but as described, this is not always done.

The P-Card credit card program used by P.I.s to make small purchases under the budget program seems to work well from the perspective of facilitating timely acquisitions for sponsored projects. At times, there are delays in reconciling information needed to maintain accurate accounts, but this is inherent in the back-and-forth questioning to verify proper purchases. Some RF personnel said that the P-Card program works well in terms of ease of use for P.I.s and creating an audit record, but the back-end interface could be improved. It is really not set up to flag questionable purchases upfront. It is a "read-only" system but it does allow the RF to get overall reports and question purchases as necessary later. Some thought it was needlessly difficult to require a separate P-card for each individual grant if a P.I. has multiple grants. They thought it would be better to have one card and for the RF to reconcile expenditures on the back-end. We do not know how feasible that is.

One risk area associated with the P-Card program is the way in which rebates are handled. We understand from RF personnel that the RF does receive various rebates from P-Card issuers. Federal cost principles generally require that such rebates be passed through to the

government. In practice, this can be extremely challenging because rebates can be volume-based as opposed to associated with specific purchases, and they may not be calculated until the end of the year, etc. As a result, we understand that the RF uses the P-Card rebates to defray the costs of running the program rather than trying to apply the rebate to particular projects. (The amount of P-Card purchases is what the RF described as "not material.")   While not without any compliance risk, this approach is one that some other Universities follow.

Software purchasing was said to be a recurring problem. Software vendors have highly technical requirements. According to the RF's "Policy on Procuring Cloud-Based Applications and Services", all P.I.s have to get prior authorization from CUNY's Chief Information Security Officer and approval from CUNY's Office of General Counsel before the RF can pay or reimburse associated costs. We understand this to be mainly due to the fact that CUNY, as an instrumentality of the State, can't be sued except in very limited circumstances, making software contracts on the CUNY side very difficult because of the usual indemnification provisions. 4/ CUNY maintains eleven CUNY-wide licensed software vendors, and software and vendor information is available online. 5/   In addition, CUNY's website notes that "Your college may also have additional site licenses that are not listed" and provides a list of campus site license coordinators and their contact information. Many faculty and leaders we talked to were either completely unaware or only vaguely aware that a list of approved vendors existed.

We reviewed a slide deck referring to Vendor Master File reviews and initiatives such as "purging inactive files," "interactive relationships," "regulatory compliance," "fraud protection" and "overall vendor purge." As noted above, RF and CUNY might usefully confer and develop a better system for evaluating vendors and advising researchers about them.

2.6   **Grant Fund Management**

The grant fund management processes were described to us, and we heard no evidence of recurring problems. There is front-end review of the budget; budget lines are loaded onto the RF finance system; and it rejects payments that exceed the project budget. (This is except for sponsor-permitted re-budgeting within categories, but subject to the overall budget). Generally, if more than one College is on a grant, the RF will set up two accounts with each institution's distinct indirect cost rate being to its own expenditures. There is not a formal subaward, as there would be with another non-CUNY institution.

The "Kuali" finance system is said to work well. It is viewed as scalable for RF growth, though added personnel might be required. The grants management system has recently been upgraded. Grants were initially managed in the RF general ledger, but now a new component called Front-End does it better, including having P.I.s log on with their own codes and being able to check things in real time.

4/ RF   Policy   on   Procuring   Cloud-Based   Applications   and   Services, *available   at* https://www.rfcuny.org/RFWebsite/principal-investigators/procuring-goods-services/procuring-cloud-based-applications-and-services/.
5/ CUNY   Software   and   Vendor   Information, *available   at* http://www2.cuny.edu/about/administration/offices/cis/technology-services/cuny-site-licenses/software-and-vendor-information/.

If P.O.s are submitted, they require use codes so if a category of use exceeds the available budget amount, the P.O. is "kicked out." We were told that there is no way for someone to overspend beyond the project budget. Moreover, the RF grant management financial system includes a myriad of filters and controls. We were told, for example, that expenditures will be flagged/held up if they are for payment into foreign accounts; for compensation above $96/hour; or if the recipient is on a debarred/excluded person list; etc. Occasionally, new P.I.s create problems by submitting P.O.s directly to the sponsor instead of through the RF. At other times, a budget may get approved in error; the RF notes that it does not conform to sponsor rules; and it must be sorted out before a "back-end" sponsor audit problem occurs. Another area of some complexity is where there are "matching fund" requirements, i.e., when a sponsor will grant $500,0000 to the P.I.—but only on the condition that the recipient institution matches it through its own funds, in-kind services or other value. P.I.s sometimes ignore this requirement, assuming it will be met by someone else in the institution, whereas in fact the matching source must be documented for the sponsor. These are just some examples of the day-to-day, routine problems that the RF tackles and solves.

In 2014, the RF engaged Cohn Reznick to assess its business processes and use of technology, in addition to a number of administrative functions, and Cohn Reznick was engaged again in 2017 to conduct a review of the CUNY Central accounts administered by the RF. We asked what response there had been to the draft Cohn Reznick Reports, and the problems they identified. We were somewhat surprised that many RF personnel were not highly aware of the Reports, and while it had been discussed internally, many employees were not aware of any organized plan to respond to its findings.

According to RF higher management, however, a number of active steps were taken across all Departments to address many of the issues raised in the report. For example, thoughtful and specific measures to improve internal processes were undertaken—such as reorganizing work flow processing to improve foreign student stipend processing; push-out email notifications to remind P.I.s with P-Cards to timely reconcile their accounts; re-designing P.O. forms for online completion and e-signature; and establishing internal benchmarks to improve processing turnaround time.

Importantly, the RF website was redesigned to be more user-friendly through easier navigation, creation of FAQs, and organizing content around the specific user's "journey" (i.e., a P.I. can go to the homepage; click "Principal Investigators"; and everything relevant to the P.I. is topically organized). Some P.I.s we interviewed commented on the ease of use of the RF website. Changes and improvements were also made to make the RF systems more interoperable and efficient, and more red flags and restrictions were added to detect impermissible activity. The Report also identified the need across CUNY to improve pre-proposal activities.

The RF Office of Legal Affairs also recently developed a "Contract Management System" for subawards, independent contractor agreements ("ICA(s)") and memoranda of understanding ("MOU(s)"). This system manages the initiation and submission process; provides real-time progress status updates; indicates the assigned legal specialist; has a dedicated "hotline"; and is integrated with Kuali (the RF's financial management system), providing real-time account and budget information. The RF reviews, negotiates and executes contracts, but "compliance with the terms and conditions of an agreement once entered" is the responsibility of

CUNY. The Contract Management System tracks a variety of metrics and allows P.I.s to check the status of their contract in real time. The submission process requires P.I.s to complete detailed fields about every grant type. However, the Contract Management System is limited in that it only includes contracts governing outgoing expenditures (e.g., MOUs)—and not the also critical incoming grant and contract documents that produce the research revenue. We were told that expanding the Contract Management System to include these "money-in" contracts is the next step, but that resources are currently allocated to other projects, such as developing the E-onboarding system.

The difference between "release time" and "summer salary" does cause some confusion. According to the CUNY Central website, each CUNY College is responsible for reviewing, approving and monitoring proposed effort by a P.I. holding a nine-month appointment on projects that will be executed in part during summer months. 6/ "Summer Salary" is thus by definition additional compensation for additional work. This is different than "Reassigned Time" (or "Release Time") where a College may grant relief from normal teaching responsibilities to faculty for a specified period of time (during the 9-month University academic year) to pursue approved academic research projects.   This does not result in added compensation, but rather a change in the faculty member's responsibilities during the academic year. Issues related to release time and summer salary are handled at the College level pursuant to CUNY Central policy.

The RF also has a policy describing the effort and cost allocation process as they pertain to summer salary and release time, as follows. 7/

"Summer Effort: Faculty compensated for 9-month appointments are permitted to expend up to an additional 3 months of summer effort on a combination of service (paid by the College) and one or more sponsored programs in the period beyond the academic year and earn up to 3 months of additional salary for that effort, subject to sponsor policies and the approval of the campus Grants Office. A request for summer salary through the RF's Summer Salary system indicates a commitment to expend commensurate effort on the particular project during the summer term (effort expended during the academic year does not satisfy a commitment related to the receipt of summer salary). The P.I. or a responsible official at the College is required to certify effort for faculty who receive summer salary from a sponsored award during the summer period within a reasonable timeframe after the semester end."

"Released Time: The effort distribution of each faculty member must be certified by semester. In order to generate an online effort certification statement for released time, a staff effort notice must be prepared and submitted by the Principal Investigator and Grants Office to the RF's Grants and Contracts department for approval by the PA. Afterwards it may be entered into the e-Released Time system."

While these process descriptions are clear, we heard that there is often some misunderstanding about how to apply the standards.

6/ "A Policy to Ensure Consistency in Effort Determination, Reporting & Tracking during the Academic Year (9-month Appointment), *available at* http://www2.cuny.edu/wp-content/uploads/sites/4/page-assets/research/research-compliance/sponsored/Policy-on-Effort-Calculation-Tracking2-1.pdf.
7/ RF Effort Certification Policy, *available at* https://www.rfcuny.org/RFWebsite/learning-resources/review-policies-procedures/effort-certification/.

In terms of grant management, the key personnel are in some respects the previously mentioned Project Administrators (RF PAs). They are generally viewed as very skilled and helpful and are the key interface between the sponsors and the research enterprise. They handle a large mass of questions from the field, and they work to resolve a broad array of routine issues. But the RF PAs are physically located at the RF. The only research administration people who are located on the campuses are the Grants Officers (G.O.s).

Sponsors' rules are complex, and they change from time to time. One of the key services the RF performs is to be aware of these changes and advise the P.I.s so they can comply. But some P.I.s felt that closer, more frequent exchange of such information was needed. The Grants Council, which is comprised of all the campus G.O.s, meets every few months and is regarded as a useful tool for exchanging information but still there is a strong unmet desire for guidance.

We asked what response there had been to the New York State Office of Inspector General's (OIG) Report, which raised some issues concerning RF fund accountability. We were told that the RF is trying to move toward creating a better "audit trail" even in the context of electronic systems that have replaced paper. The recently developed CUNY Expense Matrix is a grid intended to help P.I.s and other personnel know clearly which specific type of expenditure is or is not allowed by each funding source (e.g., tax levy funds, non-tax levy sponsor funds, Foundation funding, etc.). It still may require some interpretation, but it appears to be a reasonably clear and very useful shorthand guide—and it should help ensure compliance.

Naturally, despite careful fund accounting, sponsors still conduct audits each year— sometimes routinely and in rotation among their recipients, and sometimes due to particular concerns. We were told that about 100 RF accounts are reviewed/audited by sponsors each year. Most audits are by the City; few are Federal. As reflected in various RF Audit Committee minutes, the audit issues might involve, for example, extra overtime for an assistant, purchase of personal items, work performed for another agency during paid time, equipment purchases, website security, timekeeping accuracy, or system functions of various kinds. We were told that there is good communication within the RF and the various Colleges as to audit support and there have not been any major recent issues arising out of this oversight activity. If so, this is a very good track record. The RF explained that one reason they have generally been able to operate with so few audit problems is that there is a robust transactional-level review process in place. On the personnel cost side, this appears to be largely ministerial, i.e., are the start and end dates correct and is the appropriate salary being charged. For non-salary expenses, there is an e-payment system under which faculty and staff submit receipts that are reviewed by RF personnel for allowability and allocability (relatedness). This is quite a helpful compliance tool. The RF also has an internal audit department that reviews functions such as closing of inactive accounts, website security, cloud computing, server controls, P.I. access, among other things. There is continuous auditing of grant officer system access, Cyborg, Front End, e-timesheet, e-PAF, network and Kuali systems.

Interestingly, the incidence of external audits was not well correlated with the total volume of research. For example, the schools with the largest number of external audits (Medgar Evers, LaGuardia) were not the major research schools. In contrast, Hunter, for example, averaged only one audit per year and City College averaged just two audits per year, despite their being respectively the third and second largest recipients of sponsored funds within

CUNY. Hence, some attention might well be given to system weaknesses or other factors that may give rise to a high audit load at some institutions.

The RF says that it does engage in ongoing efforts to improve services in various ways. In 2017, a new Customer Service Development Department was created to improve customer service and essentially to make the RF more user-friendly. In the short time since it was created, they have taken many steps to better understand what issues RF customers are satisfied with and where there is room for improvement. In March 2018, the Department worked with a committee of faculty and G.O.s, and the Beta Research Corporation, to develop the "RF Annual Customer Experience Survey," as further discussed in Section 2.13. P.I.s now receive a letter providing the contact telephone numbers for key RF personnel. Campus discussions have been organized to guide researchers, and added manuals are being developed. In addition, the RF is currently in the process of developing an online, on-demand platform to provide training for P.I.s, G.O.s, personnel, etc. When developed, this will be a very valuable tool for the CUNY research enterprise—and speaks to the RF's commitment to responding to concerns of the CUNY research community.

With regard to Grants Plus, the 2016 RF Annual Report simply says that "Through Grants Plus, we provide a variety of sponsored program support services to a wide range of organizations. Revenue from Grants Plus Operations helps fund RF operations." The amount of such revenue in 2018 appears to be about $152,000. That alone does not seem a compelling rationale for an overworked RF staff to take on this function that is not within CUNY's mission. Accordingly, we understand that the RF is now phasing out the Grants Plus Program by June 30, 2019.

2.7   Legal Support

The RF Office of Legal Affairs performs a broad variety of functions, including contract review, advice on HR issues, conflict resolution, advice on policies, advice on compliance, resolution or litigation of claims, response to sponsor inquiries, etc. The Office handles hundreds of contracts annually. This is a heavy load to be borne by just seven staff lawyers. The general view expressed by the CUNY personnel was that these functions are performed by the Office competently and with expertise. In a few areas, such as Material Transfer Agreements ("MTA(s)"), or technology transfer agreements, they are said to have modest expertise, but overall, they were regarded as knowledgeable. We did not presume to make a professional assessment of the legal office personnel. We did interview them in three sessions comprising almost four hours. We reviewed documents, and we (Soraya Keskey) spent several hours with them exploring their Contract management system. Our general impression was that they are highly intelligent, serious and dedicated professionals who are working hard to perform difficult tasks effectively.

However, a significant number of interviewees complained of the slow response by the RF legal staff; the time it takes to resolve issues; and the sense that the Office is non-responsive. There may be several reasons for this. No one suggested that the legal staff were not smart or were not working hard. The reasons cited as causes for delays included: there are too few staff; some of the junior staff can't always resolve issues so they get delayed until more senior people can address them; there is turnover; there is poor prioritization of time-sensitive matters; P.I.s are

told that a contract is just "in the queue"; that sometimes the legal staff "make a mountain out of a molehill"; and that the legal department does not display a culture of "user friendliness."

Specifically, some researchers complained of timelines of three to four months or even longer to get contracts reviewed and approved. As described, the RF has implemented a Contract Management System that requires all key information to be submitted together, so this should help reduce delays. But it has not had this good effect as yet. Delay in processing leases was another often-mentioned issue. The CUNY people said the RF personnel are bright and dedicated, but overworked, and hence, slow. The need for more RF legal staff was voiced repeatedly by CUNY personnel. Some CUNY officials stated that CUNY's own internal legal review process used to be slower than the RF's but now CUNY's is faster.

The RF legal staff understandably disagree. They say that they work within very limited staffing and budgets; that they are very responsive, including making available a contract-management hotline and dedicated e-mail inbox; that their contract intake form makes requirements clear; that P.I.s don't understand that a hold-up often is due to missing information the P.I. should have supplied, or information needed from external governmental sources; that certain contracts require review from other internal RF departments; that often sponsors and CUNY signature requirements hold up approval after the RF legal group has signed off; and so on.

It is troubling that many CUNY researchers and administrative personnel said that the RF legal department is a "black box", that they don't tell you where things stand; they don't call back; and things languish for a long time before the researcher is told "Oh, there is a problem" or "You did not fill out the form the right way." Sometimes, this was said to cause crises where a lot of work needs to be done (perhaps sloppily) over a weekend, or where a grant may actually be lost. Some researchers said junior RF legal staff don't seem to know the answers and it takes forever just to find the senior lawyer who will address the problem. The CUNY personnel said the RF legal department does not display a "client" or "customer" orientation. They said nothing moves unless the researcher spends a lot of time to "make a stink" and they are lucky enough finally to get the right person from RF legal on the phone. We would be less concerned if these seemed to be isolated anecdotes or complaints, but we heard them from more than a dozen people. Moreover, the RF's Beta Research Survey that included more than 1,600 respondents also show that the RF legal office had among the lowest satisfaction scores among its clients. [(*See* pages 54–55 below)].

It seems to us inconsistent for P.I.s on the one hand to say that RF fees are "too high" and also that the legal department is too slow due to limited staffing. Obviously, added personnel would cost something. No one suggested that the legal staff fails to work very hard, and indeed some cited instances of the legal group doing great work on short time frames. They also generally respected the legal department's expertise. The legal department may draw the most ire from CUNY researchers because legal issues are the least understood. But a few suggestions should nevertheless be considered. The main one is that the legal department might benefit from a more formal process for priority setting, especially for time sensitive and important contracts. Also, an "early warning system" would be useful—in which some lawyer quickly reviews an especially challenging contract or issue when it comes in and identifies what are likely to be the key issues or the longest-fused processes—and these get flagged and solutions are started right away. And there should be an escalation process to direct immediate attention to significant

problems. Overall, there need to be more effective processes for priority setting for contract review.

The legal staff pointed out that the Contract Management System allows P.I.s to track the status of subawards, ICAs and MOUs in real-time. They also noted the dedicated phone hotline for inquiries—but said they only receive a few per week. They said they <u>always</u> triage more significant problems for urgency and prioritization. All these comments seem genuine, but it remains puzzling that they are at odds with recurrent reports from their customers.

Rather surprisingly, the RF legal office told us that they did not feel that they really had ever been given the mandate or authority to perform as a customary Office of General Counsel. We do not know the source of this view or if the RF Board agrees with it. But it is self-evident that an organization with functions as important and complex as that of the RF needs an Office of General Counsel that performs plenary functions—including advising the Board, resolving internal legal issues, providing legal support to basic RF functions, strategically identifying future legal risks, and so on. We assume that this might require more resources than are currently made available to the legal office, and that they would welcome such a clarified mandate. But whatever gaps in understanding their role may exist—should be closed.

2.8 <u>Compliance</u>

Compliance in sponsored research is a complex issue. Indeed, there are many sources of compliance requirements: Federal, State and City laws; regulatory guidance; sponsor rules; CUNY rules; scientific integrity standards; basic "best practices" in fund management, etc. In addition, compliance traverses a broad terrain, and assuring compliance requires a broad range of expertise—including finance, data system security, conflict of interest, scientific integrity, and so on. Moreover, it is an area in which an individual or organization can do everything right 99% of the time—but the single instance of noncompliance can lead to major liability and problems. Hence, compliance naturally warrants a lot of attention. The CUNY and RF compliance functions seem generally to be working appropriately, if not exactly at "state of the art" level. As, one leader stated flatly "We are five years behind our peers in the compliance area." The main problem is that in some areas, both CUNY and RF personnel lack a clear sense of where the responsibility of one organization ends and that of the other begins.

If there is a compliance problem as viewed by a sponsor—they generally first call the RF or the P.I. The RF often said that financial administration was really their main job and they doubted that it was appropriate to "load onto the RF" an array of compliance functions. In 2012, CUNY and the RF seemed to reach an agreement as to the division of duties. CUNY sent the RF a letter ("Letter") to clarify certain provisions of the 1983 Agreement in response to determinations from the Office of Human Research Protections (OHRP) and the National Institutes of Health (NIH). The OHRP indicated that "the RF, even though it is a direct awardee of grants, acts as fiscal agent for CUNY and is not obligated to maintain a [FWA]." This determination was further confirmed by a statement from the Division of Grants Policy at NIH that "acknowledged the fiscal relationship between RF and CUNY" and agreed that the "CUNY Campuses should hold the FWA…and be responsible for the protection of human subjects." According to the Letter, CUNY also assumed responsibility for compliance not just with applicable laws and regulations, but also with sponsor requirements for sponsored programs administered by the RF on behalf of CUNY. This includes "the development, oversight and

monitoring of human and non-human CUNY research protection programs and compliance and oversight of the development, implementation and administration of policies and procedures for CUNY research compliance, including but not limited to export control laws, responsible conduct in research, biosafety, misconduct in science and conflict of interest." While the RF is not directly responsible for the conduct of CUNY research, the Letter provides that the RF must carry out its fiscal administrator duties in a manner consistent with CUNY policies and procedures for the protection of human and non-human subjects in research.

But interestingly, a few RF leaders said they thought the RF should take on a broader role in compliance monitoring and policies because the RF had acquired considerable expertise, and should not be seen as merely "payment agents." They pointed out that the campus G.O.s meet with P.I.s at least once a year and provide a checklist of steps they need to take. But one of the problems noted was that many P.I.s get their information on sponsored research rules through "the grapevine"—and they do not check with the RF and G.O.s. Often this "urban myth" information is mistaken, and the RF feels that it can correct it. The RF staff provide forms, information and training for P.I.s on compliance issues.

In terms of the division of responsibilities, some areas are fairly clear. For example, scientific integrity and compliance with research protocols and standards are a CUNY obligation—the RF does not have the expertise or mandate to verify and check such protocols, or the research actually conducted under them. At the other end of the spectrum, fund reporting to sponsors is an RF function. But of course there are grey areas. If a P.I. chooses to select known irresponsible personnel, and the RF fails to do an adequate background check, both might share responsibility. Or if a P.I. improperly transfers funds from one account or use to another and the RF fails to detect it, both may be responsible. Leaders said that if a compliance issue arises, sometimes the campus takes the lead and sometimes the College Compliance Officer just refers the person to the RF.

CUNY has a large complement of compliance policies, a Researcher Handbook, and other guidance documents. 8/ Overall, our interviewees believe that CUNY and the RF together had made some progress in the compliance area, but were still far behind peer institutions. Many institutions structure their compliance programs around the Federal Sentencing Guidelines. And, in 2005, the Department of Health & Human Services, Office of the Inspector General ("HHS OIG") promulgated the "Draft Compliance Program Guidance for Recipients of PHS Research Awards" that was loosely based on the Federal Sentencing Guidelines. The proposal focused on the following components of an effective compliance program:

1. Implementing written policies and procedures;

2. Designating a compliance officer and compliance committee;

3. Conducting effective training and education;

4. Developing effective lines of communication;

5. Conducting internal monitoring and auditing;

8/ CUNY Research, *available at* http://www2.cuny.edu/research/.

6. Enforcing standards through well-publicized disciplinary guidelines;

7. Responding promptly to detected problems and undertaking corrective action; and

8. Defining roles and responsibilities and assigning oversight responsibility. 9

The HHS OIG proposal was ultimately rejected by the research community, but its approach remains one that is often followed by Universities. It focuses on formal policies and procedures, having employees agree to follow those procedures, monitoring, and then taking action when the rules are not followed. There is value in that.

We heard from numerous constituencies that many of the challenges they face are caused by a lack of resources and/or organizational constraints that may not always be as effective and efficient as CUNY/RF would like. As a result, there can be incentives to cut corners or circumvent official channels in an effort to move forward more quickly. These kinds of weaknesses in compliance in the research area cannot be solved by writing more policies. They can only be mitigated by thorough efforts to identify the barriers, understand why they exist and the risks they pose, and then make judgments about which of them can be mitigated (and when) given the resources available. Those decisions require the time and attention of senior leadership because only they are empowered to allocate scarce resources. We discuss below some of the main areas of compliance.

Data Security

This is an area where there seems to be some difference of perception about the division of responsibility as between CUNY and the RF. Of course, in the first instance, it is the responsibility of the P.I. to apply appropriate rules for compilation of and access to his/her data, depending on its nature. This may include decisions, for example, about whether and when to de-identify it; who has access to it within CUNY; with whom (e.g., other researchers or sponsors) it can be shared; and how it is stored/backed-up. Many CUNY interviewees seemed uncertain about what their College or CUNY rules require. Moreover, if a sponsor inquires or has a problem about data issues, the RF is supposed to intermediate—but the RF staff did not really feel that data security, outside of RF systems, was within their realm. The RF feels that CUNY policies govern (CUNY must approve RF purchase of software for this purpose), but it's not clear how coordination occurs. So clarifying this would be advisable.

We inquired, but the RF was not aware of any recent major data breaches or security events such as have occurred at some other elite institutions. However, we were told that many of the RF data security processes and systems are currently being reconstructed because they are out of date. We also note that many of the existing processes are management-level procedures, not Board-approved policies, and that the new RF data policies being developed will be reviewed and adopted subject to Board approval.

