Part I
Ralph is employed as a Production Engineer for Excellence Plastics Incorporated. Excellence Plastics has finally been able to secure business with Ford to manufacture an integrated Air Bag/Steering Wheel for the Ford Windstar. An integrated steering wheel is considered cutting edge technology, as normal cars have a steering wheel with an airbag module mounted on top of it. The integrated steering wheel will be much cheaper in the long run for Ford as only one component is being manufactured as opposed to the old way, a steering wheel, and an airbag cover. Even though this is new technology, the Excellence Plastics sales department has stated they could meet a maximum production rate of 240 integrated steering wheels per day (with one mold), which is the same production rate of a normal steering wheel.

The validation of the design requires approximately one year. After the testing has been completed, Ford Quality Control approves of the manufacturing process, and production of the integrated steering wheel begins. Initially, production begins with 150 steering wheels per day. All is well, until Ford requests 240 steering wheels per day (the increase in production must occur within 1 week). Because of the special plastic formulation being used for this cutting edge product, only 200 steering wheels can be manufactured daily. Ralph notifies his supervisor (the President of Excellence Plastics), and his supervisor states, “Just add more catalyst to speed up the cure time.” Ralph knows this will work, but will make the plastic more brittle, which would affect the air bag deployment. If the air bag does not deploy correctly, innocent people could be hurt or killed.

1. (30 points) Should Ralph disclose this information to Ford? From Ralph’s point of view, utilize the NSPE Codes of ethics and explain whether or not he is required to notify Ford about this situation. Your answer should contain:
   a. Citations of at least two fundamental canons from the code of ethics
   b. A written defense as to how the fundamental canons apply to the case

2. (10 points) What are your professional responsibilities in the face of your boss’s request? Relate your answer to perspectives on responsibility that we have discussed – Minimalist, Reasonable Care, Good Works.

3. (30 points) Write a brief description about the Utilitarian point of view. Using Utilitarianism, describe the course of action Ralph should take in this situation. If Ralph utilized Utilitarianism, would he arrive at the same set of actions as obtained in question 1?

Part II.
Instead of adding catalyst as his supervisor instructed, Ralph called ICI, the supplier of the plastic used in the manufacturing process. Using Ralph’s knowledge of the process (and many trials on the weekend and after work hours) ICI was able
to reformulate the material. The reformulation allows the production of 300 steering wheels a day with the desired material properties. Initial tests indicate the material passes with flying colors. However, Ford has not had the opportunity to conduct the extensive one year testing on this material. To make matters worse, Ralph’s boss does not wish to utilize the new material because of the increased costs.

4. (10 points) In contacting ICI, did Ralph exercise, a Minimalist, Reasonable Care, or Good Works perspective of responsibility? Be sure to justify your answer.

Part III.
Abiding by the NSPE code of ethics, Ralph resigns, and goes to work with Better Plastics, Incorporated. Better plastics is currently in the design phase of an integrated steering wheel for the Ford Taurus. Within a week of accepting the job, Ralph’s boss asks how Excellence Plastics was able to produce (and make money) on the Ford Windstar program. Specifically, his supervisor is requesting all the process parameters, and the type of material used in the manufacturing process. Ralph is hesitant about providing this information. However, his supervisor states, “Well, why do you think we hired you in the first place? After all, you never did sign a confidentiality agreement with your former employer.”

5. (30 points) Do you feel it is ethical for Ralph to provide the requested information to Better Plastics?
   a. Make a list of reasons and arguments as to why Ralph should or should not provide this information to Better Plastics
   Choose either b or c
   b. If you feel this is NOT ethical, state the STRONGEST argument, based on either codes, or ethical theories, as to why Ralph should not provide this information
   c. If you feel this is ethical, state the STRONGEST argument, based on either codes, or ethical theories, as to why Ralph should provide this information