**A.3.2 IEEE BART Case Brief\***

**\***Controlling Technology-Ethics and the Responsible Engineer-3rd Edition

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*(Filed on Jan. 9,1975 in Superior Court of California for the County of Alameda by Attorneys Frank Cummings and Jill Cummings in the case of Hjortsvang vs. San Francisco Bay Area Rapid Transit District and ten Does)*

**I. Statement**

**This brief is filed as amicus curiae because, on the basis of the pleadings, it is clear that rulings in this case will involve important questions concerning the proper ethics of an engineer in the employ of a public employer. The Institute of Electrical and Electronics Engineers (IEEE) is the largest engineering society in the nation and has a direct concern with the establishment, maintenance, and recognition (including governmental and judicial recognition) of ethics within the engineering field. This brief is submitted with two limited aims: first, to inform this Court of the existence and terms of established standards and codes of ethics for engineers, in the employment context generally and particularly in the context of public employment; and, second, to seek the Court’s recognition that such standards and codes are relevant and material to this case for the reasons discussed below**

**II. Summary of Argument**

**This Court is expected to rule, as the trial proceeds, on questions of law, and this amicus curiae brief is addressed solely to those rulings. Within that framework, we urge this Court to rule:**

**1. As to Admissibility of Evidence: That evidence of professional ethics of engineers, as outlined herein and as further developed by the parties, is relevant, material, and admissible;**

**2. As to Any Motions for Judgment: That, in consideration of any motion to dismiss or for judgment by this Court, the Court should rule that an engineer is obligated to protect the public safety, that every contract of employment of an engineer contains within it an implied term to the effect that such engineer will protect the public safety, and that a discharge of an engineer solely or in substantial part because he acted to protect the public safety is a breach of such implied term; and**

**3. As to Jury Instructions: In any charge to the jury herein, this Court should instruct the jury that if it finds, based upon the evidence, that an engineer has been discharged solely or in substantial part because of his bona fide efforts to conform to recognized ethics of his**

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 **2 Reprinted by permission from Technology and Society, No. 12, Dec. 1975, published by the IEEE Committee on Social Implications of Technology.  IEEE, moreover, is familiar with and can supply expert evidence concerning the ethical codes of engineers.  IEEE takes no position on the merits and the claims, as IEEE has no direct evidence to offer as to what the claimants did, what defendants did, or why.**

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**profession involving his duty to protect the public safety, then such discharge was in breach of an implied term of his contract of employment. We base this position upon the cases, statutes and ethical codes discussed below.**

**Point I**

**Professional Ethics Are Material and Relevant**

**California judicially recognizes that an employee may not be arbitrarily discharged where the discharge would be inconsistent with the public good, even if his employment contract is terminable at will. In Petermann v. International Brotherhood of Teamsters, 174 Cal. App. 2d (1959), it was held that an employer may not discharge an employee because the employee refuses to commit perjury. The public has too great a stake in the integrity of the judicial process to permit such a discharge.**

**1 In Petermann, the District Court of Appeal for the Second District noted that the contract of employment did not provide for any fixed period of duration and that such a relationship is generally terminable at will, “for any reason whatsoever.” But it also noted that such a right of discharge “may be limited by statute” or “by considerations of public policy.” The Court then said at page 188:**

**By “public policy” is intended that principle of law which holds that no citizen can lawfully do that which has a tendency to be injurious to the public or against the public order. . . . [emphasis by the Court]**

**The Court then noted that, because the State has a declared policy against perjury, “the civil law, too, must deny the employer his generally unlimited right to discharge an employee whose employment is for an unspecified duration, when the reason for the dismissal is the employee’s refusal to commit perjury.” The Court said that “the law must encourage and not discourage truthful testimony. The public policy of this state requires that every impediment, however remote to the above objective, must be struck down when encountered.” Id. at 188,189. The lower court having dismissed, the Court of Appeals reversed. When questions of public safety are at stake, an engineer’s code of ethics stands in the same position as the laws against perjury. If a code of ethics properly requires the protection of the public, a discharge because an employee insisted on following that code would be inconsistent with the public good. Thus compliance with such a code must be deemed an implied term of the employment contract.**

**2 California statutes clearly recognize an engineer’s obligation to protect the public. California Government Code, Section 835 waives the State’s sovereign immunity and makes a public entity liable for conditions dangerous to the public. Section 840.2(b) of the same Code makes a public employee liable if he falls to take adequate measures to protect the public from such conditions. That section obviously encompasses any and all engineers engaged in public employment. The same recognition is reflected in California statutes governing licensing**

