

INCIDENT AT MORALES: AN ENGINEERING ETHICS STORY

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Incident at Morales involves a variety of ethical issues faced by a company that wants to quickly build a plant in order to develop a new chemical product to gain a competitive edge over the competition. This 36 minute video developed and distributed by the National Institute for Engineering Ethics will be shown. Lloyd R. Heinze, will lead a short discussion following the video. This one hour session qualifies for Texas Professional Registration "Ethics" continuing education requirement.

Story outline:

Phaust Chemical manufactures Old Stripper, a paint remover that dominates the market. On learning that Phaust's competitor Chemitoil plans to introduce a new paint remover that may capture the market, executives at Phaust decide to develop a competing product. To save money in manufacturing the product, Phaust decides to construct a new chemical plant in Mexico.

To design the new plant, Phaust hires a chemical engineer, Fred Martinez, who had been a consultant to Chemitoil. As the project starts, Chemistré, Phaust's parent company in France, slashes budgets 20% across the board. Chuck, the vice president for engineering at Phaust, strongly encourages Fred to reduce construction costs. Fred confronts several engineering decisions in which ethical considerations play a major role:

- Whether to use expensive controls manufactured by Lutz and Lutz, which has inside connections at Phaust
- Whether to line the evaporation ponds to prevent the seepage of hazardous substances in the effluents into the groundwater, although local regulations may not require this level of environmental protection
- Whether to purchase pipes and connectors made with stainless steel or a high pressure alloy
- After the automatic controls fail, whether to allow someone to control the process manually

When samples of Chemitoil's new paint remover EasyStrip become available, it is clear that to be competitive with EasyStrip, Phaust must change the formulation of its new paint remover, requiring higher temperatures and pressures than originally anticipated.

These increases in temperatures and pressures cause significant technical and ethical problems, the most serious of which is the fact that the automatic controls no longer work as intended. Thus, the plant manager, Manuel, volunteers to control the process manually. After the plant goes into full operation, an unfortunate accident occurs, resulting in serious consequences.

This recently released video presents a study of ethical responsibilities and choices similar to many encountered in engineering practice.

The video shows that good and well meaning people can unintentionally get into situations that may result in unethical and unfortunate consequences. The video is designed to help viewers become more aware that:

- ❖ Ethical considerations are an integral part of making engineering decisions
- ❖ A code of ethics will provide guidance in the decision-making process
- ❖ The obligations of a code of ethics do not stop at the United States border
- ❖ The obligations of engineers go beyond fulfilling a contract with a client or customer

Discussion items:

1. List the ethical issues you observed in *Incident at Morales*.
2. From your personal perspective, prioritize these ethical issues from most critical to least critical
3. Discuss the video from three additional perspectives:
 - a) **Fred's Perspective:** Assume you are Fred:
 - i) What specific ethical issues do you (Fred) face?
 - ii) What are some things that you should consider?
 - iii) From whom or where would you seek guidance?
 - b) **Wally's Perspective:** Assume you are Wally:
 - i) What specific ethical issues does Wally face?
 - ii) What do you think Wally's motivation was for having "One Rule"?
 - iii) What do you think about Wally's "One Rule"?
 - iv) What decisions would you change if you were Wally?
 - c) **Responsibility Perspective:** If you were in charge and had the authority and the funding to make any changes you wanted to make in company policies:
 - i) What specific steps would you take to improve the company culture?
 - ii) Who would you involve in this process?
 - iii) How and when would you communicate the company policies to:
 - (a) Your employees?
 - (b) Your clients?
 - (c) The public?