We were also told that the RF is continually trying to upgrade encryption, data security, access controls, etc., for the major RF systems. The RF SIS and Internal Audit Departments share the data security functions. We saw some slide decks indicating that the RF was working through processes to enhance security, for example, by encryption of key data, restrictions on file

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9/ 70 Fed. Reg. 71,312, 71,313 (Nov. 28, 2005).

transfers, security codes for key documents, firewalls, and security training of staff. There were also references to system loss prevention, data recovery/disaster planning, etc. We are not in a position to judge the adequacy or effectiveness of such measures; that is outside our scope here. But it is good that the RF staff are working on the issues.

We note that the RF may be subject to different data security obligations and standards for different contracts. For example, the RF may have data security obligations imposed by the sponsor of a study while other work may be subject to different data security obligations imposed by a CUNY IRB. Still other data security obligations may be imposed on the RF or CUNY based on the specific types of data they process. We have not undertaken to assess the RF's or CUNY's compliance with those specific obligations.

However, we do note that in some respects, the data security policies provided by CUNY and RF lack the detail that we would expect to see and are likely out of date. For example, most of the policies posted on the "IT Policies" page of the CUNY website were drafted in 2002 or 2003. 10/ Data security has evolved rapidly and policies need to do the same so that they are carefully crafted to meet current threats. Policies from 16 or 17 years ago may provide little value and may suggest that they are not regularly assessed to meet current requirements. For example, the policy governing the e-mail platform only describes efforts that were underway during 2003 to assess various options for deploying email access to students and staff.

The CUNY "Information Technology Security Procedures Policy" (last updated in 2014) reflects more recent data security approaches and is also more detailed than the other policies posted on the website (the "CUNY IT Security Policy"). 11/ It does not, however, address all of the topics that comparable institutions often address in their data security policies. For example, the policy discusses how frequently passwords should be changed and that unique logins should be used, but does not discuss the use of single sign on technologies or multi-factor authentication. However, the policy does not address certain important data security areas, such as intrusion detection, logging, vendor management or the use of cloud-based services.

Privacy Compliance

Depending on CUNY's and the RF's operations and the types of data they process, their operations may be subject to a number of U.S. federal and state privacy and data protection laws, in addition to international requirements, such as the recently implemented EU General Data Protection Regulation ("GDPR"). 12/ The CUNY and RF privacy policies, however, do not appear to provide a comprehensive set of compliance processes to meet those requirements. For example, the CUNY IT Security Policy indicates that "Non-Public University Information" includes student education records that are protected under the Family Educational Rights and Privacy Act of 1974 (FERPA), but does not describe the activities undertaken by CUNY to comply with FERPA's obligations imposed on student records and other types of protected information. Similarly, while the RF's Confidential Information policy generally obligates the

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10/ CUNY IT Policies, *available at* http://www2.cuny.edu/about/administration/offices/cis/it-policies/.

11/ CUNY Information Security Policy, *available at* https://www.cuny.edu/about/administration/offices/CIS/security/pnp/IT-Security-Procedures-6-25-2014.pdf.

12/ European Commission, 2018 Reform of EU Data Protection Rules, *available at* https://ec.europa.eu/commission/priorities/justice-and-fundamental-rights/data-protection/2018-reform-eu-data-protection-rules_en.

RF's employees and designated individuals to protect confidential information from unauthorized uses and disclosures and to report suspected breaches, the policy does not address the heightened confidentiality and breach notification requirements applicable to the "regulated data" that the RF collects and processes, which includes social security numbers, credits card numbers and health information.

CUNY and the RF should consider whether they have sufficiently implemented robust formal policies and procedures and documentation related to privacy and data protection. Such policies should identify how CUNY and the RF will meet and manage their respective compliance obligations under applicable laws. Without this type of formal program, effective management of privacy and data protection obligations will be challenging over time and possibly suggest to regulators and other third parties that the CUNY and the RF do not have effective controls.

It appears that CUNY maintains a website privacy policy, although it is undated and thus not clear how current it may be, and the RF currently does not maintain a website privacy policy. CUNY and the RF should consider updating and implementing, as applicable, website privacy policies that comply with current laws applicable to CUNY and the RF, and that provide sufficient information to users regarding each of CUNY's and the RF's collection, use, and disclosure of personal information.

Conflict of Interest

Potential research conflicts of interest ("COI(s)") are handled largely at the local campus level, and pursuant to the CUNY COI Policy that is applicable to the entire University. The CUNY COI Policy governs a seven-member, University-wide Conflicts Committee that includes the RF President or his/her designee. It also requires that each College designate an employee as the College Conflicts Officer ("CCO") and details the functions of this role. First, each P.I. must comply with the sponsor's requirements. A COI form is usually included in the grant application, and may vary by sponsor. In addition, each campus may have somewhat different COI standards, disclosure requirements and resolution processes. Any COI is supposed to be disclosed at the Departmental level and then escalated if needed to the CCO. But some said the conflict form also must be reported up to CUNY. There is uncertainty as to whether only the project-specific conflict or all financial conflicts are to be reported up. The compliance forms were said to be confusing.

The RF gets involved only when an actual problem later arises and perhaps the sponsor becomes concerned. We asked whether there were recurring abuses and non-compliance. We were told that there are a few "repeat offenders" and they tend to be the "heavy hitters" in research, who are more refractory to RF guidance. Sometimes the RF resolves these problems, and sometimes when they are unable, they refer them to College leadership. The RF legal team felt there was an inconsistent level of disclosure monitoring at the campus level. One of the problems is that some people interpret the COI policy as relating only to true "research" and not to training grants or other sponsored activity—whereas in reality it should apply to all.

Confusion also may arise because the CUNY COI Policy sections regarding "Nepotism, Hiring, Employment, Supervisory Responsibility and Contracting" expressly do not apply to "any research positions administered through the RF" and that "Hiring, employment, and

contracting decisions and supervisory responsibility in connection with such positions shall be governed by the Code of Ethics of the RF." The RF has its own COI Policy that largely mirrors the CUNY COI Policy, as well as its own Code of Ethics, referenced in the CUNY COI Policy. The RF Code of Ethics (last updated January 1, 2007) requires RF employees to disclose financial interests to the "RF President or his/her designee" if an immediate family member or partner is involved. Yet as noted, the RF feels that CUNY really has the lead on COI. In sum, the inter-relationship among COI Policies that researchers must adhere to is not well understood.

IRB and Human Subjects Protection

There seemed to be a general consensus that this area is well understood and well-functioning. It is handled through CUNY Central and not the RF. CUNY currently has four convened University Integrated Institutional Review Board (UI-IRB) panels and one University integrated expedited review panel. There is also an overall CUNY Animal Advisory Board for animal studies. CUNY has a Human Research Protection Program ("HRPP") that is "designed to ensure the protection of the rights and welfare of human subjects participating in research projects conducted by CUNY faculty, students and staff." Each CUNY College is also supposed to have a dedicated HRPP Coordinator who acts as the campus liaison and "provides guidance to researchers and facilitates the required review of human subject research." CUNY has a process in place for requesting an IRB Authorization Agreement, which starts with the P.I., moves to the Campus HRPP Coordinator, and then eventually to the Associate University Provost for Research Administration and Compliance and the Office of Research. We did not find any material issues with this compliance function.

Material Transfer Agreements

Some people said this was another area where roles and obligations of CUNY and the RF were not well understood. We were told by the RF Legal team that responsibility for material transfer agreements ("MTA(s)") migrated to the RF because "someone needed to handle them"; "CUNY was having difficulties"; and "the number of MTAs has been increasing". Both the CUNY Technology Commercialization Office ("TCO") and RF Legal appear to share some responsibility when it comes to MTAs, but the process is unclear. For example, the TCO website has a link to an MTA template agreement for "Academic and Non-Profit Entities" and a link to a "Material Transfer Agreement Request Form" that is only applicable when a non-CUNY party is supplying material. Separately, the RF Contract Intake Form has an option to indicate MTA as the agreement type and notes that the "RF may send the agreement to CUNY for review and signature." But it is not made clear why one MTA might be sent to CUNY and another might not, or when the TCO may send an MTA to the RF. The process for MTAs was said to be "unclear to faculty."

A June 2018 memorandum from the CUNY Office of the General Counsel ("OGC") and Vice Chancellor for Legal Affairs covering research-related agreements not entered into by the RF on behalf of the University requires that MTAs must be signed by the Director of the TCO. But the memo does not address or clarify signatory authority for MTAs entered into by the RF. In addition to the TCO and the RF, the OGC may also be involved in this process but the extent is also unclear. The CUNY Intellectual Property Policy (the "CUNY IP Policy") requires that "All research agreements relating to University-owned [IP], such as material transfer…shall be on forms approved by OGC or the [RF] and signed pursuant to OGC or [RF] policy regarding

contract signature authority, as the case may be." Therefore, depending on the situation, the RF legal department may be involved in negotiating and reviewing many agreements (e.g., data transfer, independent researcher, nondisclosure and confidentiality, etc.) that they must send to CUNY for various approvals.

Processing of MTAs has been said to be "unnecessarily slow" even though this is typically a fairly routine and formulaic agreement and should not require extensive processing or review time. Moving agreements back and forth from the RF to the P.I. to the College to the TCO to CUNY Central may factor into the recurring delays we have heard mentioned. The RF, as the main and often first point of contact for P.I.s for all research-related issues, may bear the brunt of the supposed "blame" for delays in processing. An agreement may be on the desk of a busy Department Chair who has a full plate, or with a sponsor that has to approve it, but P.I.s may have little visibility into the agreement review process or the actual cause of delays. CUNY and the RF should perhaps consider implementing a process to streamline cross-institutional agreement movement of documents to accelerate IP issues and simplify MTA processing.

Export Controls

The issue of export controls was noted repeatedly in discussions as an area where more training is needed. We understand that this was the subject of a presentation at a recent Grants Council meeting, and many people found it a new and complex subject that made them anxious about what they had not known.

"Export controls" are U.S. Government licensing and permit requirements for organizations and individuals before transferring certain items, software or technology outside the United States—or to non-U.S. persons. Failure to obtain licenses can result in criminal or civil liability for organizations and individuals. Most Universities and research institutions provide guidance to employees through their Office of General Counsel or the Office of Sponsored Research.

The U.S. government maintains export control rules and regulations that govern whether and when certain hardware, software (including source code), technology and services can be exported or re-exported outside the United States and/or to non-U.S. parties. The U.S. government also maintains economic sanctions regulations that restrict other types of transactions, such as financial dealings, travel and contractual arrangements. Sanctions are maintained against certain countries, entities, people, and industries.

CUNY is subject to export control regulations including the Export Administration Regulations ("EAR"), administered by the U.S. of Commerce Department's Bureau of Industry and Security ("BIS"), which regulate commercial as well as dual-use items that may have military or other strategic uses in addition to civil applications; and the International Traffic in Arms Regulations ("ITAR"), administered by the U.S. State Department's Directorate of Defense Trade Controls ("DDTC"), which regulate items that are inherently military in nature. In addition, the Department of Treasury's Office of Foreign Assets Control ("OFAC") maintains economic sanctions programs that restrict or prohibit a wide range of export and other transactions—including educational services—involving designated countries, entities, and individuals.

A University's obligations regarding "exports" can involve a range of activities, such as: (i) the actual shipment of items from the United States; (ii) the electronic transfer of software or technology from the United States; (iii) the re-export of U.S.-origin items from one foreign country to another foreign country; (iv) the performance of defense services on behalf of a foreign person, whether in the United States or abroad; and (v) the transmission of export controlled information to foreign persons outside the United States. In addition, both the EAR and the ITAR control "deemed" exports. A deemed export is the disclosure or transfer (including oral and visual disclosures) of technical data, to a foreign person in the United States.

However, many of the trade control related restrictions are mitigated when connected to certain research or study at U.S. Universities. For instance, an ITAR or EAR license is not required in some instances, including if one of four exclusions applies: (i) Educational Information Exclusion; (ii) "Public Domain" Exclusion; (iii) Fundamental Research Exclusion; or (iv) the Employment Exclusion.

Educational Information Exclusion. The educational information exclusion exempts from the ITAR and EAR information concerning general scientific, mathematical or engineering principles commonly taught in Colleges or Universities, and applies to information released during catalog-listed courses, through lectures, course materials, or instruction in laboratories. If the exception applies, teaching to foreign nationals in classrooms in the U.S. or overseas is not considered a "deemed export," even if the material is covered by the ITAR, or EAR.

Public Domain Exclusion. The "public domain" exclusion exempts from the ITAR information which is generally accessible or available through public release in any form (e.g., not necessarily in published form) after approval by the cognizant U.S. government department or agency.

Fundamental Research Exclusion. Information arising during or resulting from "fundamental research" is considered to be publicly available information and is not subject to the EAR and therefore does not require an export license. Fundamental research is defined as research in science, engineering, or mathematics, the results of which ordinarily are published and shared broadly within the research community, and for which the researchers have not accepted restrictions for proprietary or national security reasons.

However, the fundamental research exclusion generally will not apply if CUNY were to accept any contract clause that: (i) forbids/restricts the participation of foreign persons; (ii) gives the sponsor a right to approve/restrict publications resulting from the research, except for customary pre-publication review for patent/IP protections; or (iii) restricts access to or disclosure of research results.

Employment Exclusion. No license is required to share ITAR-controlled technical information with a foreign person who: (i) is a full-time, bona fide regular university employee (this exemption is generally not available to graduate or undergraduate students); (ii) has a permanent place of abode in the United States while employed; (iii) is not a national of an ITAR proscribed country; and (iv) is advised in writing not to share ITAR-controlled information with other foreign persons.

CUNY has developed a number of export control-related guidance documents, including an "Export Control Overview", "Export Control Related Contracting Considerations" and "Export Control High Risk Areas." These documents appear to be user-friendly and helpful. CUNY also has a number of policies and procedures online. 13/ But many interviewees expressed frustration that they were unaware of these policies. Some said that CUNY will often develop research-related policies that all Colleges must comply with, but will provide no guidance on how to implement the policy. For example, each College is supposed to have an "Export Control Administrator" that "serves as the first point of contact for CUNY faculty, staff and students" for export-controlled transactions and is the liaison between the CUNY Central Office of Research and the College to "ensure compliance with export control regulations." 14/ The Export Control Administrator is responsible for "identifying export control training needs at their respective College and addressing these needs in collaboration with the [Office of the Vice Chancellor for Research]." However, at the recent Grants Council meeting, there was a general lack of awareness of this role. This speaks to the potential need for more oversight, or at a minimum improved channels of communication. As one G.O. put it, "CUNY is policy-heavy but process light."

Compliance Policies & Procedures

The RF may want to consider developing a more robust suite of compliance policies and procedures. Federal sponsors in particular place significant emphasis on an institution's policies and procedures. The RF website does have a page devoted to post-award management and oversight but it is somewhat difficult to find and provides only a brief summary of what it refers to as "Core Compliance" topics. There is also a document titled "General Guidance on Sponsored Research Administration Compliance at [CUNY]", which provides much of the same information. It is, however, not a very user-friendly document, includes many broken links, and is in any event not a formal policy. Given the substantial workload of the RF's post-award teams, enhancing and making more readily available a full suite of basic compliance policies may be beneficial to the CUNY research community, faculty and administrators alike. Many research intensive Universities have devoted significant effort to developing, rolling out, and publicizing a strong website with not only policies and procedures but also user-friendly tools such as FAQs. This can help achieve both improved compliance and reduced workload for the central administrative team.

Although commenting on the specifics of each of the "Core Compliance" topics" is beyond the scope of this Report, we note the following about the principal risk areas, particularly for federally sponsored research.

> Cost Transfers: The movement of costs from a non-sponsored account to a sponsored account or from sponsored account to another is a high risk area in the research community because regulators are well aware that transfers are sometimes effected for reasons of fiscal expediency, such as spending down available funds or clearing a deficit.

13/ Export Control Procedures, *available at* http://www2.cuny.edu/research/research-compliance/export-control/export-control-procedures/.

14/ Export Control Oversight: Who is Responsible, *available at* http://www2.cuny.edu/wp-content/uploads/sites/4/page-assets/research/research-compliance/export-control/export-control-procedures/Oversight2-1.pdf.

As a result, cost transfers are the subject of frequent oversight activity. It would be beneficial for CUNY to implement a full cost transfer policy to ensure that the CUNY research community understands the guidance promulgated by different sponsors and to highlight some of the key risk areas.

<u>Allowable Costs</u>: The current discussion on the RF website provides a general description of the factors that govern whether a cost is allowable, and the CUNY Expense Matrix" is a useful tool for advising a faculty member or administrator as to examples of allowable and unallowable charges to particular sponsored projects. However, a list of "Do's and Don'ts" and additional explanatory guidance would also be helpful.

<u>Subrecipient Monitoring</u>: Assessing risk and monitoring the performance of collaborators is a key element of a successful research compliance program. The RF appears to have a well-developed approach to subrecipient monitoring that it makes available to the CUNY research community. There is also a helpful checklist to facilitate the ability of faculty and administrators to distinguish between and contractors and sub-recipients and make accurate designations for compliance purposes.

Horizon Scanning

As the RF considers compliance going forward, there are certain "hot button" issues that it might want to consider further. One relates to entrepreneurial faculty. As faculty become more entrepreneurial, they may be involved with founding companies to commercialize their research. These companies are a frequent focus of federal enforcement activity. While this activity is often focused on the company (and sometimes the faculty member as an owner or founder), the impact on the faculty member's University can be adverse. Universities can be dragged into the matter as a witness, which can mean responding to subpoenas, making employees available for interviews or depositions and other disruptive activity. An adverse outcome can also have reputational consequences for the University. While unduly limiting the entrepreneurial initiative of faculty is not advisable, some Universities offer guidance and training to support navigating these areas.

A second increasingly significant risk area for Universities is faculty members with dual appointments or other relationships with talent programs, universities, or companies in certain countries of concern, especially China. Federal sponsors are aggressively pursuing issues such as possible misappropriation of intellectual property, sharing of confidential information and adequate reporting of such relationships.

2.9 **Effort Reporting**

Effort reporting—or the documentation of compensation costs charged to sponsored projects—is in our experience the single most significant financial and administrative research compliance risk area. As a general rule, salary costs often account for two-thirds to three-quarters of the total direct costs on a project supported by a federal sponsor. Since the early 2000s, effort reporting issues have been involved in the vast majority of significant federal enforcement activity in the research space.

The RF does have a cohesive policy on effort reporting. However, the policy could be enhanced in at least the following ways:

Clarify by dividing the document into three discrete sections: (a) a formal policy statement; (b) the procedures required to implement the policy; and (c) a discussion of some of the questions that often arise in connection with effort reporting.

The third section, whether in the form of FAQs or otherwise, is in our view essential to assist faculty and administrators with successfully understanding and implementing the policy. For example, faculty and other personnel are often unsure about how to assess when they are "on the clock" and when they are not, (e.g., how to count weekends, work at home after hours, any time spent after 40 hours in a week, etc.). Providing guidance on questions of that nature is essential to a successful effort reporting system.

Other subjects to address might include what kinds of activities can be charged to a sponsor and what cannot, and how faculty should deal with permissible outside activities. In sum, no matter how strong an effort reporting system is on paper, if the research community does not understand the underlying principles of charging compensation costs to sponsored projects the system will not succeed and the institution will be at risk.

The procedure section should also be quite detailed. Subjects to cover might include who must complete an effort report, how to initially allocate salary, adjustments to initial allocations based on changed circumstances, the reporting period, and how to actually complete the report. Some of these subjects are currently addressed in the guidelines.

A more robust definition section would be useful. The current guidelines define only Institutional Base Salary and Total Institutional Activities. Other key terms might include, among others, Actual Effort, Committed Effort, Salary Cap, Cost Sharing, and the level of knowledge necessary to complete an effort report.

In addition to the RF policy, CUNY also has policy on effort certification, which is featured on its Core Compliance Topics website more than any other financial or administrative area, which is quite appropriate. 15/ There is a link to the CUNY policy, as well as a sample "research effort log" and another document titled "Calculating Salary Based on Effort." The policy itself, however, should be enhanced in a number of ways, many of which are similar to those described above. In addition, the policy includes a number of broken links that reduce its utility. 16/

The RF has an electronic effort reporting system that is "home-grown" like many of the RF systems. While some of the major educational consultancies market widely used electronic effort reporting systems, they are not necessarily better than some home-grown systems that have proven effective. We understand that P.I.s certify the percentage of effort periodically and G.O.s get an email duplicate each week. Eligible "institutional base salary" is set by the Departments, filed twice yearly with CUNY, and uploaded to the RF system. P.I.s certify to the accuracy of their reported effort distribution.

15/ RF Policy on Effort Certification, *available at* https://www.rfcuny.org/RFWebsite/learning-resources/review-policies-procedures/effort-certification/.

16/ CUNY Policy to Ensure Consistency in Effort Determination, Reporting & Tracking during the Academic Year (9-month Appointment), *available at* https://www2.cuny.edu/wp-content/uploads/sites/4/page-assets/research/research-compliance/sponsored/Policy-on-Effort-Calculation-Tracking2-1.pdf.

But as is common at research institutions, there is really not much effective monitoring of the actual work effort underlying the percentage allocations—unless a person were to exceed 100% of allocated effort. The RF does not see its role as including challenging/verifying the effort reporting. We agree with the RF that in the vast majority of situations, it cannot be expected to assess the veracity of any specific effort report because it has no way to verify how researchers spend their time. But the RF could, on at least a periodic basis, look for classic "red flags." For example, one would not expect to see a faculty member charging 80% of their salary to sponsored projects during the academic year because their CUNY duties customarily include a major teaching obligation.

2.10   Indirect Cost Rates and Recovery

Federal funding for research includes direct costs, as well as Facilities & Administrative ("F&A") costs, also called indirect costs. F&A or indirect costs are those that are associated with carrying out the University's research enterprise but that are not related to a specific project. They include costs such as building maintenance and depreciation, utilities, telecommunications, and administrative costs. Universities recover such costs at the federal level by negotiating F&A Rate Agreements with their cognizant agency. The Department of Health and Human Services ("HHS") serves as the cognizant agency for CUNY. The RF F&A Rate Agreements are based on proposals submitted by each campus to HHS and subsequently negotiated by the RF on behalf of the Colleges.

The RF requests that campuses with more than $10 million of sponsored research (such as City College, Lehman, Hunter, Graduate Center, Queens, Brooklyn and the ASRC) calculate their indirect cost rates using the HHS "long form," which we understand is based on the customary Modified Total Direct Costs ("MTDC") methodology, which essentially means direct costs minus some exclusions for costs such as equipment and stipends, among others. The other campuses prepare a "short form" that is salary and wage-based. Seven campuses use the long-form methodology and 16 use the short-form. There is no firm basis to conclude that one method is inherently better than the other.

The RF works with the relevant College to assure that the financial information in the F&A rate proposal is accurate. Once negotiated, the rates set forth in the F&A Rate Agreement are applied, as applicable, to all federal awards. As is customary, each campus has both on-campus and off-campus rates.

There can be the usual tensions associated with indirect costs—such as when a College wants a high F&A recovery rate, while the P.I.s want a low rate because in their view that helps them be more competitive to funding sources. There is a range of rates at the various campuses, including 56% at Hunter, 57% at the ASRC and 65% at Lehman. Although we understand that faculty complain about how high the rates are, the RF said the rates are comparable if not somewhat lower than nearby Universities and we agree with that assessment.

For the first indirect cost rate negotiation after the creation of the ASRC, there were no historic costs that could be used for an allocation. According to the RF, the ASRC is treated as a separate entity with its own overhead rate and all indirect cost recoveries generate credit to an ASRC Recovery Account. For internal College President reporting, the ASRC is credited to the Sponsored Program Activity for the Graduate Center. The next rate negotiation will be in 2021

and may prove a bit complicated than normal because the ASRC includes several centers that charge outside users and thus could impact F&A recovery. The RF is aware of this and that they will need to be particularly prepared for that negotiation.

The F&A recoveries are automatically allocated back to the applicable campus, to be administered as "recovery accounts"—essentially at the discretion of the College administration.

Overall, we are not aware of any compliance issues related to F&A rates.

