

16.7 Whistle-Blowing *

A situation that occasionally faces computer professionals is what to do when a project with which they are associated goes wrong and the people who are in charge of the project refuse to acknowledge the problem or do anything about it. What should the computer professionals do in this case? If (especially if there is a risk to life or health and especially after trying to get those in authority to correct the situation) they decide to go public with what they know, this is known as whistle-blowing.

One of the classic cases of whistle-blowing occurred after the explosion of the Space Shuttle Challenger in 1986. The explosion was caused by the failure of "O-rings" that connected segments of Morton-Thiokol's Solid Rocket Booster that was to put the Shuttle in orbit. An engineer named Roger Boisjoly, together with other engineers who had worked on the O-rings, recommended postponing Challenger's launch, knowing that cold weather might cause the O-rings to fail. But a group of vice-presidents of Morton-Thiokol decided to recommend the launch, apparently knowing that conditions were unsafe.

Boisjoly was advised by Morton-Thiokol lawyers to just answer questions with a "yes" or a "no" when he was called before Congress to answer questions about the Challenger disaster. Instead, he blew the whistle. He was frozen out of his job at Morton-Thiokol, but eventually was awarded the Prize for Scientific Freedom and Responsibility from the American Association for the Advancement of Science.⁹

The following is a posting to The RISKS Digest that occurred in 1988 in response to a posting that was critical of whistle-blowing. The points it makes regarding ethical considerations are worth pondering:

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Whistle Blowing by Ronni Rosenberg

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In response to the recent RISKS article that bashes whistle-blowing (Guthery, "Blowing whistles or Blowing Smoke?", RISKS 6.19), I again want to defend whistle blowing as an ethically responsible – sometimes. ethically required – action for some engineers in some circumstances.

Guthery writes: "the very last thing a whistle blower is interested in is accepting responsibility," a claim that is not supported by the literature on whistle blowing. Whistle-blowing engineers typically are responsible for some aspect of a system's current use, not it's [sic] original engineering. In this sense, they are concerned about problems that others caused; e.g., Roger Boisjoly did not design the original shuttle O-rings, but he was responsible to some degree for their effectiveness. Complex systems are worked on by so many people, for so long, that the original engineers are likely to be gone by the time the system begins to be used and a problem arises – assuming one can even determine who was responsible for the original work. Is pointing out a critical problem in one's area of responsibility, when one becomes aware of it, really just "pointing my finger at everybody else in sight"?

Guthery's other main point, that "most whistle blowing has to do with how the papers were shuffled and the most predictable aftereffect of whistle blowing is still more bureaucracy," also is not supported by the literature. The whistle-blowing case studies that I've seen had to do with conscious decision-making to reject the concerns raised by engineers (as in the Boisjoly case, where Morton-Thiokol managers appear to have knowingly decided to launch with unsafe O-rings). Entrenched bureaucracy clearly is a problem, and most of the cases I've read about took place in very large organizations, and it is hard to get things done via bureaucracy. But like it or not, most engineers work in large organizations with a lot of money at stake, and you cannot enact major changes any other way. The results of whistle-blowing often are not just paper shuffling; sometimes they are saved lives or safer systems. Is the assumption that only papers will be shuffled just a rationalization for remaining silent when you should speak out?

I couldn't agree more with Guthery's statement that "I don't think we know enough about building computer systems to build good systems with-

out making mistakes,” but I disagree with his conclusion that we should just be allowed to make our mistakes, without the annoyance of whistle blowers pointing them out. We have the right to make mistakes only if we (1) acknowledge up front that this is the way we have to work, and (2) do not put a system into use, particularly in a critical application, if we are not sure that it works.

1. Although the RISKS community seems to agree that many mistakes are made in any large system, for the most part, the computing “profession” does not admit this. The for-profit part of the industry claims – through ads, sales people, grant proposals – to deliver systems that work, period. But new products/systems are routinely delivered with many important bug. Funders and customers get upset when they see what they really have to go through and spend to get a system that works reasonably well. Sometimes, as in the recent bank case, the customer abandons the whole project; you can be sure that -time for “making mistakes” was not adequately built into the bank project.
2. Whistle blowers usually act in situations where critical systems are in use, don’t appear to be working safely, but are alleged to be working fine. What gives us the “right” to make mistakes in such situations? All the literature nonprofessional ethics agrees that people with special expertise, such as engineers, have a special. OBLIGATION to inform and educate others, including the general public, about the limits and risks of the systems they build.

I am upset to see in the RISKS Forum the standard technological enthusiast’s argument, that people who criticize technology are just Luddites. Some critics are more concerned about the uses of technology than engineers, who as we know can get so wrapped up in the technology that they fail to consider the people whom the system will affect. Most whistle-blowers come from inside the system, are not normally inclined to get involved in nontechnical issues, and try every internal channel before going public. We owe them special attention when they raise problems.

Before condemning whistle blowers because they’ve criticized a neat system, I encourage you to read about their cases and view the Boisjoly videotape (available for rent, from CPSR/Boston). When you read about what they’ve suffered as a result of their complaints, and when you hear the anguish

in Boisjoly's words, you may change your mind. For a good, readable discussion of engineering ethics, including several case studies of whistle-blowing, read Stephen H. Unger, *Controlling Technology: Ethics and the Responsible Engineer* (New York: Holt, Rinehart and Winston, 1982).¹⁰