**3 of professional engineers, including electrical and mechanical engineers. California Business and Professional Code Section 6730 states that the purpose of that Code is “to safeguard life, health, property and public welfare.” And Section 6775 provides that a licensed engineer may be disciplined—indeed his registration may be revoked—for “negligence, incompetency in his practice,” or if he “has not a good character” What is “negligent” under ordinary common law principles, is determined by the scope of the negligent person’s duties, and those duties are in part determined by what is generally recognized to be ethical. “Incompetency in his practice” involves failure to adhere to generally accepted standards of conduct and must be taken to include ethical standards, if those standards are widely publicized and generally recognized. And, most important, the notion of “good character” particularly in a professional sense, certainly involves adherence to generally accepted ethical standards, and particularly standards of professional ethics. California law, then, mandates adherence to ethical and moral standards. Engineers have adopted (see Point II below) proper ethical codes to complement statutory codes. We urge this Court on the Petermann principle to recognize (1) that an engineer has an overriding duty to protect the public, and (2) that California law, including statutes and case law, supports the drafting of ethical codes, makes the terms of generally accepted professional ethics relevant and material in a case such as this, and effects a legally enforceable incorporation of such codes into engineering contracts of public employment, insofar as such codes are widely acknowledged to be necessary for the protection of the public.**

**Point II**

**Engineering Professional Codes Require Protection of the Public**

**1. A Common Thread: The Duty to Protect the Public. The various professional engineering societies have, for many years, adopted and published codes of professional ethics. Such codes contain at least one common thread—that the engineer owes an overriding duty to protect the public safety. For example, the Canons of Ethics for Engineers was prepared and adopted by the Engineers’ Council for Professional Development (ECPD. Now called ABET—Accreditation Board for Engineering and Technology) in I946.4 These canons were then adopted by the Board of Directors of the National Society of Professional Engineers (NSPE) in October 1946, and were published in NSPE’s Journal, The American Engineer, in its November 1947 issue.**

**Section 4 of these Canons provided:**

**He [the engineer] will have due regard for the safety of life and health of public employees who may be affected by the work for which he is responsible. This code has an even longer history, having been discussed initially in the May 1935 issue of The American Engineer, although the code was formally adopted in 1946, in a form differing little from the present code.5 NSPE’s own code of ethics (distinct from ECPD’s) was adopted in 1964 and published in the September 1964 issue of The American Engineer.6 This code provided, in Section 2:**

**Section 2—The Engineer will have proper regard for the safety, health, and welfare of the public in the performance of his professional duties. If his engineering judgment is overruled by nontechnical authority, he will clearly point out the consequences. He will notify the proper authority of any observed conditions which endanger public safety and health.**

**a. He will regard his duty to the public welfare as paramount.**

**b. He shall seek opportunities to be of constructive service in civic affairs and work for the advancement of the safety, health and well-being of his community.**

**c. He will not complete, sign, or seal plans and/or specifications that are not of a design safe to the public health and welfare and in conformity with accepted engineering standards. If the client or employer insists on such unprofessional conduct, he shall notify the proper authorities and withdraw from further service on the project.**

**We emphasize in this regard the code’s injunction to the engineer that he must “notify the proper authority” of anything he observes which may “endanger public safety.” We think it fair to say that the ultimate proper authority in the case of public employment is the public itself. ECPD, meanwhile, adopted revised canons in September 1963, which stated, in the very opening paragraph:**

**1.1—The Engineer will have proper regard for the safety, health and welfare of the public in the performance of his professional duties. These canons were adopted by a variety of professional engineering societies. The American Society of Mechanical Engineers, whose membership now totals close to 70,000, ratified these canons in 1963, and they were published in ASME’s magazine, Mechanical Engineering. The same principles are carried forward to the current day. For example, a set of “Guidelines to Professional Employment of Engineers and Scientists” published by the IEEE Board of Directors in its national monthly magazine, Spectrum, in April 1973, contains the following paragraph: The professional employee should have due regard for the safety, life, and health of the public and fellow employees in all work for which he/she is responsible. Where the technical adequacy of a process or product is involved, he/she should protect the public and his/her employer by withholding approval of plans that do not meet accepted professional standards and by presenting clearly the consequences to be expected if his/her professional judgment is not followed.**