2.11   Recovery Accounts.

F&A Recovery Accounts cumulated to about $80 million in 2017. They are very asymmetric in amount—about $17 million at Hunter; $9 million for Queens; $7.5 million for City; $7.5 million for Brooklyn; $6 million for John Jay—and far less for most other Colleges. As stated in an RF Audit Committee meeting summary, "The money is the schools' money and we have no control [of it]." Consistent with this, the RF's view as conveyed to us was essentially that these accounts are not within its purview. Draws on such accounts for over $25,000 may require two signatures—usually the College President and a designee. A use requiring a P.O. would go through the usual process, but the RF does not question the wisdom or purpose of the proposed expenditure. The CUNY Expense Matrix (*see* discussion below) should help preclude improper expenses, but beyond that there is not active review by the RF of recovery accounts. Some noted that while the recovery account dollars are derived from research, often the College President will not actually put those funds back into research, but instead use the account as a general expenditure fund.

In 2016, the State of New York Office of the Inspector General issued a draft report analyzing primarily CUNY's relationship to its affiliated Foundations. It referred to "CUNY's lack of oversight that [has] led to financial waste and abuse within the CUNY system," and failures to "institute effective centralized management policies", i.e., the "lack [of] sufficient controls to ensure the integrity of their use of non-tax levy funds." It specifically criticized that "CUNY has limited policies governing use of Presidential Discretionary Funds at its Colleges." The OIG urged development of "more stringent controls." The principal focus in the draft OIG Report was the functioning of affiliated College Foundations—not the RF-administered accounts. But it did address the use of "recovery accounts" maintained by the RF and used by the Colleges, and it criticized the expenditures for lobbying expenses by the RF.

These issues are largely outside the scope of this Report, and are addressed more properly to CUNY alone. The RF really only acts as a "bank" for such recovery accounts. The 2017 draft Cohn Reznick Report stated "These recovery account funds are unrestricted and can be used at the full discretion of the CUNY entity." The RF is solely a custodian of such funds, but does not determine their use. Compliance as to use of recovery accounts would seem properly to be a CUNY or College-specific function, not an RF compliance function. Accordingly, since June 2017, the CUNY Board has implemented a number of reforms to CUNY's governance and administrative policies to improve financial integrity, transparency and accountability.

For example, the CUNY Expense Matrix was created to give guidance when "purchasing goods and services using…various types of funds." Use of funds inconsistent with the CUNY Expense Matrix must be justified in writing and approved by the relevant designee. Any College

or the RF may create their own guidelines on the use of funds as long as the guidelines are never less restrictive than the Expense Matrix. It defines the following funding sources: Tax Levy; Indirect Cost Recoveries; Auxiliary Enterprise Corporations (AEC); College Foundations; and All Other Non-Tax Levy funds. Many people we spoke with said that the Expense Matrix helped in clarifying permissible and impermissible use of different kinds of funds. It addresses categories such as gifts, lobbying, recruitment, travel, transportation, consultants, entertainment, flowers, and food. .

The Expense Matrix defines Indirect Cost Recoveries as funds "generated by charging a pre-determined rate to externally sponsored projects [that] can be used at the discretion of the University." The definition notes that the "majority of indirect cost recoveries are generated through grants and contracts administered through the [RF]" but that this category includes "funds generated from interest income and other unrestricted College-funded activities that are administered through the RF." The Expense Matrix also notes that the "majority of [College Foundation] funds are derived from philanthropic dollars" and that the Expense Matrix "only covers the expenses from the unrestricted gifts or other unrestricted revenues of the College Foundation." This is somewhat circular and could be clarified.

2.12   RF Fees and Costs.

Total RF administrative fees charged back to the campuses were about $28.5 million in 2017, up from $26.3 million in 2016. Naturally, even some satisfied CUNY customers say the RF services "cost too much." But overall, the rate of RF fees did not seem to be viewed as a major irritant. We probed those who said the fees were too high to identify how they would benchmark appropriate fees, but no one really suggested a standard. Some P.I.s did say that while the rate for personnel services was reasonable given the complexity of HR management, the fees for Other Than Personnel Service ("OTPS") services were too high.

We were told that the RF generally charges as follows:

−   10.5% for construction project costs;

−   6.75% for personnel costs;

−   5.5% for OTPS costs;

−   5.5% for independent contractor agreements/MOUs;

−   5.0 % for subawards;

−   0% for equipment purchases; and

−   On a "blended" basis, RF fees to be about 6%.

However, there are a number of exceptions to these standard RF fee categories:

−   50% (indirect cost recoveries) and 5% (direct fee) for projects at CUNY Central/School of Professional Studies awarded to the Senior University Dean of Academic Affairs;

- 5% (up to $125 million of activity and thereafter 3%) for DANY;

- 7.7% (direct fee) or 5% of activity for the University Transportation Research Center at City;

- 10% (indirect cost recoveries) for the Research Center in Minority Institutions programs at Hunter and City;

- Direct fees on certain CUNY tax levy projects are charged RF standard rates;

- Waived administrative fee for six CUNY Central projects, three Macaulay Honors projects and one LaGuardia project; and

- Reduced administrative fee on subawards for one project at John Jay and one project at the ASRC.

There are periodic gripes about the RF fees and the logic for the increments in rates. A few campus leaders felt strongly about this. Some challenged why a 5% fee is needed to administer subawards since the RF won't be administering the work or the employees—but the RF counters that they still must monitor the fund accounting of the award and process the documentation.

The RF managers pointed out that at times P.I.s will seek to avoid their fees by arguing that they are getting grants not for research but just for "training" or "services." This may or may not be accurate in a given situation. But it does seem that there is a soft understanding of the dividing line, and greater clarity might be desirable. Naturally, avoidance of fees by some necessarily increases the costs charged to others.

The volume of RF-administered research has increased dramatically—without a commensurate increase in central RF employees (about 200). We were provided a 2014 RF report to newly-appointed Chancellor Milliken, where the RF ascribed this cost-effectiveness to its increasing use of technology to supplant paper records. But particularly as to grant fund administration, the RF said the increase in volume in recent years, without a corresponding increase in staffing, had proven very challenging. When the RF loses RF PAs to other better-paying Universities, the ramp-up of expertise for new hires adds to the challenge.

Overall RF rates could be compared, for example, to the SUNY RF charge levels of 4% for the centralized campuses and 3% for the decentralized campuses. The SUNY RF administers about twice the portfolio of research as the CUNY RF ($900 million vs. $495 million)—and operates on a budget that charges back to campuses about 20% more ($31.6 million vs. $26 million in 2016). However, the SUNY RF on-boards/employs about 17,000 people annually and the CUNY RF on-boards about 14,000. Since this personnel function is the most time consuming element of the RF work, the load on CUNY RF and that on SUNY RF may not be very different. The RF also manages as landlord the building at 230 West 41st Street, and earns $2.5 million/year in revenue used to support operations. Without that source of revenue, the RF charges likely would need to be at least $2 million more.

In assessing the reasonableness of the RF fees, another approach might be to ask whether RF fees are at their current level because the RF is accumulating net income and growing its net assets. That does not appear to be the case at any significant level. For example, in 2018, the RF had about $50 million in total income after eliminations ($34 million from core RF activities; $15 million from real estate as landlord at 230 West 41st Street; $1 million from investment returns). Core operating expenses were $33 million, plus $11.5 million for real estate operations, and after eliminations, total expenses were $41.5 million. Thus, total net assets increased from $34.8 million to $51 million—or by 46.6%. However, $7 million of this increase was due to the revaluation of post-retirement obligation and $3 million came from an increase in deferred rent. In 2018, the RF underspent its budget by $1 million (3%). This suggests that the RF is operating basically within its means, and not with an excess accumulation of cash.

At its October 20, 2015 meeting, the Audit Committee apparently reviewed a KPMG audit report and some benchmark data on administrative expenses of non-profits. They rightly observed that "apples to apples" comparisons across non-profit institutions were difficult because "with a traditional fund raising entity, their administrative expenses cannot be compared to what they have raised and what they contribute in terms of services or grants. In the case of the RF, however, the cost of raising money is largely outside of the [RF]. The only costs here are the costs of spending money because the RF is a post-award operation."

We were certainly not charged with performing a "cost efficiency review" of the RF. But we saw no basis for concluding that the RF is inefficient or that its fees in general should be less. The RF does an enormous, complex job. Its staff, in a sense, have a harder job than that of corresponding people at some Universities—because at some Universities, the overwhelming portion of their sponsored research is in one or two areas such as—biomedical research or engineering—and on one or two campuses. But CUNY has an unbelievable range of research across life sciences, physical sciences, social sciences, training, education, criminal justice, and so on—all distributed across dozens of locations. This makes research administration by the RF even more challenging.

Moreover, in our view, it would be misguided to set as a principal goal reducing the RF fees by some increment—which realistically could yield just a few million dollars anyway. If that occurred, services would likely suffer and the negative impact on CUNY's mission would be many multiples of the ostensible savings, which would be miniscule when allocated across all of CUNY research. Instead, in our view, the focus should be on the infinitely larger opportunity to enhance the overall CUNY research mission and impact, and to improve the RF/CUNY functions in the many ways noted in this Report. In the real world, this may well require somewhat greater resources for the RF.

2.13   Other Issues and What Could be Improved

We asked all the interviewees about areas of research administration where functionalities could be, or should be, improved. We have considered those suggestions in developing our own Recommendations in this Report. But on a more anecdotal basis, here are some of the comments received:

− The RF could benefit from more robust systems for having data "at our fingertips."

- The RF could put more effort into communicating better to the field P.I.s what is changing in the research space.

- There should be periodic meetings with the Grants Officers at the Colleges.

- Some CUNY personnel complained about a degree of RF "Mission Creep." They wondered why the RF needed to acquire and own its building. The RF counters that acquiring the headquarters building met an immediate space need following 9/11 and its inability to occupy the old space; that it has proven to be a very wise purchase; and that it yields $2.5 million per year in added income from subtenants to support RF operations.

- Likewise, some questioned the RF's getting involved in tangential activities like managing annuities for other non-profits and conducting the "Grants Plus" program. The RF counters that these activities together consume a tiny proportion of RF time or effort and are not being expanded. The Grants Plus program is being phased out.

- A number of high-level CUNY people told us that the RF needs to be more communicative and embrace training of P.I.s on the campuses as part of its core job– since that is a pre-requisite to more efficient administration of grants.

- There has been some tension between Colleges that do not believe that certain funding to their Foundations for particular tasks (e.g., training) should go through the RF, and the RF staff that think they should generally administer those training grants/contracts. The Graduate School of Journalism, for example, objected that a grant to bring journalists to conferences really did not require RF oversight.

The RF engaged Beta Research to perform a detailed survey of the satisfaction level of its CUNY customers with various aspects of RF functioning. More than 1,600 responses were tabulated. The Report is professional and detailed. It doubtless will be useful for many purposes. 17/ Among the important illustrative findings that bear on the subject of this Report were these:

- "Satisfaction levels varied from [RF] Office to Office for communication, turnaround time and staff. However, Professionalism, Competence/Knowledge and Easy to Work with repeatedly popped up as top [RF] staff attributes throughout." (p. 8).

- "A strong majority was satisfied with the overall service provided by many of the Offices, and felt the services were better than a few years ago…[Half believed the RF] was better than a few years ago, as did that many for the Office of Human Resources…Four in ten thought Grants and Contracts was better than a few years ago [and the same for the Office of Procurement and Payables]…One-third said Legal Affairs, Finance and Human Resources…were better than a few years ago." (p. 8). This is accurate, but the Survey may be viewed in an unrealistically rosy light unless one also notes the negative numbers. For example, only 27% said Legal Affairs was better than before—and 23% said it was worse. (p. 65). This is in contrast to Grants and Contracts,

where 39% said it improved, and only 8% said it was worse. (p. 89). For Procurement and Payables, 40% said it was better than before, and only 8% said it was worse. (p. 111). These are very different ratings.

– Overall "the results were fairly positive." (p. 9). In our view, this is not an especially helpful observation, unless one specifies what the expectations are. In this context, do you expect the "student" to get an A, B, or C on the test—and is that the pivot point for a rating of "fairly positive"? More insight is needed.

– The top methods of interacting with the RF staff were via website (26%) or email (24%) once a week or more often. 45% of respondents had no in-person contact with the RF. (p. 11).

– Among the areas cited most often for the RF performing "extremely well" were: Finance (17%); Helpfulness (11%); Responsiveness (11%); and Grants and Contracts (10%). But these ratings of "extremely well" were only given by 11–17% of the respondents. (p. 19).

– The areas of RF functioning most often cited as needing improvement were Communication (11%); Finance (10%); Online Systems (7%); and Quality of Interaction (5%). (p. 19).

– In evaluating the responses to the RF, it is also important to note that some Offices simply interact far more frequently with the researchers than others. For example, 78% of the respondents had some interaction with the HR department—but only 10% with the legal department. (p. 21). This may affect the validity of the reported numbers.

– It may not be the RF's "fault" or CUNY's "fault" that many researchers do not feel very well-informed about the contract/grant administration process. But that is a fact. Only 27% said they understood the process "well" or "extremely well"—while 28% said "not at all well" and 26% said "somewhat well." (p. 34).

– The "top box" scores (i.e., combined ratings for "very satisfied' and "somewhat satisfied" with RF services) varied markedly among RF Offices: Human Resources (55%); Communications (45%); Procurement and Payables (37%); Grants and Contracts (36%); Finance (21%); Legal Affairs (20%); and Pre-Proposal Support (19%) (p. 35). This is a wide disparity and may suggest where greater attention should be focused.

The Report contains much more granular findings that could be useful for targeting areas to improve, and we assume that the RF is embracing this goal.

3. **THE CUNY RESEARCH ENTERPRISE: ITS SCOPE, CHARACTER AND IMPACT, INCLUDING TECHNOLOGY TRANSFER**.

3.1 **Scope of Sponsored Activity**.

Despite the myriad issues that complicate the CUNY/RF relationship, they have achieved together a sustained record of impressive results. According to data provided by the RF, CUNY obtained about $495 million in external support for sponsored activity (research, training, services and other) in 2018. The breakdown among sponsors was as follows:

CUNY RESEARCH SPONSORS		
Source	Awards	Total Amount ($ Millions)
Federal	397	134
New York State	180	52
New York City	294	178
Private	1,050	126
Total	1921	495

*The total includes the PSC-CUNY research award program that supports faculty research and leverages external funding.

BREAKDOWN OF FUNDING AGENCIES

FEDERAL	
Source	Total Amount ($ Millions)
Department of Health and Human Services	48
National Science Foundation	24
US Dept. Education	24
US Dept. Energy	6
US Dept. Defense	3
US Dept. Justice	1
Other	28
Total	134

NEW YORK STATE	
Source	Total Amount ($ Millions)
NYS Education Dept.	36
NYS Office of Children/Family Services	7
NYS Dept. of Health	2
Other	7
Total	52

NEW YORK CITY	
<u>Source</u>	<u>Total Amount</u> ($ Millions)
NYC Dept. Health & Mental Hygiene	32
NYC Human Resources Admin.	29
NYC Dept. of Education	17
NY City Council	12
NYC Center for Economic Opportunity	10
NYC Dept. of Youth/Community Dev.	9
Other	70
Total	178

PRIVATE FOUNDATIONS	
	<u>Total Amount</u> ($ Millions)
Total	126

RESEARCH AT CUNY COLLEGES (2018)		
College	Awards	Total Amount ($ Millions)
Baruch	60	7
Brooklyn	74	9
City	292	62
Staten Island	74	9
Hunter	223	68
John Jay	135	31
Lehman	117	15
Medgar Evers	57	9
City Tech	44	7
Queens	116	30
York	41	6
BMCC	32	8
Bronx	35	5
Guttman	5	1
Hostos	23	7
Kingsborough	20	3
LaGuardia	63	17
Queensborough	21	4
ASRC	35	6
School of Public Health	62	9
Graduate School	107	14
Grad. Journalism	10	2
Macaulay Honors	2	.1
CUNY Central*	276	146
PSC/CUNY	--	4
RF-DANY	6	16
Total		495

There is also a wide range of activity within what the RF administers—including basic research; translational research; population data-gathering; training assessment; curriculum or training development; and a plethora of other activities.

The following is a snapshot of the breakdown of CUNY activity in 2018:

TYPES OF CUNY SPONSORED ACTIVITY	
Category	Total Amount ($ Millions)
Research	146
Training	170
Other Sponsored Activity	147
Other Institutional Activity	44
Equipment	2

Under these numbers, it appears that true research constitutes about 30% of the overall RF-administered sponsored activity. This is consistent with other data the RF provided, showing that for the period 2014–2018, "Research" was about 34% of the total activity.

Naturally the CUNY campuses vary dramatically in the kinds of sponsored work they perform, and their corresponding funding agencies. For example:

− At CUNY Central, about half of the overall sponsored funds are earmarked to support equipment purchases, student support services or institutional improvement.

− In contrast, at Hunter, the largest portion of sponsored funds are to support research.

− At Queens, most funds are for research and institutional improvement.

− At the Graduate School, funding is about equally dedicated to research, training, and institutional improvement.

The relative proportion of funding sources also varies. For example:

− At Hunter and City College, Federal agencies are the predominant funding sources.

− At CUNY Central, the overwhelming amount of support comes from the City of New York, next from the Federal Government, and third from New York State.

− At LaGuardia, private funders predominate, with relatively little funding received from Federal, State or City sources.

These differences naturally have an effect on the focus, attention, and mode of administration of research and other sponsored activity by the RF. This complex mosaic of Colleges, purposes, foci of activity, funding agency and types of work makes the RF task still more complex.

3.2   The ASRC.

The ASRC is a source of ongoing controversy. We understand that its creation represented a major, historic investment of public funds in the future of CUNY research, and that it was intended to be a "game changer" by providing a state-of-the-art facility for researchers in important, growing fields. They included five major focus fields: structural biology, nanotechnology, neuroscience, environmental science and photonics (the latter lab has not yet been built out). Oddly, we heard very disparate numbers cited as to the overall cost—$750 million, $300 million and $200 million. The construction estimate for both the ASRC and the neighboring CDI building was $706 million. We do not know the fully costed "right" number, but obviously it is substantial. Despite this bold vision, the commonly cited view among researchers at CUNY was that the ASRC was ill-located, ill-designed, and is not fulfilling its core purpose in any powerful fashion. This is a major disappointment to them. The ASRC was described in a 2014 RF Report as intended to create a "uniquely collaborative culture where researchers work across disciplines to take on some of global science's most vital and tantalizing challenges." But perceived deficiencies of conception, design, and execution have been cited repeatedly by CUNY and RF leaders as eroding this bold vision.

In marked contrast, a number of the research leaders who are actually based at the ASRC said it was an excellent facility, is making impressive progress and has had success forging collaborations with P.I.s at other Colleges. They referred to data on the number of researchers who used it, the grants received, the collaborations engaged in, and so on. They painted a picture that is quite divergent from the perception among other CUNY researchers generally. We will try below to summarize some of the major differences in view.

- The location within the Graduate Center was criticized by many. They said it might work if the ASRC was to be used only by resident, full-time researchers. But that was not the supposed vision and there was not added salary support for researchers to fill it. Instead, we were told that given the long commute times within New York City, it was simply unrealistic to think that large numbers of researchers based at various CUNY Colleges would travel to the ASRC and use it collaboratively. It could never become the "scientific community center" to promote cross-fertilization across disciplines. In response, ASRC leaders said that in fact, researchers from both the Senior and Community Colleges use the facility; there is an "Affiliate Faculty" program that more than 30 CUNY faculty have participated in; 180 CUNY graduate and undergraduate students from 10 CUNY campuses have conducted research or worked at the ASRC; and that these collaborations are growing. In addition, they have given out over $600,000 of ASRC seed grants to researchers at other campuses; engaged with the CUNY science community through communication, meetings and educational initiatives like the NSF "bootcamps" that provide targeted career grant writing assistance; and established a multi-College faculty search and recruitment committee.

- Others said that the ASRC financial model was fundamentally flawed—that sponsored research recoveries could not possibly be expected to pay the operating and amortization costs. Moreover, there was no provision for ongoing operating support at the necessary levels. Hence, support has had to be drawn from other CUNY tax levy operating funds. This was viewed as having "starved" other important CUNY research programs and needs. Some ASRC researchers said indirect cost recoveries are growing (but the numbers cited were still small—perhaps $4 million/year). Some ASRC leaders, however, note that the ASRC is now earning operating fees collected from its core users, most coming from other CUNY Colleges, and that they do not believe that it will take too many more "years" for them to obtain sustainable funding independent of tax levy funds.

- ASRC leaders said that the ASRC currently is used by researchers with more than $20 million in grants (securing 91 research awards to date) and this portfolio is growing. This is positive, but simple math would suggest that the operating costs of the ASRC are about $13.9 million annually, and to support that, with an F&A rate of 50%, would require something on the order of $28 million in annual grants. Achieving that on a recurring yearly basis seems an aggressive assumption.

- Many interviewees lamented that the ASRC had been designed in a "top down" rather than a "bottom up" process, and few researchers had been consulted. (We have not investigated or confirmed this, since it lies long in the past.) They said that the building was designed to be a "trophy"—rather than "a truly functioning magnet for researchers." Many described the ASRC as a "white elephant."

- The design and equipping of the building was described as faulty in important respects. We were told that the selection of equipment was made without deep input from the researchers who would initially use it. Moreover, there was no "sub-metering" of utilities between labs or floors—so it would be very difficult to meet sponsor expectations for costing.

- Several of the leading ASRC researchers said it is in fact becoming successful. It was designed for seven research faculty per floor—and there are now about seven in structural biology, seven in environmental science, six in nanotechnology, six in neuroscience—and photonics is just starting up. This is a significant cohort. In addition, the ASRC has a large vivarium which is being used as a core facility by other CUNY researchers. These ASRC leaders said that in fact some (though as yet only a few) researchers from other CUNY campuses such as Brooklyn, Staten Island and Queens are using the facility. Other Universities are using the animal facility, but far more use could be encouraged.

- Some also said that CUNY is losing a big opportunity in the ASRC by not focusing on artificial intelligence and computing as one of its "nodes." Others said that the research priorities at the ASRC are too "stagnant" and that they should evolve over time so as to encourage rotation in of researchers from many CUNY campuses.

- Still others asked why the ASRC has not used its latent capacity in order to drive collaborations with other educational and business institutions in New York. In response, ASRC researchers said that this has in fact occurred, with Columbia University and other institutions and that since December 2014, the ASRC has organized a large number of conferences, seminars, workshops, etc. that were heavily advertised within CUNY and many were streamed live online.

- The ASRC is also working on its own Strategic Plan. Four of the five working groups (excluding the group focused on "within building interaction") are composed of faculty from several different campuses, exploring topics such as next steps for the ASRC and how to develop the interdisciplinary role of the ASRC within CUNY. This Plan should chart a vision toward success.

We do not know which side has the better argument on these issues. Currently, the position of ASRC Director of Operations is vacant. Perhaps a strong operating plan will emerge over time. But it seems clear that the ASRC was to be the "flagship" of new science at CUNY and it is a special and potentially strategic asset. It is a source of pride to its users and a major reason they are at CUNY. It must be leveraged optimally. CUNY should ask the ASRC to develop, or CUNY should convene a group to develop, a bold plan for the ASRC's role and operations, to the extent this is not already being considered in the development of the ASRC's Strategic Plan.

3.3   CUNY's Strategy for Research.

One senior CUNY leader stated flatly: "CUNY research is an underperforming asset—and everybody knows it." A number of CUNY leaders we interviewed who had previously been at other major institutions said that the CUNY faculty are very talented and able—but what

causes them at times to be less successful in research than their peers at some other Universities is "lack of infrastructure and organizational support." Some said that CUNY has a very "local", campus-specific culture and that if it wants to be world-class, CUNY needs to think like <u>one University</u> and marshal all its resources. Indeed, CUNY's enabling statute requires that "Where possible, governance and operations of [S]enior and [C]ommunity Colleges should be jointly conducted or conducted by similar procedures to maintain the [U]niversity as an integrated system and to facilitate articulation between units." (*See* N.Y. Educ. Law. § 6201(2)). Yet, each campus is often described as a "silo" and there is not really a culture of working together. Access to the "Pivot" database is supposed to help researchers oriented towards "hard" science, federal, and international awards find collaborators across CUNY but this is a large, comprehensive database and while potentially helpful, is not CUNY-specific. Others said that there is not really a "culture of research" at CUNY. Faculty are nurtured to teach, not to do research. There is little support for start-up grants. One leader said that as a result of lack of resources, "Our faculty are underperforming in research compared to their credentials."

