

Adoption of the Code of Ethics

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The Code of Ethics for Civil Engineers consists of three sections: a Preamble, Basic Perceptions, and the Code of Ethics itself. As stated in the Preamble, JSCE had already issued "Beliefs and Principles of Practice for Civil Engineers" as a set of ethical standards in 1938. At that time, not many academic societies in Japan had issued this type of document. We can be proud of the discernment shown by JSCE in adopting ethical standards at that time as an important part of our legacy.

Basic Perceptions

Unfortunately, over the next sixty years, the members of JSCE were not sufficiently familiar with the "Beliefs and Principles of Practice for Civil Engineers," and often failed to apply them. In fact, many of the society's members were not even aware that this document existed. Today, many issues are being raised concerning standards for science and technology. Civil engineers played a major role in the infrastructure building which supported Japan's rapid growth, beginning with the post-war reconstruction period. But today, we are faced with a situation in which it is no longer possible to unconditionally approve of all types of scientific development and technological advances. As environmental problems have progressed to a global scale, reform is now needed in the civilization of the present age which is based on modern science and technology. Of course, a new perspective is needed concerning the role of civil engineers and civil engineering technology, and we must reconsider their responsibility. The civil engineers of today must keep in mind that their mission is no longer limited to accomplishment of the direct goals of civil engineering; rather, their mission also requires a deep awareness of the increasingly complex effects of those projects on the natural and social environment. The original mission of civil engineering was to build a new environment for ourselves by ameliorating the sometimes harsh natural conditions. Rather than taking pride in technological progress, we as civil engineers need to have a deep awareness that our most important and glorious mission, including our responsibility to future generations, is to

create and preserve an environment of symbiotic coexistence between nature and human beings.

The inclusion of this viewpoint in the "Basic Perceptions" of this Code of Ethics represents a recognition of the social and historical background at this important time.

Provisions of the Fifteen Articles

The fifteen articles of the Code of Ethics include quite a few items which seem rather obvious. Based on the understanding that ethical standards should be something universal, applying to all generations and all nations, the decision was taken to include even some items which may seem excessively obvious to our generation in present-day Japan. It seems that at times, there is a tendency to confuse ethics with morality, and the provisions might be misunderstood as listing prohibited acts which are to be punished. I would like to point out that ethics for civil engineers draw upon the source and essence of morality, and that our preparation of the Code of Ethics was based on the understanding that this would indicate desirable directions in light of the acts of civil engineers and their social relationships.

Background of the Code of Ethics

As one reflection of the lack of trust for engineers, this was a topic of discussion during the meetings on governmental reform which were held in the summer and autumn of 1997. On September 5 of this year, JSCE submitted a request to the meetings on governmental reform in the name of Akira Miyazaki, who was then president. This included a request for recognition that the functions of plan proposal should be indivisible from the functions of execution in national administration, and a statement that JSCE would itself clarify the criteria for technology and engineers in order to meet its commitment to the nation's citizens. In a press conference given immediately afterward, the chairman pledged that JSCE would promptly establish a Code of Ethics.

In response, JSCE established a committee on the future image of ethics for civil engineers. This committee surveyed ethical standards in Japan and overseas, and in March 1998, it issued a report on its activities which included a set of ethical standards and behavioral criteria based on a modern interpretation of the 1938 "Beliefs and Principles of Practice for Civil Engineers." It also recommended the establishment of a committee to draft a Code of Ethics.

Meanwhile, the administrative subcommittee of JSCE's Construction Management Committee established a special sectional committee on the vision of civil engineers, which reported on "How Civil Engineers Should Live in Twenty-First Century Society" in February 1998. Also, in the keynote address at an event commemorating the eightieth anniversary of the founding of JSCE in November 1994, Hideo Nakamura, then president of JSCE, had made a proposal for "Principles of Practice for Civil Engineers" reflecting a modern viewpoint. Truly the time was ripe for establishment of a set of ethical standards to indicate desirable directions for civil engineers.

Ethical Standards as an International Duty

JSCE has a close relationship of exchange with the civil engineering societies of many other countries of the world, including the U.S. The civil engineering societies of Europe and North America have already been governing their own actions with ethical codes for several decades. It has become difficult for such a society to gain international acceptance if it lacks its own set of ethical standards.

In the U.S., when 114 people died on July 17, 1981 in the collapse of a promenade at the Hyatt Regency Hotel in Kansas City, the accident was found to be the result of criminal negligence. This kind of accident, as well as the Challenger disaster on January 28, 1986 which caused the death of six astronauts and a high school teacher, Christy MacAuliffe, had a profound influence on ethical issues for engineers. These themes are covered in the study of ethics in engineering programs in the U.S. Incidentally, the study of ethics is part of the course requirements in U.S. engineering programs, and these courses include not only theory but also very practical training, with many real-life examples. Also, ques-

tions about ethics are always included in the U.S examination which would correspond to Japan's qualifying examination for engineers.

