Credit for Engineering Work—Research Team Technical Conference Participation

Case No. 13-6

Facts:

Engineer A, part of a research team that prepares and publishes an academic paper on energy research, is a member of an engineering technical society. Engineer A learns of an upcoming technical society conference and prepares an abstract of the paper to present at the conference. Engineer A completes the abstract of the research and submits the abstract to the technical society, including Engineer A's name in the abstract, but not the other members of the research team. Engineer A does include a copy of the research paper which includes the names of all members of the research team. The abstract will be published in the technical conference proceedings. Engineer B, who led the research team, learns of Engineer A's actions and complains to Engineer A that Engineer A's failure to include the other members of the team in the abstract was unethical and that Engineer B and not Engineer A should make the presentation at the conference.

Questions:

(1) Was it unethical for Engineer A to fail to include all of the members of the research team in the abstract?

(2) Was it ethical for Engineer A to propose to present at the technical society conference?

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.6	-	*NSPE Code of Ethics:*	*Engineers shall not attempt to obtain employment or advancement or professional engagements by untruthfully criticizing other engineers, or by other improper or questionable methods.*
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:

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The question of providing appropriate acknowledgement and credit for engineering work is a fundamental issue in the area of engineering ethics. Recognizing the achievements of peers, employees, and employers for their contributions to research, design, and other engineering endeavors is more than a professional courtesy—it goes to the heart of honesty and truthfulness and the integrity of the engineering process. Engineers frequently work as teams and collegial relations are fundamental to engineering professionalism.

The NSPE Board of Ethical Review has evaluated ethics cases relating to the issue of credit and acknowledgement on numerous occasions. For example, BER Case No. 92-7 involved the XYZ Company, headed by Engineer A, which 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. In addition, a group of the university's chemistry 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—or the funds that supported the research.

After publication, Engineer B learns about the actual source of the data and its funding. 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

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been able to identify those sources. The Board also emphasized its concern over the conduct of the chemistry professors who, for whatever reason(s), misled 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.

More recently, in BER Case No. 08-9, Engineer A, a PhD student working with Professor Smith, was near the completion of the research project and had prepared a paper for publication. Professor Smith had hired another PhD student, Engineer B, who would continue on the same project after Engineer A graduated. Professor Smith wanted to renew his funding for that project and prepared a new grant application with the help of Engineer B. Professor Smith had an electronic version of Engineer A's paper and copied most of the figures and about half the text in the grant application from Engineer A's paper. Engineer A had presented some of the work reported in her paper at a conference. That presentation was cited in the grant application, but only in the "background" and "significance" sections. Engineer A was concerned that whoever read the application may attribute to Engineer B all the work presented in the "progress report" section. Engineer A was also concerned that Engineer B would be submitting exactly the same figures and text when she published her paper. Based on earlier BER decisions and a reading of the NSPE Code of Ethics, the Board concluded that 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.

Turning to the facts in the current case, the Board is of the view that Engineer A has an obligation to seek an immediate clarification, understanding, and resolution with Engineer B and the other members of the research team regarding the authorship of the energy research paper abstract. Engineer A should take immediate steps to resubmit the abstract to include all members of the research team as agreed upon by the team. In addition, Engineer A should yield to Engineer B the opportunity to take the lead in making the presentation at the upcoming technical society conference, or offer to make a joint presentation. The Board noted, however, that Engineer B apparently sought to improperly use his role as the team leader to assert the right to solely present the team's research results at the conference, thus violating portions of Section III.6 of the NSPE Code.

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Conclusions:

(1) It was unethical for Engineer A to fail to include all of the members of the research team in the abstract.

(2) It was unethical for Engineer A to propose to present at the technical society conference without first consulting with Engineer B.

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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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