

# Engineering

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# Ethics Update

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## CONFLICT OF INTEREST-HAZARDOUS WASTE SERVICES

This case was reviewed and published by the NSPE Board of Ethical Review (BER) on November 1, 1991. It is interesting not only because of the situation but also because a dissenting opinion is expressed, which illustrates the difficulty of making clear-cut decisions on some ethical issues. References to earlier cases are important and typical of the nature of ethical review, which includes considerations in earlier opinions. Those of you that wish to review the earlier cases referenced (BER 87-3 and 76-3) may obtain them by a request to NSPE Customer Service at (703) 684-2810. Five bound volumes of all the earlier cases may be obtained as well (\$15 each to NSPE members 420 Nonmembers).

This opinion is based on data submitted to the BER and does not necessarily represent all of the pertinent facts when applied to a specific case. This opinion is for educational purposes only and should not be construed as expressing any opinion on the ethics of specific individuals.

How about writing to us with your own "opinion" on this "opinion"?

### Facts:

Engineer A contracts to serve as a consultant to a federal environmental agency for the development of an overall hazardous waste remedial strategy. Under the contract with the federal agency, Engineer A agrees to provide basic consulting services along with an understanding that the federal agency may request additional services at a later date. Nothing is contained in the contract between Engineer A and the agency concerning other work for other clients. Two years following completion of basic services to the federal agency, Engineer A is retained to provide environmental consulting services by a major industrial corporation that has been deemed by the federal agency to be responsible in a dispute over the cleanup of a hazardous waste site. Following the execution of its contract with the corporation, Engineer A is contacted by the federal environmental agency and is asked to provide consulting services to the agency per Engineer A's original understanding with the agency in connection with the specific hazardous waste site of the major industrial corporation that is now a client of Engineer A. Engineer A informs the federal agency that the performance of such services would constitute a conflict of interest and declines to perform the services requested.

### Question:

Was it unethical for Engineer A to agree to perform services to the industrial corporation under the facts without the prior consent of the federal agency?

### References From the NSPE Code of Ethics:

Section 11.4. - Engineers shall act in professional matters for each employer or client as faithful agents or trustees.

Section II.4.a.- Engineers shall disclose all known or potential conflicts of interest to their employers or clients by promptly informing them of any business association, interest, or other circumstances that could influence or appear to influence their judgment or the quality of their services.

Section III.4.b.- Engineers shall not, without the con-

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## As Piracy Grows, the Software Industry Counterattacks

Recently the New York Times ran the following article, which is abstracted here:

"United States marshals recently raided several businesses in New Jersey and California and seized an estimated \$9 million of counterfeit versions of the Microsoft Corporation's MS-DOS 5.0 software . . .

"That's the high end of the piracy spectrum. At the low end, many computer users casually swap programs. . .

"Piracy comes in many variations. Some dealers illegally make copies of popular software on a customer's hard disk, as an incentive to buy a machine. . . .

"Some users give away the older versions of their software after they receive an upgrade.

"People selling used computers may leave software on the hard disk, after copying the original software onto their new machines..

"An office manager may purchase 20 copies of a program, then conveniently ignore the fact that 30 users are using it . . .

"In all these ways, and more, software piracy has

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sent of all interested parties, participate in or represent an adversary interest in connection with a specific project or proceeding in which the Engineer has gained particular specialized knowledge on behalf of a former client or employer.

### Discussion:

Issues involving conflicts of interests have long been some of the thorniest faced by engineers. The Board of Ethical Review has had numerous occasions to address issues of conflict of interest, particularly those involving public and private relationships. One pertinent case is BER Case 87-3 where the Board considered facts involving a county that employed individuals to perform building inspections in the county. Dissatisfied with the services provided by in-house inspectors, and as part of an effort to "contract-out" certain county functions, the county decided to retain a private consulting engineering firm to perform building inspections. The county selected and retained an engineer to perform the work. One of the engineer's responsibilities was to inspect a building project developed by a client of the engineer. The client was a company for which she had regularly performed services in the past. Although the engineer did not provide any services in connection with the building project in question, the engineer and the client anticipated that they would continue to work together in the future. In contract negotiations with the county, the engineer disclosed the relationship with the client, and it became a matter of official record. In finding that it would not be unethical for the engineer to perform building inspection services for the county in connection with the project developed by the client, the Board, considering earlier BER cases, noted that unlike other cases, the facts did not deal with a situation where an engineer was being retained as a paid advocate for a particular position or point of view on a pending matter in direct conflict with the engineering opinions of her county client. Nor was the Board faced with a situation where the timing of the retainer raises questions of impropriety. Rather, in BER Case 87-3, the engineer was being asked to perform basic inspection services in connection with a building with which she has never previously been involved but which was developed by a former and possibly future client. While the Board noted that the engineer had a professional obligation under Section 11.4. and 11.4.a. of the Code to disclose her relationship with the client to the county, the Board did not believe it would be necessary for her to decline to perform the inspection services. It prohibit the engineer from providing building inspection services would be an unrealistic intrusion into her practice and would inhibit the county from utilizing a flexible method of delivering services consistent with the public health and safety.

