Nick Jones Remarks  
Provost’s Report to Board of Trustees  
Dean’s Hall, Penn Stater Conference Center  
Friday, January 16, 2015

**Slide 1: Title Slide – Provost’s Report**

Good afternoon. In my last Board report, I discussed the composition of Penn State’s faculty and the main types of faculty appointments. At research universities like Penn State, faculty have multiple roles. They are teaching introductory courses to undergraduates as well as providing more advanced coursework at the graduate level. They are serving as undergraduate and graduate student advisors and mentors. At the same time, they are actively involved in research and public service.

**Slide 2: Dr. Laurie Grobman**

Following up on the topic of faculty, I’d like to begin today with an exceptional honor given to Dr. Laurie Grobman, professor of English and Women’s Studies at Penn State Berks. Dr. Grobman has a strong record of research; she has published four books and more than 30 articles in peer-reviewed journals and books. She is also a caring and committed teacher who has involved her students in community-based research projects in Berks County. Dr. Grobman was honored in November as the “Outstanding Baccalaureate College Professor of the Year” by the Carnegie Foundation for the Advancement of Teaching. This is a tremendous honor and we’re very proud of her accomplishments. Dr. Grobman is one of many Penn State faculty who excel both as researchers and as teachers.
Later this afternoon, Jean Vasilatos-Younken, Interim Dean of the Graduate School, will discuss graduate education at Penn State. I’m going to use my time to set the stage by discussing the importance of research universities and the role of graduate students – like the Penn State grad students pictured here studying music, meteorology, and engineering.

Research universities prepare the next generation of educated citizens and scholars. They offer a full-range of undergraduate majors, plus master’s and doctoral programs. They are committed to groundbreaking research activities and are centers of discovery and dissemination of scientific knowledge. Penn State consistently ranks among the top 20 research universities in the country.

U.S. Congressman Charlie Dent received the Science Coalition’s “Champion of Science Award” at an event hosted by Penn State Lehigh Valley last March. Here is what Mr. Dent said about why he supports funding for basic science research . . . “such research often results not just in expanding the frontiers of our knowledge but in concrete applications with real world benefits for America both economically and socially.”

Governor-elect Tom Wolf has also weighed in on the importance of research and development, focusing on the value to manufacturing, renewable energy technology, the health care industry, as well as the importance of university business incubators for job creation.
Penn State is a powerhouse in terms of our research strength. What does that mean? You may recall that in the latest National Research Council Assessment of research doctorate programs, Penn State scored exceptionally well. Our top ranked programs were anthropology, plant biology, kinesiology and Spanish, as shown here. Several other programs within the Colleges of Agricultural Sciences, Earth and Mineral Sciences, Engineering, and Health and Human Development were also highly ranked.

These rankings were based on multiple characteristics related to research activity of faculty, student support and outcomes, and diversity of the academic environment.

Another validation of our research expertise comes from the National Science Foundation’s annual surveys of Research and Development expenditures at U.S. institutions of higher learning by field of research. I know that you can’t read all this detail, but I want you to appreciate that this is a very comprehensive study. It’s the primary source of information on R&D expenditures at higher education institutions in the United States. This slide shows the research expenditure rankings for Penn State in 2012, the latest year for which such data is available. Penn State rankings are in the dark blue line near the bottom of the list and our top 10 rankings are shown in red. Penn State is highly ranked across a broad spectrum of disciplines.
Here are some of the same NSF rankings in an easier to read format. In comparison to universities such as Michigan, Stanford, MIT, and Columbia, we rank in the Top 10 in several fields in Engineering, as well as in Atmospheric and Earth Sciences, Mathematics, Computer Science, Agriculture, Psychology, and Sociology.

These rankings are for Fiscal Year 2012. The NSF survey release for 2013 is expected soon.

Ever since Evan Pugh’s discovery in 1857 that plants take nitrogen from the soil and not from the air, Penn State’s combination of distinguished faculty, inspired students, and research infrastructure has led to some incredible discoveries.

The science and flight operations for NASA’s Swift Satellite are controlled by Mission Operations Center at University Park.

Our Applied Research Lab is a critically important national leader in undersea defense systems and other defense-related technologies.

The Materials Research Lab just received a $15 million grant from the National Science Foundation to continue their research on materials at the nanoscale. You may have noted on a previous slide that we rank number 1 in materials science.
We have tremendous expertise in the fields of climate science and in sustainable and renewable energy. A 5-year, $30 million dollar NASA grant to study greenhouse gases was just announced this week. We’re also studying efficiency and environmental sustainability in the natural gas industry.

Experts in cybersecurity within the College of Engineering and elsewhere on campus are studying how to detect and counter cyberattacks and neutralize the attackers.

Agricultural research is foundational and continues to be a long-term priority area at Penn State. Research in entomology includes both honey bee and pollinator research as well as pesticide safety.

Our researchers in Social and Behavioral Sciences are learning how to strengthen our schools and communities, keep kids on the right path, and enhance the resilience of military families.

As Neil Sharkey says, “At Penn State, we are good at pretty much everything” – which is a major reason why our research enterprise has remained strong even in the face of major federal budget cuts and sequestration.

**Slide 10 - Benefits to Students**

We know that legislators and higher education administrators value research. But do students benefit from attending a research university?

Absolutely! At research universities, students are learning from the professors who are not only writing the textbooks, but also making discoveries.
that are not even in the textbooks yet. They are exploring and pushing the boundaries at the cutting edge of knowledge.

Participation in research at any level is powerful. It instills critical thinking, delivers life lessons about commitment, follow-through and teamwork, helps students become more self-confident, and highlights potential career pathways and future opportunities.

I’m very pleased that my daughter has enrolled at Penn State this semester and will be part of this incredible learning environment.

**Slide 11 – (Richard Schrock quote)**

We know that basic research conducted at universities like ours produces the building blocks of our world. Seeking new knowledge for the sake of advancing understanding invariably results in new inventions, applications, and solutions.

Research is personally fulfilling and rewarding for faculty as well. Penn State faculty participate in international conferences, serve on advisory boards and committees that help set the nations’ research agenda, receive national and international awards and recognitions, and feel genuine excitement in sharing their work with students. Top researchers are frequently our top teachers.

**Slides 12 – Millennium Science Complex Photo**

In conclusion, strong research faculty attract highly qualified undergraduate and graduate students. Students – especially doctoral students – are more likely
to attend universities that offer both highly ranked faculty and excellent research facilities. Likewise, faculty are more easily recruited to places that attract top caliber students and the highest quality infrastructure.

Together, research and graduate education have enhanced the reputation and effectiveness of Penn State as a superb educational environment, as well as contributed immeasurably to public welfare, the advancement of knowledge, and the economy of the Commonwealth.

And now I’d be happy to take your questions if there is time remaining.