### Obligation responsibility and reasonable care

- Engineers have a professional obligation to conform to standard operating procedures and regulations that apply to their profession and to fulfill the basic responsibilities of their job as defined by the terms of their employment.
- Often expressed as “Reasonable Care”.
- Sometimes even more is required because of circumstances.

### Alpern Comments

- Other things being equal on should exercise “Due Care” to avoid significantly harming others.
- This is supported by common morality and is in the vast number of codes of engineering ethics which hold:
  - Engineers shall hold paramount the welfare of the public in the performance of their technical duties.

### Good Works Concept

- Codes of ethics tend to specify basic duties.
- “Good Works” go beyond this.

### Types of Organizations or Corporations

**Good Works – Progressive Corporations**

**Reasonable Care Corporations**

**Minimalistic or Substandard Corporations**

### Characteristics of Sub- Standard Corporations

- Facilities often in poor repair.
- Operate at the edge of what is legal in many areas.
- Use lower cost less skilled personnel.
- Lower level of concern for the health and welfare of employees and the public.
- Lower level of care for natural resource conservation and the environment.

### Characteristics of Sub- Standard Corporations

- Balance occasional cost of fines and penalties against cost of compliance.
- May exploit workers.
- Try to avoid paying those who are negatively impacted by their operations.
- Resist external scrutiny and audit.
- “Least scrupulous operator sets the standard.”
Characteristics of Sub-Standard Corporations

- Build products to minimal or sub-standard levels - let the customer beware!
- Exploit workers and the public

Sub-Standard Organizations

- Substandard organizations with a history of non-compliance with reasonable care will be more severely punished with:
  - court or administrative orders to comply or shut down,
  - high damage awards to the injured,
  - fines, higher remediation levels on cleanups,
  - and other actions such as loss of government contracts and blacklisting of products

Characteristics of a “Reasonable Care” Organization

- Follows the letter of the law but waits for the spirit of the law to be required
- Follows the rules but is not necessarily pro-active
- Maintain a quality workforce that is well trained
- Willing to compensate those harmed by their activities

Good Works or Progressive Corporation

- Facilities maintained in first class condition
- Pursues the spirit as well as the letter of the law
- Proactive in many ways to be the best possible organization
- Use highly trained and competent personnel
- Have effective safety and environment programs for personnel and the public

Good Works or Progressive Corporation

- Are truly concerned sustainability of human life on earth
- Quickly and effectively compensate those impacted by their activities
- Pursue concepts like ISO 9000 and 14000 and the Valdez Principles to document their commitments

Benefits of Good Works or Progressive Organizations

- Communities and countries welcome their activities and facilities
- Top quality trained people want to work for them
- Their stock is in high demand by those who recognize quality and long term stability
- Regulators tend to leave them alone to pursue their business
Examples

- Alyeska and the Exxon Valdez
- Oil spill contractors
- Janitor crisis in California
- Tanker Companies
- Pipeline and other oil patch companies
- Incident at Morales

Law Suites in Tort Law

- Proceed from complaints by those who allege they have been injured or wronged by another party who should be held liable

Tort Law Damage Awards

- Direct Damages
  - Actual financial losses
  - Loss of future income
  - Intangibles such as pain and suffering
- Punitive Damages
  - An award sufficiently large to prevent you from continuing to do business as you have in the past and to remove past profit from unacceptable actions
  - Exxon Valdez example

Principle of Proportional Care

- When one is in a position to contribute to a greater harm or when one is in a position to play a more critical role in producing harm than is another person, then one must exercise greater care to avoid doing so!
- Examples:
  - Captain Hazlewood on Exxon Valdez
  - Toxic substances or dangerous animals on the land
  - Design of a nuclear power plant

Negligence

- Conditions for a successful charge of Negligence
  - A legal obligation to a certain conduct or standard
  - A person charged with negligence fails to conform to the standards
  - There is a reasonable close contact between the conduct and the harm
  - Actual loss or damage to the interest of the other results

Group think:

- A situation in which groups come to an agreement at the expense of critical thinking
- Eight conditions
  - An illusion of invulnerability of the group to failure
  - A strong “we” feeling that views outsiders as adversaries or enemy’s
  - Rationalizing that tends to shift responsibility to others
  - An illusion of morality – discourages careful examination
**Group think:**
- Eight conditions (Continued)
  - Tendency to self censorship – Desire not to rock the boat
  - Illusion of unanimity – consider silence as consent
  - The application of direct pressure on dissenters
  - Mind-guarding – preventing outside views from being presented

**Do Engineers Need Virtues**
- Character and virtues lead to greater care in performance
- One test of character and virtue is what one does when no one is watching
- Examples:
  - Litter on the highway
  - Person who picks up and returns a wallet
  - Stolen paper example

**Individual Responsibility and Accountability**
- Individuals can be morally responsible agents in several ways:
  - Intentionally causing harm:
    - Deliberately shooting someone with a gun
  - Recklessly causing harm – Doing something you know can cause harm but you do it anyway – And it causes the harm
    - Shooting a gun in the direction of some houses
  - Negligently causing harm
  - Failure to do something you should have done – and as a result harm is done
    - Failure to exercise care
    - Inadvertantly leaving a loaded gun where a child can play with it and someone is shot
  - Example: An untrained employee at a store packages brake fluid and chlorine tablets together and they react causing a fire