Some CUNY leaders lamented the unwillingness of the major research Colleges to collaborate with peers and especially with Community Colleges, which they feel would enhance instruction of students. Of course, "coordination" and "breaking down silos" takes effort. Some of the senior research-intensive College officials said the Community Colleges have little to contribute, and that being forced to coordinate with them would be a drain on already constrained resources. They said the Community Colleges were overrepresented in meetings on research and this was not productive. So there can be genuine arguments in both directions.

Many lament CUNY's lack of a cohesive research plan or focus. It was said that the Vice Chancellor for Research could be such a catalyst, but his office lacks adequate funding. A unitary CUNY-wide set of research priorities/goals for all Colleges would likely be inappropriate and impractical for a polyglot, complex institution like CUNY. But some overall priorities can be articulated. We reviewed CUNY's "The Connected University—CUNY Master Plan 2016-2020." It is extensive and thoughtful. But purely from a research perspective, it would seem fair also to note certain things. First, CUNY's research mission does not appear as a major focus or concern. Many other important goals—such as access, affordability, diversity, job training, success rates, and educational reform receive the vast bulk of the attention. In the 120-page Report, research is explicitly addressed only in a short paragraph on the ASRC (p. 8), one sentence on research collaboration (p. 75), and in a three-page section on "Research, Scholarship and Creative Activity" (pp. 85-87), which really addresses more the use of research in teaching than the conduct of research itself. The importance or expanse of research at CUNY does not come through.

The Master Plan does state the important principle, that "Research is critical to fulfilling CUNY's commitment to academic excellence and its mission to be responsive to the needs of the urban setting." Later, it adds that "CUNY's commitment to recruiting faculty who excel in both research and teaching signifies its recognition of the importance of the role of research in the education and ultimate success of our students." But the focus seems to be primarily on STEM teaching as a means to create a "healthy pipeline to [STEM] fields." The emphasis is that research is useful as part of teaching—but it is not expressed as a goal or mission unto itself.

Some of our interviewees argued that these missions are mutually re-enforcing, that both need to be strong in a great University, and that currently at CUNY, they are out of balance.

There is not much in the Master Plan about the research enterprise itself. This is surprising given the size and range of CUNY's research efforts. There are a few specifics mentioned— prominently the Hunter/Weill Cornell affiliation leading to Hunter scientists occupying a full floor at the new Weill/Cornell Research Building, and another affiliation with NYU Langone involving a healthcare first responder simulation facility. There is also mention of the Graduate Center's initiative to expand the cohort of doctoral students in the sciences, including the Initiative for the Theoretical Sciences. We have not assessed the extent to which these initiatives are successful, and that is beyond our task. But it would be fair to say that if a scientist were recruited from another institution and read the Master Plan as his/her orientation to CUNY's commitment to research—he/she would likely conclude that it was hard to find a strong vision for basic or applied research. Hence, CUNY might be well advised to develop a more comprehensive and inspirational plan for research. Its dedicated researchers likely would applaud it.

According to Section 2 of the 1983 Agreement, "The Research Foundation may act as grantee institution for a consortium of CUNY Colleges or a consortium involving CUNY units and other Colleges at the request of the participating Colleges." CUNY is home to over 100 research centers, institutes and consortia. Some of these, like the CUNY Institute for State and Local Governance, are housed within the RF, to allow for flexibility. Several leaders commented that while CUNY has been good at creating "centers" and "institutes" to focus on emerging hot areas of research, there is not enough planning or coordination about how they are to be funded long-term; how they are coordinated; or when some ought to "sunset" because their mission has been superseded. Above all, there should be proof of a sustainable business model.

The high performance computing facility at CSI was viewed as another underutilized asset. It could be re-imagined as a "core" facility for researchers across CUNY and as a magnet for attracting collaborations.

Most importantly, there is little in the Master Plan that could really be characterized as a "strategic" plan. This point has many elements of importance to CUNY.

- In order to be "strategic", a plan must make choices. It cannot simply say "we will pursue everything"; this is especially so for a resource-constrained institution such as CUNY.

- In order to be a "plan", the effort must commit to specific kinds of initiatives, or at least mark out research priorities. This seems to present several institutional challenges to CUNY.

- CUNY needs to engage in existential self-reflection about its role in research. If research is viewed simply as a necessary but ancillary activity for faculty, embraced primarily so as to buttress the quality of instruction, then CUNY should focus largely or solely on applied science, inexpensive science, and on a more or less horizontally uniform research enterprise across all subjects. But conversely, if CUNY sees itself as having an independent research mission, and believes its ability to continue to attract truly world-class faculty requires offering those who want it the opportunity to do first class research—then it should adopt a more aggressive and targeted research strategy.

– CUNY may also face a decision about the degree to which it wants to have a centralized, coordinating role for research across the University, versus allowing each institution to "go off on its own." There can be credible arguments on both sides. But one of the troubling comments we heard repeatedly is that CUNY has a sort of "leveling" mentality—that it wants all its Colleges to be "pretty decent" more than it wants true excellence to be cultivated at any of them. If this were true, it would be poor strategy. The reality is that even many of the top institutions in the nation actually built their research reputations and are known for pre-eminence in just a few areas. Yet that prominence allows them to recruit faculty, resources and philanthropy far more widely— which fuels increased research standing in more and more allied fields. Excellence inspires the researchers that CUNY has. A few of its more eminent researchers said they were "very troubled by this theme of leveling everybody. Does that mean I should go elsewhere?"

– Likewise, CUNY might reflect on what areas of research it can realistically be competitive in, given its level of facilities. CUNY researchers also said candidly that CUNY needs to decide if it wants to compete in "big science" or "urban science" or just "vocational science." Some suggested that natural areas for CUNY eminence would be in energy in the urban environment, clean technology, smart buildings, transportation science, health services and underserved populations. But they also warned against turning one's back on "big science." They said in effect: "Urban science is not a scientific field; it is an amorphous descriptor. Some of what could be done under that rubric would be terrific science and some would be not worthy of the name. We should support genuine research—urban or otherwise—and not worry about the label." The definitions may be fluid and one can hear valid arguments in support of each view. But having a diffuse, unfocused strategy does not help CUNY.

– We learned that some Colleges have developed their own "strategic plans" for research. For example, we were provided with a 2010 consultant study prepared for Borough of Manhattan Community College ("Strategic Plan for Enhancing BMCC's Research Enterprise"). It contained some good ideas and suggestions, and may reflect useful forward thinking. But we were told that few other Colleges have engaged in such a systematic process.

– Surely CUNY is losing opportunities because there are no incentives for cross-College collaborations, and little or no infrastructure to support it. Indeed, some pointed out that CUNY institutions and the ASRC have been more successful in forging collaborations with Cornell, Columbia and Rutgers than with any of the other CUNY Colleges. And the Community Colleges generally said that they were given little attention—even though the National Science Foundation encourages collaborations between research institutions and Community Colleges.

– One good example of initiative is the new School of Public Health, that we understand has already obtained more than $20 million in sponsored research grants. But exceptions cannot overcome the rule. CUNY should create a "pot" of funds to incentivize researchers who would compete for funds for administrative support.

‒ The CUNY Office of Research was widely respected, but its staffing is far too limited. For it to have a major impact, its resources would need to be enhanced markedly.

‒ There is no way around the elephant in the room: CUNY lacks support for the kind of infrastructure of research that enables other major University research enterprises to thrive. This includes the lack of money for (i) added recruitments; (ii) "seed" funding and "bridge" funding of researchers; (iii) acquisition of needed equipment and updated spaces; (iv) scientific core facilities (other than the ASRC) which can be used by researchers across the institution; (v) research administrative support (e.g., in grant writing and processing before grant applications are "handed off" to the RF); (vi) promotion and communications; and (vii) a formal linkage of the research enterprise to philanthropy/development. Without this infrastructure, it is hard to see how CUNY researchers can be competitive in the long term. In fact, it is remarkable what they have achieved to date with so few resources.

3.4   The CUNY Technology Commercialization Office.

CUNY's traditional technology transfer function is carried out by the Technology Commercialization Office or TCO, which is part of the Office of the Vice Chancellor for Research in CUNY Central. The TCO is diligent and capable in performing its core duties but the overall results of CUNY technology transfer and commercialization efforts lag far behind universities with comparable research funding.

For example, with total sponsored activity of around $450-$500 million per year and "research funding" of perhaps $150 million annually, licensing revenue averaged only $276,000 per year from FY13-FY18—less than one tenth of one percent of total sponsored funding and less than two tenths of one percent of research funding if training and other sponsored activities are excluded. For comparison, a compilation of FY15 data for 13 institutions in greater New York City showed aggregate research funding of $2.6 billion and gross licensing revenue of $667 million, or almost 26% of research funding. These numbers are atypically high, but still thought provoking.

Licensing revenue is only one component of measuring the return and economic impact of technology transfer programs. We recognize that we have an incomplete picture of the full impact of CUNY's technology transfer activities. In part, this is due to the absence of reporting of comprehensive data on technology transfer impact beyond the basic metrics relating to patents, licenses, revenues and start-ups. (*See* Chart on CUNY Tech Transfer Results below).

There are several factors that contribute to CUNY's low yield from technology transfer activities—the nature of CUNY's research portfolio (a great deal of social science as well as "hard" science and a majority of RF funding going to training and other sponsored activities), the absence of a research strategic plan and thus a TCO strategic plan, tight constraints on TCO resources, and the presence in New York of high profile competing research universities such as Cornell Tech and Rockefeller. However, the TCO has the potential to make a much greater contribution to CUNY and its mission.

Mission and Role

The stated mission of the TCO is broad and includes promoting academic-industrial collaboration, championing sponsored research, and fostering economic development locally and globally. The TCO primarily focuses on managing the disclosure, protection, and commercialization of intellectual property generated by CUNY faculty, staff and graduate students. Under CUNY's IP Policy, all intellectual property (other than copyrightable works) created by CUNY P.I.s and other inventors (referred to under the policy as "creators") is assigned to and owned by the RF. As a result, the TCO for the most part acts <u>on behalf of</u> the RF as intellectual property owner, <u>with</u> the campus P.I.s and other creators as primary stakeholders, and <u>for the ultimate benefit of</u> CUNY and the creators who share in the net proceeds of commercialization.

Despite the broad statement on its website, the TCO does not have a specific mission of promoting economic development in New York City. Nor could we find any stated alignment of the TCO's mission with that of CUNY generally or of the CUNY research enterprise specifically. Perhaps this is not surprising given the absence of a research strategic plan, which we understand is in process, but was put on hold pending appointment of the new Chancellor. Having said that, the TCO works closely with the Director of Industrial-Academic Research who leads broader collaborations with industry partners, New York State economic development initiatives and other academic institutions in pursuing broader economic development goals.

In sum, the mission of the TCO is what would be expected in a typical University with a significant research enterprise—to identify, protect and commercialize intellectual property.

Structure and Resources

The TCO has a staff of three full time employees and a part-time consultant. The TCO is part of CUNY Central and operates out of the Office of the Vice Chancellor for Research. The TCO does not have a presence or formal liaison at any of the campuses. All intellectual property managed by the TCO is assigned to and owned by the RF.

The TCO has an annual budget for out-of-pocket patent protection costs of $320,000 for FY19, of which $70,000 came from CUNY tax levy funds and $250,000 from the RF. This has been falling annually since FY16 when it was $500,000—split evenly between CUNY tax levy funds and the RF funds. In our experience, this is an uncharacteristically low staffing level and budget for a TCO that is expected to have a meaningful impact. The TCO gets legal support from the CUNY and RF legal departments and three outside patent firms which work on low negotiated fee arrangements.

Unlike other New York City-based universities, the TCO does not have a CUNY in-house fund for "pre-seed" and "proof of concept" funding to support commercialization of promising inventions. This is a major deficiency. The TCO does have relationships with the Accelerate New York Seed Fund ("ANYSeed"), established by the Empire State Development Corporation to support very early stage technology businesses based in the downstate New York region. The TCO Director serves on the advisory board of ANYSeed.

Operations and Performance

The TCO's principal responsibilities consist of:

– Managing invention disclosures that CUNY faculty, staff and graduate students are required to submit under the CUNY IP Policy and working with inventors to evaluate whether to seek patent protection and, where protection will be sought, engaging outside patent counsel to undertake patent filings;

– Supporting CUNY inventors in negotiating commercial licenses or in forming a new spin-off company and pursuing investors;

– Marketing CUNY technology available for license;

– Supporting RF lawyers in negotiating intellectual property provisions of sponsored research agreements; and

– Providing training and support to CUNY inventors on intellectual property protection and licensing and acting as a liaison to other CUNY resources such as the CUNY Hub for Innovation and Entrepreneurship (known as iHub) and other CUNY incubators.

While we heard in several interviews that legal review of agreements (e.g., sponsored research agreements and software license agreements) could be very frustrating and time-consuming, TCO representatives told us that they believed TCO processing of technology licensing agreements, confidentiality agreements, material transfer agreements (where TCO was involved), and inter-institutional agreements was generally timely and efficient. However, as previously discussed in Section 2.7 and Section 2.8, we were told RF Legal typically handles MTAs and this process has been described as slow and unclear.

With respect to patent prosecution, the TCO told us that they had negotiated very favorable fees with three outside law firms to handle patent prosecution. Patent prosecution begins with filing of a provisional patent which costs no more than $800 per application and escalates with the filing of a patent application, responding to office actions, issuance and maintenance costs and filing of international patent applications. Given its limited budget, the TCO reviews the commercialization potential of each patent property at each stage of prosecution to confirm that there is sufficient potential to justify the patent expense. The TCO told us they work closely with the inventors in this process and that the decision to proceed with prosecution or discontinue is consensual. In cases where CUNY does not wish to proceed with patent prosecution, the TCO typically offers to assign the invention back to the inventor.

The following data shows the results of CUNY's tech transfer efforts:

CUNY TECH TRANSFER RESULTS							
	FY13	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19+**
Invention Disclosures	50	49	52	63	56	48	27
Provisional Patents Filed	49	41	45	60	50	51	21
US Patent Applications	25	36	28	43	26	13	8
Issued Patents	11	21	22	19	25	26 US	14 US
Confidentiality Agreements	20	26	29	19	53	23	21
License Generating Revenue	5	9	9	10	12	13	13
Royalty revenues	$171,729	$86,592	$27,302	$819,354	$209,566	$40,875	$107,036*
Start-ups	5	5	8	7	3	1	

+ FY 19 numbers through November 2018.
* TCO projects royalty to exceed $400K in 2019 if licensees maintain current payments.

This chart reveals the troubling fact that on most measures, CUNY's tech transfer achievements have been declining or stagnant in recent years.

The TCO also provided us with a study by the National Academy of Inventors and the Intellectual Property Owners Association ranking the top 100 worldwide Universities that were issued U.S. utility patents in 2017. The RF ranked 90th with 29 issued patents, and the study had a range of from 524 patents for the University of California System down to 25 for the lowest ranked University within the top-100.

The TCO assists with the administration of the CUNY Intellectual Property Policy which, in addition to managing disclosures, handling protection, and pursuing commercialization, includes reporting required and other obligations under the Bayh-Dole Act regarding inventions made with federal funding. Invention-related activities are reported to iEdison (the federal interagency database to which reports are submitted). The policy has a comparatively generous framework for distribution of proceeds from commercialization—after payment of CUNY/RF out-of-pocket costs of protecting and commercialization and payment of 10% of gross proceeds to CUNY for TCO out-of-pocket patent costs, the remaining proceeds are split 50% to the creator(s), 25% to CUNY for the support of research and scholarly activity, and 25% to the creator's academic or research unit for the support of research and scholarly activity. This should encourage faculty effort.

CUNY has supported the establishment of 29 start-ups to commercialize RF intellectual property during the period between FY13 to FY18. While none of these has become a household name or generated outsized revenue, some have attracted significant investment and are making progress in advancing the technology licensed to them. A sampling of notable start-ups would include the following:

− *MouSensor, Inc.* – Early stage biotechnology company founded in 2016 based on odor detection technology developed by Dr. Paul Feinstein of Hunter College and Charlotte D'Hulst. MouSensor is an NYC Innovation Hotspot, a resident of SUNY's Downstate Biotechnology Incubator, and a member of the Alexandria Real Estate LaunchLabs program and recently closed a $3.3 million seed investment round.

− *Pathmaker Neurosystems, Inc.* – Clinical stage medical device company based on research by Dr. Zaghloul Ahmed of the College of Staten Island. Pathmaker is based in Boston and Paris and in January 2019 entered into a collaboration with Servier to develop and commercialize neuromodulation technology for treatment of spasticity. Dr. John Martin and Dr. Andrej Wierazko of CUNY are on the Pathmaker Scientific Advisory Board and Jake Maslow, former head of the TCO, is an officer and director of Pathfinder.

− *InnovBot LLC* – Wall-climbing robotics company founded in 2013 by Dr. Jizhong Xiao of City College. InnovBot is in a very early stage of development but has had interest in a joint venture with another robotics company.

− *QuatCare LLC* – Anti-microbial company that licensed a patent portfolio from the RF based on a collaboration by Dr. Robert Engel of Queens College and researchers from Long Island University and Pace University. QuatCare is in a very early stage of development but has received interest in a potential joint venture to commercialize QuatCare's technology.

Reporting and Promotion

There is very little publicly available reporting of TCO achievements and there is no centralized source for information describing how CUNY research has been successfully commercialized. To the extent there are success stories, they are hard to find. Certain of the start-ups that the TCO was involved with are described in press releases on the TCO website. In contrast to other technology transfer offices, there is no public source for the licensing revenue and start-up formation information or other information that captures the commercial and economic impact of the TCO's activities. The 2016 RF Annual Report did not address technology transfer and the TCO has not had the time or resources to prepare or commission a report on its achievements, outcomes and impacts. The TCO does not report regularly to the Association of University Technology Managers ("AUTM") and thus is not included in AUTM statistical reports and rankings, or in rankings based on the AUTM data.

The TCO does make available to the CUNY community a standard suite of information, training materials, policies and forms relating to the disclosure, protection and commercialization of CUNY intellectual property. However, we understand that the TCO does not affirmatively reach out to potential inventors to promote awareness of the TCO and solicit invention disclosures. We were told this is largely due to limited funds available for patent prosecution

and the resulting concern that the TCO would have to turn away (i.e., assign back to the inventor) promising inventions due to the inability to fund patent protection.

This is a missed opportunity to promote and build on CUNY's technology transfer capability. If the TCO is to attract more resources and have a greater impact, the CUNY research community and external stakeholders should be better informed of the TCO's role, capabilities, and achievements.

The TCO does not have the resources for a more systematic marketing and promotion of CUNY technologies available for licensing, which are instead listed on the TCO website for potential licensees and collaborators. The TCO participates in IN-Part, a technology marketing service that aims to link University technology with potential licensees. Most of the TCO's affirmative efforts to promote available technology rely on the TCO's informal network of industry contacts.

Incubators and Entrepreneurship

The TCO supports various entrepreneurial activities that seek to catalyze the formation of new business around CUNY innovations. TCO personnel support the CUNY Hub for Innovation and Entrepreneurship (sometimes referred to as the Hub or iHub), a CUNY-wide business incubator providing office space and support services (including planning, marketing, accounting, payroll and legal services) to business formed by CUNY faculty or formed to commercialize CUNY technology.

The TCO also coordinates closely with the Director of Industrial-Academic Research, whose entrepreneurial and industrial partnership activity are also a part of the Office of the Vice Chancellor for Research. The Director plays a lead role in a number of CUNY entrepreneurial initiatives including:

- The *NYC Regional Innovation Node* (NYCRIN) for NSF Innovation Corps (I-Corps) (providing entrepreneurship training to I-Corps teams);

- CUNY's participation along with NYU in the NY State Energy Research and Development Authority's (NYSERDA) clean energy "proof of concept center" ("POCC") which in turn partners with other POCCs in the *PowerBridgeNY* program to promote technical validation and company formation for early stage clean energy technologies (seven CUNY teams received grants and four formed companies); and

- Two NSF Industry-University Cooperative Research Centers (IUCRC)—the *Center for Metamaterials* established at City College and City Colleges' participation as a site in the *Center for Sustainably Integrated Buildings and Sites*.

CUNY also has eight other campus-based incubators but we understand they are less oriented towards commercializing CUNY faculty research and focus instead primarily on undergraduate students, alumni, and in some cases entrepreneurs outside of CUNY. The TCO has had some preliminary interaction with these incubators but not in a systematic manner. We note that the campus incubators identify numerous start-ups they have incubated but there is no

apparent tie to the TCO. For example, the Zahn Center (City College's incubator) lists over 200 start-ups on its website, far more than the 29 reported by the TCO above.

Impressions within CUNY Community

The overwhelming impression we heard was that the TCO was well regarded but not well known. In our interviews with CUNY personnel at the campuses, we were surprised to hear that CUNY "does not do tech transfer" or that they were not aware of a tech transfer office at CUNY. Those who knew of the TCO were complimentary and reported having good experiences. The TCO personnel we spoke with were surprised at this and noted that there are more than 500 inventors the TCO has worked with since it was established—who are well are aware of the TCO and its mission.

There is some question whether the CUNY tech transfer function is adequately represented on the web. If one Googles "sponsored research CUNY" ten different CUNY/RF/college websites show up. In addition, the TCO website does not appear to be state-of-the-art.

We heard an anecdote of a particular photonics patent that was abandoned due to inattention resulting in the loss of significant potential licensing revenue—but this did not come up in our TCO interview and was inconsistent with the TCO's position that they are very up-front with inventors in making the decision of whether to continue patent efforts. We did not hear complaints that the TCO took a long time to process matters or otherwise acted as a roadblock in the commercialization process.

Some of those we spoke with questioned why the TCO was not part of the RF since it acted on behalf of the RF with respect to RF-owned intellectual property. Others questioned why the TCO was not combined with the industrial-academic partnership program due to the overlap in activities. In our experience, there are many legal and operational reasons why the TCO function is and should be located within the University.

Challenges and Rate Limiters

There are several factors that we understand to present challenges and rate limiters to the TCO and prevent it from being more effective. Among these factors are:

- The limited and declining budget for patent prosecution and maintenance costs.

- The absence of a dedicated "proof of concept" fund to enable promising technology to move from the lab to the point where it can be licensed or pursued through a spin-out company.

- The TCO's low profile and lack of awareness across the CUNY community risks leaving promising inventions "on the table" without being protected or commercialized.

- The absence of a "success story" narrative around the TCO that would show researchers how working with the TCO is in their interest and would show funders why supporting the TCO will enhance the benefit and economic impact of CUNY research.

− The absence of a strategic plan and confirmed mission that would enable the TCO and affiliated stakeholders to better allocate their resources and efforts. In the absence of a CUNY-specific articulated mission, the TCO's mission is that of getting inventions to the market and generating commercialization revenue, but it may not be operationally linked to CUNY's broader CUNY research goals.

3.5   Examples of Technology Transfer Practices

There is no single formula for technology transfer success but there are certain practices that have led to successful outcomes. We describe below a number of these practices that have been used in many Universities and are worth consideration by CUNY. We note that CUNY is currently pursuing some of these practices already, but we believe CUNY's existing research and TCO initiatives could be more effective if they study these further. Of course, added resources are needed.

Capture and Publicly Report on the Economic Impact of Technology Transfer

Effective TCOs capture data on the economic impact of research at their institutions through technology transfer and related activities and report that data to external stakeholders. A number of research universities have published reports on the economic impact of their institutions on their communities, which include data on the impact of their TCOs and related innovation promotion activities. Although most of these institutions have greater available resources and more compelling outcome data than CUNY, their reports show how to build the case for the many benefits of investment in research and TCO enterprises. This can obviously help build community and government support.

− *New York University* commissioned a public report on the economic impact of NYU on New York City and the State more broadly. [18]/ It includes metrics on NYU's research enterprise, including its total annual research spending and impact data on technology transfer activity (invention disclosures, patents issued and applications filed, start-ups formed, licenses/options executed, and gross licensing income). The report also lists notable companies located in New York City which have been started by NYU's faculty, students, and alumni.

− The *SUNY Research Foundation* reports Key Performance Indicators for its sponsored research programs and technology transfer activities [19]/ as well as Innovation Indicators [20]/. These reports overlap somewhat in their content but they present important impact data in an accessible, easy to navigate manner.

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[18]/ *The Economic Impact of New York University*, Appleseed (January 14, 2015), available at http://tinyurl.com/NYUImpactReport.

[19]/ *Key Performance Indicators*, The Research Foundation for the State University of New York, http://www.rfsuny.org/Our-Work/Key-Performance-Indicators/.