Another case involving the question of conflict of interest was the earlier BER Case 76-3. There an engineer, under a retainer agreement with a county to provide sewer design and expertise and general advisory services, entered into a second retainer agreement with

a developer with county approval. Thereafter, the developer filed a petition with the zoning board to rezone a substantial portion of the county for commercial purposes. The county department filed several engineering reports adverse to the zoning petition, recommending denial of the rezoning because the proposed construction would overload available water and sewage facilities. The development company then called the engineer as an expert witness at the zoning meeting. The engineer testified in support of the zoning petition. The Board concluded that it was unethical for the engineer to appear for the development company while serving as engineering consultant to the county.

There are several aspects of the facts contained in the instant case that differ from earlier BER cases. BER Case 87-3 does not involve a set of circumstances where the engineer and his client had a current relationship-circumstances that could raise a question of conflict of interest between the engineer and the public client, here the federal environmental agency. In addition, unlike the facts of BER Case 87-3, here the engineer was involved in the development of the overall strategy for the federal agency. In this regard, the engineer was apparently not involved in any aspects of the work for the federal agency that was specific to any particular project or site, but rather was involved as a consultant in the program planning for the agency. Also in BER Case 87-3, the engineer disclosed his relationship with the client during contract negotiations with the public authority. Here, apparently because of the timing of the relationships between the engineer and his clients, the engineer did not disclose his proposed relationship with the industrial corporation to the federal environmental agency.

The facts in BER Case 76-3 are quite different from those in the immediate case as well. There the engineer was attempting to serve the interests of two separate masters at the same time. Unlike the facts of this case, an objective evaluation of the circumstances should have led the engineer to conclude that there was the potential for a collision to occur between the interests of his two clients.

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## NIEE

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For information on joining NIEE, call 703/684-2840. President: Paul R. Munger, P.E.; President-Elect: Jimmy H. Smith, Ph.D., P.E.; Immediate Past President: Margaret N. Maxey, Ph.D.; Commission Chairmen: Education: Vivian Weil, Ph.D.; Program Development: Samuel C. Florman, P.E.; Practice Applications: Jimmy H. Smith, Ph.D., P.E.; Editor: Margaret N. Maxey, Ph.D.

**Comments and suggestions for articles are welcome. Please write to Margaret N. Maxey, Editor, Engineering Ethics-Update, College of Engineering, Petroleum CPE 3.168, The University of Texas at Austin, Austin Texas**

## Conflict of Interest

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Here we are dealing with a somewhat vague and indefinite understanding between a consulting engineer and a federal agency for ongoing planning support to effectuate an important federal program. In areas such as hazardous waste remedial work, innovative approaches are being implemented to address these important societal concerns. Without getting into the technicalities of the law of government contracts and procurement and other arcane issues that are not the subject of this Board's inquiry, weighing all of the facts and circumstances involved in this case, we believe it would be proper for Engineer A to perform services for the industrial corporation in the manner indicated, provided Engineer A obtains prior consent of the federal agency. BER 91-6 (Page 4).

### Conclusion:

It was unethical for Engineer A to agree to perform services for the industrial corporation under the facts without the prior consent of the federal agency.

### Dissenting Discussion:

We share many of the reasonings of the Board. However in our opinion, the majority of this Board has given unjustified weight to "an understanding that additional services may be requested at a later date at the government's request." In this instance two years had passed without any exercise of such understanding by the government. Such a substantial period of silence would seem to free Engineer A of any reasonable expectation of further demand for services. We also question whether federal procurement regulations would permit or validate such a loose continuing arrangement. Further, we question whether having provided services in development of a "strategy" should preclude Engineer A from ever providing engineering services for clients over that the agency has oversight responsibility.

### Dissenting Conclusion:

It was not unethical for Engineer A to contract with the industrial corporation without obtaining prior consent of the federal agency.

## Engineering Ethics Throughout The World

After some four years of work, Professor Carl Mitcham of the Science, Technology and Society Program (STS) at Pennsylvania State college has compiled and is making available a collection and commentary on engineering ethics codes and related material from nations other than the United States.

"The work is like developing software, version 1, 1.1, and so forth," he said in a conversation with this editor, because he has collected twenty-nine ethics codes from around the world. The work of translation is laborious and must be done with great care.

To this editor the work seems likely to be a fine contribution as it progresses because, in particular, engineers and engineering companies from the United States will have a handy reference that should prove useful for discussion with specific customers/countries to "smoke out" what's ethical and what's not when pursuing work in foreign lands.

This first issue of his work contains an introductory analysis, selected regional commentaries and supplementary annotated bibliography.

