W. Gale Cutler's Commentary on "Testing by a CO-OP Student"

Commentary On
Testing by a CO-OP Student

The aspect of this case that should produce the most concern is the apparent and immediate conclusion by Tom that Jack "faked" data without any concern about the results of his action. This is equivalent to a "guilty until proven innocent" approach to justice. The first action taken by Tom when he learned that the results of the stress test were suspect should have been to bring Jack into the discussion, either by telephone or, in view of the seriousness of the situation, by paying Jack's expenses to return to the laboratory to discuss the tests. If Jack has a valid explanation for the results he obtained, the failure to bring this explanation into consideration could place an irreparable blight on Jack's career because of the hasty accusation. This contact with Jack should also have occurred before the University co-op coordinator was contacted with the fear that Jack had falsified data.

However, in terms of proper management of co-op students it is unthinkable that the important tests such as Jack was running were not closely supervised and the results checked periodically. Such supervision is the essence of good laboratory management and in no way displays a lack of trust in Jack (or any other employee so supervised). At the very least, Jack's test results should have been carefully reviewed before he departed for college.

Certainly we have reason here to question the proficiency of laboratory management in the Material Science Department at XYZ. To judge Jack's behavior we also need to know exactly what his instructions were when assigned to do the tests. Was he told how critical the tests were? Or was he led to assume the tests were merely routine? Did his supervisor say quickly, "I need this part qualified by the end of the week?" If that's what Jack heard he could have interpreted the directions as "hurry and run some tests but the part is going into production anyhow." In research and development situations we must always take the time to explain all of the "why" of the problem when we delegate a task. Analytical test work, in which the

answer depends particularly on the question asked and how it is asked, demands an especially careful statement of the problem. If in subsequent conversation with Jack he confesses to falsifying data he should be severely reprimanded and probably XYZ (unless extenuating circumstances are revealed) should terminate its co-op relationship with Jack.

In the reprimanding (and terminating) procedure, Jack must be reminded of the responsibility of an engineer. To quote the National Society of Professional Engineers Code of Ethics: Engineering is an important and learned profession. The members of the profession recognize that their work has a direct and vital impact on the quality of life for all people. Accordingly, the services provided by engineers require honest, impartiality, fairness and equity, and must be dedicated to the public health, safety and welfare. In the practice of their profession, engineers must perform under a standard of professional behavior which requires adherence to the highest principles of ethical conduct.... There is a growing and encouraging trend to incorporate the teaching of ethics into the engineering curriculum. This incorporation is being done best in the form of case studies in engineering courses so that the student has an opportunity to combine the study of both the technical and ethical considerations of engineering problems. Such instruction brings home to the engineering student the responsibilities of the engineering profession and the personal obligations of members of the profession. Responsible people accept moral responsibility for their actions!