DRAFT LETTER
June 14, 1979

Dear _____:

On behalf of the American Council on Education, the Association of American Universities, and the National Association of Independent Colleges and Universities, we wish to express our appreciation for the leadership role Senator Danforth and the Committee is taking in examining the crucial problem of the continued viability of our nation's capacity to undertake basic research. As recently stated by President Wiesner of Massachusetts Institute of Technology:

> "American science -- after three decades of growth, starting with World War II and even accelerating after the Soviet Union launched the Sputnik in 1957 -- is now 'operating on momentum.'"

America's national investment in research and development has dropped from 3% of the Gross National Product in 1964 to 2.4% in 1975. Our investment has dropped at a time when the research efforts of other nations have increased (Soviet Union -- 2.4% to 3.1% of GNP; West Germany -- 1.5% to 2.4%). Moreover, as has recently been documented,* substantial hurdles must be overcome if this nation is to get moving again:

- -- the reversal of the shift in emphasis from applied research to basic research,
- -- avoidance of dramatic fluctuations in federal support,
- -- the updating and developing of a viable continued basis for support of research facilities, and
- -- the development of an adequate "reservoir" of young scientists.

*"Universities in the Nation's Research Efforts" by Bruce Smith & Joseph Karlesky

S. 1065, introduced by Senator Danforth last month, seeks to help remedy this situation by providing additional tax incentives to corporations to make grants to support and further the basic research efforts occurring on the campuses. While we support the efforts of Senator Danforth to tackle this problem, we find that the current formulation of S. 1065 does present some technical difficulties.

As currently formulated, corporations become eligible for a tax credit equal to 25% of the funds granted for the carrying on of fundamental research in the physical sciences by a tax exempt organization as long as the funds are in excess of past charitable giving. Corporations eligible for the tax credit also receive a charitable contribution deduction for the gift of basic research funds. As drafted, research gifts are not included in the charitable contribution base that must be exceeded to gain the tax credit. Their exclusion from the maintenance of effort calculation may, we feel, result over time in a greater incentive to designate gifts for research than for other activities. This incentive is greatly expanded by S. 1065's provision of a "moving" base (a four-year average of giving, excluding research gifts). To maximize the amount of the tax credit -- it would be in the donor's interest to keep the giving base as low as possible. Additionally, the maintenance of effort provision protects only the level of past giving. If overall giving increases (if only due to inflation), the pattern of that giving may be altered by the tax advantage of designating a gift for basic research rather than making a gift to the general fund of the college. It is possible that as drafted, this legislation might redirect "contemplated" giving rather than -- or in addition to -- stimulating new giving.

S. 1065 relies on the provision of a 25% tax credit to stimulate new giving in basic research. Many large corporations are having difficulty

utilizing the array of tax credits for which they are currently eligible. Moreover, since the act of giving requires a minimum of fuss, the tendency of corporations might well be to delay giving until they are able to calculate whether the making of such a gift would enhance their tax status. The uncertainty of whether a gift was to be made, as well as the fluctuations in giving patterns which would likely occur from year to year, would create planning difficulties for the colleges in developing a basic research effort.

Provision of a tax credit also does not offer a company without net income any stimulation to give since the credit is offset dollar-for-dollar against the tax on net income. New corporations, of which there are a fair share in the research and development fields, would probably have sufficient start-up costs to nullify the incentive provided by S. 1065. And yet these companies are possibly the very places where the interest is the strongest for greater efforts to be made in basic research.

A possible alternative to the tax credit approach which might provide a stronger corporate incentive would be to fashion a tax deduction for gifts designated for basic research under the Research and Experimental Expenditures section of the code (see §174). As presently construed, §174 allows a company to take a dollar-for-dollar deduction against gross income in the year in which the cost was incurred, for expenses related to research which were paid or incurred by the corporation "in connection with his (the corporation's) trade or business..." (corporation may also defer and amortize expenses). The definition of research in the regulations (see §1.174-2) stresses the business-relatedness of the expense. The examples given, the development of new products or new processes for making certain types of products, are examples of applied research. Section 162 defines business expenses as those expenses which are ordinary and necessary to the pro-

duction of income. The allowance of a deduction under §174 for basic research is in keeping with §162's definition of business expenses. In fact, the addition of the costs of fundamental research results in a more accurate calculation of the costs necessary to the production of income. The rationale for expensing under section 174 -- the difficulties inherent in attempting in a given accounting period to match the costs related to research and development to a particular item of income -- would seem to apply equally to the provision of grants designated for basic research. In fact, section 174 does in certain limited cases and contractural agreements include some basic research expenses. This alternative approach would simply clarify and broaden somewhat the expenses to be allowed under §174. It would also correct the current bias in the tax code toward applied research.

