

Responsible Charge and Sealing Drawings

Case No. 20-02

Facts:

Agency B hires Consulting Firm A to prepare rehabilitation plans for underground utility lines owned by Agency B. Engineer A at Firm A is qualified to do the design. Agency B's engineering staff reviewed the existing conditions and relevant data for the utilities and performed the design by recommending the rehabilitation methods for each segment of the utility. Agency B provided the recommendations to Firm A (the condition data was requested but not provided to Firm A) and Firm A's licensed engineers prepared the CAD drawings for the work based on Agency B's recommendations, including making any revisions directed by Agency B. The drawings are based on as-built plans and GIS mapping also provided by Agency B. Engineer A reviews the drawings prior to submitting to Agency B and Agency B ultimately approves the design and the drawings produced by Firm A.

Agency B is now ready to bid the work and requests that Firm A affix a PE seal to the drawings. Engineer A informs Agency B that since Engineer A and Firm A did not make any engineering decisions on the project and only provided drafting of the drawings, it is not appropriate for Engineer A to seal the drawings. Agency B believes that since Engineer A prepared the documents and reviewed them prior to submitting to Agency B, that is enough to seal the drawings.

Question:

What should Engineer A do?

NSPE Code of Ethics References:

- Section II.2.a. - Engineers shall undertake assignments only when qualified by education or experience in the specific technical fields involved.*
- Section II.2.b. - Engineers shall not affix their signatures to any plans or documents dealing with subject matter in which they lack competence, not to any plan or document not prepared under their direction and control.*
- Section II.2.c. - Engineers may accept assignments or 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.1.b. - Engineers shall advise their clients or employers when they believe a project will not be successful.*
- Section III.2.b. - Engineers shall not complete, sign, or seal plans and/or specifications that are not in conformity with applicable engineering standards. If the client or employer insists on such unprofessional conduct, they shall notify the proper authorities and withdraw from further service on the project.*

NSPE BER Case References: [86-02](#), [90-6](#)

Discussion:

The obligation of responsible charge is fundamental to professional engineering work. Fulfillment of this responsibility engages ethical, legal, and professional practice issues, and the engineer must appropriately satisfy these considerations in every project.

In [BER Case 86-02](#), Engineer A, the Chief Engineer of Firm A, affixes his seal to plans prepared by licensed engineers and nonlicensed graduate engineers in his firm working under his general direction and guidance. Due to the large number of projects being designed, Engineer A cannot review every design in detail but believes it is ethical to affix his seal in those cases because of his confidence in the ability of the those he has hired who are working under his general direction and supervision. In this case, the BER defined “responsible charge”¹ in the context of engineering work as “direct control and personal supervision of the engineering work.”

In [BER Case 86-02](#), the BER found that the Chief Engineer should be involved in establishing the design concept and the design requirements, as well as the review of the various elements of the design or project status as the project develops. In addition, the Chief Engineer should be available to consult on technical questions relating to the project design. The BER concluded that it was not ethical for Engineer A to seal plans that have not been prepared by him or which he has not checked and reviewed in detail. This conclusion raised considerable discussion within the engineering community because, to many, it appeared inconsistent with customary and generally prevailing practices within the engineering profession and would therefore place a significant number of practitioners in conflict with the NSPE Code’s provisions.

The Board of Ethical Review has long noted that the NSPE Code of Ethics is not a static document and must reflect and align with generally prevailing practices within the engineering profession. The Code must not impose an impossible or idealistic standard upon engineers, but rather must establish a benchmark of reasonable and rational methods of practice to maintain its credibility and adherence.

In [BER Case 90-06](#), Engineer A signs and seals documents he prepared using a CADD system. (Note that in 1990 “CADD” meant computer-aided drafting and design.) And Engineer B signs and seals documents that are the results of efforts of others using a CADD system, working under Engineer B’s direction and control. [Case 90-6](#) referred to [Case 86-02](#) and subsequently modified the BER’s conclusion of [Case 86-02](#) to reflect actual practices that exist within engineering and to not impose an impossible standard upon practice. [Case 90-6](#) clarified the conclusion of [Case 86-02](#) that it would not be unethical for Engineer A to sign and seal plans that were not personally prepared by him as long as those plans were checked and

¹ [NSPE Position Statement No. 10-1778—Responsible Charge](#) (revised September 2019) goes further, stating that “the professional engineer in responsible charge is actively engaged in the engineering process, from conception to completion. Engineering decisions must be personally made by the professional engineer or by others over which the PE provides supervisory direction and control authority. Reviewing drawings or documents after preparation without involvement in the design and development process does not satisfy the definition of Responsible Charge.”

reviewed by the engineer in some detail. Based on this clarification for [Case 86-02](#), the BER's conclusion in [Case 90-6](#) was that it would not be unethical for an engineer to sign and seal drawings in question as long as those plans were checked and reviewed by the engineer in some detail. The key requirement is that an engineer possesses sufficient competence, assumes full responsibility for the work product, and carefully directs, controls, and reviews the material prepared under the engineer's responsible charge.

In the present case, the drawings were prepared under the direction of, and reviewed by Engineer A, and Engineer A was qualified to perform the design but was not asked to design the rehabilitation of the utilities. In this case, Engineer A was not fully responsible for the conceptual design or any engineering decisions related to the utility rehabilitation and was not consulted by Agency B on technical decisions related to the design. Firm A performed drafting rather than actual design for the project, and Engineer A reviewed the drawings for conformance with directions from Agency B. Agency B was responsible for the design decisions and did not share data regarding conditions of the utilities that Engineer A would have needed in order to design the project. It is unknown if Engineer A requested the data from Agency B.

As per the modified conclusion of [Case 86-02](#) and the conclusion of [Case 90-06](#), it is appropriate for Engineer A to sign and seal drawings prepared by an engineer under his supervision as long as Engineer A directed the design and then reviewed the drawings in detail. In the present case, Engineer A did not have full responsibility for the design (was not provided with details of the utility conditions in order to design the repairs or to verify Agency B's repair methods) and was only drafting Agency B's design. Engineer A's work did not meet the definition of responsible charge.² Maybe Agency B was trying to train its staff in design or was trying to lower the cost of Firm A performing the work, or both. In cases when public agencies and utilities perform portions of the design or make most of the design decisions and outsource the drawing preparation, they should not expect engineers with whom they contract to sign and seal drawings if the engineers were not given full responsibility for the design. Doing so devalues the work of engineering professionals and turns their services into a commodity or, worse, constitutes "plan-stamping," which is unethical. It would be more appropriate for engineers employed at Agency B to sign and seal the project drawings.

Conclusion:

It would be unethical for Engineer A to sign and seal the drawings for Agency B.

Board of Ethical Review:

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² [NSPE Position Statement No. 10-1778—Responsible Charge](#) (revised September 2019).

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