Unit Lesson

Many times in life, we are placed into a situation or dilemma of doing what is right when pressures from others are telling us to do it differently than we believe. Some suppose our conscience or the sense of doing what is right will guide us no matter what. Gagnon (2008) suggests that future technologies will expose fire protection engineer professionals to more and more conflicts of conscience in designing systems. He surmised that this is due to the complexity of systems and technological dilemmas of increasing innovations and changing laws.

How could the complexity of technology cause a dilemma when fire protection engineers are professionals and assumed to have the public's trust and safety in mind while not straying from standards, codes, or laws? After all, the Society of Fire Protection Engineers' (SFPE) canons of ethics were written to deal with how fire protection engineers should apply their knowledge and skills in protecting the public (Hurley, 2006). Some supposed they were written because fire protection engineers' certifications, degrees, and licenses were not enough to assure the right thing would be done.

Hurley (2006) offers that the canons of ethics state that if a hazard that threatens public safety or welfare is known by the fire protection engineer, then he or she has a responsibility to make sure his or her clients or employer is also aware. He further suggests that if the client does not address the issues or concerns, then the fire protection engineer is required to notify public officials because he or she is bound by the code. If this is true, why are there ethical dilemmas in fire protection? Maxwell (2003) suggests that when we are exposed to pleasure, power, pride, and priorities, we may have a lapse in ethical behavior that results in wrong actions.

Points to Ponder Scenario

Imagine yourself in the shoes of a fire protection engineer designing the fire protection for an addition to a large warehouse distribution center in the fictional City of Washington. During renovation of the building, you need to add a fire pump due to the water supply system's inability to provide sufficient pressure to meet the design requirements of the additional square footage. Due to the strict time frame of completing renovations and the unavailability of fire pumps required for the system designed, the contractor substitutes a foreign-made fire pump that is not a part of specifications listed.

The fire pump is a horizontal split-case centrifugal pump, which complies with foreign regulations and international codes of practice that are similar to the codes of the National Fire Protection Association (NFPA). In addition, the fire pump meets International Organization for Standardization's ISO 9001: 2008 Quality Management System standards specifically for centrifugal pumps and jockey pumps used in automatic water-based sprinkler installations. However, ***the foreign-made fire pump is not Underwriters Laboratories (UL) approved.*** *The pump meets compliance with the engineer's design specifications and calculations outlined on the shop drawings. Based on the specifications, the fire pump will develop more than 140% of its rated pressure and will operate at a minimum of 100% of its rated capacity at 100% of its rated pressure. However, when the fire pump arrives, the inlets for the water lines on the suction side require elbows to connect to the potable water source. NFPA 20 strictly prohibits the installation of elbows on the suction side.* ***You realize that elbows on the suction side could allow air to be trapped and affect the overall performance of the fire pump as well as cause the loss of prime during operation.*** *Even though you know thisis wrong, you rationalize that the fire pump will provide fire protection, even though this is not in compliance with NFPA. You do not alert the property owner or even the owner's authorized representative, and you approve the change by signing off on it.*

Is justifying an unethical behavior the right thing to do? Is meeting the code for fire protection, even with elbows and the wrong pump, better than none? After all, due to the shortage of fire pumps, at least they have one, and it meets the legal requirement of providing a fire pump and suppression system. **Did using the foreign-made pump preserve the trust and confidence of the owners of the warehouse and those using the facility in the future?** Unethical behaviors are justified or even rationalized many times, as seen in the scenario. ***Gagnon (2008) suggests that people rationalize to avoid dealing with their internal values, which, inturn, allows for the unethical behavior to be repeated.*** In the scenario above, the fire protection engineer was trying to meet the intent of the code in order to provide fire protection. You convinced yourself that no one would be injured as a result of signing off on the foreign-made pump even though elbows were used on the suction side. **You rationalized the decision was the right thing to do because there were no UL-approved fire pumps available to meet the strict time frame requirements of opening the warehouse. As a part of the rationalization, one may be convinced that during the inspection, the inspector would identify any issues or**

problems. However, NFPA 25 only requires inspectors to test the system and does not require inspectors to have complete knowledge of the system's design. Therefore, is using the foreign-made fire pump a dilemma for right versus right action? Is providing fire protection wrong, even if the fire protection engineer cared enough to provide protection for others who want right to prevail? If this is wrongdoing, does it deviate from moral rectitude? Ethics is an activity that wants right to prevail over wrong because it is the right thing to do, not because of some canon of age-old law (Kidder, 1995). Would using the fire pump be considered caring for others even when using the elbows to make the connections is against NFPA 20 code? After all, the fire pump complied with foreign regulations and international codes of practice similar to the NFPA codes.

