EECE404 Senior Design II
Electrical Engineering and Computer Science
Howard University
Dr. Charles Kim

Ethics Lab

Ethics is a part of all professional careers, and plays an extremely important role in engineering. In the Lab or group work, we will discuss the importance of engineering ethics using a scenario.

Zilch Materials[1]

The Zilch Materials Co. employed you as a test engineer. The company recently introduced a new casting material called "Supercast," which had been well tested by the company. All test results indicated that the material met all published specifications and was better in performance and lower in cost than competitors' materials. Potential applications of Supercast included very diverse products: toys, office equipment parts, interior furnishings of aircraft, and the case for electronic products.

   The decision was made to commit production and many shipments had been made when you discovered that, under some conditions of storage temperature and other unknown factors, the shelf-life of the product was seriously degraded. In particular, the product no longer met specifications for flame retardation and for compressive strength if stored for more than 2 months before mixing, instead of the 24 months stated in the published specifications. Repeated tests confirmed the problem.

   As of today, substantial quantities have been shipped, and the age and temperature of the lots shipped are not traceable. To recall Supercast would involve great financial loss and embarrassment to the company, and at this point, there is no remedy or quick fix to solve the problem. Only you and a subordinate, a competent test technician, know of the problem.

The situation/scenario above is for discussing the issue when an engineer knows or happens to know unethical behavior in the work.   Discuss the following 3 points and write (print) your group's consensus and complete the Lab Report.

   1. First action
   2. Second action
   3. Final action

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[1] adapted from Section 1.6 of *Engineering Design Process* by Y. Haik and T. M. Shamin, 2nd Ed, Cenage Learning, pp. 31-32.

Ethics Lab Report
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Date	
Participants	(List here all participants)

Discussion Consensus
1. What is the first action you would take?
2. Suppose you express concern to your immediate supervisors and you hear from him, "Forget it! It's no big deal, and we can correct it later. I will take care of this. Go do your work!," what would you do?
3. Suppose, several weeks after your reporting to the supervisor, he tells you, "I spoke to the executive staff about it and they understand the problem. But we'll keep shipping product and work hard to fix it," what would you do if the sample test shows the same problem and there is no fix incorporated?