Memorandum ME EN 3400 (Spring 2024)

To: Russ Askren

From: Brandon Lim

Date: 4/21/2024

Subject: Professional Ethics

cc:

Attachments:

1. **The first fundamental principal claims that the reputation of the profession is upheld when engineers work for the "enhancement of human welfare."  How should we understand the phrase "enhancement of human welfare?" Does your interpretation mean there are some kinds of engineering that engineers should not pursue?**

We should understand the phrase “enhancement of human welfare” as work that considers the health and safety of the individuals around it. The ASME Criteria for Interpretations of Canon explicitly explains that engineers should take responsibility for public health and safety by using good practices in engineering by publishing data, following safety guidelines, and pointing out unethical safety hazards (Page. 1). From this interpretation, I would argue that the message being sent is that engineers should not pursue specific types of engineering. For example, engineers should not pursue any type of engineering that could lead to mass destruction or violence amongst groups of people. Therefore, engineering disciplines within defense and military would not be tolerated. Although, this interpretation is not practical because these types of engineering are essential to the protection of countries and ideas.

1. **The second fundamental principal claims that the engineer should serve equally the interests of the employer and the interests of the public. Is it reasonable to think this can be accomplished, or does the engineer in practice always set the interests of the employer over the interests of the public when the interests don't align?**

I think that it should be reasonably accomplished, but in practice, the interest of the employer is usually taken over the interest of the public when the interest doesn’t align. As engineers we often are often apart of a team under a major corporation. That corporation pays our wages and supplies our benefits. As seen in many examples within major corporations and businesses, engineers that go against the overarching opinion of the corporation are let go and replaced easily. So, in the end, most engineers would rather keep their job but silence their biased opinion to side with the public than to lose their positions.

1. **Canon 2 states that engineers should only work in their area of competence. How can you determine your area of specific areas of competence? Can you identify how you can expand your areas of competence without violating this Canon.**

From the ASME Criteria for Interpretation of Canon, it states that engineers will know their specific areas of competence through qualification by education or experience in the field (Page 2). So, if an engineer has emphasized in civil structures at their university, then the engineer should have the competence to undertake projects within civil structures. To expand your areas of competence without violating this canon, engineers should work closely under other engineers that have experience in the subject matter and can provide safe guidance (Page 2).

1. **Canon 5 seeks to provide protection for proprietary information. Does a reasonable interpretation of this Canon prohibit "whistleblowing," an action in which you turn in your employer (or other agency) to an authority (outside the corporation) for the violation of ethical or legal obligations?**

No, this is due to the interpretation of Canon 1. The ASME Criteria for the Interpretation of Canon states in the interpretation of Canon 1 that “Whenever Engineers observe conditions, directly related to their employment, which they believe will endanger public safety or health, they shall inform their supervisor and the proper authority of the situation (Pg. 1)”. From this, we can see that even when the supervisor does not listen to the violation of ethical obligations, the proper authority needs to be notified which can validate a whistle-blower’s intention.

1. **Canon 6 makes claims about your personal associations. Do you believe that Canon 6 is reasonable? Are there constraints that could be applied here to make this a reasonable constraint.**

I believe that Canon 6 is reasonable. The ASME Criteria for Interpretation of Canon states that “Engineers shall not use association with non-engineers, corporations, or partnerships to disguise unethical acts (Page 7)” as interpretation of the Canon. This explains that engineers should not have unethical relationships with companies and associations that are known to violate ethics and operate within fraudulent nature. I don’t think that it is possible the create a tangible constraint that could conform to the Canon without infringing on its inherent message of not associating with non-reputable organizations.

1. **Canon 8 obligates engineers to consider "environmental impact" in their work. How can you know which environmental guidelines to use in assessing environmental impact? How does this canon relate to the first principle regarding the enhancement of human welfare.**

As an engineer, using environmental guidelines laid out by reputable organizations as seen in Canon 6 can be used to assess environmental impact. In a practical sense, these could be guidelines laid out by organizations such as the EPA. As stated in the ASME Criteria for Interpretation of Canon, “Engineers shall recognize that the lives, safety, health and welfare of the general public are dependent upon engineering (Page 1)”. This breakdown of the first canon can apply to the environmental impact of Canon 8 because it concerns the safety, health, and welfare of the public. The public is only as healthy as the environment that they live in, so, it is important to maintain the health and safety of the environment to ensure the health and safety of the public.

1. **The Criteria is intended to provide interpretive detail to the Canons. For which Canon is the interpretation most adequate? Why?**

I would say that the interpretation for Canon 4 is most adequate given by the ASME Criteria for Interpretation of Canon (Page 4). This is because the Canon is broken down into all the general situations which an engineer could be subject to. Each breakdown of the interpretation provides adequate concise information on what engineers should or shouldn’t do to protect their professional ethics.

1. **The Criteria is intended to provide interpretive detail to the Canons. For which Canon is the interpretation least adequate? Why?**

I would say that the interpretation of Canon 1 given by the ASME Criteria for Interpretation of Canon is least adequate (Page 1). This is because the canon itself is left to the judgment of the individual. What constitutes safety, health and welfare of the public in the eyes of different individuals in society? For example, some individuals would say that professions in engineering concerning military weapons technologies should be steered away from because this engineering discipline could result in the destruction of groups of people while others might say that this engineering discipline is for the protection of certain peoples. The interpretation is inadequate because it fails to address ethical issues like this.

1. **Does membership in the ASME affect your responsibility to follow the ASME Code of Ethics, or should you be obligated to follow them regardless of your membership?**

I think that engineers should be obligated to follow the ASME regardless of membership because its general message is to create a society of ethical engineers all aiming to do what is right by the public regardless of interpretation of principles or canons. Each principle and each fundamental canon is presented with a general overarching message of being a better engineer for the public, so, engineers should be obligated to follow them.