

Ethical Engineering  
Hyatt Regency Case Study  
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## **Ethical Engineering**

### **Hyatt Regency Case study**

#### **Summary**

This analysis uses the practical case of an engineering failure to assess the obligations of a professional engineer, importance of adherence to codes and standards of professional engineering and the application of ethics in the construction sector. The study analyses the Kansas City Hyatt Regency Walkways collapse that led to the loss of life and exemplifies the obligations engineers have to the community. It alienates the unethical actions taken by characters that led to the structural failure. In conclusion, it recommends measures such as inspections and project participation that can be undertaken to avoid a repeat of such incidences.

#### **Introduction**

The skills and capabilities of engineers have a fundamental importance to the society as they offer solutions and assure a sustainable future. Due to its critical placing of the profession in the society, there is a need for engineering activities to be moral and ethical. Ethical engineering ensures that these solutions and products offered by engineering account for social responsibility, moral obligations and integrity to the society, the clients and the profession. The application of ethical codes to professional engineering guarantees that engineers will serve the community's interest before personal or sectional interests.

#### **Hyatt Regency Hotel Walkway Collapse**

The Hyatt Regency Hotel in Kansas had a teal party on 17th July 1981 in the atrium lobby of the extensive complex which served as a 750 room hotel. The ceiling rod supportive links that reinforced across the atrium walkways in the second and fourth floors failed [1]. As a result, both walkaways collapsed on the first-floor atrium full of partygoers and guests. The collapse of the second and fourth walkways left 114 dead and more than 200 injured [1]. In addition, the collapse had high financial implications, the community was unpleasantly affected and the engineering profession suffered the loss of credibility.



***Figure 1: The scene of Hyatt regency Hotel collapse [1]***

Upon investigations, it was ascertained that during the hotel's construction the designs of hanger rods connections were altered by a steel fabricating contractor [1]. The motive behind the structural design changes was to simplify the assembly tasks of the contractor. However, in structural engineering changing hanger rods from one rod to two rods doubles the load on the connector. Thus, when the walkaways collapsed, the connector gave in to load it was carrying [1]. In the follow-up court cases, the fabricating contractor claimed that he contacted the engineering firm responsible for the building and acquired change approval. The engineering company disputed being contacted to approve the change that resulted in the massive failure. The company noted that they requested representation onsite during construction but were not granted on the basis of additional costs of providing onsite inspection. However, deep inspection of the design diagrams noted that even as originally designed the walkways were still weak and could not hold the probable load and was short of the Kansas City Building code 5 [1]. Also, it was discovered that an earlier collapse of the roof of the atrium during construction was not well investigated.



*Figure 2: pictorial representation of the disaster [1]*

### **Ethical Implications**

Hyatt Regency engineers' breached Clause 4 of Engineers Australia Codes of ethics expects that them to promote sustainability [2]. Clause 4.2 of the codes require an engineer to exercise engineering that fosters the wellness, safety and health of his clients, the community and the environment [2]. By approving the critical change in design through a telephone call, the engineers failed to uphold to this tenet as they failed to incorporate safety and environmental considerations into the engineering task. Also, as clause 4.1 notes, the engineer has the obligation of notifying all stakeholders of the possible concerns on projected activities [2]. The engineers failed to adhere to this clause after the first collapse thus failing to relate dutifully with stakeholders and the community at large. This conforms to Canon 1 Clause a of the American Society of Civil Engineers code of Ethics which designates that design documents and drawings that engineers approve should be unwaveringly safe for public health and welfare and should conform with accepted engineering standards [3]. Approving design changes that resulted in structural failure indicates the Engineers failure to keenly regard public safety and welfare.

Clause 2.1 of Engineers Australia requires all practitioners to exercise competence in their duties [2]. The code administrates that an engineer should have a cautious and diligent approach and seek peer review on important decisions. The Engineers in the Hyatt Regency scenario failed to act diligently by failing to make a comprehensive analysis of the atrium even after the first collapse. An ethical engineer would have sanctioned the building, conducted a thorough investigation on the area, seek wide consultation and finally make recommendations that will ensure the atrium is safe regardless of the financial and time implications associated with the revision. Further, the engineer also infringes Clause 2.3 of Engineers Australia by failing to practice in accordance with set building codes and statutory requirements when handling revisions of design [2]. The clause notes that an engineer has to act on the basis of adequate knowledge. The building failed to meet Kansas building code 5 signaling the engineer failed to meet clause 2.3. Building codes are set in place by industrial experts to guide the actions of engineers in design, detail, investigation, and inspection.

The Hyatt Regency was a case of engineering failure. The engineer has the paramount control on the design and its provisions as well as the materials used for constructions. Also, it is the duty of an Engineer to ensure that all design requirements are met through inspection and thorough supervision. This incidence could have been avoided if the engineer exhibited competence from the early stages of design. Also, after design, the engineer should have been present to ensure that all requirements are adhered to and the prescribed material is used. As Engineering Australia clause 2.1 suggests, peer review of the design drawings would have eliminated inefficiencies such as failure to ascribe to regional building regulations [2]. This case also highlights the need to have a keen investigation plan as the first collapse should have signified impending failure or weakness in the structural components of the building.

### **Conclusion**

The case of Hyatt Regency Hotel underlines the essentiality of an Engineer working within set codes of ethics. The codes of ethics will inform the engineer of the correct decisions to make and what to regard when interpreting a decision. The presence of engineering codes is a plus to engineers as they provide a framework that enables them to act responsibly. Acting unethically in the field of engineering has adverse effects as the society depends on the profession for practical solutions to their problems. Thus, each engineer should keenly abide to set codes of ethics which highlight his ability to serve the community.

### References

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