October 1, 2003

Michael J. Holland
Office of Science & Technology Policy
1650 Pennsylvania Ave., N.W.
Washington, DC 20502

Dear Mr. Holland:

Harvard University is pleased to offer some comments in response to the request in the Federal Register of August 6, 2003 for examples relevant to the activities of the National Science and Technology Council Subcommittee on Research Business Models. We believe these examples identify areas where modifications and simplifications in policies and procedures will improve the efficiency and effectiveness of the research and development enterprise – an enterprise that has changed in many way in the past several years and continues to evolve as we address increasingly complex problems.

Three manifestations of this change are identified in the request for information – items F, G, and H – an increased reliance on multidisciplinary/collaborative research, on research infrastructure, and on information technology. On the one hand, they tend to add to the difficulties posed by inconsistent policies and regulations. On the other hand, they lend themselves to funding mechanisms that can encourage interaction, promote innovation, and assure accountability more efficiently than some of the long-standing mechanisms for supporting and assessing single investigators.

It is important to recognize that collaborative/multidisciplinary research, and research that relies heavily on infrastructure and on information technology is not new. Effective mechanisms for managing such research have been well developed in connection with NSF Materials Research Science and Engineering Centers and Centers of Excellence, and with user facilities at National Laboratories. It is the mix that is changing, and overarching policies and procedures must be flexible enough to accommodate and deal appropriately with diverse ingredients.

Because the dimensions of the enterprise, at Harvard and at other universities, are so numerous, we strongly encourage OSTP to work closely with the universities through organizations such as FDP and COGR. We turn now to the specific issues listed.

A. Accountability.

In our view, there are already more than enough mechanisms in place to demonstrate to scientists, to agencies, and to the knowledgeable public that federal funds have been appropriately and effectively spent. These include technical reports by investigators describing progress and accomplishments (including lists of publications in peer reviewed journals) and financial reports that match expenditures to budgets. Accomplishment on current grants and contracts also plays an important role in award renewal processes. Here, not only the quantity, but also the quality and promise come into play.

By awarding large grants to centers whose managers are responsible and accountable for making such decisions on a continuing basis, it is often possible to improve the quality and innovative character of the research with less frequent and more meaningful assurances that the research serves the intended purposes.

B. Inconsistency of policies and practices among Federal agencies.

Research policies and practices in mathematics, the social sciences and humanities, the physical sciences, engineering, and the life sciences are often – and appropriately – different. Some "inconsistencies" in agency policies reflect these real differences. Cross-disciplinary research efforts (and oversight of research by university-wide administrators and designated cognizant agencies) make such differences evident. Two examples of different mores in disciplines that the policies and practices of different agencies display are associated with: (i) the "transition point" from student to employee in a researcher's career trajectory; and (ii) payment of academic year salaries by grants and contracts.

In fields other than the life sciences, the transition from student to employee generally occurs with the award of the Ph.D. (although Ph.D.s often take paid postdoctoral positions in engineering and the physical sciences and continue their studies as do individuals in the social sciences and humanities); in the life sciences, extended periods, as "trainee postdoctoral fellows" are prevalent.

In engineering and the life sciences, a portion of academic year salaries is often charged to contracts; in other areas, such payments are rare (they are contrary to NSF policy).

Notwithstanding the difference in mores that may explain some of the inconsistencies that are so evident in multidisciplinary initiatives, and that burden administrators and auditors, we are convinced that some simplifications are possible. For example:

- Cost sharing policies. NSF cost-sharing policies are clear and unambiguous. Research managers must account for time committed to projects, not for all of their time (since, in general, none of that time is charged to contracts)

- Teaching by federally compensated students and staff. Most agencies allow students and postdoctoral fellows to teach. Here too, the NSF has issued an agency-wide guideline. By contrast, our request to HHS for an agency-wide guideline has elicited a response that individual institutes within the NIH wish to reserve the authority to make such judgments on a case-by-case basis. In addition to inconsistency, such an approach is needlessly cumbersome.

