

# ASSET

ENGINEERING

PROTECTION &  
CONTROL DESIGN



ELECTRICAL  
STUDIES



SUBSTATION &  
PHYSICAL DESIGN

## Engineering Ethics

August 2016



SERVING ALL YOUR **ELECTRIC**  
**UTILITY ENGINEERING** REQUIREMENTS

# Who does this session apply to?

- All engineers and those serving in those roles, generally
- ***Professional*** engineers, specifically

# Types of Workers

- Unskilled or low-skilled jobs
- Trade or vocation
- Self-Employed non-professional
- Specially-educated “knowledge worker”
- Professional or “regulated knowledge worker”

# What's Ethics?

- Socially approved behavior.
- A theory or a system of moral values: “An ethic of service is at war with a craving for gain” (Gregg Easterbrook).
- The study of the general nature of morals and of the specific moral choices to be made by a person; moral philosophy.
- The rules or standards governing the conduct of a person or the members of a profession: *medical ethics, engineering ethics*
- Distinguished from matters of legality

# Ethics in the Biggest Picture

## *The Gospel of Mark, Chapter 12*

28 And one of the scribes came, and having heard them reasoning together, and perceiving that he had answered them well, asked him, Which is the first commandment of all?

29 And Jesus answered him, The first of all the commandments is, Hear, O Israel; The Lord our God is one Lord:

30 And thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy mind, and with all thy strength: this is the first commandment.

31 And the second is like, namely this, ***Thou shalt love thy neighbour as thyself.*** There is none other commandment greater than these.

# Ethics in the Workplace Big Picture

- Codes of ethics are not a law
- Ethical behavior is not always protected by law
- Frequently ethical behavior may be perceived as disloyalty
- Many companies realize that ethical behavior is essential for their long term prosperity
- Ethically aware companies provide
  - Provide help to employees facing ethical conflicts
  - Allow employees to raise ethical concerns anonymously
  - Explicitly prevent any forms of retaliation for reporting unethical behavior

# Example 1: TI Ethics Quick Test

- Is the action legal?
- Does it comply with our values?
- If you do it, will you feel bad?
- How will it look in the newspaper?
- If you know it's wrong, don't do it!
- If you're not sure, ask.
- Keep asking until you get an answer.

# Example 2: Motorola Ethics Line

## Contact Motorola's EthicsLine

If you have a question or concern you would like to discuss, you may choose any of the following ways to get in touch with Motorola's EthicsLine. If your question or concern is urgent, we suggest you contact us by telephone, email or fax to ensure we address your issue promptly.

### Call us toll-free worldwide

- In the United States, Canada or Puerto Rico: +1 800 538 4427
- Outside the United States and Canada: Follow the toll-free dialing instructions at [Sprint's International Call Center Services](#)
- If neither of these toll-free numbers works for you, call +1 602 808 4427 direct and reverse the charges to Motorola during regular business hours 6:30 a.m. to 3 p.m. Mountain Standard Time.

### Send us a fax

- Fax us at: +1 602 952 4378

### Email us

- [ethicsline@motorola.com](mailto:ethicsline@motorola.com)

### Write us

Motorola EthicsLine  
P.O. Box 10551  
Scottsdale, AZ 85271-0551  
USA

[www.assetcompany.com](http://www.assetcompany.com)

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# Example 3: TVA

## TVA Code of Conduct

A HANDBOOK FOR EMPLOYEES

*Doing the right thing...all the time*



TVA's Designated Agency Ethics Official  
865-632-3199

[www.assetcompany.com](http://www.assetcompany.com)

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# Ethics Standards

- National Society of Professional Engineers (NSPE)
- Institute of Electrical and Electronic Engineers (IEEE)

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# Some cases of ethical decisions facing engineers

- Questions may arise concerning **conceptual issues**, in which definitions of terms may be in dispute.
- In other situations, **factual issues** may also affect ethical dilemmas.
- Many decisions regarding engineering design may be based upon interpretation of disputed or incomplete information.
- In addition, **tradeoffs** revolving around competing issues of

risk vs. benefit, or  
safety vs. economics

may require judgments that are not fully addressed simply by application of these codes.

# Some cases of ethical decisions facing engineers

- Acknowledging mistakes (IEEE CoE – Cannon 7)
- Conflict of interest (IEEE CoE – Cannon 2)
- Safety of products (IEEE CoE – Cannon 1)
- Environmental safety (IEEE CoE – Cannon 1)
- Responsibility arising from what others do (IEEE CoE Cannon 10)
- Discrimination in the work place (IEEE CoE Cannon 8)
- Whistle blowing (IEEE CoE Cannons 1, 2, 3, 4, 9)
- Issuing non-expert statements (IEEE CoE Cannon 6)

# Case Studies

A photograph of an electrical substation, showing various power equipment, including transformers, circuit breakers, and busbars, arranged in a structured layout. The scene is captured from a low angle, looking down a path lined with equipment. The sky is clear and blue.

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# Questions



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