

## PROFESSIONAL ETHICS: AN ENGINEERING SOCIO - ECONOMIC CONCERN

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### Abstract

The importance of professional ethics to engineers in a socio-economic context is pointed out as well as source material on the subject.

Although ethics has always been an important aspect of engineering professionalism [1], most recently there has been an explicit and marked concern as illustrated by the recent issuance of the IEEE Code of Ethics [2]. Indeed such concern is well warranted in view of national scandals involving engineers. Particularly we would mention the situation in Maryland leading to the Vice President's resignation [3] and the California instance of three engineers versus EART [4], both of which rest heavily in the ethical domain and have significant socio-economic consequences.

Because of the socio-economic implications for all engineers, among other things, we feel it important to call attention and make available to engineers material in the ethical domain, particularly as it is relevant to professional practice and status. Especially we feel this is a responsibility for educators, where, however, we have found a reluctance to pursue the field. In fact this reluctance is seemingly proportional to the need. Specifically in Maryland where a new law embodying an ethical code for engineers [5] has recently been enacted, we find a great interest by students and practicing licensed professional engineers. On the other hand we find scepticism and even opposition from a segment of the University faculty/administration [6] for reasons that can well be speculated.

To go along with our beliefs we have designed and offered a course [7] in the University of Maryland "Division of Mathematical and Physical Sciences and Engineering" open to all upperclassmen in the Division. The results of this course will be described elsewhere, but it has served to acquaint the students, who have shown high interest, with a number of pertinent ethical concepts and the way in which they are applied in modern professional societies and practice. Now, though, we take this opportunity to call attention to a wider audience. In particular we would emphasize the existence of pertinent ethical codes [2][6][9]. One should also note the differences between these professional engineering codes and those of other professions [10][11][12], especially that of the legal profes-

sion [11] where legal penalties are spelled out. Likewise it seems important to us to call attention to various case studies within engineering professional practice [13], which are readily available and serve in many capacities.

From our study to date we conclude that although the professional engineering codes are valuable and contain information upon which all engineers should be knowledgeable, they do need strengthening in various ways. In order to get a handle on this and a cross-fertilization of ideas, the Ninth Annual Asilomar Conference on Circuits, Systems and Computers panel discussion was set up for the meeting with participation as shown in Table I.

### References:

- [1]. M. I. Mantell, "Ethics and Professionalism in Engineering," The Macmillan Co., N.Y., 1964.
- [2]. "IEEE Code of Ethics," *IEEE Spectrum*, Vol. 12, No. 2, February 1975, p. 65.
- [3]. R. M. Cohen and J. Witcover, "A Heartbreak Away, The Investigation and Resignation of Vice President Spiro T. Agnew," Bantam Books, N.Y. 1974.
- [4]. G. D. Friedlander, "The case of the three engineers vs. EART," *IEEE Spectrum*, Vol. 11, No. 10, October 1974, pp. 69 - 76.
- [5]. "09,23,10: Code of Ethics for the Practice of Engineering and Land Surveying," Effective Date, Wednesday, June 11, 1975.
- [6]. Private Communication.
- [7]. ENEE 418H "Ethics for Engineering and Scientific Practice," Given tuesdays 4:30 - 5:30, Fall 1975 Semester.
- [8]. NSPE Code of Ethics, National Society of Professional Engineers, 2029 K Street, N.W., Washington, D.C.
- [9]. ECPD Code of Ethics of Engineers, Engineers' Council for Professional Development, Forty Second Annual Report, 1974, pp. 20 - 24.
- [10]. "Opinions and Reports of Judicial Council," American Medical Association, Chicago, Illinois, 1966.
- [11]. "Code of Professional Responsibility and

- Canons of Judicial Ethics," American Bar Association, Chicago, Illinois, 1969.
- [12]. "Code of Ethics of the Education Profession," National Education Association, June 1972.
- [13]. "Opinions of the Board of Ethical Review," NSPE, Vols. I, II, III, through January 1970.

Table I  
 Panel Discussion  
 Professional Ethics: An Engineering Socio-Economic Concern  
 Asilomar  
 Monday, November 3, 1975  
 8:00-10:30 pm, Session M12 - Acacia

Participants	Time	Specific Points of Discussion
Professor Robert W. Newcomb Electrical Engineering Department University of Maryland College Park, Maryland 20742	8:05-8:30	Lead-Off Paper: "Professional Ethics: An Engineering Socio-Economic Concern"
	Discussion	
Professor William W. Hupp Electrical Engineering Department California State University Sacramento, California	8:30-8:50	Engineering Ethics: An engineering Dean's - eye view
Mr Malcolm A. Head Legal Advisory Group IBM San Jose, California	8:50-9:10	Business Ethics: Formulation, significance, a Lawyer's - eye view
	Break	
Mr. Gilbert A. Verdugo, P.E. 3190 Old Tunnel Road Lafayette, California 94549	9:20-9:40	Professional Ethics: The BART situation, a practicing engineer's - eye view
Moderator: R. Newcomb	9:40-10:30	Panel Discussion