SIGNING AND SEALING OF WORK – MAKING CHANGES

Case No. 02-2

Facts:

Engineer A is a professional engineer with expertise in electronics engineering and radio communications. Engineer A designs specialized antenna systems for broadcast stations in City X. A particular antenna system design was necessitated by the location of a large municipal highway department maintenance facility on the radio station's property. Engineer A designs a specialized antenna system and signed and sealed those preliminary drawings. The construction of a new building for the highway department was about to begin. A meeting was called so that all parties involved could wrap up last minute details so the project could proceed expeditiously. During the meeting, Engineer A was asked to clarify some details about the antenna system's relationship to the foundation of the building and to address some other technical questions. Engineer A was unable to answer the questions about the building foundation because Engineer A was never provided with the final plans for the building— Engineer A was only provided preliminary drawings for the building and a site plan. Following the meeting, the project manager sent Engineer A a full set of drawings. Engineer A's preliminary drawings were included with the final plans, but an unknown person had crossed out Engineer A's notes on each page of Engineer A's signed and sealed drawings without Engineer A's knowledge or permission. The project manager, not a licensed engineer, subsequently revealed to Engineer A that Engineer B, one of the prime consultants, made the changes to Engineer A's plans, and signed and sealed the drawings and that the changes should not have been made without Engineer A's approval. The project manager said that the changes were made to avoid a delay in distributing the bid documents.

Question:

Was it ethical for Engineer B, a prime consultant, to make changes to Engineer A's work?

References:

Section II.2.b.	-	*Code of Ethics:*	*Engineers shall not affix their signatures to any plans or documents dealing with subject matter in which they lack competence, nor to any plan or document not prepared under their direction and control.*
Section II.2.c.	-	*Code of Ethics:*	*Engineers may accept assignments and assume responsibility for coordination of an entire project and sign and seal the engineering documents for the entire project, provided that each technical segment is signed and sealed only by the qualified engineers who prepared the segment.*
Section III.7.a.	-	*Code of Ethics:.*	*Engineers in private practice shall not review the work of another engineer for the same client, except with the knowledge of such engineer, or unless the connection of such engineer with the work has been terminated.*

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Discussion:

The signing and sealing of engineering documents involves fundamental issues relating to the practice of engineering. The signature and seal on a set of engineering drawings is an indication that the signing and sealing engineer is taking personal and professional responsibility for the contents of the work.

The NSPE Code of Ethics addresses this issue in considerable detail and the NSPE Board of Ethical Review (Board) considered this issue on numerous occasions. In addition, state engineering licensure boards maintain strict rules and policies on the signing and sealing of engineering documents for the public health, safety, and welfare.

The Board has reviewed and considered issues relating to the signing and sealing of engineering work on a variety of occasions. For example, in BER Case 86-2, Engineer A was the chief engineer within a large engineering firm and affixed his seal to some of the plans prepared by licensed engineers working under Engineer A's general direction who did not affix their seals to the plans. At times, Engineer A also sealed plans prepared by non-registered, graduate engineers working under his general supervision. Because of the size of the organization and the large number of projects being designed at any one time, Engineer A found it impossible to give a detailed review or check of the design. He believed he was ethically and legally correct in not doing so because of his confidence in the ability of those he hired and who were working under his general direction and supervision. By general direction and supervision, Engineer A meant that he was involved in helping to establish the concept, the design requirements, and review elements of the design or project status as the design progressed. Engineer A was consulted about technical questions and he provided answers and direction in these matters. In finding that it was unethical for Engineer A to seal plans that were not prepared by him, or which he has not checked and reviewed in detail, the Board established criteria for "direction and control" in the NSPE Code, Section II.2.b. In BER Case 86-2, the Board said "It is clear that 'direction and control' have a meaning which when combined would suggest that an engineer would be required to perform all tasks related to the preparation of the drawings, plans, and specifications in order for the engineer to ethically affix his seal."

Even though the facts and circumstances in the two cases are quite different, the Board believes BER Case 86-2 is instructive in the present case because it identifies the requirements for the appropriate signing and sealing of work by an engineer and also describes situations where it is unethical for a professional engineer to sign and seal work prepared by others. In the preparation of engineering documents, there is a clear need for close collaboration between all parties involved in the design elements of a project in order for there to be good coordination. Every member of the design team brings different levels of design and management expertise to the process and having a clear and straightforward procedure for review and approval of the work is a responsibility of each party involved. While BER Case 86-2 presents a situation where an engineer's oversight did not reach the necessary threshold in order to ethically sign and seal the work as required by the NSPE Code of Ethics, the present case involves a basic disregard for the

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work product of another licensed professional engineer. Both situations are unacceptable under the language of the NSPE Code.

Specifically, under the language of the NSPE Code, while Engineer B may have had a general right to sign and seal a set of final drawings as the prime design engineer, it is also clear that Engineer B could not ethically sign and seal drawings that were prepared by another engineer, were preliminary in nature and then represent those drawings as final, regardless of the time constraints involved. While it is frequently a basic reality in today's engineering practice that time is of the essence, time considerations should never supersede to the need for competent engineering practice and the need for those with the appropriate level of knowledge and expertise to provide the necessary technical information as required in order to make the project successful for the benefit of the client and for the protection of the public. In the present case, the facts suggest that Engineer B may not have had the necessary level of technical competence and did not exercise appropriate direction and control over the work in order to assume responsibility for the work.

Conclusion:
It was not ethical for Engineer B, a prime consultant, to make changes to Engineer A's work.

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