

EECE404 Senior Design II
Dr. Charles Kim

Ethical Responsibility Assignment (100 points) - Resolution of Ethical Dilemma

(This is individual assignment)

A. Instruction:

Write a report of resolving ethical dilemma of the scenario described in the next page, following the *7 steps of Resolving Ethical Dilemma* discussed in the Ethical Responsibility class. Remember the subject is **you - you're the engineer in the scenario**. There is no fixed form or format for this report assignment.

Note that all 7 steps have to be completed.

Academic Honesty: If any two or more submitted works are (almost) identical, all such works will be considered as cheated ones, and are subject to 0 point first and then to possible additional disciplinary action from the university.

B. Score Distribution and Rubric:

Step #	Description	Point Distribution (by the quality of the description)		
1	From the scenario, at least 4 facts are drawn and described	10	5	0
2	List at least 3 possible actions you would take	10	5	0
3	(a) At least 3 stakeholders are identified	10	5	0
	(b) At least 3 consequences/impacts to the stakeholders are described/listed	10	5	0
4	At least 3 relevant NSPE ethical codes are identified	10	5	0
5	A table for how each possible action upholds or violates the ethical codes is generated	20	10	0
6	A table for the level of impact on the 3 consequences/impacts by each possible action is generated	20	10	0
7	The selected option/action along with the reason of the selection are briefly described	10	5	0

C. Submission: Submit a typed report in the following file name:
YourLastName_EthicalDilemma.xxx

D. Submission due: 8:00pm Friday, February 28

E. Late submission Point Deduction (Maximum score by submission date)

Submission Time/Date	Maximum score
By 8:00pm submission date (F)	100
By 5:00pm submission date + 1 (Sat)	70
By 5:00pm submission date + 2 (Su)	50
After the above	0

Scenario¹

The Takata-Tijuana plant is one of the three airbag manufacturing plants of Takata corporation, a Japanese company. The Takata airbags are so dominant and popular that they are installed in most cars in North America and Europe.

The inflator chemical used in the airbag to deploy the bag has been 5-aminotetrazole (HN_4CNH_2), an organic compound.

Recently, the plant starts to use ammonium nitrate (NH_4NO_3) which is cheaper but less stable.

You are an airbag test engineer for the plant. One day in your airbag deployment test, you notice that, under hot condition, the airbag does not deploy but explode with shrapnel projectiles, which could be damaging or fatal to drivers and passengers. This explosive deployment of the new airbag is found to occur also under moderate moisture conditions.

Hundreds of thousand new airbags are shipped and being equipped in to new cars . The Takata-Tijuana plant produces no other product than the new airbag.

What are **you** going to do?

¹ This scenario is a fiction even though the content may resemble a past event.