Why has Japan failed to adopt similar ethical standards until recent years, with the sole exception of the 1938 "Beliefs and Principles of Practice for Civil Engineers"? There are many possible reasons, but one factor seems to be the fact that Japan is basically uniform in its racial and linguistic makeup, and although it has rapidly entered into a closer relationship with Europe and North America through its process of modernization, Japan remains an island nation that is geographically distant from the West. Only in the very recent past has Japanese society begun to experience internationalization in the true sense of the word. Before that, all aspects of Japanese society were characterized by a deep-rooted tendency for behavior to be based on unspoken understanding. In other words, there was no shared need to come up with any conditions similar to these ethical standards. In addition, the goals of technology have been very clear during the period of modernization, which began over a century ago, and in the postwar period. The purpose was simply to catch up with and overtake the West, and rapid progress was the only requirement.

The Civil Engineer as a Global Citizen

With rapid changes occurring in the international situation surrounding Japan and the global environment, JSCE had an international obligation to form a clear statement of directions for civil engineering and goals for the civil engineer, and to clarify its own position. Service to the nation was assigned a high priority in the 1938 statement; but at present, the question is rather one of what civil engineers can do for the sake of the earth.

In the field of civil engineering and Japan, which has been a closed, insular society, I hope that the Code of Ethics for Civil Engineers will be approached as a positive opportunity to redirect our attention toward the realization of civil engineering for the sake of the earth, and the responsibility of an engineer to the general public, rather than service only to the narrow segment of society to which the engineer belongs. It is important that the recently announced Code of Ethics for Civil Engineers should be promulgated among all civil engineers, not

only those who are members of JSCE; and that it should become a goal for daily practice. The Code of Ethics must not be considered as mere rhetoric. I am aware that some aspects of its implementation may be difficult for various groups, but as one who participated in the

preparation of the Code of Ethics, I would like to express my sincere hope that there will be serious discussion on how we should begin to move toward its ideals.

Code of Ethics

Code of Ethics for Civil Engineers

Preamble

1. In March of 1938, the Japan Society of Civil Engineers promulgated "the Beliefs and Principles of Practice for Civil Engineers." This had initially been prepared in February of 1933 and was later codified by an entrusted committee on mutual rules of the Japan Society of Civil Engineers (the Chairman was Dr. Akira Aoyama, an ex-president of the Society). In 1933, Japan declared its withdrawal from the League of Nations, a turning point prior to the later Lukouchiano (Marco Polo Bridge) Incident that led to war with China and the Pacific War. Despite the trends of such an era, the Japan Society of Civil Engineers is proud of its insight to stipulate its "Beliefs and Principles of Practice for Civil Engineers."
2. The Japan Society of Civil Engineers is composed of engineers who carry out civil engineering work and researchers who study the relating subjects. Its members are obliged to strive for: 1) mutual collaboration among its members; 2) contribution to the progress of science and technology; and 3) direct contribution to civil societies.

The Society has renewed "the Beliefs and Principles of Practice for Civil Engineers" into the Code of Ethics, solely because the Society has recognized the

increasing importance of the mission and the emerging responsibility shouldered by civil engineers today and in the future.

Basic Perceptions

1. From the dawn of human history till the present day, civil engineering has contributed to ensuring human beings' safety and enriching their quality of life through constructing, maintaining, and managing social overhead capital. The current industrial civilization has especially been supported by great technological achievements, which has remarkably improved the lives of mankind. However, along with the expansion and diversification of technological advancement, the influence caused by these phenomena upon nature and societies has drastically increased in its complexity and magnitude. Civil engineers should deeply recognize these facts and adhere to the ethical principles of self-disciplined moral obligation when applying advanced technology.
2. The present generation is responsible for ensuring the sustainability of life-supporting conditions for generations to come. It is an honorable mission for the present civil engineers to create and preserve the environment that enhances the coexistence of nature and mankind.

Code of Ethics

A Civil Engineer Shall

1. Apply his/her technical skills to create, improve, and maintain "beautiful national land," "safe and comfortable livelihood," and "prosperous society", thus contributing to society through his/her knowledge
2. and virtue with an emphasis upon his/her dignity and honor.
2. Respect nature while giving the highest priority to the safety, welfare, and health of generations today and in the future, and shall endeavor to preserve and work with nature and the global environment for the