Section II.4. - Code of Ethics
Section III.5.a. - Code of Ethics
Section III.8.c. - Code of Ethics
Section III.10. - Code of Ethics
Section III.11. - Code of Ethics

COPYCAT - CASE 1

FACTS:

Engineer A, a registered professional engineer, has worked on the design and development of improved wastewater treatment processes and equipment, which are subsequently patented. Engineer B, an environmental consultant specializing in the design of waste water treatment facilities, and his client are impressed with the new processes and equipment. However, Engineer B dislikes specifying sole source and, in fact, makes a point of encouraging competition by preparing open specifications with "or equal" clauses or by specifying a performance requirement. The primary, if not the sole, purpose of Engineer B's effort is to minimize cost by promoting competition. On this project, Engineer B prepares a performance specification for open competition but patterned from the performance of the processes and equipment patented by Engineer A.

COPYCAT - CASE 2

FACTS:

Engineer X, a registered professional engineer, has worked on the design and development of improved wastewater treatment processes and equipment which are subsequently patented. Engineer Y, an environmental consultant specializing in the design of waste-water treatment facilities, and his client are impressed with the new processes and equipment. However, Engineer Y dislikes specifying sole source. To promote competition in this instance, Engineer Y contacts several manufacturers to encourage them to develop processes and equipment that will accomplish the same results as those of Engineer X. Engineer Y provides them with proposed performance specifications patterned from those of Engineer X's processes and, as an inducement, makes a verbal commitment to include their products among "or equals" in his future specifications.

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QUESTIONS:

1. Is it ethical for Engineer B to use Engineer A's patented processes and equipment as a guide in preparing open specifications in order to minimize cost and to promote competition?

2. Is it ethical for Engineer Y to induce other manufacturers to produce a process and equipment that will perform equally to patented products by making verbal commitments?

REFERENCES:

Section II.4. -Engineers shall act in professional matters for each employer or client as faithful agents or trustees.

Section III.5.a. -Engineers shall not accept financial or other considerations, including free engineering designs, from material or equipment suppliers for specifying their product.

Section III.8.c. -Engineers in sales or industrial employ are entitled to make engineering comparisons of represented products with products of other suppliers.

Section III.10. -Engineers shall give credit for engineering work to those to whom credit is due, and will recognize the proprietary interests of others.

Section III.11. -Engineers shall cooperate in extending the effectiveness of the profession by interchanging information and experience with other engineers and students, and will endeavor to provide opportunity for the professional development and advancement of engineers under their supervision.

GENERAL DISCUSSION:

There is concern expressed within engineering circles that the number of U.S. patents being filed by U.S. manufacturers has been declining in the past decade. As recently noted by the president of a leading patent, trademark and copyright association, "fewer than half of U.S. patents issued will be going to U.S. inventors and the American economy will be the big loser." One alleged reason for the decline is the increase in "copycat" versions of products and processes being manufactured. One engineer recently noted that while a "better mouse trap" is terrific, the more competitively priced "copycat" versions discourage or eliminate those firms that made the investment in creating a "better mousetrap" by preventing them from recouping their original costs.

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It would seem that the fundamental issue involved in these two circumstances is whether and to what extent one engineer has an ethical responsibility not to encourage others to develop alternatives based upon the technical ideas and developments of another engineer.

The Board of Ethical Review has never squarely addressed the question raised by the facts in these two cases. However, as early as BER Case 64-7, the Board noted that individual accomplishments and the assumption of responsibility by individual engineers should be recognized by other engineers. "This principle", said the Board, "is not only fair and in the best interests of the profession, but it also recognizes that the professional engineer must assume personal responsibility for decisions and actions." While BER Case 64-7 reflected the basic view that each individual engineer has an ethical obligation to recognize and give credit to the creative products of other engineer, the case did not address the question of one engineer's ethical responsibility not to persuade manufacturers to produce optional devices using the concepts of another engineer.

Over the years, the two cases that have probably come closest to addressing these issues, however remotely, are BER Cases 77-5 and 83-3. In BER Case 77-5, an engineering firm submitted a project study originally prepared for a federal client to a state agency to assist the agency in obtaining funding for a project. After obtaining the funding, the agency distributed the study to another engineering firm that used the contents of the study as part of its negotiations with the state agency. In concluding that it was ethical for the second firm to enter into negotiations for the project under the circumstances, the Board could not find any specific provisions of the Code which dealt either directly or indirectly with the obligations of an engineer on behalf of or as an agent of the owner to avoid taking advantage of another engineer who had in good faith provided substantial and valuable information for a proposed project on an understanding that the engineer providing the assistance would receive the commission for it. The Board, deploring the lack of specificity in the Code, suggested that consideration be given to an appropriate revision or addition to the Code to cover such a situation. Said the Board, "our reluctant conclusion may meanwhile serve the purpose of alerting engineers in private practice who are tempted to expend substantial time, effort, and funds to secure a commission to the danger they run when that investment exceeds a nominal investment."

Following the rendering of BER Case 77-5, the National Society of Professional Engineers Board of Directors took steps to modify the provisions of then Section 11 of the Code of Ethics. However, instead of strengthening Section 11 as recommended by the Board of Ethical Review, the Board of Directors deleted several provisions of that section in order to comply with the federal antitrust laws. An abridged version of Section 11 ultimately became the current Section III.7. contained in the Code of Ethics.

