

Testimony for Senate Bill SB 671 by Thomas “Rock” Mackie, Jan. 24, 2018

My name is Rock Mackie and I am an Emeritus Professor of Medical Physics, Human Oncology and Engineering Physics at the University of Wisconsin-Madison and a former Director of Medical Engineering at the Morgridge Institute for Research. I am also a founder of the Advocacy Consortium for Entrepreneurship (ACE) a not-for-profit organization promoting entrepreneurship at the UW. ACE recently merged with WiSolve an organization to promote and teach entrepreneurship to UW graduate students and post-doctoral fellows and to facilitate internship consulting to Wisconsin technology startup companies.

Firstly, I would like to say that I am pleased that the bill honors the late Professor Mark Cook. Mark was a friend and fellow board member of ACE and believed that entrepreneurship was the ultimate extension of science and technology to benefit society. Mark founded many medical and agricultural UW startups in his career and believed as I do that another mission of our university is to instruct students and trainees in business and entrepreneurship.

Geometrics was the first company I co-founded in 1992. Back then it was not easy to spin off a company from the UW. The culture frowned upon it as detracting from the mission of research and education. We had developed an early 3D radiotherapy treatment planning system based on quantitatively using computed tomography (CT) scans. The system was being used to treat patients at the UW and we argued that formally getting FDA clearance would enable the system to be used more widely. The UW Hospital could not pay for the work to achieve this, requiring the formation of a company. University lawyers had to intervene to overcome objections from my chairman. The software eventually achieved about 40% market share and since the 90's has been used to plan treatments for millions of patients worldwide. Geometrics is now owned by Philips Medical Systems and the development and maintenance of the system is still done by their operation based in Fitchburg. So, this company started 25 years ago is also still contributing to the Wisconsin economy.

TomoTherapy was my second company. My research group had developed a way to achieve much more conformal dose distributions to treat cancer with radiation and to verify targeting by integrating CT on board. General Electric licensed the concept from WARF and my group got an industrial contract from GE between 1994 and 1997. In 1997, GE was #4 in the radiotherapy market and following Jack Welch's philosophy to be #1 or #2, decided to exit that market. Now having experience with business, I and another co-founder of Geometrics, Paul Reckwerdt, started TomoTherapy in 1997. TomoTherapy grew rapidly and did a billion dollar IPO in 2007. About one million patients have been treated on these systems in more than 30 countries around the world. All of the major radiotherapy clinics in Wisconsin use our

product. TomoTherapy merged with Accuray in 2011. Wisconsin has done well by Accuray. They moved the manufacturing of another product from Palo Alto to Madison. They spend more than \$25 M to parts suppliers in Wisconsin, with Waukesha County being the largest recipient.

Why do we need Bill SB 691? To me it comes down to the three C's, carefulness, cash and culture. The UW is mandated by the federal government to have a campus conflict of interest committee. Every academic entrepreneur has a management plan to ensure that the interests of the university and society are carefully maintained. Having a layer of Regents approval on contracts from spin-off companies over \$250,000 does not add to the carefulness but only adds bureaucracy and expense. TomoTherapy was reluctant to go to the time and trouble of having contracts with the UW but found it easier to get research done at other universities, such as Washington University in St. Louis. I know that there are other UW spin-off companies which have taken their research cash to other universities. This means lost money to the UW and loss of expertise to the Wisconsin company if the UW is more qualified. Contracts from any company over \$1 million will still be vetted by the Regents. Getting rid of the requirement for UW spin-offs to get approval for contracts of over a quarter of a million will improve the culture by presuming that the spin-offs are not any more likely than other companies to cause grief to the university.

I hope that you support the Mark Cook Bill – SB 691.