

Summary: This exercise asks you to identify and specify “real options”, both “on” and “in” systems relevant to your professional field

Learning Objective: to help you understand the specific technical meaning of an “option” as it applies to the design of engineering systems you deal with. The idea is to help you to integrate the presentation of “options analysis” easily into your work.

Tasks:

1. Define your professional field

Briefly state the kinds of engineering systems in which you are interested, and the specific kinds of designs you are or might be working on.

2. What are the Major Uncertainties associated with these designs?

Identify the major uncertainties associated with the future performance of these designs. These define the contingencies for which it would be good to have some flexibility in the deployment or evolution of the system.

3. Identify and specify a relevant “Real Option” “On” your system

Describe the “option” and indicate specifically

- What it is the system designer/operator/manager has the “right but not the obligation” to do?
- What has to be done to obtain this “right” (that is, what defines the cost of the option)?
- Correspondingly, what is the cost of actually taking the action (that is, what defines the strike price)?
- The period over which the option is valid.

4. Repeat (3) for an option “in” your system.

Report Length: Please confine your reports to two typed pages. That length should be plenty to show how you are thinking about these issues, and to give the instructors the opportunity to help you refine your ideas.

For those of you who want or need to go into more detail, Prof. de Neufville would be happy to meet with them and discuss their work as extensively as necessary.