

How is the New Code of Ethics of JSCE Going to Change Civil Engineers' Attitude?

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Abstract

The most important occurrence since the establishment of the Code of Ethics of JSCE must be the East Japan Great Earthquake. That earthquake producing little less than 20 thousand casualties provided all civil engineers an opportunity to think about their-own role and to change in sense of values. From the views of composition, contents and expression, the code established in 1999 was checked and revised. The code in 1999 has been playing important role, but on the other hand, that is over-explained which is not good way of description for engineers to be self-controlled. In that sense, the new code was divided into two parts of "Ethical Principle" and "Code of Conduct" to make the code more notional and simple. In this paper, the author gives the precise explanation for the principle as well as each one of codes of conduct and discuss the role of the code of ethics in our field through those explanation.

Keywords: New Code of Ethics, East Japan Great Earthquake, self-control

1. Introduction

Code of Ethics established by JSCE in 1999 had been showing us the true way of contribution of technology and engineers in civil engineering. However, expressions on significance of the public service was insufficient, because the code was made as correspondence to occurrence of disgraceful affairs such as bid riggings. Also, correspondence to a social change in the past 15 years was needed. The most important occurrence during that period must be the East Japan Great Earthquake. That earthquake producing little less than 20 thousand casualties provided all civil engineers a chance to think about their-own role and to change in sense of values.

2. New Code of Ethics

From the views of composition, contents and expression, the code was checked and revised. The code in 1999 has been playing important role, but on the other hand, that is over-explained which is not good way of description for engineers to be self-controlled.

This new code abstracts the expression under the thought that ethical perspective is sublimed by considering an ethical situation autonomously while succeeding to the idea of the conventional rule.

In addition, preceding sentences (preamble) and basic perceptions were eliminated, and the new code has the simple constitution.

Minimizing such various kinds of ornamentation expression and we aimed at abstraction and the simplification, because engineers should always be autonomous and "over-explanation" is not suitable for

the sake of the code to be more efficient.

The new code was divided into two parts of "Ethical Principle" and "Code of Conduct" to make the code more notional and simple.

Code of Conduct is composed of nine codes, and each code group composed three codes are mainly related to project execution, professional duty and professional capability. In this paper, the author is going to give the precise explanation for each one of codes and discuss the role of the code of ethics in our field.

The authors explain the principle and individual code

Ethical Principle

Ever cognizant of the profound interrelationship of their profession with both human society and Nature, civil engineers shall work for the development of technology, deepen and consolidate their knowledge, contribute by means of their wisdom, skills, and virtues to both the peace and prosperity of the people and the nation and to the welfare and sustainable development of the humanity.

倫理綱領

土木技術者は、
土木が有する社会および自然との深遠な関わりを認識し、
品位と名誉を重んじ、
技術の進歩ならびに知の深化および総合化に努め、
国民および国家の安寧と繁栄、
人類の福利とその持続的発展に、
知徳をもって貢献する。

for providing the information or consideration in the progress of the argument before reaching the establishment so that a purpose of the establishment of this code of ethics is understood in this article definitely.

3. Ethical Principle

Ethical Principle describes fundamental roles and ideal states of civil engineers, and is composed of three components of characteristics, way of existence and mission of civil engineers.

The profession of civil engineering is much more closely related to human society and nature compared to other discipline of engineering and the relation is profound. The word of “profound” (“shin-en” in Japanese) expresses this feature of civil engineering. “Deepen and consolidate their knowledge” expresses that the consolidation is an essential characteristic of civil engineering. The word of “peace” (“an-nei” in Japanese) is used to express the state of stable and calm as wider concept including “safety”.

The word of “the people” (“kokumin” in Japanese) includes all the people living in Japan and overseas, and all of future generations. “Welfare and sustainable development of the humanity” expresses the global contribution. All the Code of Ethics, needless to say, intend for all humankind.

The words of “wisdom, skills, and virtues” (“chitoku” in Japanese) expresses knowledge and morals. Civil engineers shall contribute to the society with professional capability and sense of ethics.