**2. General Acceptance and Publication of the Common Thread. Because the cited codes have been widely circulated and generally endorsed, it seems eminently reasonable to conclude that every engineer is aware of his obligation to the public. The guidelines published by IEEE, for example, have also been endorsed by over twenty so¬cieties8. Even before the engineer’s obligation to serve the public was fully codified in writing, moreover, there was an historical recognition of that obligation, discussed in professional journals.9**

**Conclusion**

**Based upon the foregoing, we submit and we urge this Court to acknowledge that an engineer has an overriding obligation to protect the public. Specifically, we urge this Court:**

**(1) To rule that evidence of professional ethics is relevant, material and admissible in this case; and**

**(2) To rule, as to any motions for judgment or any jury instructions, that an engineer is obligated to protect the public safety, that an engineer’s contract of employment includes as a matter of law, an implied term that such engineer will protect the public safety, and that a discharge of an engineer solely or in substantial part because he acted to protect the public safety constitutes a breach of such implied term.**

**NOTES**

**1. See also Slochower v. Board of Higher Education of the City of New York, 350 U.S. 551 (1956).**

**2. This court may, but need not, decide the extent to which the principles of this case would be applicable in the case of a private employer. The complaint in this case alleges that a public employer discharged public employees because those employees informed the public of a danger to the public safety. In a very real sense, the public at large was the “employer” of the plaintiffs herein; whatever may be the limits of the duties of public disclosure by the engineer in private employment, there is clearly a higher duty in the case of public employment.**

**3. Not all members of IEEE or other professional engineering societies are (nor are they all required to be) licensed to practice engineering in their home states. The ethical standards covering both licensed engineers and other engineers are the same, and this is particularly true where both types of engineers are working together on the same project, as was the case, we understand, in the BART situation.**

**4. ECPD is an organization founded by a group of professional engineering societies, whose participants and affiliates now include the American Institute of Aeronautics and Astronautics, the American Institute of Chemical Engineers, the American Institute of Industrial Engineers, the American Institute of Mining, Metallurgical and Petroleum Engineers, the American Nuclear Society, the American Society of Agricultural Engineers, the American Society of Civil Engineers, the American Society for Engineering Education, the American Society of Mechanical Engineers, the Institute of Electrical and Electronics Engineers’, National Council of Engineering Examiners, the Society of Automotive Engineers, National Institute of Ceramic Engineers, and the National Society of Professional Engineers.**

**5. The ethical proposal originally published by NSPE in the May 1935 issue of The American Engineer included the following: “The engineer shall at all times and under all conditions seek to promote the public welfare by safeguarding life, health and property.”**

**6. NSPE, when it published its code in 1964, had a membership of 62,038 engineers, and its journal was circulated, in addition, to over 1,000 libraries and institutions. Its membership today is approximately 70,000 engineers.**

**7. A much earlier code, adopted and published by the American Institute of Electrical Engineers (IEEE’s predecessor) in 1912 provided: “An engineer should consider it his duty to make every effort to remedy dangerous defects in apparatus or structures or dangerous conditions of operation, and should bring these to the attention of his client or employer” The “employer,” in a case such as this, is first the public entity and ultimately the California general public which is the entity’s own employer. IEEE supplemented the 1912 code in 1974 by a new code which includes the following: “Engineers shall,**

**Fulfilling their responsibilities to the community: (1) protect the safety, health and welfare of the public and speak out against abuses in these areas affecting the public interest.. ..”**

**8. The endorsing societies include: American Association of Cost Engineers, American Institute of Aeronautics and Astronautics, American Institute of Chemical Engineers, American Institute of Chemists, American Institute of Industrial Engineers, American Institute of Professional Geologists, American Nuclear Society, American Society of Agricultural Engineers, American Society of Engineering Education, American Society of Civil Engineers, American Society of Mechanical Engineers, American Society of Quality Control, Data Processing Management Association, Engineering Societies of New England, Inc., Engineers’ Council for Professional Development, Engineers Joint Council, Institute of Electrical and Electronics Engineers, Instrument Society of America, Institute of Traffic Engineers, National Association of Corrosion Engineers, National Institute of Ceramic Engineers, National Society of Professional Engineers, Society for Technical Communications, Society for Experimental Stress Analysis, Society of Fire Protection Engineers, Society of Women Engineers, Technical Association of the Pulp & Paper Industry.**

**9. The code of ethics of the NSPE, for example, was discussed initially in the May 1935, issue of The American Engineer although that code was first formally adopted in 1946 (in a form differing little from the present code.)**