

Credit for Engineering Work—Preparation of Grant Application

Case No. 08-9

Facts:

Engineer A is a Ph.D. student working with Professor Smith. Engineer A is near the completion of the research project and has prepared a paper for publication. Professor Smith recently hired another Ph.D. student, Engineer B, who will continue on the same project after Engineer A graduates. Professor Smith would like to renew his funding for that project and prepares a new grant application with the help of Engineer B. Professor Smith has an electronic version of Engineer A's paper and copies most of the figures and about half the text in the grant application from Engineer A's paper. Engineer A has presented some of the work reported in her paper at a conference. That presentation is cited in the grant application, but only in the "background" and "significance" sections. Engineer A is concerned that whoever reads the application may attribute to Engineer B all the work presented in the "progress report" section. Engineer A is also concerned that Engineer B will be submitting exactly the same figures and text when she publishes her paper.

Question:

What is the appropriate ethical course of action for Engineer A, Engineer B, and Professor Smith?

References:

- Section II.3. - NSPE Code of Ethics: Engineers shall issue public statements only in an objective and truthful manner.*
- 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 III.9. - NSPE Code of Ethics: Engineers shall give credit for engineering work to those to whom credit is due, and will recognize the proprietary interests of others.*
- Section III.9.a. - NSPE Code of Ethics: Engineers shall, whenever possible, name the person or persons who may be individually responsible for designs, inventions, writings, or other accomplishments.*

Discussion:

In recent times, the issue of academic dishonesty and fraud have become among one of the most fundamental ethical issues facing the educational community. While it is not a new issue, in many respects, it has taken on increasing importance with the enormous pressures placed upon academic researchers and the impact that such work has on an institution's funding sources, academic reputation, and student and faculty recruitment.

In BER Case No. 83-3, Engineer B submitted a proposal to a county council following an interview concerning a project. The proposal included technical information and data that the council requested as a basis for the selection. Professor Smith, a staff member of the council, made Engineer B's proposal available to Engineer A. Engineer A used Engineer B's proposal without Engineer B's consent in developing another proposal, which was subsequently submitted to the council. The extent to which Engineer A used Engineer B's information and data was in dispute between the parties. In finding that it was unethical for Engineer A to use Engineer B's proposal without Engineer B's consent, the Board indicated that Engineer A had an obligation to refuse to accept the proposal from Professor Smith and also noted that Engineer A's actions constituted unfair competition by improper and questionable methods in violation of NSPE Code Section III.7.

More recently, BER Case No. 92-7 involved the XYZ Company headed by Engineer A, who offered to provide funding to professors in the chemistry department of a major university for research on removing poisonous heavy metals (copper, lead, nickel, zinc, and chromium) from waste streams. The university contracted with XYZ Company to give the company exclusive use of the technology developed in the field of water treatment and wastewater stream treatment. Under the contract, XYZ Company was to provide a royalty to the university from profits derived from the use of the technology. Also, a group of the university's professors organized QRS, a separate company, to exploit applications of the technology other than the treatment of water and wastewater. At the same time that the university research was being conducted, XYZ Company continued to conduct research in the same area. Performance figures and conclusions were developed. XYZ Company freely shared the figures and conclusions with QRS. At the university, Engineer B, a professor of civil engineering, wanted to conduct research and develop a paper relating to the use of the technology to treat sewage. Engineer B contacted the professors in the university's chemistry department. The chemistry professors provided XYZ Company's data to Engineer B for use in the research and paper. The professors did not reveal to Engineer B that the data was generated by Engineer A and XYZ Company. Engineer B's paper was published in a major journal. Engineer A's data was displayed prominently in the paper, and the work of XYZ Company constituted a major portion of the journal. The paper credited two of the chemistry professors as major authors, along with Engineer B. No credit was given to Engineer A or XYZ Company as the source of the data—the funds that supported the research. After publication, Engineer B learns about the actual source of the data and its finding. The Board decided that Engineer B had an obligation to request that the journal publish a clarification of the matter explaining how the matter occurred along with an apology for any misunderstanding that may have arisen as a result of the publication of the paper. In its analysis, the Board noted that Engineer B did not knowingly fail to credit Engineer A or XYZ Company for its contributions to the research, which formed the basis of his paper. Instead, Engineer B assumed that the material he received from the other professors was developed solely by those professors. However, the Board noted that had Engineer B made more of an effort to substantiate the sources contained in

his paper, he may have been able to identify those sources. The Board also emphasized its concern over the conduct of the chemistry professors who, for whatever reason(s), mislead Engineer B by failing to reveal the sources of the data. The Board concluded by suggesting that Engineer B prepare and request that the journal publish a clarification of the matter explaining how the matter occurred along with an apology for any misunderstanding which may have arisen as a result of the publication of the paper.

Conclusion:

Engineer A , Engineer B, and Professor Smith should meet to discuss and agree to a plan concerning the preparation of the new research grant funding application and make certain that the application clearly delineates, appropriately credits, and sufficiently acknowledges the contributions of each party for all prior work performed to ensure that the application does not mislead the granting authority.

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