[20]/ *Innovation Indicators FY2014-15*, The Research Foundation for the State University of New York (June 23, 2016), http://tinyurl.com/SUNYKPIReport

- The *University of Pennsylvania's* economic impact report contains a succinct two-page presentation on the impact of its research expenditures and related innovation programs and facilities. 21/

- The *University of South Florida* commissioned an economic consultant to prepare a more comprehensive and scholarly report on the economic impact of USF's innovation enterprise on its region and the state of Florida. 22/ For purposes of the report, the innovation enterprise included the USF TCO, its incubator, the USF Research Park, and its corporate partnerships.

Maintain a Prominent Internal Profile to Promote Awareness of TCO Capability

In order to achieve the core mission of identifying, protecting and commercializing innovations generated in the institution, the TCO must be well known to P.I.s and other inventors. Successful TCOs market to their P.I.s and other inventors in order to make them aware of the benefits of protecting their inventions, getting the inventions to market where they can benefit patients and other populations, and generating revenue for themselves and their institutions.

- *Wake Forest University* has a very accessible and effective web presence for its TCO known as Wake Forest Innovations. The WF Innovations site has educational and training resources for inventors, innovation success stories, and events and programming to bring in P.I.s and other innovators. 23/

- The *University of Michigan* TCO has established panel discussions, tours, innovation competitions, demonstration days, and other public events throughout the University to foster entrepreneurship and innovation and raise the profile of the TCO. 24/

Promote Collaboration Within and Outside the University

Some research and TCO enterprises include resources for promotion of intra- and inter-institutional collaboration as well as collaboration with industry R&D programs. Developing a CUNY-specific research database by which industry and other researchers can locate other University researchers who have expertise in a particular area is an effective means of promoting collaboration.

- *Stony Brook University* offers a searchable database used to help businesses find researchers with whom to partner or invest in new technologies, other faculty members to find collaborators, and students find research advisors. 25/ This tool allows both internal and external collaborators to search for University researchers by department and specific research interests.

21/ *Impact: Powering Philadelphia and Pennsylvania*, UNIVERSITY OF PENNSYLVANIA, http://www.evp.upenn.edu/pdf/Penn_Economic_Impact_Powering_PHL_PA.pdf.

22/ *The Comprehensive Economic Development Impacts of USF's Innovation Enterprise on the Tampa MSA and the State of Florida*, THE WASHINGTON ECONOMICS GROUP, Inc., https://www.usf.edu/research-innovation/rf/documents/weg-report.pdf.

23/ *Wake Forest Innovations*, WAKE FOREST INNOVATIONS, https://www.wakeforestinnovations.com/.

24/ *Tech Transfer Events*, UNIVERSITY OF MICHIGAN, https://techtransfer.umich.edu/tech-transfer-events/.

25/ *Find a Researcher*, STONY BROOK UNIVERSITY, https://research.stonybrook.edu/find-researcher.

- The *University of Texas at Austin* has three separate searchable databases for identifying researchers with particular specializations and interests. 26/ The University's EUREKA! database helps undergraduates to identify faculty members who have a research interest that may be attractive to the student in pursuing undergraduate research activities. The UT Experts portal allows both internal and external users to find University experts by subject, events, and special topics. The Dell Medical School Research Networking System highlights research publications of UT faculty and staff and allows users to search the network of UT Austin researchers by expertise, research unit, and specific research output to help foster collaboration and promote research opportunities.

Collaboration can also be facilitated through University-led programs designed to promote industry and economic growth in the greater community around the University, such as the *CONNECT program in San Diego* and the *IC^2 Institute in Austin*. CONNECT, which was founded at the University of California, San Diego, provides technology and management support services to entrepreneurs in high technology and life sciences fields. 27/ Similarly, the IC^2 Institute, which was founded at the *University of Texas at Austin* in 1977, has worked as a "think and do" tank which has championed technological growth and economic development in the Austin area. The Austin Technology Incubator, a program of the IC^2 Institute, has provided operational guidance and strategic counsel to member companies, including through student and research programs, has created an estimated $1 billion in economic value in the Austin area. 28/

Other leading Universities have made successful efforts to partner with industry, including through collaborations with other Universities in the local ecosystem, to foster innovation and economic growth. *Indiana University*, *Purdue University* and the *University of Notre Dame*, for example, are research partners in the Indiana Clinical and Translational Sciences Institute, which brings together the resources of each University to bring top talent to Indiana and improve health research throughout the state. 29/ This institute, in turn, partners with leading corporations in Indiana, including Takeda, Roche Diagnostics, and Eli Lilly & Company to advance translational research. 30/

Align Technology Transfer Mission with the Mission, Position and Resources of the Institution

Most TCOs have a core mission of identifying, protecting, managing and commercializing IP developed at their institutions. Some TCOs expressly tailor to that of the institution, thus reinforcing the case for institutional and external support for the research and technology transfer enterprise.

- *Georgia State University*, as a large multi-campus public University in an urban setting, has been described as "one of the South's more innovative engines of social

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26/ *Find a Researcher*, UNIVERSITY OF TEXAS AT AUSTIN, https://research.utexas.edu/find-a-researcher/.
27/ *About Connect: Our History*, CONNECT, https://www.connect.org/about-connect.
28/ *About the IC^2 Institute*, THE UNIVERSITY OF TEXAS AT AUSTIN, www.ic2.utexas.edu/about.
29/ *About Us*, INDIANA CLINICAL AND TRANSLATIONAL SCIENCES INSTITUTE, https://indianactsi.org/about/.
30/ *Strategic Partnerships*, INDIANA CLINICAL AND TRANSLATIONAL SCIENCES INSTITUTE, https://indianactsi.org/about/strategic-partnerships/.

mobility." 31/ The GSU Office of Technology Licensing and Commercialization "promotes the transfer of technology in an effort to provide benefit and support to the University's academic mission, to enhance the urban and state economy, and to provide to the general public access to Georgia State's intellectual property in a manner that is consistent with the University's academic principles." 32/ GSU has seen a dramatic rise in its research productivity, increasing its R&D expenditures from $81 million in FY 2010 to more than $200 million in fiscal year 2017. GSU, which was ranked the 2nd most innovative University in the nation by U.S. News and World Report in 2010, has succeeded in part by leveraging its location in Atlanta and its work with Fortune 500 companies through the University's business incubator. It has also taken advantage of the bioscience and healthcare strengths of its academic programming and surroundings, as well as its public mission, which is reflected in its strong research portfolio in cancer, obesity, and public health. 33/

− *Morgan State University*, which serves as Maryland's designated public urban research university and the largest historically black University, offers another example of a University that has aligned its technology transfer infrastructure with the institution's research strengths, urban setting and public mission. While Morgan State is in the same urban ecosystem as one of the world's leading research institutions, Johns Hopkins University, it has tailored its technology transfer efforts to its institutional identity and goals. According to MSU, technology transfer "fulfills the triumvirate mission of research Universities which is education, research and public service- where one aspect of public service is to translate the results from the research laboratory to the public mainstream." 34/ As an example, Morgan State's Office of Technology Transfer works closely with the University's Urban Mobility & Equity Center (UMEC) to "bolster the scientific foundation and discern equity implications for policies that focus on urban mobility," a research strength of the University. 35/ Morgan State has developed a Tech Transfer Plan for the UMEC to meet this goal, which includes several metrics used to gauge success including the number of collaborative research projects, tech transfer events, intellectual property disclosures, and meetings with stakeholders, among others. In January of 2019, Morgan State was elevated from a R3 to an R2 Carnegie research classification. 36/

Promote Culture of Entrepreneurship and Build Innovation Ecosystems

Technology transfer enterprises recognize that the translation of research innovations to the market requires more than an effective licensing program. Some of the most successful programs work with government and private sector partners to build innovation ecosystems that

31/ Richard Fausset, *Georgia State, Leading U.S. in Black Graduates, Is Engine of Social Mobility*, NEW YORK TIMES (May 15, 2018), https://www.nytimes.com/2018/05/15/us/georgia-state-african-americans.html.
32/ *Technology Transfer*, GEORGIA STATE UNIVERSITY, https://research.gsu.edu/economic-development/technology-transfer/.
33/ *Research at a Glance*, GEORGIA STATE UNIVERSITY, https://research.gsu.edu/glance/.
34/ *Office of Technology Transfer*, MORGAN STATE UNIVERSITY, https://www.morgan.edu/technologytransfer.
35/ *UMEC Technology Transfer Plan*, MORGAN STATE UNIVERSITY, https://www.morgan.edu/Documents/ACADEMICS/CENTERS/NTC/UMEC%20Tech%20Transfer%20Plan-Final%20for%20August%202018.pdf.
36/ *Morgan State University Receives 'High Research' Classification*, MORGAN STATE UNIVERSITY (January 8, 2019), https://news.morgan.edu/morgan-state-university-receives-high-research-classification/.

can effectively leverage the products of University research for the benefit of the University, its community, and the public. These ecosystems can take the form of regional innovation clusters such as Research Triangle Park, Boston Tech Corridor, and Silicon Valley, but can also be built around an individual institution.

– *Georgia Tech* has established an innovation district in midtown Atlanta known as Tech Square, which brings together 12 companies to work collaboratively and in concert with the University's research activities. Tech Square, which has attracted companies like Delta, Boeing, Siemens, and Coca Cola, has advanced entrepreneurship at the University by bringing together diverse researchers into close proximity, increasing the probability of cross-pollination of ideas and innovation. 37/

– NYU's *Tandon Future Labs,* a public-private partnership "tasked with creating a sustainable incubation program focused on increasing the success rate of new ventures and generating positive economic impact," has had a significant impact on the culture of entrepreneurship in the city. 38/ It is estimated that Future Labs has had an estimated economic impact of more than $4 billion since the program launched in 2009 and is responsible for the creation of over 3,200 jobs. 39/ Over the past ten years, the Tandon School of Engineering itself has moved up the U.S. News ranking by 39 places.

– *Wake Forest Innovation Quarter*, a mixed-use community designed to bring together academics, students, and leading companies, is another strong example of a successful University-led initiative for fostering innovation. The Quarter is home to 170 companies with over 2,700 workers and more than 1,800 degree seeking students. It is considered one of the "fastest-growing urban-based districts for innovation in the United States." 40/

Tech transfer capacity building can also be achieved through targeted programming. For example, *Columbia University*, which has been in the top 2–3 universities nationwide for IP licensing revenue for many years, has established the Columbia Technology Ventures (CTV) Fellows Program which brings together a network of over 30 fellows from various disciplines and provides them with exposure to "intellectual property, marketing, management, editing, and licensing research" to enable them to develop skillsets for working in high tech corporations, universities, and startups. 41/ We understand that CUNY research leadership and the TCO have been exploring establishing a similar program.

Combine Economic Development and Technology Transfer Programs

Many public Universities have coordinated their economic development programs with their technology transfer programs to better reflect their public mission of supporting their communities and the general public. For example, the *University of Missouri System* has a joint

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37/ *Join Tech Square's Startup Scene*, GEORGIA TECH, https://www.gatech.edu/innovation-ecosystem/startups/tech-square.

38/ *Explore NYU Tandon*, NEW YORK UNIVERSITY, https://engineering.nyu.edu/about/explore-nyu-tandon.

39/ *Do Tech Incubators Work? NYU Tandon Future Labs Answer: 3,200 Jobs and $4 Billion for New York*, PR NEWSWIRE (February 13, 2018), http://tinyurl.com/TandonFutureLabs.

40/ *Innovation Quarter*, WAKE FOREST UNIVERSITY, https://www.innovationquarter.com/.

41/ *CTV Fellows Program*, COLUMBIA TECHNOLOGY VENTURES, https://techventures.columbia.edu/about-ctv/ctv-fellows-program.

office of Research and Economic Development which is responsible for intellectual property administration, the development of strategic marketing alliances with economic development partners throughout the state, and funding of key initiatives. 42/

Rutgers University also has an Office of Research and Economic Development which provides support and oversight over innovation and research commercialization, research finance and administration, corporate engagement and contracts, economic development, and research services, among others. 43/

Integrate Technology Transfer into the Research Strategic Planning Process

The research strategic planning addressed elsewhere in this Report offers an opportunity to incorporate a technology transfer component. This supports enhanced resource allocation to the TCO enterprise and helps ensure that the TCO's efforts further the University's research objectives.

− *Ohio State University* takes a comprehensive approach to strategic planning and makes annual strategic plans widely available. Its research strategic planning helps to direct the maintenance of core facilities and infrastructure, expanding partnerships with industry, increasing technology transfer and improving research support and compliance oversight. 44/

− The *University of South Florida*, now one of the largest Universities in the United States, also publicly releases its research strategic plans. The current plan, instituted for the 2017–2021 period, provides a summary of the current status of the University's research enterprise and discusses the University's goals to increase its rankings, improve national and international research visibility, foster a cross disciplinary research culture, and increase the economic and social impact of USF research. The USF strategic plan also charts out six major areas of research focus, one of which is research translation, as the University recognizes the importance of technology transfer and start-ups to its research mission. Technology transfer metrics are featured in the USF report as one of the University's key measures of research success. 45/

− *Louisiana State University's* Office of Research & Economic Development is responsible for supporting advanced research, scholarship, and economic development across the University. It accomplishes these goals through supporting grant writing and research initiatives, as well as providing strategic planning, public engagement, workshop development, and research administration. 46/

42/ *Contact Us*, UNIVERSITY OF MISSOURI SYSTEM, https://www.umsystem.edu/ums/red/fundingopps/contact_us.
43/ *About ORED*, RUTGERS OFFICE OF RESEARCH AND ECONOMIC DEVELOPMENT, https://ored.rutgers.edu/aboutus.
44/ *Office of Research Strategic Plan 2012-2017*, THE OHIO STATE UNIVERSITY, http://tinyurl.com/OSUStrategicPlan.
45/ *USF Research Strategic Plan 2017-2021*, UNIVERSITY OF SOUTH FLORIDA SYSTEM, https://www.usf.edu/research-innovation/documents/about-usfri/research-strategic-plan.pdf.
46/ *Office of Research and Economic Development*, LOUISIANA STATE UNIVERSITY, https://digitalcommons.lsu.edu/ored.

Streamlining Licensing To Access University Inventions

Some TCOs have added programs for simplified, streamlined licensing of University technology to get more inventions to market faster, and generate revenues. It has been noted by at least one study that TCOs emphasize service to faculty and translating research results to the market as a higher priority level than revenue maximization. 47/

Several universities, including the *University of Minnesota* and the *University at Buffalo,* have programs by which companies have an option to sponsor university research and pre-pay a reduced fee for an exclusive royalty-free license. 48/   These programs, by streamlining the negotiation process for industry sponsors seeking to partner with University researchers, can get technology to market faster and help increase research funding. For example, the University of Minnesota's MN-IP Program increased private industry funding from $40 million in 2012 to $70 million in 2017. 49/

Dedicated Funding to Get Inventions From Lab to Proof of Concept

In addition to invention disclosure and protection, researchers often need a modest amount of funding to move their technology from the lab to the point where it can be considered for potential commercialization through construction of a prototype, conduct of a proof of concept study, or initial business planning and market study. Availability of in-house seed funding can be critical to bridging the gap between an idea in the lab and an investment-ready technology or business.

- *NYU* operates the Innovation Fund, which launched in 2010 and provides seed funding to approximately five to six University-related startups per year. 50/   These investments usually range from $100,000 to $200,000 and are usually intended for a period of between three to eight years. 51/

- *SUNY* also has established the Technology Accelerator Fund, which has provided over $2.6 million to "advance the commercial readiness" of 46 distinct SUNY innovations. 52/ This funding, which has also helped SUNY innovators to raise an additional $14.5 million from external partners, has generated collateral revenue returns of nearly $6 million.

- The *University of Michigan*'s Technology Transfer office assists startups by leveraging its relationship with investors and startup funds. Beyond seed funding, UM, through a

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47/ Irene Abrams, Grace Leung, Ashley Stevens. *How are U.S. Technology Transfer Offices Tasked and Motivated— is it all About the Money?* RES MANAG REV 2009; 17(1):1–34.

48/ *UB Swift*, UNIVERSITY AT BUFFALO, http://www.buffalo.edu/research/business/start/funding-incentives/ub-swift.html; *Sponsoring Research*: *Minnesota Innovation Partnerships (MN-IP)*, UNIVERSITY OF MINNESOTA, available at https://research.umn.edu/units/techcomm/sponsoring-research-mn-ip.

49/ *Streamlined Contracting Models an Investment in Future Sponsored Research Deals*, TECH TRANSFER CENTER (November 2017), https://techtransfercentral.com/reprints/isrm/1117-streamlined-contracting-models/.

50/ *Company Overview of NYU Innovation Venture Fund*, BLOOMBERG, http://tinyurl.com/NYUInnovationFund.

51/ *Innovation Venture Fund*, NEW YORK UNIVERSITY, http://entrepreneur.nyu.edu/resource/innovation-venture-fund/.

52/ *Technology Accelerator Fund*, THE RESEARCH FOUNDATION FOR THE STATE UNIVERSITY OF NEW YORK, http://tinyurl.com/SUNYAcceleratorFund.

program called Michigan Invests in New Technology Startups (MINTS), will invest up to $1 million in Series "A" funding for University of Michigan startups. 53/

- The *University of Chicago* maintains a $20 million Innovation Fund to provide proof of concept and early business funding for startups from the University of Chicago and laboratory affiliates. 54/ Students from throughout the University are trained to conduct due diligence on startups for the innovation fund for 10–15 hours a week each.

We recognize that CUNY cannot simply emulate all of these innovative initiatives tomorrow, and that it needs additional resources. But this survey of "best practices" shows that many institutions have reaped far more financial return than they invested in TCO efforts. This summary is intended to assist CUNY in considering future efforts.

4.   RECOMMENDATIONS

The 1983 CUNY/RF Agreement

Recommendation #1: Updating the 1983 Agreement. CUNY and the RF should consider updating the 1983 Agreement so that it (a) better reflects the current scope of activities, (b) states more precisely which functions lie within CUNY responsibility vs. RF responsibility, where current confusion exists and impedes operations; and (c) adds provisions addressing research administration and compliance issues that have become more prominent and regulated since 1983, such as pre-award counseling, legal compliance, the definition of "research", P.I. training, data security and technology transfer.

The Role and Functioning of the RF Board

The RF Board practices should be changed in a number of fundamental respects. Apparently without the intent to do so, it has gradually fallen into a pattern of passive overnight that is dramatically at odds with widely recognized best practices among Boards of educational and other non-profit institutions. Areas of attention could include the following:

Recommendation #2: Frequency of Meetings. The RF board should meet more frequently—at least four times per year—rather than the current twice per year.

Recommendation #3: Board Books. The RF Board should require management to provide substantial background information, benchmarking data, performance measures/dashboards, decision options and justifications, and other customary materials for Board meetings.

Recommendation #4: Genuine Review of Information. The RF Board should receive these materials well in advance, with the expectation that all Board members will conscientiously review the material for the meetings.

53/ *Startups Funding*, UNIVERSITY OF MICHIGAN, https://techtransfer.umich.edu/for-startups/funding/.
54/ *Technology Commercializing and Licensing*, UNIVERSITY OF CHICAGO, http://tinyurl.com/ChicagoInnovationFund.

Recommendation #5: Early Warning of Problems. RF management should provide the Board with "early warning" reports of incipient problems or concerns before they become serious. Management should actively seek Board guidance on important issues.

Recommendation #6: Actively Oversight. The RF Board should adopt a culture of active, intensive oversight, challenging of management recommendations, and exacting review of performance. On the other hand, "micromanagement" of the knowledgeable, dedicated RF staff must be avoided. The general "best practice" among non-profit Boards is that the Board sets priorities and demands accountability for performance—but management is allowed to execute within Board-set parameters without day-to-day interference. However, in the case of the RF Board, it seems necessary to recalibrate the balance. The Board cannot sidestep its ultimate responsibility for protecting and advancing the RF mission.

Recommendation #7: Avoiding Mission Creep. RF Board approval should be obtained before the RF adds any significant mission or enterprise to its portfolio. The hurdle of justification should be high, so that tangential tasks, such as management of annuities for other organizations, do not divert resources from the core RF mission.

Recommendation #8: Term Limits. In setting RF Board term limits, a balance should be struck between the need for evolving expertise over time, and the need to infuse "new blood" and perspectives from time to time. Reasonable term limits should be set, such as not more than terms cumulating to six or eight years (with eligibility to return to the RF Board after an interval of several years off the Board). Vacancies should be filled promptly. The established term limits must be enforced.

Recommendation #9: Board Orientation. There should be a meaningful, routine orientation/education process for new RF Board members.

Recommendation #10: Board Self-Evaluation. The RF Board should engage in a periodic (e.g., every two years) self-evaluation process to assess and improve its own functioning.

Recommendation #11: Compliance Committee. The RF Board should consider creating a Compliance Committee.

Recommendation #12: Board Composition. CUNY and the RF should together undertake a review of whether the current size and composition of the RF Board is optimal. Among other factors, they should consider: the proper extent of representation of active researchers, representation of leaders of CUNY Colleges, whether College Presidents or their research vice presidents would be most helpful, the competencies sought from outside Directors, the potential value of Board members with expertise on technology transfer, the need for diversity, and other factors.

Pre-Proposal Functions

CUNY and the RF should materially increase the attention and resources devoted to pre-proposal activities. Thought should be given to whether these functions should reside in CUNY or the RF, but the decision should be based not on turf considerations but on where these functions can be performed most efficiently and with greatest measureable impact.

Recommendation #13: P.I. Training. CUNY/RF should develop an efficient, well-organized orientation training program for new or prospective research investigators. Some "modules" should probably be presented centrally as relevant to all researchers, but others may be better provided by a given College (e.g. addressing the unique issues in biomedical research or criminal justice or physics). The programs should cover subjects such as locating relevant sponsors, grant writing, how to obtain assistance in the grants process, scientific conduct, integrity in research, compliance issues (including conflicts of interest), fund accountability, purchasing, data security, the scope of RF functions vs. CUNY Central vs. campus-based functions, and where researchers can find all the policies to which they are subject. The RF and CUNY already have some of those resources, but they need an efficient, organized delivery vehicle.

Recommendation #14: Pre-proposal Office. CUNY and the RF should increase significantly the staffing and resources of the pre-proposal office. Of all the worthwhile RF functions, this was widely seen as providing the greatest "bang for the buck." The CUNY faculty teachers/researchers are its "crown jewel" and greatest asset. That collective asset could contribute more effectively if researchers were given more assistance at the front end—and junior faculty were trained in how to become successful in the grants process.

Recommendation #15: Administrative Support for Researchers. CUNY should seek at least some added resources to support researchers in their required grant applications and administrative tasks. If this produces more grant applications and funding, it could yield a significant "return on investment."

Recommendation #16: New Funding Sources. CUNY/RF should have an organized process for identifying new and emerging sources of funding (such as new private foundations or new initiatives of federal agencies), and for making that information available to researchers in the relevant subject areas.

Recommendation #17: Researcher Database. CUNY should develop a user-friendly, efficient tool by which CUNY researchers in an area can identify colleagues across disciplines or across campuses who might become effective collaborators, or who might add areas of expertise and enhance their likelihood of obtaining sponsor funding. (The Pivot Tool may be one useful start.) The 2016–2020 CUNY Master Plan stated on p. 75 that a new initiative of the Office of Academic Affairs was to "create a data base of researcher expertise and interests to more easily identify projects and potential collaborators"—exactly what we would recommend.

Recommendation #18: CUNY Research Inventory. CUNY should develop an efficient means by which its researchers can search for data sets, research results, methodologies, or other tools developed by other CUNY researchers that might save them time or enhance their research, in a manner that complies with applicable data security requirements.

Recommendation #19: Link to Philanthropy. CUNY and the RF should work together to better link up CUNY's philanthropic efforts with research initiatives. Foundations, wealthy CUNY alumni, and other supporters need an efficient way to learn what CUNY is doing in areas of interest to them, and then there must be an energetic effort to get them interested in particular research projects they might want to fund. To the extent this research funding is obtained through individual College Foundations and development offices, it should nevertheless be coordinated with Grants Officers and the RF to ensure compliance (e.g., with COI requirements).

Financial Administration

Recommendation #20: Flexibility. There may not be much to address in the RF administration of grant funding; almost all participants say it performs the basic "blocking and tackling" functions very well. There were references to occasional glitches or grey areas, but no one suggested the need for systematic changes, or cited egregious errors. But the RF might try to facilitate a bit more flexibility for P.I.s in its grant administration process (as noted in several specific sections of this Report), to the extent permitted by the sponsor rules.