Besides providing a more theoretically correct calculation of income, the deduction provided under §174 would provide a greater incentive than a tax credit for many corporations to make such grants since it results in a dollar-for-dollar reduction of gross income. Moreover, use of §174 would mean that companies that currently give the 5% corporate limit on charitable giving would still have a tax incentive to provide gifts designated for basic research. The Committee may wish to consider further modifications to section 174, such as accelerated write-offs for long term gifts, or a double deduction that might increase the incentive to make such grants.

Under S. 1065 as formulated, a charitable contribution deduction is allowed in addition to a 25% tax credit. The relationship of the charitable contribution deduction and an expanded section 174 would have to be addressed. On the surface, allowing a deduction under one would appear to prohibit a

deduction under the other category, in that section 174 implies a personal stake, while section 170 rests in part on the disinterested nature of the donor. However, a coordination of these deductions might be possible to reflect the general societal benefits inuring from grants for fundamental research.

A second matter we wish to call to your attention is the impact on patent policy posed by this legislation.

The intent of S. 1065 is to generate greater basic research in order to improve the technological posture of the United States. Section 44D(c)(5) of the bill provides that any patentable process developed as a result of funding from a corporation that received a tax credit would be in the public domain. This provision, if unamended, would practically ensure that whatever technological innovation occurs is never brought to market. Based on our prior experience, if universities are not granted exclusive rights to any patentable process developed, it is highly unlikely that any marketable item would reach the public.

Because of their special mission, colleges and universities have unique patent concerns, particularly with regard to ownership of patent rights. Generating inventions is almost never the main objective of research conducted by universities; rather, an invention is generally an incidental by-product of the research activity, largely attributable to serendipity, to the personal creativity of the investigator backed by his years of professional training and experience, and to the scholarly environment and research resources provided by the university. When patentable discoveries are made, the equities to be considered include those of the inventor, the university, and, very properly, the financial sponsors. A policy that assigns patent rights to the public at large for all supported research which received a tax credit pursuant to S. 1065, eliminates the universities' ability to recognize the equities of other sponsors and the contributions of the

institutions themselves.

In making a decision about where the primary rights to an invention developed on campus should be vested, one consideration should be paramount -- that being in whose hands will the vestiture of primary rights serve to transfer most quickly and economically the invention technology to the public for its use and benefit.

Educational institutions are, of course, not organized to manufacture, produce, or market a patentable invention. Accordingly, if university-generated inventions are to be used, such institutions must interest those in the industrial world who have the commercial capability for invention and market development, which the university lacks. Interesting the right parties is often a difficult task because few inventions coming out of university research offer readily recognizable prospects of a large market or a high return on investment. University-based inventions, because they most often correlate with the result of basic research, tend to be at best in the early stages of development, and therefore require substantial capital in order to develop the invention enough to be marketable.

At the same time, universities are in a unique position objectively to seek the best qualified industrial developer and, under appropriate licensing arrangements, to monitor the diligence of the developmental efforts. If universities cannot furnish an exclusive license to developers for a limited period and thereby secure the investment of necessary capital, inventions are less likely to be developed to the point of marketability, and thus the public is less likely to receive the benefits from such inventions.

Without some degree of exclusivity, private sources are unlikely to have sufficient incentive to develop a product or process. Indeed, the investment required to make a product or process marketable and actually to market it is almost always far greater than the investment in the original research. Mere exclusivity in patent rights does not automatically create artificially high prices for related products, and royalties usually represent only a very small fraction of the retail price of marketed goods. Moreover, one must face the inescapable conclusion that the development of inventions will benefit the public by making available products that would otherwise not have been available at any price.

Consequently, in order to ensure that the results of basic research conducted pursuant to funds made available by S. 1065 aid in reaching the goals of expanded technological development and productivity improvement, it is essential that section 44D(c)(5) of S. 1065 delete the phrase the results of which are freely available to the general public.

We would be happy to meet with you or members of your staff to discuss these matters further.

Sincerely,

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