Michael J. Holland
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Dear Dr. Holland

I write as a senior research officer at The University of Chicago to comment on certain aspects of the business relationship between research universities and the federal agencies, in response to the request for information by the National Science and Technology Council Subcommittee on Research Business Models in the *Federal Register* of August 6, 2003. Broader aspects of this relationship are described in the detailed letter to you dated October 1, 2003 from the Council on Governmental Relations, which I strongly endorse; and in a second letter dated October 6, 2003 from a group of senior research officers at eleven leading private research institutions, of which I am a signatory.

The Federal Register identifies some areas in which the Subcommittee wishes to receive comments, I will speak to some of these specifically, noting the area of reference.

A. Accountability. Any business relationship must be founded on a sound grasp by all parties of the goals of each, the constraints within which they operate, and the desired outcomes. Clearly, our relationship has not been that of the usual business variety where typically there is a vendor and a purchaser. Research is not a product that can be purchased with the expectation of a specific outcome. (I do not count contracts as true research; there, a specific outcome such as the construction of a research building or the final stages of development of a surgical device can be reasonably expected.) Consequently, it is important to frame "accountability" within the context of the "business" relationship between universities and the federal government. Historically, the relationship between research universities such as The University of Chicago and federal agencies has been largely successful because we both recognized our collateral roles in achieving the national goals in higher education and fundamental research. Promising research has been successful in attracting funding. The research has been vigorously prosecuted within a business and administrative framework that, while it creaks from time to time, does not offer insuperable barriers. The outcomes of the research have been widely disseminated to the public via scholarly publications and through the production of highly trained graduates and postdoctoral associates who apply their new knowledge in industrial, government and educational careers. Where appropriate, these outcomes are also

disseminated to industry via technology transfer agreements, licensing, or the formation of university-associated startup companies, all under the mandates of the Bayh-Dole Act. By and large, we work successfully together. I therefore do not believe that wholesale revision of our business relationship is called for. However, applying a short-term-product model of accountability, more suited to the commercial sector, is unrealistic and doomed to failure. Research outcomes are in the realm of the possible, not the guaranteed. It is interesting to note that the government has struggled to define quantifiable standards for judging research investments, at the same time that the rest of the world tries to emulate our best research universities.

G. Multidisciplinary/collaborative research and B. Inconsistency of policies and practices among Federal agencies. The nature of research scholarship is continually evolving. It is essential that aspects of the business relationship, drawn up earlier under different circumstances, do not impede this evolution. The business relationship must support the research, not hinder it. Flexibility is called for, on both sides. For example, new scholarly imperatives in many disciplines are fuelling a shift away from the traditional single investigator, single laboratory model towards multi-investigator, team-based research. As researchers at first-rank institutions we seek to pursue research together, to access world class, larger-scale research facilities, to take advantage of high-speed data transfer and facilitate remote collaborations, and to generate undreamed-of quantities of data to be scanned for novel linkages and ultimately deposited in publicly-accessible databases. This is an extremely important scholarly development. It must be vigorously encouraged since it offers the real prospect of better research, more speedily conducted, in a highly cost-effective framework. But, there are problems. These new teams often encompass several different disciplines whose traditional funding sources reflect disciplinary traditions and often funding agency cultures (for example NIH, NSF, DOE, ONR). This poses inter-agency issues; do the different agencies have identical business practices? Often they do not. This is less of a problem if a single agency is prepared to act as the lead and the other agencies are willing to channel their support for the project through that agency; but this by no means always the case. Scientists from multiple universities and federal laboratories are increasingly interested in collaboration; but the ease of agreement on scientific problems is often stymied by the lack of agreement on how to resolve business terms and conditions. New business models that facilitate collaborative work by designating a LEAD agency to streamline points of business conditions will greatly enhance scientific productivity.

A. and B. Inconsistency of policies and practices among Federal agencies and among universities. (and we might add, other collaborating partners, such as private industry) A team may comprise researchers from

several institutions and indeed, span university, industry and government laboratories. The other side of the coin thus arises when the business practices of these sectors differ, as they inevitably do. As a first example, the policies and business practices with respect to the identification of and accounting for indirect costs differ greatly in these three types of research institution. Industry expects to recover the full indirect costs associated with their research contribution, under business-oriented accounting practices; universities labor under the much more restrictive accounting policies of OMB Circular A-21. The RAND report to OSTP ("Paying for University Research Facilities and Administration," Charles A. Goldman and T. Williams, 2000, RAND (301-451-7002)) thoroughly assessed the inconsistencies and variance in recovery of indirect costs between sectors. Team-based research is more complicated to administer, the genuine administrative costs are higher (though they benefit from some economies of scale), and the ability to account for these administrative costs as direct costs, attributable specifically to the team in question, should not be impeded. Present business practices in this area and the criteria by which they are audited are highly variable. Second, industry typically expects to retain all intellectual property generated as a result of the research; universities are generally less possessive, though keenly aware of the financial benefits that may ultimately derive from the research of their faculty when effective technology transfer agreements are crafted. Third, compliance issues often arise. While a single institution can properly be required to demonstrate that it is in compliance with all applicable regulations, when this demonstration extends (as it does at present) to the requirement that it monitor and certify the compliance of all other institutions associated with a multi-institution project, largely unnecessary, time-consuming and expensive redundancy in compliance monitoring is introduced.

E. Regulatory Requirements. An obvious example of administrative inefficiency, but one mandated by compliance requirements, is subrecipient monitoring under A-133 Single Audit standards. Data clearly demonstrate that the vast majority of our subrecipients on research agreements are the same institutions funded by the federal government as prime grantees and contractors. The University of Chicago is providing A-133 audit reports to dozens if not hundreds of other universities and medical centers at the same time that they are sending us their reports. We are monitoring one another, while the government is receiving the same A-133 audit reports. We are obliged to assure that our collaborating institutions have addressed any deficiencies in their audits, at the same time that the government is supposed to be assuring that such deficiencies, if any, are addressed. This is expensive, redundant duplicative work. There must be a better business model. Data for the University of Chicago for subrecipient activity demonstrates two points – one the scale of collaborative work and the volume of redundancy we are confronting:

	Subawards Issued	Subawards Received
FY 1998	$10,332,399	$12,360,789
FY 1999	$8,570,835	$15,350,378
FY 2000	$12,137,955	$17,534,546
FY 2001	$15,908,117	$18,499,333
FY 2002	$23,296,001	$23,742,799

These difficulties and differences can be so great as to impede or even prohibit effective research collaborations. The bureaucracy looks like it will overwhelm the research, the cost - benefit equation tips against the researchers, and they simply decline to engage in the collaboration. The business practices are so inefficient that they may well have a chilling effect on research. Identifying and minimizing the unnecessary impediments to team-based research is therefore another desirable business practice.

Thank you for the opportunity to comment on the areas of concern to the Subcommittee. I look forward to seeing the results of their consideration of the community's comments.

Sincerely,

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