4. Code of Conduct

Code of Conduct is composed of three code groups, and each code group composed three codes are respectively related to project execution, professional duty and professional capability. In this paper, the author is going to give the precise explanation for each one of codes and discuss the role of the code of ethics in our field.

The Code of Professional Conduct

Civil engineers shall:

1. Contribute to society.

Utilize their expertise and experience to develop and implement comprehensive solutions to issues of public interest, keeping in mind the peace and prosperity of the people and the development of society as their constant concern.

行動規範

土木技術者は、

1. (社会への貢献)

公衆の安寧および社会の発展を常に念頭におき、専門的知識および経験を活用して、総合的見地から公共的諸課題を解決し、社会に貢献する。

(1) Codes related to project execution

Through various duties including research works, it is the mission of civil engineers to make contribution to the society by solving public problems. A code to perform business only in a specialized field could be specified to professional engineers, but that kind of code might be connected in excessive specialty and then we decided not to adopt this. In addition, by the expression of “develop and implement comprehensive solutions”, the importance of the “consolidation of their knowledge” described in the Ethical Principle is emphasized. Problem solving for realization of situations that the general public desires is the essential mission for all the civil engineers, and simple construction of any facility must not be aimed. It can be said the phrase expressing regression to the origin of civil engineers.

2. Respect both Nature and the fabric of civilization and culture.

Respect Nature indispensable to the survival and development of humanity while holding in esteem diverse civilizations and cultures.

2. (自然および文明・文化の尊重)

人類の生存と発展に不可欠な自然ならびに多様な文明および文化を尊重する。

In the codes established in 1999, several expressions are appeared in some specific codes related to the nature and the global environment as follows; “endeavor to preserve and work with nature and the global environment for the sustainable development of mankind.”, “sustainable global development”, “create and preserve the environment that enhances the coexistence of nature and mankind” and “preserving the ecosystem and the beauty it contains,.” In this code, the expression of the global environment was eliminated, since the nature is rather comprehensive concept compared with the global environment and only this code is devoted to express the importance of the nature.

Also other several expressions were used to explain the importance and the relation of the cultures with civil engineering works such as “value traditional technology rooted in indigenous cultures”, “deepen mutual understanding of other cultures,” “apply not only advanced technology but traditional technology” and “staying mindful to preserve historical heritage.” First, since cultures include not only traditional cultures but also contemporary cultures and then it seems that the technology is rooted both traditional and contemporary cultures, the adjective of “traditional” was eliminated. Elimination of the word of “tradition” does not mean the disrespect of traditions. Civil engineers should respect all

civilizations born in each area on the earth and cultures brought up there, when using or applying the technology in their engineering mission.

The nature, all civilizations and cultures in the world should be respected of the present and the past, and civil engineers should develop and implement comprehensive solutions, which means that they may preserve or work with nature and culture.

The expression in the old code of "Value traditional technology rooted in indigenous cultures" was replaced this the word of "diverse." The word of "respect" implies that civil engineers should choose wisely their working including maintenance and utilization and we avoided the code being explanatory and homogeneous or uniform, and then the expressions of "you should keep it in good condition" or "to plan utilization" used in the old codes were eliminated.

3. Ensure the security of society and mitigate disasters.

Be committed to aiding in protecting the life and property of the people, working with colleagues across a broad range of disciplines, while looking beyond their professional expertise to the concerns of the people, realizing both the capabilities and the limitations of technology with the people.

3. (社会安全と減災)

専門家のみならず公衆としての視点を持ち、技術で実現できる範囲とその限界を社会と共有し、専門を超えた幅広い分野連携のもとに、公衆の生命および財産を守るために尽力する。

This code was added by this revision in 2014 based on the results of research on "Social Security" done by one special committee in established in JSCE to show the way of actions which all civil engineers should take after the East Japan Great Earthquake.

In considering the disaster mitigation and social security, civil engineers as professionals should have the recognition that they are private citizens at the same time, and should have the viewpoints as "the general public".

