

Societal Impact of Engineering
Class 2



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The Law of Unintended Consequences

No matter how good a proposed solution seems to be, it will have some unintended



Group Exercise #2
(Assigned Last Class)

Develop a set of specific procedures which practicing engineers can use to ensure, as best as possible, that unintended consequences are limited, that society is informed of the tradeoffs involved in an engineering solution, and that society gives approval before the solution is implemented.

Procedures to Limit Unintended Consequences of Proposed Engineering Solutions and to Gain Societal Consent

- i) Study similar problems, previous solutions, and their societal impact.
- ii) Identify technological trends associated with the proposed solution and project possible societal impact of these trends so that unintended consequences can be anticipated.

(continued)

Procedures to Limit Unintended Consequences of Proposed Engineering Solutions and to Gain Societal Consent

- iii) Research any laws and regulations which may exist concerning a proposed solution.
- iv) Determine appropriate ways to inform society and solicit an informed consensus.

What resources are available to help with these steps?

Resources to help study similar problems, previous solutions, and their societal impact.

Resources to help identify technological trends associated with proposed solution and project possible societal impact of these trends

Resources to help research any laws and regulations which may exist concerning a proposed solution.

Resources to help determine appropriate ways to inform society and solicit an informed consensus

Group Exercise #3

Your instructor has selected one example from each group's Group Exercise #1. In the next class, each group will make a 15-minute presentation concerning their assigned example discussing its positive and negative, intended and unintended consequences. The group and audience will also be asked to "second guess" and discuss what they would have done to anticipate unintended consequences and to "improve" the solutions.

Group Exercise #3

Your instructor has selected one example from each group's Group Exercise #1. In the next class, each group will make a 10-minute presentation concerning their assigned example discussing its positive and negative, intended and unintended consequences. The group and audience will also be asked to "second guess" and discuss what they would have done to anticipate unintended consequences and to "improve" the solutions.

Rubric for grading presentation:

1. Was the presentation smooth, practiced, and professional?
2. Did students present both positive and negative consequences?
3. Did the students discuss any unintended consequences?
4. Did students provide sufficient analysis and include some original suggestions?