- The ambiguities produced by classifying some life science federally-funded post doctoral fellows as "employees" and others as "students" has made the administration of benefits and other administrative functions more difficult for universities, with no apparent compensating benefits

- Sometimes we find that various arms *within a single federal agency* are not in close communication or aligned. Members of the audit arm of an agency have on

occasion disallowed precisely the same costing practice that program officers have approved. This causes many internal problems, misunderstandings and ultimately, audit findings when many believe they are following the rules!

- Under the *Cost Accounting Standards,* Harvard University consists of three "segments" with three indirect cost rates. One of our segments has an approved The Disclosure Statement of one of our segments has been reviewed and approved by DCA and audited by the Inspector General's office. There has been no contact to follow up on the other two segments submitted DS-2s for review in 1998. Our external auditors want to write a finding about this annually when in fact, the finding should be about the federal agencies not coordinating their practices. If HHS does not have the staffing available to read and opine on the Disclosure Statements, should we be held accountable for writing them and keeping them current? One wonders if HHS still believes in the usefulness of the DS-2 to manage grantees?

- A last example is the Single Audit. Our understanding is that all federal audits of direct costs fall within the OMB Circular A-133 audit. It seems duplicative when certain federal agencies require that certain awards be selected for A-133 audit, or insist on conducting their own similar, but independent audits.

C. Inconsistency of policies and practices among universities.

- Some of our peer institutions treat "trainee post docs" as students and others as employees

- Effort reporting/salary distribution reporting is accomplished differently at our peer institutions. This difference reflects different interpretations of rules that should be clarified and simplified in A-21 (in a joint effort with FDP)

- Public and private universities have different accounting standards, i.e., GASB and FASB, respectively. In making comparisons, Federal agencies should recognize different accounting standards might result in inconsistent costing methods and reimbursement levels for similar research activities.

D. State and Institutional Requirements

The objectives of state audits are similar to those of OMB Circular A-133. The practices of financial accountability for Federal expenditures, as audited under A-133, are no different than the practices used for state grants and contracts. Local grant administrators are accountable for their use of all public funds. They apply the same accounting practices and policies and use the same accounting system for state and Federal funding. Since the control of state and Federal funding is uniform and internally consistent, redundant and costly audits for the state serve little purpose. Nonetheless, the Commonwealth of Massachusetts requires its grantees, and the recipients of its Federal pass-through funding, to submit annually an externally audited "Uniform Financial

Statements and Independent Auditor's Report" (UFR). Grantees must also assure that sub-recipients comply with state UFR audit requirements. The UFR consists of audited basic financial statements, independent auditor's reports, unaudited supplemental information (schedules, forms, and letters), A-133 management letters, staff compensation disclosures, and management certifications. The basic financial statements of the UFR must be prepared and audited as prescribed by the accounting principles and auditing considerations recommended by (AICPA) and audited in accordance with Generally Accepted Government Auditing Standards (GAGAS).

Corroboration by this study of the duplicative nature of state audits of this type could be helpful in convincing states to eliminate them.

E. Regulatory requirements.

We have several examples to share within the "operational" post award arena of grants management. Although not exhaustive, some examples of where efficiencies could be achieved include:

1. Standardize method for reporting expense balances - current or cumulative. Different agencies, NIH, EPA, CDC, now require different methods. Both the NIH and the NSF method are reasonable; we ask that one of the two be selected as the standard for all federal agencies to adopt.
2. Standardize Notices of Grant Award (NGOA). The fact that different agencies include different data elements causes confusion and mishaps in managing the award throughout its course. The FDP is willing to work with OSTP to arrive at a standard set of data elements for all agencies to adopt.
3. Develop a unified Letter of Credit system for all granting agencies (we currently have 18 LOC systems); again, the HHS Payment Management System is one with which we are familiar, makes sense and could be adopted by others.
4. Standardize financial reporting requirements; some agencies require monthly invoicing while others require quarterly reports (269's); clearly we are in favor of the quarterly mechanism.

