

Recommendations Regarding Data Misrepresentations

Case No. 08-3

Facts:

Engineer A, a software engineer, serves as an engineering consultant to CreditData, a credit records clearinghouse, and is asked to evaluate a software problem with their five million individual credit files. The original software was designed by another software company, which is no longer under contract with CreditData. The problem, an apparent software design flaw, relates to the fact that the database software sometimes misidentifies individuals located in the credit files. Recently, several situations were uncovered involving home purchasers with a high credit score who were in the process of seeking a home loan. However, a credit check through CreditData indicated that the applicant was a poor credit risk and the loan was denied. The problem is later corrected and the proper applicant credit information is forwarded to the lender, but in many cases, the purchasers lost the opportunity to purchase a home. In other cases, applicants with low credit scores were misidentified as individuals with high credit scores and as a result, loans and in some cases low interest loans, were offered, which later resulted in loan defaults. Up to this point, no information has been released to the public or to governmental regulators. Engineer A is asked to make a recommendation concerning the CreditData software problem.

Question:

What are Engineer A's ethical responsibilities, if any, concerning this matter?

References:

- Section I.3 - NSPE Code of Ethics: *Engineers, in the fulfillment of their professional duties, shall issue public statements only in an objective and truthful manner.*
- Section I.6 - NSPE Code of Ethics: *Engineers, in the fulfillment of their professional duties, shall conduct themselves honorably, responsibly, ethically, and lawfully so as to enhance the honor, reputation, and usefulness of the profession.*
- Section II.3.a. - NSPE Code of Ethics: *Engineers shall be objective and truthful in professional reports, statements, or testimony. They shall include all relevant and pertinent information in such reports, statements, or testimony, which should bear the date indicating when it was current.*
- Section II.4 - NSPE Code of Ethics: *Engineers shall act for each employer or client as faithful agents or trustees.*
- Section III.3 - NSPE Code of Ethics: *Engineers shall avoid all conduct or practice that deceives the public.*
- Section III.4. - NSPE Code of Ethics: *Engineers shall not disclose, without consent, confidential information concerning the business affairs or technical processes of any present or former client or employer, or public body on which they serve.*

Section III.4.b. - NSPE Code of Ethics: Engineers shall not, without the consent 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:

There has been a dramatic growth in the field of software engineering over the past 30 years. At least one state currently licenses and regulates this area of engineering practice under the state engineering licensure laws and rules. Clearly, this important field of engineering practice has a significant and growing impact on the public—whether the practice relates to software design in connection with energy facilities (including nuclear facilities), transportation systems, water and wastewater systems, or other fields of professional endeavor.

In addition to the field of facilities design, construction, operation, and maintenance, software engineers are also often actively involved in the design, manufacture, and implementation and evaluation of software systems used in the broader business community (e.g., security, finance, banking, government services, and healthcare), which has a direct impact upon the public.

With these factors in mind, the NSPE Board of Ethical Review is essentially faced with a situation involving a professional engineer who, during the course of services on behalf of a client, has become aware of a software error which has had a significant impact upon a large number of consumers and businesses. The facts indicate that Engineer A was solely involved as a consultant to evaluate software issues and was in no way involved in the original flawed software design. The salient issue in this case is whether Engineer A has some special ethical responsibilities in connection with this matter.

Although there are no directly related NSPE Board of Ethical Review cases completely on point for this discussion, one of the key issues involved in this case is the inevitable tension between an engineers duty of confidentiality to a client and the obligations of an engineer when a matter has a significant impact upon the public.

BER Case No. 82-2, although a somewhat different set of facts, illustrated the basic confidentiality obligation. There, Engineer A offered a homeowner inspection service and performed an engineering inspection of residences by prospective purchasers. Following the inspection, Engineer A rendered a written report to the prospective purchaser. Engineer A performed this service for a client (husband and wife) for a fee and prepared a one-page written report, concluding that the residence under consideration was in generally good condition requiring no major repairs, but noting several minor items needing attention. Engineer A submitted his report to the client, showing that a carbon copy was sent to the real estate firm handling the sale of the residence. The client objected that such action prejudiced their interests by lessening their bargaining position with the owners of the residence. The client also complained

that Engineer A acted unethically in submitting a copy of the report to any others who had not been a party to the agreement for the inspection services. In deciding that Engineer A acted unethically in submitting a copy of the home inspection to the real estate firm representing the owners, the Board of Ethical Review noted a common concept among engineers that their role is to be open and aboveboard and to deal in a straightforward way with the facts of a situation. This basic philosophy is found to a substantial degree throughout the NSPE Code (e.g., Sections II.3. and II.3.a). At the same time, NSPE Code Section II.1.c. recognizes the proprietary rights of clients to have exclusive benefit of facts, data, and information obtained by the engineer on behalf of the client. The Board determined that Engineer A acted without thought or consideration of any ulterior motive; that he, as a matter of course, considered it right and proper to make his findings known to all interested parties in order that the parties handle their negotiations for the property with both sides having the same factual data flowing from his services. Although the Board exonerated Engineer A of substantial or deliberate wrongdoing, the Board noted that Engineer A was nevertheless incorrect in not recognizing the confidentiality of his relationship to the client. Even if the damage to the client, if any in fact, was slight, the principle of the right of confidentiality on behalf of the client predominates.

Although the present case involves far more significant economic consequences than those in BER Case No. 82-2, there does not appear to be an imminent threat or danger to the public health and safety nor any apparent criminal violation of the law.

While there may be legal or regulatory ramifications in connection with CreditData's activities, which will need to be addressed by CreditData with advice of legal counsel, those issues are separate and very much apart from Engineer A's relationship with CreditData. Engineer A's ethical responsibility is to provide his client—CreditData—with competent professional engineering recommendations and services so that CreditData can then take all corrective actions to resolve the software engineering issues.

Conclusion:

Engineer A's ethical responsibility is to provide his client—CreditData—with competent professional engineering advice and services so that CreditData can then take all corrective steps to resolve the software engineering issues.

Board of Ethical Review:

Curtis A. Beck, P.E., F.NSPE

Mark H. Dubbin, P.E., NSPE

Robert C. Gibson, P.E., F.NSPE

James D. Lesikar II, Ph.D., P.E., F.NSPE

Monte L. Phillips, Ph.D., P.E., F.NSPE

Mumtaz A. Usman, Ph.D., P.E., F.NSPE

Michael L. Shirley, P.E., F.NSPE, Chair

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Each opinion is intended as guidance to individual practicing engineers, students, and the public. In regard to the question of application of the NSPE Code to engineering organizations (e.g., corporations, partnerships, sole proprietorships, government agencies, and university engineering departments), the specific business form or type should not negate nor detract from the conformance of individuals to the NSPE Code. The NSPE Code deals with professional services, which must be performed by real persons. Real persons in turn establish and implement policies within business structures.

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