Later, in BER Case 83-3, which involved facts similar to BER Case 77-5, the Board concluded that it was unethical for one engineer to use the data of another engineer to develop a proposal submitted to a public authority without consent.

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CASE 1 DISCUSSION:

It is clear under the facts that Engineer A has devoted a great deal of time, effort and creativity to the development of the improved waste water treatment processes and equipment. The fact that Engineer A's achievements have been granted patents is a clear demonstrations of the quality and distinction to which his work has been recognized. It may seem to some that in fairness Engineer A would be entitled to exclusive control over the fruits of his creative work and that competitors would be excluded from using the concepts and theories behind his creations to develop alternative processes and equipment that might achieve a same or similar result. However, we believe that such a notion would be inconsistent with basic principles of law as well as the philosophy expressed in the Code of Ethics Section III.11. which obligates engineers to cooperate in extending the effectiveness of the profession by interchanging information and experience with other engineers..."

It should be noted that a fundamentally accepted principle is that an "idea", "thought", "notion" or similar abstraction cannot receive legal or other proprietary protection under the law. Rather, it is the expression of that idea, thought, or notion that can receive appropriate legal protection. This view is grounded in the philosophy that in order to best promote scientific and technological advances within our society, individuals and groups of individuals should be free to use ideas and concepts to develop different expressions of those ideas without legal hinderance. It is consistent with the principles of total quality management including the goal of constant improvement in the design process.

We believe that this basic philosophy is applicable to Case 1. Engineer B did not seek to infringe upon the patent of Engineer A. Instead, it appears that under the facts, Engineer B merely used the processes and equipment developed by Engineer A as a "standard" by which different processes and equipment would be evaluated or, as an alternative, established a performance specification based on the performance of Engineer A's processes and equipment which would be used to evaluate the performance of different processes and equipment.

As to the question of the primary or sole purpose of Engineer B's efforts (minimizing cost to client by promoting competition among suppliers), we believe such an objective is entirely consistent with the engineer's general obligation to the client to act as faithful agents or trustees (Section II.4.)

CASE 2 DISCUSSION

The facts in Case 2 are different than those involved in Case 1 for two reasons. First, in Case 2, Engineer Y took the initiative and contacted several manufacturers to encourage them to produce processes and equipment that will accomplish the same results as those of Engineer X. Second, as an inducement, Engineer Y made a commitment to reference their processes and equipment in future specifications. We believe it is important to evaluate these differences separately to determine whether Engineer Y acted ethically under the facts presented.

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We believe that the fact that Engineer Y took the initiative and contacted several manufacturer to encourage them to produce processes and equipment that will accomplish results similar to those of Engineer X's processes and equipment is consistent with the philosophy embodied in the Code of Ethics. As we noted in the discussion of Case 1, by taking this initiative Engineer Y is merely using the product developed by Engineer X as a "standard" by which alternative processes and equipment would be measured. There is no indication that Engineer Y is attempting to encourage others to infringe upon a legally obtained patent, but instead Engineer Y appears to be using Engineer X's product as a model or benchmark for the production of a different product that will produce a similar result.

With regard to Engineer Y providing manufacturers with proposed performance specifications, there is no indication that Engineer Y has in any manner infringed upon the patent or other proprietary right of Engineer X. Rather it appears that Engineer Y has developed a set of performance specification based on the performance of Engineer X's processes and equipment and is using those specifications to assist manufacturers in developing similar processes and equipment. So long as Engineer Y is acting consistent with the law, we cannot see how his actions could be condemned as being unethical.

Concerning Engineer Y's inducement by committing to include their processes and equipment in future specifications, we are frankly troubled. It appears that Engineer Y is making an unqualified commitment to specify certain processes and equipment without prior evaluation or review of those processes and equipment. The sole criteria established by Engineer Y to specify the product is that the manufacturer agreed to commit resources to develop the process and equipment alternatives that Engineer Y was seeking. Such a commitment is unethical and unprofessional because Engineer Y is compromising his professional judgment in a manner that could place the interest of his client at risk. By keeping this promise, Engineer Y is in the position of specifying wastewater treatment processes or equipment that is unproven and potentially not of sufficient quality for his client when a higher quality and less costly alternative may have become available on the market. Engineer Y's commitment is clearly the an unethical approach in seeking product alternatives to Engineer X's product.

Finally, we note that Engineer Y is ethically obligated to act as faithful agent or trustee of the client. However, as indicated by the facts, Engineer Y has essentially engaged in and independent understanding with a potential vendor to the client. Even if the product is ultimately successful, Engineer Y's actions give the clear appearance of undermining his client's faith and trust, which presumably are part of the basis upon which Engineer Y was selected.

CONCLUSIONS:

1. It is ethical for Engineer B to use Engineer A's patented processes and equipment as a guide in preparing performance or open specifications.

2. It is not ethical for Engineer Y to endeavor to induce other manufacturers to produce processes and equipment that will perform equally to the patented processes and equipment by making a commitment to include their processes and equipment in his future specifications.

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Note: In regard to the question of application of the Code to corporations vis-a-vis real persons, business form or type should not negate nor influence conformance of individuals to the Code. The Code deals with professional services, which services must be performed by real persons. Real persons in turn establish and implement policies within business structures. The Code is clearly written to apply to the Engineer and it is incumbent on a member of NSPE to endeavor to live up to its provisions. This applies to all pertinent sections of the Code.

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