The East Japan Great Earthquake caused the disaster with the frequency of once in 1,000 years. The tsunami of the height more than assumptions by engineers and scientists was generated and caused a little less than 20,000 victims as a result.

There are opinions implying that "the public" should give decision about what kind of facilities we should maintain with enough explanation by scientists or civil engineers as professionals. Civil engineers cannot lack in a citizen's viewpoint to make the trust Of citizens for them as the expert more firm.

The parts of "realizing both the capabilities and the limitations of technology with the people" and "be committed to aiding in protecting the life and property

of the people" also emphasize that civil engineers should know the limitations and then should be committed to disaster mitigation while achieving enough accountability.

It is stated that technology is gained based on knowledge and experiences and technology has a limit, which means that the knowledge civil engineers possesses is insufficient.

The part of "working with colleagues across a broad range of disciplines" shows a thought to attach great importance to the cooperation with professionals in other fields while maintaining their own specialties definitely.

Civil engineers should widely recognize their specialties and make an effort for the safety of citizens and social security from a comprehensive point of view.

(2) Codes related to professional duty

4. Fulfill their professional responsibilities.

Recognize the essentially social significance of their work and thus endeavor to fulfill their duty to society.

4. (職務における責任)

自己の職務の社会的意義と役割を認識し、その責任を果たす。

The duty accomplishment responsibility is a required item in codes of ethics of the engineer in general.

Civil engineers include not only engineers working on business but also engineers or scholars conducting research works. In this code, we state that civil engineers should achieve the responsibility of the duties including research works.

Civil engineers should recognize the social significance of their work and their essential mission and then must not follow the clients such as employers or consignors being against their intention.

5. Guard their integrity and avoid any conflicts of interest

Be fair and unbiased in all their interactions with the people, their clients, the organizations for which they work, as well as themselves, faithfully and honestly discharging their duties and avoiding any conflicts of interest.

5. (誠実義務および利益相反の回避)

公衆、事業の依頼者、自己の属する組織および自身に対して公正、不偏な態度を保ち、誠実に職務を遂行するとともに、利益相反の回避に努める。

Both being fair on duties and prevention of conflicts of interest are required items in codes of ethics of the engineer.

In the codes established in 1999, several expressions

are appeared in some specific codes related to these conflicts of fairness as follows; “regardless of his/her organizational affiliation.”, “keep a fair and impartial attitude to the public, clients of civil engineering work, and himself/herself”, and “act as an honest agent or trustee of the employer or client.” This code expresses in one sentence that a duty of civil engineers for the general public, his/her duty for a client or an employer, and his/her own integrity produce the situation of dilemma.

6. Openly provide information and engage in public dialog.

For the sake of the general welfare, be pro-active in sharing their expertise and knowledge in their endeavors and communicate in an open exchange of views with the people.

6. (情報公開および社会との対話)

職務遂行にあたって、専門的知見および公益に資する情報を積極的に公開し、社会との対話を尊重する。

It is desirable that the information engineers can acquire through their works or knowledge they earn is openly provided for the society or the general public while considering obligation of confidentiality. Information provision is required for civil engineers to achieve accountability from the standpoint to respect people's right to know. This code does not mean all the information should be openly provided of course.

It should be noted that information should be provided for the purpose of contributing to the public interest. General public entrusts most to civil engineers who are professionals about social public welfare achieved by infrastructures.

The trust is based on two kinds of citizens' senses. The first is citizens' trust that engineers' judgement based on their capability and knowledge is sufficient. The second is citizens' sense that they can live in safe and calmly.

Also, the trust is expectation for the moral order, which consists of the expectation for the ability of engineers and the expectation for the intention of engineers. The former is related to usefulness of the knowledge engineers as professionals possess. The latter is something such as equitableness, fairness characteristics, objectivity, consistency, the honest nature, transparency, integrity.