Copies can be obtained for \$12 plus \$2 mailing cost by contacting Professor Mitcham at STS, Willard Building 133, Penn State University, Pa 16802, tel(814) 865 9951.

## Software piracy

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grown into such a big business that the Business Software Alliance, a trade group, and the Software Publishers Association (SPA), both in Washington, DC, estimate that counterfeiting and piracy cost the industry \$10 to \$12 billion in 1992 . . .

"Software is protected by Federal copyright laws, and the laws have teeth.

"The SPA says it files an average of two lawsuits a week against companies that use pirated software, and it publishes its successes, listing the fines imposed by courts and the five- and six-figure settlements it negotiates. . .

"How do companies get caught? Often, a disgruntled employee tips off the Association. In many cases, temporary workers call the SPA's antipiracy phone line—(800) 388-7478—after an employer hands them photocopied software documentation."

Also from that phone line can be ordered a videotape "It's Not Worth the Risk!" And, a self-audit kit and a management guide may be ordered through the phone line as well.

"A growing number of software makers—including Novell, Microsoft, and Autodesk—now maintain their own full-time investigators to ferret out copyright violations.

"Faced with an enormous and difficult-to-police battleground, the SPA has asked corporations to take these steps:

" Appoint a software manager responsible for keeping records on purchases and software use. The appointment lets employees know the company takes piracy seriously.

" Develop a software code of ethics, and make sure employees read it. The Association has a sample code.

" Keep a software log, including records of when a program was purchased, who is to use it and on that machine it is to reside.

" Perform regular audits. The SPA, with Apple Computer Inc. and other companies, has developed a program called SPAudit that automatically lists all the applications on a hard disk. The list can be compared with purchasing records . . .

"A very big part of the piracy problem is that it is so easy for any user to copy software illegally. A computer,

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### Software Piracy

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a few blank diskettes and a few keystrokes, and a pirate has an exact digital copy duplicate of software that took teams of programmers months or years to construct.

"pirates seem to feel little guilt. Maybe it is because stealing software is unlike stealing a tangible object—the original never disappears . . ."

In any case, the time has come to evaluate your own practices if you have not done so. Call that 800 number and order the video, audit material and management guide. Bring your operations into ethical and legal compliance if you have not already done so.

### IEEE Ethics Committee Is Active

By letter to the Editor of "The Institute," an Institute of Electrical and Electronics Engineers (IEEE) newsletter supplement, Joseph H. Wujek, Chairman of the IEEE Ethics Committee, has notified IEEE members of his interest in serving them in the *practical* interpretation of the IEEE Code of Ethics and to deal with ethics issues before they become critical dilemmas. See the Winter 1990 issue of "Engineering Ethics Update" where the newly revised IEEE Code of Ethics was printed. He says, The Committee is prepared to offer timely nonlegal advice. This may include referrals to appropriate entities in the IEEE, such as the Member Conduct Committee or the Anti-Discrimination Committee, or to an outside agency. Also it may be helpful to just 'talk it over' with another engineer, one sensitive to ethical problems and experienced in resolving them. To make use of this confidential service members should contact Scott Grayson in Washington, DC . . . on 202-785-0017/0835 fax. The Ethics Committee has on its agenda several ideas for better serving the membership in matters of ethics."

## Changing of the Guard

Since the fall of 1989, 15 issues of "Engineering Ethics Update" have been published under the skillful and expert editorial direction of John Alger. He has decided for personal reasons to relinquish the editor's role and will serve NIEE and the newsletter instead as an associate editor, consultant and mentor for this publication.

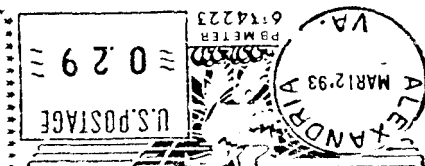
His successor, Margaret N. Maxey, a professor in the College of Engineering at The University of Texas at Austin, pays tribute to John's long commitment and faithful dedication to illuminating the ethical concerns of practicing engineering professionals. He has effectively shaped NIEE's attempt to focus on practical ethical issues as well as to formulate recommendations for specific actions and for teaching resources.

John Alger has successfully shaped an editorial policy complementing, on the one hand, *Engineering Times*, which includes case-study examples, and on the other hand, the *AAAS* ethics newsletter, which focuses on ethical issues in scientific work. Members of the Board of Governors of NIEE hereby express their profound gratitude and esteem for the professionalism with that John Alger has brought distinction to this publication.

Readers are invited to send us suggestions for articles and recommendations for ideas to be included in future issues. As a typical mark of excellence, John Alger has compiled a short chronological index of articles published in the first fifteen issues of "Engineering Ethics Update." He will be pleased to send a copy to readers who request it and include a stamped self-addressed envelope.

The editors thank you for your interest and look for-

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