Recommendation #21: Avoiding End Runs. Apparently, some CUNY P.I.s attempt to evade the RF expenditure rules, usually just to speed up the process or where they believe the expenditure is allowed by the sponsors and the RF is just not aware of that fact. In reality, the P.I. may be correct at times, and mistaken at times (not appreciating compliance issues the RF might perceive). Hence, greater attention might be given to clarifying for P.I.s the rules governing expenditures (the CUNY Expense Matrix was a useful step in that direction) and the importance of compliance. CUNY itself needs to discipline researchers who knowingly violate the rules in material ways.

Grants and Contracts Processing

Recommendation #22: Early Warning of Contract Delays. We understand that the RF generally does a very good job in this area. There are occasional long delays due to unique features of a grant, and this frustrates the researchers. It would be useful for the RF to implement some form of "early warning system" or "hotline" when there is a delay exceeding say 60 days or 90 days—so that these matters are escalated to the "top of the pile."

Recommendation #23: Training P.I.s. Grant delays also are sometimes due to P.I.s failing to provide needed data or failing to meet sponsor needs. CUNY and the RF both would benefit from enhanced training or guidance for P.I.s. P.I.s need to understand the effect that sloppy or incomplete documentation can have in causing the delays that they then lament.

Recommendation #24: Online Tracking. The online systems for P.I.s to track the status of grant processing, employment, etc. generally were regarded as "ok but not great." Some attention should be given to making them more user-friendly, if feasible. The RF says it has been rolling out several improvements.

Recommendation #25: Escalation Process. The RF and CUNY should implement an "escalation process" so that a "SWAT team" intervenes where delays in the grant process could imperil obtaining the grant.

HR Administration

Recommendation #26: Flow Charts. CUNY and RF personnel recognize the challenge inherent in a system where "The P.I. chooses the employee, but the RF becomes the employer." But neither organization's leaders were clear about where the responsibilities of one organization end and those of the other begin—especially when there are on-boarding delays, or employment disputes, or behavioral problems. Given the legal and functional sensitivity of this area, clarification is needed. CUNY and the RF should develop a simple, online series of flow charts or "rules of the road" for how to address each of those common scenarios. In the long run, this

will speed up the process and avoid mistakes. In addition, CUNY should not tolerate "heavy hitters" who seek to end-run the agreed personnel/on-boarding system.

Recommendation #27: Addressing Delays. Ostensible delays can be due to many different reasons, including legitimate process challenges and just inattentive performance. But again, it might help if delays in on-boarding employees in excess of some duration were automatically flagged for special attention, and the P.I. could track the status in real time online. At a minimum, this would reassure P.I.s that a concerted effort has begun to complete the process.

Recommendation #28: Export Control Training. Researchers need to be provided with education on "export control" requirements so they have a better understanding of the special procedures/obligations that arise when they employ or share data with or collaborate with foreign nationals.

Recommendation #29: Protocol for HR Disputes. CUNY and the RF should adopt an agreed protocol on who has the lead, and who bears responsibility for resolving HR disputes of various kinds (e.g. scientific conduct, funding conduct, interpersonal conduct, claims/suits, etc.) This will help avoid delay and facilitate appropriate results.

Purchasing

Recommendation #30: Maximizing Discounts. The RF should review vendor contracts on a CUNY-wide basis, to be sure that it is receiving optimal achievable discounts.

Recommendation #31: Vendor Rating. The RF should have some inventory and rating process for vendors, so that researchers are informed of those recurring vendors that generally perform reliably vs. those that have problems.

Recommendation #32: Budget Reallocations. The RF should more attentively allow budget reallocations or purchases where they are in fact allowed by sponsors and do not otherwise violate CUNY rules.

Recommendation #33: Conflict Certification. P.I.s should be required to certify annually or otherwise that they have not violated CUNY conflict of interest rules in the purchasing process.

Recommendation #34: Accelerating Contract Approval. Software purchasing was said to be critical to many projects and a yet recurring problem with the RF. CUNY and the RF should develop (a) an inventory of software vendor licenses that are pre-approved and can be expedited; (b) a bank of "approved clauses" that can expedite contract approval; and (c) Standard Operating Procedures ("SOP(s)") that designate the responsible personnel for legal, technical and business review and reasonable expected timelines for completion.

Recommendation #35: Registering Equipment Purchases. There should be active enforcement of the requirement that researchers who use grant funds for products (e.g. laptops or printers) that are delivered to their homes—nevertheless register all such purchases with the campus property manager.

Grant Fund Management

Recommendation #36: Summer Salary. CUNY and the RF should implement guidance clarifying computation rules to ensure that "summer salary" is properly calculated and grants are correctly charged.

Recommendation #37: Recovery Accounts. Recovery accounts belong to CUNY and are essentially used at the discretion of the applicable College. The RF does not aspire to control their uses. So if CUNY feels a need for tighter controls (such as limiting expenditures for lobbying or entertainment or special functions), it should adopt its own rules. These should be consistent across CUNY, unless there is a good, mission-driven reason for variations. (The "All Funds Expense Matrix" is a useful tool in that respect.)

Recommendation #38: Audits. The RF handles hundreds of sponsor-initiated or RF-internal audits per year. These should give rise to useful data and learning about what practices cause problems, how disallowed expenditures occur, etc. The RF could productively prepare a "Lessons Learned" report to CUNY administrators from time to time—which could help enhance future compliance.

Recommendation #39: Grants Plus. The Grants Plus program brings in only about $100,000/year in fees, and is not part of the RF's core mission. It may be a distraction. The current plan to phase it out is wise.

Legal Support

Recommendation #40: RF Legal Support. The legal support function is the one within the RF that is most criticized by CUNY researchers and administrators, as reflected in our interviews and confirmed by the recent RF Customer Survey. Some of the criticisms may be due to the nature of the work. It is complex and technical and often depends on government officials, or data incompletely provided by researchers, etc. and is not within the control of the legal department. Virtually everyone said the RF legal department were intelligent and worked hard. But delays were said to be frequent; responses were often hard to extract; and the department is widely considered as not being "customer friendly." Therefore, CUNY and the RF should at least consider the amount of resources they want to allocate to this function, whether enhanced staffing could reduce delays, and whether that would be worth the cost.

Recommendation #41: Legal Service Initiatives. In addition, the RF legal department itself should consider how to implement measures to improve service. These might include early warning "flags" for long-delayed responses; offering better web-based or in-person training to researchers; a routine protocol for timeliness of telephone responses; and SOPs for review of recurring contracts. Likely the office itself could suggest good ideas.

Recommendation #42: Web Tool to Track Issues. We have recommended that there should be an RF web-based portal tool so P.I.s can learn in real time the status of their grant, personnel on-boarding, purchases, and problems that hold things up. The RF Legal Department could well be a part of this.

Recommendation #43: General Counsel Role. The RF should clarify expectations for the legal department and should consider mandating it to perform the full range of Office of General Counsel functions.

Compliance

Compliance is an area warranting closer and better organized attention by CUNY and RF, working together. There is widespread confusion about their respective roles in ensuring compliance. There should be clear policies and processes, in each arena of compliance.

Recommendation #44: Conflicts of Interest. There seems to be widespread lack of understanding about the hierarchy of conflict of interest polices and who applies them. There should be a clear understanding among researchers that they must obey CUNY COI policies, and their College COI policies, and any sponsor COI policies. CUNY must enforce the first two, and the RF has a role in enforcing the third. CUNY and the RF need to develop a better coordination mechanism for COI enforcement—given the substantial risks that violations may incur.

Recommendation #45: Data Security. The impression we received was that the RF is well aware of its need to enhance its data protection systems, and is doing so. What is less clear is whether they have consulted with CUNY about its data protection policies and systems and whether the newer RF systems will help protect CUNY as well, and will meet sponsor requirements. We suggest that CUNY and the RF consult and develop an agreed set of "specs" for data security. They need not be the same; they could be additive; but together they need to fulfill basic requirements.

Recommendation #46: Compliance Policies and Procedures. CUNY and the RF would benefit from more updated, comprehensive and user-friendly compliance policies and tools (such as FAQs to assist both P.I.s and administrators).

Recommendation #47: Data Practices. The CUNY and RF data security, privacy and other IT-related policies available on the website should be updated; they appear to be very out of date and should better reflect best practices for more current technology.

Recommendation #48: Export Controls. As recent meetings have revealed, both the RF personnel, and the CUNY researchers, need much better understanding of the kinds of activities they engage in that can violate export control laws and regulations. This is especially so in the less-well-understood arena of "deemed exports," i.e. not export of materials themselves, but making information available to foreign nationals, for example. CUNY and RF should jointly prepare informational materials and training sessions on this subject.

Recommendation #49: Compliance Champion. The RF should consider appointing a "champion" within the RF/CUNY senior leadership who can facilitate the identification of, and ways to mitigate, institutional barriers to compliance.

Recommendation #50: Clarified Policies. The RF should review its current financial and administrative policies and procedures and consider implementation of enhancements in certain areas, such as allowable costs and cost transfers.

Recommendation #51: Compliance in Entrepreneurial Activity. As the RF engages in compliance-related horizon scanning, it should give consideration to risks associated with entrepreneurial faculty and those associated with talent programs and spin-off companies.

Recommendation #52: Compliance on All Sponsored Funds. As noted above, to the extent research funding is sought through individual College Foundations and development offices, it should nevertheless be coordinated with Grant Officers and the RF to ensure compliance.

Effort Reporting

Recommendation #53: Effort Reporting Guidelines. The RF should consider enhancements to its effort reporting Guidelines. We also recommend development of a series of FAQs that could be broadly disseminated to faculty and that would address common questions about allocating compensation costs to sponsored awards.

Indirect Cost Recovery

Recommendation #54: Indirect Cost Rates. The indirect cost rate for the ASRC beginning in 2021 will obviously be important. CUNY and the RF should put meaningful effort into preparing for that negotiation and ensuring that cost recovery is maximized. In conjunction with that work, the RF should ensure that ASRC service center rates are timely and accurately calculated.

Use of Recovery Accounts

See Recommendation #37 above.

RF Fees and Costs

Recommendation #55: Balancing Services and Costs. There are several areas of RF functioning that should be evaluated as to their need for more resources. This may be because currently there is some significant dissatisfaction over their adequacy (e.g., legal), or because there is strong satisfaction and people want more services (e.g., pre-award), or because a function is of growing importance (e.g., tech transfer). The RF and CUNY should convene a small group to explore potential "if/then" budget options i.e., if a function were expanded, the incremental RF budget cost would by X and the probable impact would be Y. CUNY as the "customer" can then make an informed judgment whether it wants to increase service fees or not—but if it approves higher fees, then instead of just an inchoate tax increase, the increment will be understood as necessary to support a new function or enhanced level of service.

Other Issues

Recommendation #56: Analytic Reports. The RF should use its database and experience to provide meaningful analytic reports to CUNY—which could really benefit the research enterprise. They might address parameters such as: trends in the mix of sponsor funding; growing vs. subsiding areas; relative successes of CUNY Colleges/components; cost recovery trends; impact of RF pre-proposal support, etc.

Recommendation #57: Links to Databases of Funding Sources. The RF should consider added ways, through the Office of Pre-Proposal Support or otherwise, to use technology to assist its faculty to identify research opportunities. This might include links to key sponsor funding opportunities; ways to enroll in key Listservs such FedBizOpps.gov, Grants.gov, and Proposal Central; and links to primary foundation funders. In sum, a one-stop shop business intelligence portal could help faculty better identify and respond to funding opportunities.

The ASRC

Recommendation #58: ASRC. There continues to be a wide divergence of opinion about whether the ASRC was (a) a terrific idea, creating a great new facility to serve as a "magnet" for top researchers to propel CUNY into the future, or (b) an ill-located, "white elephant" that will never be a coherent "node" for research and is built on a non-viable indirect cost recovery model. Whatever the wisdom on this, some facts are clear on the ground now: the funding was obtained and the building was constructed and is being used. CUNY should commit to making it successful—and especially by working to foster collaborations with researchers across CUNY, not just those residing at the ASRC. (For example, the animal use facility is a unique resource for other institutions and a source of purchased service revenue.) The CUNY research strategic planning process should include a review of the mission, capabilities, programmatic priorities, and operations of the ASRC with a view to optimize the role of this valuable resource in furthering CUNY's research mission.

CUNY's Priorities and Strategy for Research

It is not surprising that the RF cannot achieve optimal impact on CUNY's behalf— because CUNY's own research enterprise is itself poorly focused overall. There are impressive nodes of research excellence, but due to lack of strategy, focus, coordination, and concentration of resources, CUNY is failing to maximize the impact of its available intellectual resources.

Recommendation #59: Strategic Plan for Research. CUNY should develop a clear "Strategic Plan for Research." It should build on CUNY strengths; take into account trends in research funding; and reflect CUNY's unique mission and comparative advantages as the nation's largest public urban University. Inherent in a "strategic" plan is that tough choices among possible initiatives must be made. Even the wealthiest Universities have realized that they cannot be excellent in everything, and many have chosen where to seek to excel. Clearly, CUNY must choose where to place its discretionary resources. And a strategic "Plan" must be a Plan. It cannot just be a listing of activities. The Plan must articulate why particular choices make sense for CUNY, and how each initiative is expected to build capacity toward broader goals. At the back-end, there should be standards for measuring achievement of the Plan and holding leaders accountable for those things they can largely control. In addition, those Colleges that are deeply embedding in research should be encouraged to develop their own strategic plans aligned with the CUNY Plan.

Recommendation #60: Office of Research Administration. CUNY should enhance the staffing and resources of the Office of Research Administration ("ORA"). Most commented that it was knowledgeable and is trying to be effective, but that its achievements are limited by unrealistically lean staffing. For an institution the size and complexity of CUNY, meaningful impact across the institution requires a concerted effort at a higher level of staffing. As noted

below, we endorse ORA's inclination to bring together its technology transfer and economic development roles as other institutions have done.

Recommendation #61: Grants Officers. The campus Grants Officers are among the most knowledgeable people, with respect to the operation and funding of CUNY sponsored research, and are in touch with what is really occurring in each institution. They meet periodically to compare notes. It would seem worthwhile for them to take the next step and together develop and send, a few times yearly, an "update" to all researchers, with guidance on new sponsor requirements, innovative campus developments, compliance suggestions, etc.

Recommendation #62: Added Tools. CUNY should develop a systematic "core" of instruments that can help catalyze more effective research across all CUNY Colleges. These could include: (a) an internal tool for researchers to find targeted collaborators; (b) a tool for researchers to find data sets, sources and research methods already developed within CUNY that might (under proper guidelines to ensure compliance) be accessed to accelerate or broaden their own research; (c) availability of catalytic in-house funding to jumpstart promising research initiative; (d) availability of research support resources (such as pre-proposal support and training programs); and (e) a more systematic system of "mentorship" by which junior researchers can learn from more senior ones, etc.

Recommendation #63: Collaborations. More broadly, CUNY should consider how best to foster useful collaborations across its Colleges. Collaboration for its own sake may be pointless, but surely there are some potentially useful but lost opportunities. Everyone we spoke with said there is no "culture" of cooperation across CUNY, and that some of the senior Colleges with deep research experience do not want to dilute their efforts or prestige by working with less-well-known institutions within CUNY. Sometimes such collaborations might be dilutive. But CUNY should seek to develop them where they might be accretive (such as by "collaboration grants" that could be a force-multiplier for CUNY). Many great Universities could not perform research that combines (a) brain science and criminal justice; (b) health service delivery and transportation studies; (c) economics and materials science; (d) technology and state and local governance; (e) environment and socio-economic inequality; or (f) business administration, computer design and advertising. But CUNY has all these capacities—and myriad more.

Recommendation #64: Role of Research at CUNY. This is a broad Recommendation and it reflects more what we heard from interviewees rather than our own in-depth assessment, since this issue was beyond our scope. There is a divergence of views about the proper role of research in the academic programs of the community Colleges and the less research-oriented senior Colleges. Some argue forcefully that these institutions are already challenged to accomplish their core mission—basic higher education and preparation for effective workforce roles—and that adding required training in research methods and processes would be an unhelpful distraction for most students. Others argue that the workforce of the future (not only in STEM fields but also in areas such as health professions, education and social services) will require an understanding of research and a critical ability to assess and use its results, and thus that one cannot separate research from good instruction of students (as evidenced by BMCC's recent NSF grant to support research experiences for undergraduates). We are not qualified to recommend the right balance. But this is an important enough issue that we do think that CUNY should appoint a task force to develop recommendations on (a) the proper role of research in

undergraduate education at various levels within CUNY, and (b) correspondingly, what should be encouraged among College faculty as a whole with respect to research.

Recommendation #65: Local Initiative. We have recommended enhanced cross-institutional collaboration in various ways. But with respect to alliances of CUNY institutions with outside organizations (such as other Universities or Google or Pharma companies), we support the more College-specific approach that now prevails. This is because CUNY needs to encourage an "entrepreneurial" culture among its Colleges. Under this approach, quite a number of them have cultivated useful bilateral projects with other Universities, or with City or State agencies, or with large public companies. Those outside partners want an efficient route into CUNY for whatever resources they are seeking; they would be deterred in many instances if the price of seeking collaboration with a given College was being embroiled in CUNY's inside tensions over which other CUNY Colleges get to join the project. And the zeal of the initiating College would be dampened. Once a useful collaboration is successful, of course, CUNY Central can discuss with the participating College whether there are opportunities to broaden CUNY participation; but that should not be an obstacle to getting started.

Recommendation #66: Incentive Funding. Faculty have chosen to be at CUNY because they value being involved in teaching and research. But like all human beings, they are affected by financial incentives or the lack of them. Many of our interviewees said there was little incentive for young faculty to start the arduous process of obtaining a grant, or for senior faculty who have already "arrived" at some eminence to seek further sponsored activity. The only real incentive is to increase their "release time" or obtain "summer salary"—but that only occurs if they are successful in obtaining a grant, and even then the actual time spent on research often exceeds the release time from instructional duties. If CUNY wants to be recognized as a great research institution—and continue to be able to recruit great educators, some of whom want meaningful research roles—it will need to find a way to enhance the financial incentives. Many Universities provide "start-up grants", or "bridge funding" or "challenge grants" etc. to help accelerate research. We realize that the source of such funding for CUNY is not obvious. But identifying such sources (either via philanthropy, or State/City funding, or via business partnerships) should be a priority.

Recommendation #67: Linking to Philanthropy. CUNY needs an organized process to link its development/philanthropy efforts with its research enterprise strategies. Often donors want to support a general goal—but they don't know what specifically within that area their support could "buy." If they are matched to an agenda for researchers in their area—that often sparks their interest and results in gifts. Conversely, researchers in an area need to know about the private foundations or individuals of means who are interested in supporting the kind of work they do. This kind of linkage can't best be done on a "hit or miss" basis by word of mouth. CUNY should develop an organized data base and process for expanding development by using research as one lead, and using external gifts to enhance research.

Technology Transfer and Commercialization

CUNY's technology transfer function should be expanded to support the expanse of potentially commercializable research and data that CUNY researchers are already creating. CUNY should take steps to expand the TCO to develop a stronger presence both within and outside of CUNY and to better support researchers interested in commercializing their research.

Recommendation #68: Incorporate the TCO into the Research Strategic Planning Process. CUNY's technology transfer enterprise should be incorporated into the research strategic planning process addressed above in order to align the TCO mission with CUNY's overall mission and identify priorities against which to allocate TCO resources and efforts. If the TCO mission is broader than seeking the greatest income for CUNY inventions (which is shared between inventors and CUNY), what should that broader mission include: Moving inventions from lab to marketplace as efficiently as feasible? Economic development in New York City? A social equity/community development element aimed at broadening the benefit of the innovation economy in NYC? A social entrepreneurship element (like the social entrepreneurship curriculum and the Zahn Center, City College's incubator? CUNY should address these issues through a thoughtful process.

Recommendation #69: Tell the Tech Transfer Story and Raise the Profile of the TCO. CUNY should more broadly publicize the TCO and its related entrepreneurial support activities both within and outside CUNY. By following the example of other institutions that have analyzed and publicized the positive impact of their innovation activities, CUNY could generate greater support for research and tech transfer from funders who recognize the return on investment. Even if CUNY doesn't have the resources to commission an economic impact report, CUNY should take greater steps to report key tech transfer performance metrics, including by providing full information for the Association of University Technology Managers (AUTM) U.S. Licensing Activity Survey. The TCO is capable in fulfilling its core role of protecting and commercializing CUNY intellectual property but it cannot achieve its full potential if inventors, collaborators, and potential licensees are not informed. Despite the fact that TCO outcomes lag behind its New York City neighbors and comparable State institutions, it has a story to tell and telling that story is vital to increasing support and improving impact.

Recommendation #70: Integrate the Elements to Build a CUNY-wide Innovation Ecosystem. CUNY should connect and coordinate the TCO with a broader CUNY-wide innovation ecosystem that incorporates existing economic development, entrepreneurship, and innovation promotion activities across the CUNY community. This could start with more formally integrating the economic development activities conducted under the Industrial-Academic Research program with the TCO. It should also include better coordinating the efforts of the eight campus incubators with the CUNY Hub for Innovation and Entrepreneurship, as well as the other state and federally supported entrepreneurship programs (NYCRIN/I-Corps, PowerbridgeNY, and the NSF-supported IUCRCs). Looking beyond the CUNY community, the TCO should pursue additional partnerships with private sector companies along the lines of City College's Center for Industrial Partnerships.

Recommendation #71: Better Align TCO/Economic Development with CUNY Central, RF and Colleges. Whether or not this is part of a formal restructuring, the TCO's position in the CUNY organization should be reviewed to better align it (and the economic development role) with the

campuses, the RF and CUNY Central. Even without formal restructuring, positioning the TCO as part of the overall research infrastructure across the RF and campuses would enhance its ability to pursue its role. To increase its reach to the CUNY campuses, the TCO should consider appointing tech transfer liaisons at each major research campus (including the ASRC) in order to promote invention disclosure and awareness of innovation promotion resources.

Recommendation #72: Invest Sufficient Resources. As is the case with other recommendations, devoting more resources, financial and human, would improve the reach and effectiveness of the TCO. We recognize that the source for such funding is not readily apparent. But we also believe that there is a "virtuous circle" quality to investments that build TCO capacity and thus enhance CUNY's ability to generate IP income that, in turn, can be used to fund further research and the operating costs of the TCO. Beyond the core functions of the TCO, CUNY would benefit from investing in a seed fund to support translation of a concept in the lab to a marketable prototype that can attract interest from prospective investors and licensees.

Recommendation #73: Integrate TCO into Research Governance Structure. In conjunction with the RF Board recommendations made above, CUNY should consider appointing a committee, either of the RF Board or otherwise, to oversee and support the TCO and economic development programs and to ensure alignment with CUNY's overall research mission.

