## PERSONNEL OPERATIONS MEMORANDUM





POM 13-006 EFFECTIVE DATE: 3 September 2013

By Order of the Acting Surgeon General of the U.S. Public Health Service:

RADM Boris D. Lushniak, Acting Surgeon General

TO: Engineer Candidates Seeking Appointment to the Commissioned Corps of the United

States Public Health Service (Corps) and PHS Engineer Appointment Board

SUBJECT: Clarification of Category Specific Appointment Standards:

Accreditation of Engineering Programs and Minimum Curriculum

- This Personnel Operations Memorandum (POM) clarifies the accreditation criteria for the Engineer Category Appointment Standards as prescribed in the eCCIS (<u>CCI 231.03</u>, "Category Specific Appointment Standards", Section 6-4.b). This POM also clarifies the minimum engineering coursework required as part of the engineering baccalaureate or as supplemental to the master's degree curriculum.
- Prior to 2010, the Accreditation Board for Engineering and Technology (ABET) only accredited schools of engineering at a single degree level (e.g., Bachelor of Science). Since 2010, schools could seek dual-level accreditation (i.e., Bachelor of Science and Master of Science). However, to date, less than one percent of the schools of engineering in the United States have sought dual accreditation. Therefore, a potential candidate for appointment as an engineer in the Corps who possesses a non-qualifying Bachelor degree and a Master of Science degree or higher in one of the various fields of engineering from a school accredited at the Bachelor's level but that has not yet sought ABET accreditation for the higher level degree could be considered as not meeting the Corps' engineer category appointment standards.
- 3. For candidates to the engineer category who do not possess a qualifying Bachelor of Science degree, the requirement specified in Section 6-4.b.1 of CCI 231.03 ("An engineering degree from a program accredited by ABET;") shall be interpreted to mean a Master of Science or Doctoral degree in a field of engineering as long as the engineering program (e.g., Civil Engineering, Biomedical Engineering) is accredited by ABET at the Bachelor of Science level or the Master of Science level.
- 4. For engineer category candidates who do not possess a qualifying Bachelor of Science degree and use a Master of Science or Doctoral degree in a field of engineering as the qualifying degree, the Engineer Appointment Board shall review each candidate's academic transcripts to ensure that the candidate has completed the necessary

engineering and engineering-related courses to provide a firm foundation for the practice of engineering. Specifically this includes:

- A sufficient combination of college level mathematics and basic sciences (some with experimental experience) appropriate to the field of engineering. Basic sciences are defined as biological, chemical, and physical sciences. This requirement includes mathematics through differential equations, calculus-based physics, general chemistry, and probability and statistics;
- Sufficient coursework in the basic sciences, mathematics, engineering sciences, and engineering design appropriate to the candidate's field of study to provide the same or greater depth and breadth of education as are found in an accredited engineering baccalaureate program;
- c. Studies to provide a bridge between mathematics and basic sciences and engineering practice. The engineering sciences have their roots in mathematics and basic sciences but carry knowledge further toward creative application. Engineering design is the process of devising a system, component, or process to meet desired needs. It is a decision-making process (often iterative) in which the basic sciences, mathematics, and the engineering sciences are applied to convert resources optimally to meet these stated needs; and
- d. A general education component that complements the technical content of the engineering related curriculum and is consistent with engineering objectives.
- 5. An engineer category candidate who has successfully passed the Fundamentals of Engineering Exam (FE) is deemed to have met the requirements of Section 4.

-s-Boris D. Lushniak, M.D., M.P.H. RADM, USPHS Acting Surgeon General