In the whole of this “Code of Conduct” it is emphasized that the mission of civil engineers is to accomplish duties without any gap with the society to get social trust. This code also describes that civil engineers have to keep communication with the general public positively without concentrating into technological aspects for being trusted by the society and accomplishing the mission.

(3) Codes related to professional capability

7. Make known the results of their research endeavors.

Publish their findings and policy recommendations with research papers and reports in conformity with both their scientific convictions and their own consciences, sharing these with both their professional colleagues and the people, always mindful of objective facts and the intellectual achievements of others.

7. (成果の公表)

事実に基づく客観性および他者の知的成果を尊重し、信念と良心にしたがって、論文および報告等による新たな知見の公表および政策提言を行い、専門家および公衆との共有に努める。

It is important for all the civil engineers to enhance the trust from the general public by publishing their findings and policy recommendations “in conformity with both their scientific convictions and their own consciences” to contribute to the society.

Publication of a policy recommendation may lead civil engineers to show their own viewpoint to policy makers and general public definitely.

However, they should try to publish results according to faith and conscience without being afraid of it.

In order for civil engineers to contribute to the society, published results should be shared with other professionals and/or the general public.

You must not be self-righteous or dogmatic, and should explain professional or technical matters in a way for non-professional to understand easily.

8. Strive for self-improvement and human-resource development.

Cultivate and nurture their virtues, general knowledge and professional competence, pursue scientific endeavors in the realms of both scientific and practical theories for the sake of technological advances, and put to use their individual abilities, experience, and merits for the education and training of engineers.

8. (自己研鑽および人材育成)

自己の徳目、教養および専門的能力の向上をはかり、技術の進歩に努めるとともに学理および実理の研究に励み、自己の人格、知識および経験を活用して人材を育成する。

Self-improvement and human-resource development are combined into this code from the view of education.

In corresponding to the expression of “the development of technology, deepen and consolidate their knowledge” in the “Ethical Principle”, the importance of consolidation of knowledge especially in the field of civil engineering is emphasized again.

The word of “practical theories (“Jitsuri” in Japanese) means any theories provided based on real experience. “Jitsuri” is not a term used widely generally, but intentionally used as the antonym to “scientific theories”. It is one of the important characteristics of civil engineering as the practical science to recognize that “practical theories” is included in theories used in engineering works.

For example, a construction site is the most important place of the practice in civil engineering works, and an experience level “how I should do” through practice every day is provided, but information being raised in a theory can be called a practical theory.

Civil engineers should try to contribute to human-resource development with “their individual abilities, experience, and merits” for eternally contributing to the society by using their knowledge and experience, some of which has already become “scientific theories” or “practical theories”.

9. Comply with established norms.

Carry out their work in full understanding of all laws, rules, and regulations as well as of well-founded principles, actively and willingly taking the lead in the observance of societal standards and seeking to improve them in response to both social and technological change.

9. (規範の遵守)

法律、条例、規則等の拠って立つ理念を十分に理解して職務を行い、清廉を旨とし、率先して社会規範を遵守し、社会や技術等の変化に応じてその改善に努める。

Civil engineers as engineers for society or citizens proactively have to follow social norms. The expression of “in full understanding of all laws, rules, and regulations as well as of well-founded principles” implies that engineers must not uncritically obey laws, rules and etc. Autonomous understanding is important to comply with norms.

Therefore, civil engineers should understand the meaning and importance of laws, rules and so forth, and act with compliance to the society without accepting uncritically heteronomous rules.

Needless to say, illegal acts such as bribes, copyright infringements, abuse of confidentiality and so forth should be strictly prohibited. We avoid this code of conduct being a kind of manual correcting prohibited matters, and use the expression of “actively and willingly taking the lead in the observance of societal standards.”

Contracts are not included in the norms in this code, since contracts are freely established and are not based on any fundamental principles. The ethic to obey a contract is considered to be included in faithfulness duty of code #5 by the expression of “faithfully and honestly discharging their duties.”

Since norms must be improved relevant to change in the society, and also policy recommendations can be the mission of civil engineers, they have to seek to improve them in response to both social and technological change.