

NATIONAL ACADEMY OF ENGINEERING

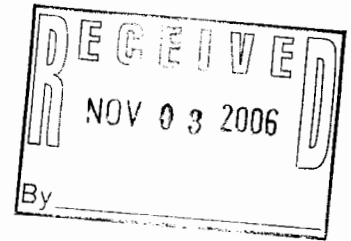


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October 18, 2006

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Richard Seagrave, PhD
President
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111 Market Place, Ste. 1050
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Dear Dr. Seagrave:

Thank you for the opportunity to provide my perspective as President of the National Academy of Engineering to the discussion regarding dual-level accreditation. In my capacity, I have the privilege to interact regularly with leaders in engineering practice, engineering research, and engineering education – it gives me, I believe, a unique perspective.

My eleven+ year tenure as NAE President has covered a rather dynamic period with respect to the practice of engineering and the demands that are placed on the engineering education process. During this period, we have witnessed the continuing emergence and tremendous growth of new technologies and research avenues along with the great benefits and productivity gains they have spurred. However, these advances have sometimes led to painful disruptions to the engineering workforce through outsourcing and off-shoring of engineering jobs and research activities. For educators, the rapid changes and emerging fields have presented unique challenges.

Driven by the fact that the body of knowledge necessary to be successful in either **research or practice in engineering disciplines is expanding** at an increasing rate, **educators are faced with the question of how to provide today's students with the depth and breadth of engineering education necessary to practice in and adapt to the continuously evolving global economy of the future.** The many issues involved were considered in the workshop and committee discussions that resulted in NAE's 2005 report, "Educating the Engineer of 2020: Adapting Engineering Education to the New Century." This report was prepared by a committee of knowledgeable leaders that represent a diverse combination of experiences, expertise and viewpoints from both industry and academe, both faculty and administrators. According to the Academies' procedures, the 2020 report also underwent a final anonymous review by a group of similarly knowledgeable experts in the field.

Richard Seagrave, Ph.D.

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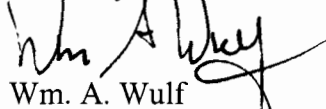
The recommendations that resulted from “Educating the Engineer of 2020,” have led, I believe, to a healthy dialogue in several areas. One recommendation, in particular, is directed at ABET. It reads: **“ABET should allow accreditation of engineering programs of the same name at the baccalaureate and graduate levels in the same department to recognize that education through a ‘professional’ master’s degree produces an AME, an accredited ‘master’ engineer.”** This recommendation in particular has generated some intense discussion, but I fully support the process and logic that led the committee to make it. I believe that the BS degree does not provide a differentiable set of skills, and places degree holders in a position where their skill set can be treated as a commodity on the world market. In 2004-2005, American institutions granted 73,602 engineering bachelors degrees, 40,650 masters degrees, and 7,333 PhD degrees, so it would appear that engineers already recognize the market value and job stability that graduate degrees provide. I think our standards processes need to recognize it also to ensure that Masters Degree programs are likely deliver on that “promise”. For this reason, it seems reasonable that institutions should have the ability to accredit programs at multiple degree levels, as they deem appropriate.

ABET’s extremely important efforts to move from an inputs-based to outcomes-based accreditation process should mitigate some of the concerns that were raised in the past regarding dual-level accreditation. As Ernest Smerdon pointed out in the Summer 2005 Prism Magazine, the shift to outcomes-based accreditation will not discourage what is a strength in our current masters programs – the ability to be highly specialized, flexible and responsive to particular needs – since the criteria are generally supportive of that type of creativity. In that light, it seems reasonable to allow leaders of institutions to make the decision for themselves regarding the desirability to seek accreditation at the degree level or levels that they choose.

Finally, I recognize that lifting the prohibition is neither a small step nor one that should be taken lightly. However, the recommendations of the Engineer of 2020 were not constrained to those things that could be done either quickly or easily. To that end, I encourage the ABET board to undertake developing a plan to phase in dual-level accreditation of engineering programs over the coming years.

Thank you again for providing this opportunity to present my perspective.

Sincerely,



Wm. A. Wulf
President