Exhibit A

List of Interviewees

Name	Institutional Affiliation	Position
Jarnee Bramlette	CUNY Research Foundation	Deputy Chief Financial Officer, Controller
Gregory Cicciari	CUNY Research Foundation	Senior Contract Paralegal
Paul Cole	CUNY Research Foundation	Director, Procurement and Payables
Lisa DeStefano	CUNY Research Foundation	Director, Research Policy & Indirect Cost
Victoria Donoghue	CUNY Research Foundation	Associate Director, Human Resources (Labor and Employment)
Dexya Doyle	CUNY Research Foundation	Manager, Tax Compliance and Payables
Matthew Drost	CUNY Research Foundation	Deputy Chief Counsel
Mohammad Elayan	CUNY Research Foundation	Analyst, Compliance and Risk Assessment
Arthur Fossum	CUNY Research Foundation	Director, Information Technology
Crawford Grell	CUNY Research Foundation	Associate Director, Human Resources (Employment Services)
Gavita Harris	CUNY Research Foundation	Deputy Controller
Kyung Hur	CUNY Research Foundation	Assistant Director, Grants and Contracts
Yong Hwang	CUNY Research Foundation	Group Manager, State Programs
Edward Kalaydjian	CUNY Research Foundation	Chief Financial Officer and Treasurer
Tracy Lake	CUNY Research Foundation	Assistant Controller, Receivables and Payables
Gary Liang	CUNY Research Foundation	Group Manager, Federal Programs
Jeffrey Lucks	CUNY Research Foundation	Director, Internal Audit
Sean McPartland	CUNY Research Foundation	Director, Customer Service Department
Erika Montes	CUNY Research Foundation	Assistant Controller for Related Entities
Jacek Olszewski	CUNY Research Foundation	Chief Information Officer
Patrice Osbahr	CUNY Research Foundation	Assistant Director, Human Resources (Payroll)
Wendy Patitucci	CUNY Research Foundation	Senior Director, Human Resources
Violet Segal	CUNY Research Foundation	Executive Assistant to Chief Counsel
Jeffrey Slonim	CUNY Research Foundation	Chief Counsel, RF Board Secretary
Barbara Smalls	CUNY Research Foundation	Customer Services Representative
Jerry Steele	CUNY Research Foundation	Chief Operating Officer
John Tsapogas	CUNY Research Foundation	Director, Office of Award Pre-Proposal Support
De Zhang	CUNY Research Foundation	Associate Director, Human Resources (HRIS)
Doug Adams	CUNY Central, Technology Commercialization Office	Director

Name	Institutional Affiliation	Position
Michelle Anderson	Brooklyn College	President, Brooklyn College
John Blaho	CUNY Central	Director, Industrial Academic Research
Vincent Boudreau	City College	President, City College
Loretta Brancaccio-Taras	Kingsborough Community College	RF Board Member, Faculty Advisory Council, Professor
Ted Brown	Queens College & Graduate Center	Professor and Executive Director, CUNY Institute of Software Design
Joshua Brumberg	Graduate Center	Dean of Science
Robert Buckley	Hunter College	Director, Research Administration
Robert Campbell	Advanced Science Research Center, Graduate Center	Interim Chief Operating Officer
Patricia Casaccia	Advanced Science Research Center	Director of ASRC Neuroscience Initiatives, Professor
Jose Luis Cruz	Lehman College	President, Lehman College
Gary Dine	CUNY Central	Director Fiscal and Administrative Services
Ayman El-Mohandes	Graduate School of Public Health	Dean, Graduate School of Public Health
Scott Evenbeck	Guttman Community College	RF Board Member & President
Hilry Fisher	Graduate Center	Director, Sponsored Research
William Fritz	College of Staten Island	RF Board Member & President, College of Staten Island
Alan Gilbert	Brooklyn College	Vice President for Finance and Administration
Adam Greenberg	Advanced Science Research Center	Director, Sponsored Programs Administration
Lon Kaufman	Hunter College	Provost
Farida Lada	CUNY Central	Associate University Provost for Research Administration
Peter Lipke	Brooklyn College	Professor
John Martin	City College	Medical Professor
Karol Mason	John Jay College	President, John Jay College
Dan McCloskey	CUNY Central	Interim Associate Vice Chancellor and University Provost
Neeti Mitri	CUNY Central, Technology Commercialization Office	Senior Manager, Industrial Liaison and Licensing
John Mogulescu	Graduate School of Professional Studies	Dean, Graduate School of Professional Studies
John Montanez	BMCC	Dean, Office for Sponsored Programs
Poline Papoulis	Queens College	Director, Officer of Research and Sponsored Programs
Steven Penrod	John Jay College	RF Board Member, Faculty Advisory Council, Professor

Name	Institutional Affiliation	Position
Jennifer Raab	Hunter College	President, Hunter College
Vita Rabinowitz	CUNY Central	Chancellor
Shirley Raps	Baruch College	RF Board Member, Faculty Advisory Council, Professor
Erika Reuter	CUNY School of Public Health	Research Programs Manager
Chase Robinson	Graduate Center	RF Board Vice-Chair & President, Graduate Center
Matt Sapienza	CUNY Central	Chief Financial Officer
Marc Shaw	CUNY Central	Interim Chief Operating Officer
Alan Shih	City College	Director, Grants and Sponsored Programs
Tyrel Starks	Hunter College	Associate Professor, Psychology
Ying Zhou	Queens College Tech Incubator	Executive Director

Exhibit B

The RF Absolute Charter

See attached.

Absolute Charter of
RESEARCH FOUNDATION OF THE CITY UNIVERSITY OF NEW YORK

The instrument witnesseth <u>That the Board of Regents for and on behalf of the Education Department of the State of New York has granted this absolute charter.</u>

1.   Incorporating Eugene T. Burdock, Harry J. Carman, Gladys M. Dorman, Buell G. Gallagher, Harry D. Gideonse, Arthur H. Kahn, John J. Meng, Mina Rees, Gustave G. Rosenberg, Harold W. Stoke, Ella S. Streator and Charles H. Tuttle, and their associates and successors as an educational corporation under the corporate name of Research Foundation of The City University of New York, to be located in the city, county, and State of New York.

2.   The purpose for which such corporation is formed are:

   a. To assist in developing and increasing the facilities of The City University of New York to provide more extensive educational opportunities and service to its constituent colleges, students, faculties, staffs and alumni, and to the general public, by making and encouraging gifts, grants, contributions and donations of real and personal property to or for the benefit of The City University of New York;

   b. To receive, hold and administer gifts or grants, and to act without profit as trustee of educational or charitable trusts of benefit to and in keeping with the educational purposes and objects of The City University of New York; and

   c. To finance the conduct of studies and research in any and all fields of intellectual inquiry of benefit to and in keeping with the educational purposes and objects of The City University of New York and/or its constituent colleges, and to enter into contractual relationships appropriate to the purposes of the Corporation

3.   The persons named as incorporators shall constitute the first board of trustees. The board shall have power to adopt by laws, including therein provisions fixing the method of election and the term of office of trustees and shall have power also, by vote of two-thirds of all the members of the board of trustees, to change the number of trustees, to be not more than 25 nor less than 5.

4.   The corporation hereby created shall be a non-stock corporation organized and operated exclusively for educational purposes, and no part of its earnings or net income shall inure to the benefit of any individual, and no officer, member, or employee of the corporation shall receive or be entitled to receive any pecuniary profit from the operations thereof, except reasonable compensation for services

5.   The principal office of the corporation is to be located in the city, county, and State of New York.

6.   The Commissioner of Education is designated as the representative of the corporation upon whom process in any action or proceeding against it may be served.

GRANTED <u>January 24, 1963</u> by the Board of Regents
for and on behalf of the State Education Department,
executed under the seal of said
Department and recorded therein,
Number 8302

Edgar W. Cooper   James E. Allen, Jr.
Chancellor   President of the University and Commissioner of Education

Exhibit C

RF Bylaws

See attached.

THE RESEARCH FOUNDATION OF THE CITY UNIVERSITY OF NEW YORK

BYLAWS

(As revised, December 20, 2016)

ARTICLE I — NAME AND PURPOSES

§1. NAME
This corporation shall be known as the RESEARCH FOUNDATION OF THE CITY UNIVERSITY OF NEW YORK, hereinafter referred to as THE FOUNDATION.

§2. PURPOSES
The purposes of the Foundation are:

a) TO ASSIST in developing and increasing the facilities of The City University of New York to provide more extensive educational opportunities and service to its constituent colleges, students, faculties, staffs and alumni, and to the general public, by making and encouraging gifts, grants, contributions and donations of real and personal property to or for the benefit of The City University of New York;

b) TO RECEIVE, hold and administer gifts or grants, and to act without profit as trustee of educational or charitable trusts of benefit to and in keeping with the educational purposes and objects of The City University of New York;

c) TO FINANCE and otherwise facilitate the conduct of studies and research in any and all fields of intellectual inquiry of benefit to and in keeping with the educational purposes and objects of The City University of New York; and/or its constituent colleges, and to enter into contractual relationships appropriate to the purposes of the Foundation;

d) TO PROVIDE prudent stewardship of research funds to satisfy the requirements of the State, the City, sponsors, and The City University of New York.

ARTICLE II — BOARD OF DIRECTORS

§1. POWERS AND DUTIES

The Board of Directors shall manage the operations of the Foundation. It shall control the property, affairs and concerns of the Foundation. It shall issue such resolutions as may be required regarding signatures for savings, withdrawals and check issuances. It shall authorize investment policy and establish or approve such policies as are necessary regarding receipt and administration of gifts. It shall approve the acquisition and disposition of real property. It shall establish bonding requirements and approve the annual budget and the wage and salary and fringe benefit plan of the Foundation.

§2. MEMBERSHIP

In accordance with paragraph 3 of the Absolute Charter of the Research Foundation and Section 226 of the New York State Education Law the number of directors shall be no less than five and no more than twenty-five. The directors of the Foundation shall be the following seventeen persons:

a) the Chancellor of the City University, or his or her designee, who shall serve, *ex-officio*, as Chairperson of the Board of Directors;

b) the President of the Graduate School and University Center who shall serve, *ex-officio*, as Vice-Chairperson and shall act as Chairperson at meetings of the Board in the absence or disability of the Chairperson;

c) two individuals appointed by the Chancellor, for a term of two (2) years, with a renewal term of two years;

d) four At-large members;

e) two Senior College Presidents;

f) two Community College Presidents;

g) four Faculty members; namely the Chairperson of the Faculty Advisory Council*, ex-officio,* and three other eligible Faculty members, provided, however, that at least one Faculty member shall be from a Community College and at least one faculty member shall be from a Senior College;

h) and one full-time Graduate Student enrolled in a doctoral program and holding a University appointment as a graduate assistant or equivalent title.

§3. ELIGIBILITY, SELECTION, TERMS OF OFFICE

a) The Senior College Presidents who are to serve as directors shall be elected by majority vote of all Senior College Presidents; the Community College President-directors shall be elected by majority vote of all Community College Presidents. When each of the two groups of Presidents meets to hold these election, they shall have before them a report containing the grant and contract volume at each college for at least the two preceding years.

b) As soon as practicable after July 1, 1980 the Senior and the Community College Presidents respectively shall elect one President-director each to serve until June 30, 1982 and until a successor is elected and one President-director each to serve until June 30, 1983 and until a successor is elected, thereafter the term of a President-director shall be for two years and until a successor is elected. No President shall be elected for more than two consecutive terms.

c) An eligible Faculty member is a tenured member of the instructional staff in one of the three professorial ranks and who is or has been within two years prior to selection a principal or co-investigator or director of a research, demonstration, or training grant administered by the Foundation but funded from non-university sources except that at any one time one of the four faculty-directors may either be or have been a principal or co-investigator, or alternatively, has held a research connected grant or fellowship financed by non-university sources and deemed by the University Faculty Senate to be an award of nationally recognized importance.

d) The three Faculty members who in addition to the Chairperson of the Faculty Advisory Council are to serve as directors shall be selected by the Faculty Advisory Council from among the members of the Faculty Advisory Council. Their terms of office shall be determined by the University Faculty Senate such that two terms of Faculty-directors expire annually.

e) At-Large members of the Board of Directors will be elected by the Board itself from nominations presented by the Nominating Committee of the Board. The At-Large members may not be employed by or under contract to the Research Foundation of The City University of New York or The City University of New York. At-Large members, with the exception of the initial nominees, will serve a term of four years and may be re-elected for a second consecutive term. At the first election of At-Large Directors, pursuant to quorum and voting requirements herein, one will be elected for four years, one for three, one for two, and one for a single year, all with the option of a second full four-year term.

f) The Graduate Student director shall be selected by the Doctoral Student Council to serve for a two-year term ending on June 30 of every odd-numbered year, with a renewal term of two years.

g) Directors whose terms have expired, and who are not eligible for an additional term, may continue to serve until replacements are named under the procedures described in these bylaws, provided that they would otherwise be eligible to serve.

§4. QUORUM AND VOTING

The presence, in person, by teleconference or by videoconference, of ten directors of the Board shall constitute a quorum for the transaction of any business. The affirmative vote of nine or more members of the Board of Directors, in person, by teleconference or by videoconference, at any meeting of the Board shall be required in order for any proposed action to become the act of the Board. Each director shall be entitled to one vote. Directors may not vote by proxy.

§5. VACANCIES

When a vacancy occurs on the Board of Directors, the unexpired term will be filled in accord with §2 and §3 of this Article. Notwithstanding anything in these Bylaws to the contrary, a director completing the unexpired term of a prior director shall not be precluded from eligibility to serve such full terms or consecutive terms as are otherwise permitted.

§6. REMOVAL

Any non-*ex-officio* member of the Board may be removed for cause or for absence from four (4) consecutive meetings of the Board by a vote of two-thirds of all Board members.

§7. COMPENSATION

No director shall receive any compensation from the Foundation for services performed in an official capacity, but directors shall be reimbursed for reasonable expenses incurred in the performance of official duties.

§8. REPORTS

There shall be presented to the Board of Directors at its annual meeting a report showing the whole amount of real and personal property owned by it, where located, and where and how invested; the amount and nature of the property acquired during the year immediately preceding the date of the report and the manner of acquisition; the amount appropriated or expended during the year immediately preceding such date, and the purposes, objects

or persons to or for which such appropriations or expenditures have been made. Such report shall be filed with the records of the Foundation and with the Board of Trustees of The City University of New York and an abstract thereof entered in the proceedings of the annual meeting of the Board of Directors.

§9. INDEMNIFICATION.
The Foundation shall be liable for and shall assume liability to the extent that it shall save harmless any duly elected or appointed director or officer of the Foundation for damages, including attorneys' fees, arising out of any breach of duty, error, misstatement, misleading statement, omission or other wrongful act done or wrongfully attempted by the directors or officers or any of them so alleged by any claimant or any matters claimed against them solely by reason of their being such directors or officers.

ARTICLE III — COMMITTEES

§1. EXECUTIVE COMMITTEE
The Executive Committee of the Board of Directors shall consist of five (5) members, namely the Chairperson and Vice-Chairperson of the Board, the Chairperson of the Faculty Advisory Council, the President-director with the longest tenure as President in the University, and the at-large director with the longest tenure on the Board. The Executive Committee, which may convene and vote by teleconference or videoconference, is fully empowered to act on behalf of the full Board of Directors between regular meetings of the Board on any and all matters requiring prompt resolution, except amendment of these bylaws and other activities proscribed by law. The Executive Committee will report to the Board at the next Board meeting all activities taken since the last Board meeting.

§2. BUDGET AND FINANCE COMMITTEE
The Budget and Finance Committee of the Board of Directors shall consist of six (6) members, namely the Vice-Chairperson of the Board, who will serve as the Chair of the Committee, two College Presidents, one from a Senior College and one from a Community College; two Faculty members, one from a Senior College and one from a Community College; and an At-Large member or a Chancellor-appointee. The Budget and Finance Committee will be responsible for the review of the Foundation's financial plan and annual budget. It will convene to review the Foundation's budget and other financial documents not less than twice a year prior to a meeting of the Board and make its recommendations to the Board. The Chief Financial Officer of the Foundation shall serve as staff to the Committee.

§3. AUDIT COMMITTEE

The Audit Committee of the Board of Directors shall consist of three (3) members, at least two Committee members will be At-Large Directors and at least one Committee member shall have accounting or related financial management expertise. Committee members and the Committee Chair will be appointed by the Chairperson of the Board. The Audit Committee, in conjunction with the independent auditors, will be responsible for review of the terms of engagement and the performance of the independent auditors, as well as review of the Foundation's audited financial statements to ensure their accuracy and the adequacy of the Foundation's internal controls. The Committee shall meet with the Foundation's independent auditors no less than twice a year and report to the Board. The Committee will recommend policy for approval by the Board.

§4. PERSONNEL COMMITTEE

The Personnel Committee of the Board of Directors shall consist of six (6) members, namely the Vice-Chairperson of the Board, who will serve as the Chair of the Committee, two College Presidents, one from a Senior College and one from a Community College; two Faculty members, one from a Senior College and one from a Community College; and either an At-Large member or a Chancellor-appointee. The Personnel Committee will review personnel policies of the Foundation, including fringe benefit plans for all employees, compensation plans for employees covered by the collective bargaining agreement and project employees. The Committee will recommend policy for approval by the Board. The Chief Operating Officer of the Foundation shall serve as staff to the Committee.

§5. AT-LARGE NOMINATING COMMITTEE

The At-Large Nominating Committee shall consist of four (4) members, namely one Senior College President, one Community College President, one Faculty member, and one At-Large member. The Nominating Committee shall be elected by the Board at its first meeting of the calendar year and its Chair shall be elected by the members of the Committee. The Nominating Committee will solicit names of potential nominees from other members of the Board of Directors, and from other sources, striving to obtain persons of significant stature in the community.

§6. EMPLOYEE BENEFITS COMMITTEE (THE "ERISA COMMITTEE")

The ERISA Committee shall consist of three (3) members of management, namely the President and Chief Executive Officer, the Chief Operating Officer, and the Director of Employment Policy and Practice, all serving *ex officio*. The Chief Financial Officer will act as staff to the Committee. The Board shall retain discretion to appoint two (2) additional members. The ERISA Committee, which may convene and vote by teleconference or videoconference, shall exercise discretionary authority and control over the

management of the Research Foundation's employee benefit plans subject to ERISA and shall oversee the investment of the Research Foundation's employee benefit plans assets in accordance with its Investment Policy Statement. The ERISA Committee shall be governed by its Charter and shall report to the Board annually.

§7. *AD HOC* COMMITTEES
Nothing stated herein will preclude the Board from establishing committees *ad hoc* when necessary.

ARTICLE IV— OFFICERS

§1. CHAIRPERSON
The Chairperson of the Board of Directors of the Foundation shall be the individual who serves as the Chancellor of The City University of New York. He/she may call meetings of the Board whenever he/she deems it advisable. He/she shall preside at all meetings of the Board. He/she shall be authorized to sign and execute, in the name and on behalf of the Foundation, all documents required to be executed by the Foundation, and shall perform such other duties as requested by the Board of Directors or as are reasonably incidental to the office.

§2. VICE-CHAIRPERSON
The Vice-Chairperson of the Board of Directors shall be the individual who serves as the President of the Graduate School and University Center. He/she shall preside at meetings of the Board in the absence or disability of the Chairperson, and shall be authorized to sign and execute in the name and on behalf of the Foundation, all documents excepting those which can only be signed by the Chairperson or the President.

§3. PRESIDENT
The Board of Directors shall appoint a President of the Foundation, who shall serve at the pleasure of the Board. He/she shall be the chief executive officer of the Foundation. The President and/or his/her designee(s), shall be authorized to sign and execute, in the name and on behalf of the Foundation, all documents required to be executed by the Foundation, and shall perform such other duties as required by the Board of Directors or as are reasonably incidental to the office. He/she shall be in charge of and supervise the work of all administrative and clerical employees of the Foundation and, to the extent not otherwise prescribed by the Board of Directors, shall prescribe their functions, powers, and duties. He/she shall employ, in the name and on behalf of the Foundation, such persons as he/she may deem necessary for the performance of the functions of the Foundation except that he/she shall not employ a person in a position that

is not covered by the wage and salary plan without prior approval of the Board of Directors. He/she shall fix the level of compensation of all employees of the Foundation consistent with a wage and salary compensation plan that has been approved by the Board of Directors. Notwithstanding the foregoing limitation, he/she shall have the authority, upon the recommendation of the President of a college responsible for the conduct of a project, to adjust the salary of a project employee. He/she shall develop and recommend for adoption by the Board, such administrative and fiscal policies as are necessary for prudent and effective administration. The President may select an Executive of the Foundation to exercise the powers and duties of his/her office during the President's absence or other inability to act.

§4. EXECUTIVE
There shall be one or more Executives of the Foundation, to be appointed by the President, and to serve at the will of the President. Such Executives as are appointed shall be authorized to sign and execute in the name and on behalf of the Foundation, all documents excepting those which can only be signed by the Chairperson or the President. The titles of the Executives shall be determined by the President with the concurrence of the Chair of the Board of Directors.

§5. SECRETARY
There shall be a Secretary, to be appointed by the President, to serve at the will of the President. He/she shall take and record minutes of all meetings of the Board of Directors. He/she shall, when necessary, attest to the official acts of the President and the Board of Directors. The Secretary shall perform such other duties as requested by the President or Board of Directors.

§6. ASSISTANT SECRETARY
There shall be an Assistant Secretary to be appointed by the President, to serve at the will of the President. He/she shall perform the duties of the Secretary in case of death, absence, or inability to act of the Secretary. He/she shall also perform such other duties as requested by the President or Board of Directors.

§7. TREASURER
The Executive serving as the Chief Financial Officer of the Foundation shall serve and act as Treasurer of the Foundation. He/she shall be the fiscal officer of the Foundation. The Board of Directors may require the Treasurer to furnish such bond or security as it directs, for the faithful performance of his/her duties. He/she shall perform such other duties as requested by the President or Board of Directors.

§8. COMPENSATION

With the exception of the President, no officer shall receive any compensation from the Foundation for services performed in his/her official capacity, but officers shall be reimbursed for reasonable expenses incurred in the performance of official duties. The President shall have his/her compensation fixed by the Board of Directors.

ARTICLE V - FACULTY ADVISORY COUNCIL

§ 1. PURPOSES

There shall be a Faculty Advisory Council which shall serve as a means of facilitating close consultation between Faculty engaged in research and other activities involving the funds administered by the Foundation, who may be expected to use the services of the Foundation, and the Board of Directors of the Foundation on matters of substance related to the performance and administration of sponsored research and other activities. The Council shall also have the purpose of reviewing the state of research at CUNY annually and suggesting improvements in policy or practice to the Board of Directors, who at their discretion may pass the suggestions along to appropriate CUNY officials.

§2. ELIGIBILITY

Members shall be selected by the University Faculty Senate, the number and term of office to be determined by the Senate. Membership shall be confined to those faculty demonstrably active in research as evidenced by the fact that within the two years prior to selection they have been principal or co-investigators or directors of research, demonstration or training grants administered by the Research Foundation of The City University or have been recipients of research grants or fellowships financed by non-university sources and deemed by the University Faculty Senate to be an award of nationally recognized importance. A Chairperson will be selected by the Senate to serve for a term to be specified by the Senate.

§3. DUTIES

The Faculty Advisory Council shall receive the annual financial report of the Foundation and any other appropriate information reports and shall render advice on such policy matters. The Chairperson and three of its members shall serve as directors of the Foundation as provided in Article II.

§4. MEETINGS

Meetings of the Faculty Advisory Council may be called by the Chairperson whenever he/she deems it advisable. The act of a majority present at any meeting of the Faculty Advisory Council shall be the act of the Council.

ARTICLE VI — FINANCES

§1. FISCAL YEAR
The fiscal year of the Foundation shall be from July 1 through June 30.

§2. FUNDS AND ASSETS
No director, officer or employee of the Foundation shall have any right, title or interest in any of the assets and funds of the Foundation; all assets, property and funds shall be owned exclusively by the Foundation. All funds of the Foundation shall be deposited in an account or accounts in the name of the Foundation in such bank or banks in such types of accounts and subject to such deposit and withdrawal procedures as may be directed by the Board of Directors by resolution and shall be used solely to pay the proper expenses of the Foundation. Any funds or other assets of the Foundation which, in the judgment of the Board of Directors, shall not be required to effect the purposes of the Foundation may be invested in such securities, real estate or other investments as, in the judgment of the Board of Directors, are sound and proper, subject to such procedures as may be directed by the Board of Directors by resolution.

§3. RECORDS AND ACCOUNTS
The President shall cause financial records and accounts of the Foundation to be kept in such form as he/she shall deem advisable, consistent with proper accounting practices and shall submit an annual financial report to the Board of Directors at its annual meeting.

§4. OPERATING EXPENSES OF THE FOUNDATION
At the annual meeting of the Board of Directors or at such other appropriate time as the Board may designate, the President shall submit to the Board of Directors for their approval a proposed administrative budget and estimates of project grants and expenditures for the ensuing fiscal year. As a means of financing the net operating expenses of the Foundation, the Foundation will charge each College unit of The City University utilizing its services. Such charges will be based upon the volume of services rendered to each unit in proportion to the total volume of services rendered to all units.

§5. AUDIT
All books, records, and accounts of the Foundation shall be audited annually and at such other times as directed by the Board of Directors, by a certified public accountant or firm thereof designated for that purpose by the Board of Directors.

§6. DISSOLUTION

In case of dissolution of the Foundation the assets and property remaining after payment of its just debts and obligations shall be transferred to The City University of New York.

ARTICLE VII — AMENDMENTS AND WAIVER OF BYLAWS

§1. PROCEDURE

These bylaws may be amended or waived only at a duly held annual or special meeting of the Board of Directors of the Foundation by an affirmative vote of no less than nine members of the Board, in person, by teleconference or by videoconference, except that an affirmative vote of two thirds of all the members of the Board of Directors shall be required to change the number of Board members, and provided that notice of the purpose of the proposed amendment or waiver has been stated in the notice of the meeting.

Exhibit D

1983 Agreement

See attached.

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between

THE CITY UNIVERSITY OF NEW YORK

and

RESEARCH FOUNDATION

of

THE CITY UNIVERSITY OF NEW YORK

October 20, 1983

AGREEMENT between the Board of Trustees of The City University of New York on behalf of The City University of New York ("The University") and the Research Foundation of The City University of New York ("The Foundation").

