

July 30, 2018

RE: RFI Response: Federal Technology Transfer Authorities and Processes
Docket Number: 180220199-819-01

Via email: roi@nist.gov

**Marquette University Response to NIST Request for Information:
Federal Technology Transfer Authorities and Processes**

Marquette University appreciates the opportunity to respond to the National Institution of Standards and Technology (NIST) Request for Information Regarding the Federal Technology Transfer Authorities and Processes (Docket Number: 180220199). As a university committed to research growth and fostering increased capacity for innovation, with a focus on creating partnerships that will help solve significant problems, Marquette seeks to increase technology transfer activities that will enable research innovations to be developed into practical solutions that will benefit society. We thank NIST for soliciting input to inform evaluation of Federal technology transfer practices, policies, regulations and/or laws that promote the transfer of Federal technologies and the practical application of technologies, including through commercialization by the private sector.

What are the core Federal technology transfer principles and practices that should be protected, and those which should be adapted or changed?

The basic framework provided by the University and Small Business Patent Procedures (Bayh-Dole) Act of 1980 has worked well for guiding universities in their efforts to develop and commercialize inventions that result from federally funded research. We strongly recommend that the Bayh-Dole Act remain the core set of regulatory guidelines for technology development of federally funded inventions.

The recent changes in implementing the Bayh-Dole regulations made by NIST (37 CFR 401) are also helpful clarifications and updates. However, we note that changes to the specified time requirements for actions by contractors would be improved by further modification. Specifically, the current requirements that contractors provide 60 days notice if not continuing non-provisional patent prosecution (up from the prior 30 days notice) and, in cases where a provisional patent was filed, file a non-provisional application ten months after filing the provisional, create a burden on commercialization efforts. These time requirements serve to

shorten the time available to develop the invention, assess the market, and evaluate licensing potential before making the decision to invest in patent protection.

We encourage NIST to re-evaluate these time regulations to ensure that university and start-up commercialization efforts are not adversely affected by the shorter time frame for development and evaluation before finalizing prosecution decisions.

What are issues that pose systematic challenges to the effective transfer of technology, knowledge, and capabilities resulting from Federal R&D? What is the proposed solution for these issues?

Inconsistent requirements across federal agencies lead to challenges for universities seeking to effectively develop and transfer technologies arising from federally-supported R&D. Managing conflict of interest disclosure and review that fall under Public Health Service (PHS) regulations versus those applying to faculty in other non-PHS areas of research is an example of added regulatory burden. Similarly, iEdison is not universally utilized for invention reporting across federal agencies. We also note that iEdison itself is plagued with error issues and adds to the reporting burden. We appreciate that NIST is working with the National Institutes of Health to rebuild the system -- creating an efficient and effective platform with universal usage across agencies would help streamline technology transfer activities.

We recommend developing consistent reporting and conflict of interest requirements across federal agencies.

What are other ways to significantly improve the transfer of technology, knowledge, and capabilities resulting from Federal R&D to benefit U.S. innovation and the economy?

The invention and development of new technologies, knowledge, and capabilities resulting from Federal R&D is a complex process and one that benefits from bringing universities and companies together at earlier stages of the R&D process. The restrictions on public-private use of tax-exempt bond financed facilities can create a barrier to some university-corporate R&D partnerships. Restrictive private use regulations lead to limitations on where on campus cooperative research can take place, an impediment to developing partnerships that could lead to realizing the full potential of Federal R&D. Developing more flexible standards that would serve to encourage these partnerships and aid in the ultimate translation of federally-funded university R&D.

The need to develop strong university-corporate partnerships and engage industry in early stages of R&D that originates from government sponsorship can also help with the significant costs of bringing an invention to market. The so-called "Valley of Death" still limits the impact that Federal R&D can have on the U.S. economy. SBIR programs help with this challenge but additional strategies are needed to assist with the funding needed to move innovative ideas into commercialization. The National Science Foundation's Division of Industrial Innovation and Partnerships has developed a variety of approaches, such as the I-Corps and Partnerships for

Innovation, to assist with these challenges. We encourage continued development of these programs to support academic innovation, sharing of such best practices, and adoption of effective programs across Federal agencies.

Finally, we encourage the development of a measurement system for evaluating technology transfer efforts that includes an emphasis on societal benefit. Traditional metrics of the number of disclosures, patents, licensing agreements, and start-ups should be supplemented by other measures of faculty and student engagement and societal impact. Recognizing that the return on federal investment goes beyond the impact of a specific invention and includes the longer-term benefits of training and supporting a culture of innovation in our students and faculty enables technology transfer to be strongly integrated into the mission of our universities.

One of Marquette University's Guiding Values is to "embody a spirit of interdisciplinary curiosity, research, innovation, entrepreneurship and application to change and improve ourselves, our community and our world." Federal R&D support is a critical resource is helping the University community live out this value and we appreciate having the opportunity to provide input in support of NIST's efforts to evaluate Federal technology transfer authorities and processes. We look forward to seeing the next generation of advancements that will continue to build upon the legacy of Bayh-Dole.

Sincerely,

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Vice President for Research and Innovation