Some may suggest that the decision to use the fire pump was an ethical decision involving two rights. Is it tworights? What are the two rights in an ethical dilemma? Is it right to use the foreign-made fire pump with the elbows on the suction side? Is it right to provide fire protection with a foreign-made fire pump that meets the appropriate supplemental calculations? Kidder (1995) stated that when an ethical dilemma involves two rights, the right action will always be chosen by an ethical person. Kidder (1995) also suggested that it is very hard to make tough choices involving ethical dilemmas. **Using the foreign-made fire pump does have value and merit in life safety under the right conditions. Kidder (2005) stated that most ethical dilemmas involve fourparadigms of right versus right action: individual versus community, truth versus loyalty, short-term versus long-term, and justice versus mercy.**

As we weigh right versus right action, the use of the foreign-made fire pump falls under the rules and obligations of the National Society of Professional Engineers (2007) to resolve ethical dilemmas or conflicts. The two points below are paraphrased from the “Rules of Practice” in the *Code of Ethics for Engineers*.

- Engineers must always consider the safety, health, and welfare of the public first.
- Engineers will not sign any plans or documents for areas in which they are not completely competent or those that they did not have control in preparing (National Society of Professional Engineers, 2007).

As you read these points, did the professional engineer hold the safety, health, and welfare of the owners and public to the highest esteem both legally and ethically? Is there an unarguably right answer using the excerpts? The rules within the *Code of Ethics for Engineers* work as a legal requirement today for fire protection engineers, and it is different from other codes of ethics. The question to consider is if the law surpasses ethical behavior or if ethical behavior surpasses the law. When there is a similarity between ethical values and laws, conflicts will arise (Gagnon, 2008). Gagnon (2008) lists these ethical conflicts as disagreements, such as inspecting a nightclub in the daytime versus inspecting it at night when the occupancy load is different. By law, the inspector met the legal requirement of inspecting the club during daytime hours. However, ethically, the inspector failed to take the right action because the occupancy loads are different. Is using a foreign-made fire pump that is certified in other countries and meets all safety requirements legal in the United States? Is it ethical to use the fire pump? With technology changing, design professionals are having a harder time determining ethical behavior as conflict between our laws and codes of ethics are becoming more frequent and noteworthy (Gagnon, 2008).

Conclusion

Ethical behavior is driven by our moral principles; many times, outside forces or pressures may sway our moral principles to be rationalized when we get caught in a dilemma of right versus right action or even right versus wrong. Every decision made in fire protection technology may have ethical consequences if we do not adhere to a strict code of ethics. As Gagnon (2008) postulated, future technologies will endanger fire protection engineers to do the right thing in making morally correct and ethical decisions.

References

Gagnon, R. M. (2008). *Design of special hazard and fire alarm systems* (2nd ed.). Delmar Learning.

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Kidder, R. M. (1995). *How good people make tough choices*. Harper Collins.

Kidder, R. M. (2005). Overview: The ethics of right versus right. In *How good people make tough choices: Resolving the dilemmas of ethics* (pp. 12–29). https://www.cusd200.org/cms/lib7/IL01001538/Centricity/Domain/352/ethics%20book.pdf

Maxwell, J. C. (2003). *Ethics 101: What every leader needs to know*. Center Street.

National Society of Professional Engineers. (2007). *Code of ethics for engineers* [Publication No. 1102]. https://www.nspe.org/sites/default/files/resources/pdfs/Ethics/CodeofEthics/Code-2007-July.pdf

Suggested Reading

In order to access the following resources, click the links below.

The *Code of Ethics for Engineers* is an accumulation of rules and obligations published by the National Society of Professional Engineers (NSPE) and used by fire protection engineers to resolve any possible ethical dilemma in the design of fire protection systems.

National Society of Professional Engineers. (2007). *Code of ethics for engineers* [Publication No. 1102]. https://www.nspe.org/sites/default/files/resources/pdfs/Ethics/CodeofEthics/Code-2007-July.pdf

You are encouraged to explore the Society of Fire Protection Engineers (SFPE) website and their canons of ethics. This code is used by fire protection professionals to resolve ethical conflicts in the design of systems. The SFPE code of ethics can be found under the main page pull down menus: Education & Careers/Careers/Ethics.

SFPE: www.sfpe.org

This video is a short review of laws and organizational procedures during any ethical dilemma.

Video Education America (Producer). (2007). *Determining right and wrong* (Segment 6 of 11) [Video]. https://libraryresources.columbiasouthern.edu/login?auth=CAS&url=http://fod.infobase.com/PortalPlaylists.aspx?wID=273866&xtid=49932&loid=169715

To view a transcript of this video, click on the Transcript tab near the top right corner of the page.