WHEREAS, research, training and service activities are basic obligations of the University, the colleges and the faculty, and it is in the public interest that faculty be assisted in such endeavors, and

WHEREAS, research is a necessary activity for the maintenance of professional competence, and also serves the city, state, and nation by advancing the frontiers of knowledge in the academic disciplines, and

WHEREAS, research and other scholarly effort require a high degree of flexibility combined with a prudent stewardship of funds, and

WHEREAS, the Foundation was chartered in 1963 by the Board of Regents as a non-profit, educational corporation, and

WHEREAS, the Board of Higher Education (restructured and renamed the Board of Trustees of The City University of New York, pursuant to L.1979, c.305) in the City of New York, on October 27, 1969, resolved that The City University Research Foundation be assigned responsibility effective July 1, 1970 for administering all grants and contracts awarded to any unit in the University and be mandated to develop procedures which will ensure that its operations are fully responsible to the needs of the college, and

WHEREAS, a first annual basic contract between the Board and the Foundation was entered into for the period July 1, 1970 - June 30, 1972, and

WHEREAS, a further renewal contract was entered into by the parties effective July 1, 1972 to continue until terminated by either party after appropriate notice pursuant to a resolution of the Board dated November 22, 1971 (Cal. #6b), and

WHEREAS, the parties agreed in such contracts, as a means of furthering research, training and service activities at the University and of providing for prudent stewardship of funds for such purposes, that all grant and contract applications are to be made on behalf of the college where the research and other activities are to be performed and the Foundation as joint applicants and that the Foundation is to act as fiscal agent in administering all resulting awards, and that the operations of the Foundation will be governed exclusively by its board of directors, and all such research, training and service projects shall be subject to such administrative and fiscal policies as the board may promulgate, and

WHEREAS, Chapter 53 of the Laws of 1977, 1978 and 1979 require the University and the Research Foundation to enter into an agreement for fiscal years 1977-78, 1978-79, and 1979-80, subject to the approval of the State Director of the Budget and the State Comptroller in relation to the administration of sponsored programs for which the Research Foundation has been designated as fiscal administrator and to develop a plan pursuant to such agreement for the use by the Foundation of overhead funds, net release time recoveries, and miscellaneous earnings, which enumerates the services provided by the Foundation and the amounts to be expended therefor, and which provides for an amount from such overhead funds/and miscellaneous earnings to partially offset the operating expenses of the senior colleges for aid purposes,

NOW, THEREFORE, in consideration of the mutual covenants and conditions herein contained, the University and the Foundation hereby agree as follows:

PART A. ADMINISTRATION OF SPONSORED PROGRAMS

Funds for Sponsored Programs.

1. The Foundation, as a non-profit educational corporation, shall assist the University in the identification of opportunities, procurement, use and

disposition of funds from the federal, state, and municipal governments and other sources to support all sponsored programs at the University. Sponsored programs shall be deemed to be those for which funds are made available for a specified purpose or objective, for which the sponsor usually requires periodic fiscal and programmatic reports, imposes time limitations for the use of such funds and ordinarily provides for the reversion of unused funds to the sponsor.

Applications to Sponsors

2. Grant applications shall name the Foundation and the college concerned as joint grantees. Each application shall be signed by a designated official of the Foundation and the college. Applications may be solely in the Foundation's own name, upon the request of the University or a college, if appropriate to the particular sponsor or the circumstances involved. The Foundation may act as grantee institution for a consortium of CUNY colleges or a consortium involving CUNY units and other colleges at the request of the participating colleges. No application shall be made by the Foundation on behalf of a college or award accepted by it without approval of the designated college administrative official.

Utilization of Facilities and Services

3. The college or University's approval of an application or of the Foundation's acceptance of an award shall be deemed to constitute consent by the University and the college to the utilization of University and college facilities and services by the Foundation, the project director and the project staff for the conduct of the sponsored program as described in the award and any approved modifications or extensions thereof.

Foundation Responsibilities

4. All funds awarded by sponsors in support of such sponsored programs shall be paid to and administered by the Foundation, in accordance with the terms

and conditions of the grants and contracts and any approved modifications or extensions thereof. The Foundation's functions with regard to the management of such funds shall include its employment of personnel necessary for the conduct of the programs, who shall be deemed to be employees of the Foundation and not of the University, its purchase of necessary equipment and supplies, its receipt and disbursement of funds for other approved purposes in connection with such programs, such as travel, rentals, communications, and computer services and the maintenance of appropriate reserve funds. Travel expenses shall conform to rules promulgated by the State Comptoller for State employees. The Foundation shall also provide administrative functions, including controlling and accounting for expenditures, preparing periodic reports for project directors and funding agencies, conducting internal audits, providing banking services and managing cash flow and investments. The Foundation shall monitor all expenditures for availability of funds, for compliance with Foundation policies and sponsor requirements, and shall maintain auditable accounts and render periodic expenditure reports. However, the conduct of the sponsored program, including the professional and technical decisions as to personnel and the selection of the particular items of equipment and supplies to be purchased, but not their method of acquisition, shall be within the exclusive province of the project director, consistent with the budgetary and other standards or restrictions imposed by the sponsor, the University, the college or the Foundation. The administrative officers of the Foundation shall, from time to time, with the cooperation and advice of the administrative officers of the University, implement this agreement by developing specific procedures and criteria for the Foundation's management and administration of such sponsored program funds.

Foundation Policies

5.   The Foundation shall establish policies, procedures and controls
governing all Foundation expenditures, including purchasing, travel (except as
qualified in paragraph 4 above), personnel and equipment, and for such other
matters as are related to the proper performance of projects as are required by
regulations or requirements of the sponsors, or as are required prior to
January 1, 1980, by regulations of the City of New York, and/or those of the
State of New York applicable to the Foundation as authorized by Chapter 53 of the
Laws of 1978   as amended, and Chapter 53 of the Laws of 1979 as amended, and,
beginning and subsequent to January 1, 1980, by regulations of the City of New
York and regulations of the State of New York applicable to the Foundation as
authorized by Chapters 305 and 306 of the Laws of 1979.

College and University Responsibilities

6. Each college will have responsibility for informational and supportive
services to faculty, including identification of grant opportunities, advice and
assistance on proposals, review of proposals, determination of cost sharing,
furnishing facilities, determining obligations for continuing and supplementary
support by the college, and determining released time arrangements.   The
University will promulgate guidelines for the determination of cost sharing and
released time arrangements.   The college will comply with sponsor requirements,
University policy and applicable governmental laws and regulations, and will
expedite the processing of applications.   The college will also see that the
principal investigator carries out a sponsored project in compliance with the
terms of the award, University policy, and city and state requirements. Where a
grantor places expenditure ceilings or other limitations upon a grant subsequent
to the award, the college will decide what changes in the budget shall be made to
conform to these limitations.   It will be the responsibility of the college to
furnish staff sufficient in number and competence to carry out functions as

described above. The University ~~shall~~ ^{may} provide to the Foundation space and associated facility support services as a means of minimizing the operating expenses of the Foundation.

Indirect Costs and Reimbursement for Faculty Time

7.   The Foundation and colleges shall attempt to obtain from sponsors the maximum possible reimbursement for indirect costs and for faculty released time. The authorized indirect cost rate, as negotiated with federal agencies, shall normally be used. A responsible official, designated by the college president, must approve any application where reimbursement for indirect costs is lower than the authorized rate unless the funding agency's maximum (previously approved by the Foundation for University-wide use) is used. A similar waiver must be signed if there is to be less than full reimbursement for faculty time. The Foundation, with the assistance of the colleges and University, will develop data for, and negotiate, the indirect cost rates and such other rates as are required from funding agencies. Costs attributable to facilities or services provided by the University, such as administrative services, building space, utilities, janitorial services, libraries, etc., shall be deemed to be costs of the Foundation for the purpose of obtaining reimbursement of such costs from sponsors. The University shall share overhead and net released time recoveries in accordance with a formula to be established by mutual agreement and, beginning with fiscal year 1983-84, approved by the State Director of the Budget as part of each annual financial plan as required by Part B of this agreement, giving effect to both the necessity to provide adequate funds to support the operations of the Foundation and the desirability of maximizing the funds made available to the colleges to stimulate and support research and other educationally related activities. The Foundation shall establish and maintain separate accounts for each college accumulating overhead and released time recoveries, crediting such

recoveries against the allocated charge to the college for reimbursing the city and state and the Foundation for respective administrative expenses, and making appropriate disbursements for remaining balances for stimulation of research, training and service activities on the local campuses. These disbursements will be made in accordance with guidelines established by the University and, beginning with fiscal year 1983-84 approved by the State Director of the Budget as part of the financial plan required by Part B of this agreement and when approved by an authorized college official in agreed upon categories.

Faculty Research Program

8. The Foundation will administer the PSC-CUNY Faculty Research Program in accordance with the provisions of the collective negotiating agreement between the Board of Trustees of City University and the Professional Staff Congress. The Foundation will provide staff support to the University Committee on Faculty Research. The Foundation will maintain policies and procedures governing the award of funds, the rendering of guidance and assistance to review panels and the University Committee, the receipt, recording and processing of applications, notification of applicants of award decisions, establishment of separate accounts for each award, administration of awards (processing payments, etc.) and compilation of necessary reports. Pursuant to decisions of the University Committee on Faculty Research, the Foundation will prepare and issue guidelines and conduct necessary correspondence.

PART B: PLAN OF EXPENDITURES

Foundation's Annual Financial Plan

9. For each fiscal year, beginning with July 1 of each year and continuing through June 30 of the subsequent year, the Foundation shall submit to the University, as a component of the total sponsored funds program of the University, a plan approved by the Foundation which shall set forth an estimate of the funds to be awarded by sponsors with an identification of the Foundation's

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income from the recovery of indirect costs and miscellaneous revenues, including, if applicable, net released time funds, and its expenditures thereof for each category covering: (a) the current fiscal year, showing approved expenditure levels (including approved changes) and estimated income and expenditures through the end of such period; (b) the prior fiscal year, showing actual income and expenditure for such period; and (c) the next ensuing fiscal year showing estimated income and proposed expenditures for such period, such plan to be known as the "Financial Plan". The Financial Plan for any given year shall be submitted to the University within 30 days of the beginning of the fiscal year to which it will apply. Such plan shall be subject to the approval of the University, and to the further approval of the State Director of the Budget. The Foundation shall conform to categories of expenditure and expenditure levels as set forth in its approved plan, unless otherwise approved in advance by the Foundation and the University, subject to the further approval of the State Director of the Budget.

Categories of Expenditures

10. The categories of expenditures identified in the plan to be made by the Foundation, the colleges, or the University from indirect cost recoveries and miscellaneous income including, if applicable, net released time funds, shall be limited to (1) those approved in the plan or (2) those otherwise approved in advance by the Foundation, the University, and the State Director of the Budget. The plan shall include as a category of expenditure from such funds the direct payment of a specified amount by the Foundation into the University income fund, in accordance with the provisions of State Local Assistance Budget, as amended by the supplemental budget applicable to the year to which the plan applies. Beginning with the 1981-82 fiscal year a portion of this direct payment shall, in budgeting the senior college revenue offset, be credited as satisfying a portion

of the community college share of University Management and Program costs and, in the event of a cost-based determination of community college state aid will be considered a miscellaneous revenue of the community colleges. That portion so designated will be calculated on the basis of the total recoveries for community colleges as enumerated in the financial plan and represent the same proportion of those recoveries which the direct payment represents of the total amount of University recoveries enumerated in the financial plan. The plan shall also provide for adequate working capital and appropriate reserve funds.

Filing of Copies of Plan

. 11. Copies of the approved plan shall be filed by the University with the Chairman of the Senate Finance Committee and the Chairman of the Assembly Ways and Means Committee.

Quarterly Reports

12. Within thirty days after the end of each quarter of the Foundation's fiscal year the Foundation shall submit to the University a report of income and expenditures relating to the fiscal year in progress. Such report shall indicate the approved expenditure level for each category pursuant to the plan (including approved changes) as well as the cumulative income and expenditure figures through the end of the reporting quarter and the projected income and expenditure figures for the remainder of such fiscal period. The University shall transmit a copy of each such report to the State Director of the Budget and the State Comptroller.

PART C. GENERAL PROVISIONS

Submission of Recommendations for Budget Request

13. The University will submit to the Division of the Budget on or before October 15 of each year its recommendations for any appropriate actions regarding the Foundation which might be included in the State's Executive Budget to be submitted for the next succeeding State fiscal year. This recommendation will

include a recommendation concerning the deposit of funds to be made to the University Income Funds and a review of all programs now funded from Foundation funds which might be considered for inclusion in the Executive Budget.

Audits

14. The Foundation shall cause an annual audit of its operations to be made by a firm of independent certified public accountants and shall furnish the University with a complete copy of each audit report upon the Foundation's receipt thereof. It shall also furnish the University with two additional copies for transmittal by it to the State Comptroller and the State Director of the Budget. The Foundation also agrees that its financial standing and operations shall be subject to periodic post-audit by the State Comptroller.

Other Services

15. The Foundation shall provide such additional services, consistent with its corporate charter and this agreement as may be reasonably requested by the University or a college.

Public Liability Insurance

16. The Foundation shall maintain a policy of public liability insurance with minimum limits of $500,000/$1,000,000 for bodily injury and $50,000 for property damage, designating the Foundation, and the University as named insureds, covering the activities of the Foundation under this agreement including, without limitation, any such liability arising out of the conduct of sponsored programs administered by the Foundation at University facilities pursuant to this agreement.

Approvals

17. This agreement shall not become effective or binding on either party unless and until the requisite approvals of the State Director of the Budget and State Comptroller, have been obtained. Copies of the executed and approved

agreement shall be filed with the Senate Finance Commitee and Assembly Ways and

Means Committee.

Duration of Agreement

18.   This agreement shall continue in full force and effect unless and
until terminated by either party by one year's prior written notice to the other.
In the event of such termination no additional sponsored programs shall be
undertaken hereunder but any such programs then in progress and for which either
party is under any legal obligations to sponsors or others to continue them to a
particular time shall be continued for such required period under the terms and
conditions of this agreement as though no termination had taken place.

Review

19.   Reviews of the terms and conditions of this agreement may be initiated
annually upon the request of either party, the State Director of the Budget on
behalf of the University or the State Comptroller. Modifications of this
agreement resulting from such reviews shall not be effective or binding on either
party unless and until the requisite approvals of the State Director of the
Budget and State Comptroller have been obtained. Copies of any such executed and
approved modifications shall be filed with the Senate Finance Committee and
Assembly Ways and Means Committee.

Notices

20.   All notices to either party hereunder shall be in writing, signed by
the party giving it and shall be served either personally or by registered or
certified mail to the Board at the Office of General Counsel, 535 East 80th
Street, New York, New York 10021, and to the Research Foundation at 1515
Broadway, New York, New York 10036 or to such other addresses as either party may
hereafter designate by written notice to the other. All notices shall become
effective only when received by the addressee.

Provisions Required by Laws

21.   The parties hereby incorporate as an integral part of this agreement the provisions required by law which are contained in Exhibit A attached hereto and made a part hereof, with the same force and effect as though set forth here in full; the term "contractor," as used therein, shall be deemed to refer to the Foundation.

Effective Date of Agreement

22.   This agreement shall be in effect from January 1, 1983.

23.   Upon taking effect this agreement shall supersede and terminate the agreement between the parties effective July 1, 1972, and any subsequent amendments thereto, except the provisions therein relating to the administration of the Faculty Research Award Program provided for in the collective negotiating agreement between the Board of Trustees and the Professional Staff Congress as to which it shall remain in full force and effect.

IN WITNESS WHEREOF, the parties have executed this agreement

this   day of   19

                                      THE CITY UNIVERSITY OF NEW YORK

                                      By _~~Malcolm~~_____

                                      THE RESEARCH FOUNDATION OF THE
                                      CITY UNIVERSITY OF NEW YORK

                                      By _~~Matthew~~_____

APPROVED: 4/17/83   Date: _____

Date: _~~Alexander Rollo~~_

Division
~~BUREAU~~ OF THE BUDGET   Approved as to Form:

By _~~Alexander Rollo~~_   Date: _____

APPROVED AND FILED: Robert Abrams
                                 Attorney General

Date: _____

                                 APPROVED AS TO FORM
                                 NEW YORK STATE
                                 ATTORNEY GENERAL
                                 By _____
Comptroller   Assistant Attorney General
                                 APR 30 1984
                                 META R. MURRAY
                                 Sr. Attorney

By _____   _~~Meta R. Murray~~_
  For the Comptroller

Agreement between the City University of New York and
the Research Foundation of the City University of New York

APPENDIX A

The parties to the attached contract further agree to be bound by the following, which are hereby made a part of said contract:

I. This contract may not be assigned by the contractor or its right, title or interest therein assigned, transferred, conveyed, sublet or disposed of without the previous consent, in writing, of the State.

II. This contract shall be deemed executory only to the extent of money available to the State for the performance of the terms hereof and no liability on account thereof shall be incurred by the State of New York beyond moneys available for the purpose thereof.

III. The contractor specifically agrees, as required by Labor Law, Sections 220 and 220-d, as amended, that:

(a) no laborer, workman or mechanic, in the employ of the contractor, subcontractor or other person doing or contracting to do the whole or any part of the work contemplated by the contract shall be permitted or required to work more than eight hours in any one calendar day or more than five days in any one week, except in the emergencies set forth in the Labor Law.

(b) the wages paid for a legal day's work shall be not less than the prevailing rate of wages as defined by law.

(c) the minimum hourly rate of wage to be paid shall not be less than that stated in the specifications, and any redetermination of the prevailing rate of wages after the contract is approved shall be deemed to be incorporated herein by reference as of the effective date of redetermination and shall form a part of these contract documents.

   1) The Labor Law provides that the contract may be forfeited and no sum paid for any work done thereunder on a second conviction for willfully paying less than—

      (a) the stipulated wage scale as provided in Labor Law, Section 220, subdivision 3, as amended, or

      (b) less than the stipulated minimum hourly wage scale as provided in Labor Law, Section 220-d, as amended.

IV. The contractor specifically agrees, as required by the provisions of the Labor Law, Section 220-e as amended, that—

(a) In hiring of employees for the performance of work under this contract or any subcontract hereunder, or for the manufacture, sale or distribution of materials, equipment or supplies hereunder, no contractor, subcontractor nor any person acting on behalf of such contractor or subcontractor, shall by reason of race, creed, color, sex or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates.

(b) no contractor, subcontractor, nor any person on his behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of work under this contract on account of race, creed, color, sex or national origin.

(c) there may be deducted from the amount payable to the contractor by the State under this contract a penalty of five dollars for each person for each calendar day during which such person was discriminated against or intimidated in violation of the provisions of the contract, and

(d) this contract may be canceled or terminated by the State or municipality and all moneys due or to become due hereunder may be forfeited for a second or any subsequent violation of the terms or conditions of this section of the contract, and

(e) the aforesaid provisions of this section covering every contract for or on behalf of the state or a municipality for the manufacture, sale or distribution of materials, equipment or supplies shall be limited to operations performed within the territorial limits of the State of New York.

V. During the performance of this contract, the contractor agrees as follows:

(a) The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, national origin, age, disability or marital status.

(b) If directed to do so by the Commissioner of Human Rights, the contractor will send to each labor union or representative of workers with which the contractor has or is bound by a collective bargaining or other agreement or understanding, a notice, to be provided by the State Commissioner of Human Rights, advising such labor union or representative of the contractor's agreement under clauses (a) through (g) (hereinafter called "non-discrimination clauses") If the

[1]

contractor was directed to do so by the contracting agency as part of the bid or negotiation of this contract, the contractor shall request such labor union or representative to furnish a written statement that such labor union or representative will not discriminate because of race, creed, color, sex, national origin, age, disability or marital status, and that such labor union or representative will cooperate, within the limits of its legal and contractual authority, in the implementation of the policy and provisions of these non-discrimination clauses and that it consents and agrees that recruitment, employment and the terms and conditions of employment under this contract shall be in accordance with the purposes and provisions of these non-discrimination clauses. If such labor union or representative fails or refuses to comply with such a request that it furnish such a statement, the contractor shall promptly notify the State Commissioner of Human Rights of such failure or refusal.

(c) If directed to do so by the Commissioner of Human Rights, the contractor will post and keep posted in conspicuous places, available to employees and applicants for employment, notices to be provided by the State Commissioner of Human Rights setting forth the substance of the provisions of clauses (a) and (b) and such provisions of the State's laws against discrimination as the State Commissioner of Human Rights shall determine.

(d) The contractor will state, in all solicitations or advertisement for employees placed by or on behalf of the contractor, that all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, sex, national origin, age, disability or marital status.

(e) The contractor will comply with the provisions of Sections 290–299 of the Executive Law and with the Civil Rights Law, will furnish all information and reports deemed necessary by the State Commissioner of Human Rights under these non-discriminatory clauses and such sections of the Executive Law, and will permit access to the contractor's books, records and accounts by the State Commissioner for the purposes of investigation to ascertain compliance with these non-discrimination clauses and such sections of the Executive Law and Civil Rights Law.

(f) This contract may be forthwith canceled, terminated or suspended, in whole or in part, by the contracting agency upon the basis of a finding made by the State Commissioner of Human

Rights that the contractor has not complied with these non-discrimination clauses, and the contractor may be declared ineligible for future contracts made by or on behalf of the State or a public authority or agency of the State, until the contractor satisfies the State Commissioner of Human Rights that the contractor has established and is carrying out a program in conformity with the provisions of these non-discrimination clauses. Such finding shall be made by the State Commissioner of Human Rights after conciliation efforts by the Commissioner have failed to achieve compliance with these non-discrimination clauses and after a verified complaint has been filed with the Commissioner, notice thereof has been given to the contractor and an opportunity has been afforded the contractor to be heard publicly in accordance with the Executive Law. Such sanctions may be imposed and remedies invoked independently of or in addition to sanctions and remedies otherwise provided by law.

(g) The contractor will include the provisions of clauses (a) through (f) in every subcontract or purchase order in such a manner that such provisions will be binding upon each subcontractor or vendor as to operations to be performed within the State of New York. The contractor will take such action in enforcing such provisions of such subcontract or purchase order as the State Commissioner of Human Rights or the contracting agency may direct, including sanctions or remedies for non-compliance. If the contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by the State Commissioner of Human Rights or the contracting agency, the contractor shall promptly so notify the Attorney General, requesting the Attorney General to intervene and protect the interests of the State of New York.

VI. (a) By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of his knowledge and belief:

1) The prices in this bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;

2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bid-

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der and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor;

3) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

(b) A bid shall not be considered for award nor shall any award be made where (a)(1)(2) and (3) above have not been complied with provided, however, that if in any case the bidder can not make the foregoing certification, the bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons therefore. Where (a)(1)(2) and (3) above have not been complied with, the bid shall not be considered for award nor shall any award be made unless the head of the purchasing unit of the State, public department or agency to which the bid is made, or his designee, determined that such disclosure was not made for the purpose of restricting competition.

The fact that a bidder (a) has published price lists, rates, or tariffs covering items being procured, (b) has informed prospective customers of purposed or pending publication of new or revised price lists for such items, or (c) has sold the same items to other customers at the same prices being bid, does not constitute, without more, a disclosure within the meaning of paragraph VI (a).

VII. The agreement shall be void and of no force and effect unless the contractor shall provide coverage for the benefit of, and keep covered during the life of this agreement, such employees as are required to be covered by the provisions of the Worker's Compensation Law.

VIII. In accordance with Section 220-f of the Labor Law and Section 139-h of the State Finance Law and the regulations of the Comptroller of the State of New York promulgated thereunder, the contractor agrees, as a material condition of the contract

A. That neither the contractor nor any substantially owned or affiliated person, firm, partnership or corporation has participated, is participating, or shall participate in an international boycott in violation of the provisions of the United States Export Administration Act of 1969, as amended, or the Export Administration Act of 1979, as amended, or the regulations of the United States Department of Commerce promulgated thereunder;

B. That if the contractor or any substantially owned or affilitated person, firm, partnership or corporation has been convicted or subjected to a final determination by the United States Department of Commerce or any other appropriate agency of the United States of a violations of the United States Export Administration Act of 1969, as amended, or the Export Administration Act of 1979, as amended, or the regulations of the United States Department of Commerce promulgated thereunder, the contractor shall notify the Comptroller of such conviction or determination in the manner prescribed by the Comptroller's regulations.

MH 4/19/84
H. 4/20/84

(Rev. March, 1982)