4. Development of a web-based reporting and inquiry system for all granting agencies

F. and G. Research Support and Multidisciplinary/collaborative research

As noted at the start of this letter, there are proven mechanisms for actively encouraging exploratory research, collaborative and multidisciplinary research, and the shared use of facilities. One is the model that has been used by the NSF for three decades in Materials Research Laboratories and Materials Research Science and Engineering Centers. It places the responsibility and incentives for innovating, working together within and across disciplines, and sharing facilities in the hands of local management, which is then reviewed by Agency project managers and peer review committees that consider these factors. Over the years, we believe that the NSF has gathered much data about the effectiveness of these Centers that should be of interest for the current study.

H. Research Infrastructure

Major investments in infrastructure for research and educations are rigorously reviewed at several levels by all universities. At Harvard, the Corporation (Harvard's board of trustees) must approve all investments in buildings and other infrastructure that exceed a predetermined dollar threshold. Productivity expectations are a factor. A few years ago, the Rand Corporation conducted a careful and thorough study of building costs throughout the nation that indicated, in general, that the costs were appropriate given regional variability, and that non-federal parties were paying a very large fraction of these costs. Recent calculations of Harvard F&A rates have demonstrated once again an under-recovery of space costs associated with research.

Research administration and the provision of facilities and tools, access to information in libraries and digital resources are also essential elements of research infrastructure – elements that cannot be overlooked in any meaningful business model. We shall refrain here from citing the many additional requirements with which universities must comply to assure the safety and the integrity of the sponsored research enterprise. The largest additional costs of these mandates are easily documented. Documenting the remainder is currently an exercise in futility since these costs add to a category of administrative costs that is already capped. Suffice it to say that the costs of administration pose a heavy burden.

The situation with respect to library costs is problematic in two ways. First, there appears to be a de facto cap on library facility costs at the level of a few percent of the recovered indirect costs of research. Second, A-21 sanctions a wide variety of inconsistent methods for determining these costs, many of which bear little relation to actual library costs related to organized research. It suggests basing library costs on FTEs, library visits, and other factors that have become increasingly irrelevant with on-line journals and other applications of digital technology. Library cost allocation should be based on library costs including the costs of on-line journals and databases**.** Only then will there be an incentive to understand, and to wisely control the costs of information acquisition and exchange – costs that are rising with more effective and extensive use of electronic and hard copy research materials.

I. Information Technology

Administrative. Electronic processing should eventually make it possible to dispense and gather information in a more uniform fashion on or via the Web. We favor building a Federal Commons that serves all Federal Agencies and meets the needs of most recipients is essential, and believe that this goal will be more readily accomplished if it is viewed as joint government-university endeavor. To this end, we recommend that mechanisms be developed to increase the involvement of university research community (including the business and technical perspectives) through, for example, university pilot sites and increased university participation on task forces and work groups. We understand the latest version of the federal agencies attempt to build a common electronic interface for the grantee community is named ***EGOV***. We wonder why the NSF Fastlane approach cannot be copied for all agencies since it has had proven success. Investigators and administrators have worked through its kinks and, by and large, everyone likes it and

uses it. We understand that Fastlane may be replaced by something new from ***EGOV***. We wonder why anyone would want to remove a system that is proven and start over.

Research. As noted earlier, information technology has vastly extended the range of information available, and the need for IT hardware and software to access, process, and store this information. Without these tools, research suffers. Yet, there is currently little place for the inclusion of many of these expenditures in either direct or indirect costs.

J. Technology Transfer Optimization

The primary source of data on technology transfer activity is the annual AUTM survey. That data would certainly indicate that over the years since the Bayh Dole Act was passed there has been increasing patenting by universities and an increasing number of licenses granted to industry. The data do not differentiate between patents and licenses for federally funded inventions and those funded from university, foundation or industry sources -- but university policies generally deal with all inventions in a similar manner.

The government itself could provide data on CRADAs between government agencies and companies.

The AUTM data also include information on industry support of research at the university over the past several years.

Mr. Holland, Harvard would be pleased to work directly with you and other OSTP members on these complicated but important issues. As a new member of the FDP, we see this organization as an opportune venue to have productive and healthy discussions with federal representatives on these types of concerns to all of us in the research enterprise. Please do not hesitate to contact us should you wish to do so.

Sincerely,

Steven Hyman
Provost, Harvard University

Cc: Paul Martin
Elizabeth Mora