

EG 2401A Engineering Professionalism

Tutorial 1 (Semester I 2021/22)

Question 1

1(a). Apply the analysis of “Duty-Ethics” and “Rights Ethics”, in the case of the Challenger disaster [Fleddermann 4th Ed pages 7-12], to the “action” of:

- Morton Thiokol recommending the launch of Challenger to proceed, noting “Lund (of Thiokol) reversed his previous decision and recommended that the launch proceed.” [Fleddermann 4th Ed page 11]; and additionally noting that Thiokol were already aware of problems with the O-rings; and
- NASA did not want to postpone the launch, noting “NASA didn’t want to antagonize [Vice-President] Bush, a strong NASA supporter, by postponing the launch due to inclement weather after he had arrived.” [Fleddermann 4th Ed page 10]; and additionally noting that NASA was already informed that the predicted temperatures (in the low 20’s degF) was lower than the lowest 53 degF of previous launches where there was already “blow-by” of the O-rings.

Use the approach considered in the Lecture Class of the tabulation:

Action/ Choice	Party_#1: Morton Thiokol	Party_#2: NASA
Ethics category ---		
Morton Thiokol recommending the launch of Challenger to proceed, noting “Lund (of Thiokol) reversed his previous decision and recommended that the launch proceed.”		
NASA did not want to postpone the launch, noting “NASA didn’t want to antagonize [Vice-President] Bush, a strong NASA supporter, by postponing the launch due to inclement weather after he had arrived.”		

Use one Table each for “Duty-Ethics” and for “Rights Ethics”.

1(b). For the same “actions” above, apply the analysis of “Act-Utilitarianism”; “Rule-Utilitarianism” and “Virtue Ethics”. Use also the tabulation approach.

Note: Students should not merely state their answers, but provide suitable analysis/ observations/ assessments. Wherever possible, they should make reference to more detailed documents such as the “Challenger disaster” article, available as a free download from Wikipedia©, and also placed in the “Assigned Readings” IVLE Folder.

Question 2

2(a). Apply the analysis of “Duty-Ethics” and “Rights Ethics”, in the case of the “Aberdeen Three” [Fleddermann 4th Ed pages 51-52; Harris et al 4th Ed pages 234-235], to the “action” of:

- Managers Gepp, Dee and Lentz --- managing and operating the facility, but having “hazards... left in open containers; chemicals that can become lethal when mixed together stored in the same rooms; barrels of toxic chemicals that were leaking; ... an external tank used to store sulfuric acid that had leaked 200 gallons of acid into a local river.” [Fleddermann 4th Ed page 51]; and
- Workers at the Aberdeen Proving Ground facility --- working at the facility, but having to face the situation of being “exposed to hazardous and toxic chemicals.” [Fleddermann 4th Ed page 51]

Use the approach considered in the Lecture Class of the tabulation:

Action/Recommendation	Party_#1: Managers Gepp, Dee and Lentz	Party_#2: Workers at Aberdeen Proving Ground
Ethics category ---		
Managers Gepp, Dee and Lentz --- managing and operating the facility, but having “hazards... left in open containers; chemicals that can become lethal when mixed together stored in the same rooms; barrels of toxic chemicals that were leaking; ... an external tank used to		

store sulfuric acid that had leaked 200 gallons of acid into a local river.” [Fleddermann 4 th Ed page 51]		
Workers at the Aberdeen Proving Ground facility --- working at the facility, but having to face the situation of being “exposed to hazardous and toxic chemicals.” [Fleddermann 4 th Ed page 51]		

Use one Table each for “Duty-Ethics” and for “Rights Ethics”.

2(b). For the same “actions” above, apply the analysis of “Act-Utilitarianism”, “Rule-Utilitarianism” and “Virtue Ethics”. Use also the tabulation approach.

Note: Students should not merely state their answers, but provide suitable analysis/ observations/ assessments. Wherever possible, they should make reference to more detailed documents such as the “Aberdeen Proving Ground Facility” article, available as a free download from Wikipedia©, and also placed in the “Assigned Readings” IVLE Folder (and other on-line documents).

Supplementary Question (not to be used for graded Tutorial; but for discussions and for reflecting on the “big picture” upon completion of the Ethics Tables). If necessary, discussions on these can spill over into Tutorial 2 sessions.

S1(a). For the case of Question 1 above, ponder and describe:

- At least two Factual issues with ethical considerations;
- At least two Conceptual issues with ethical considerations;
- Possible outright Ethical/ Moral issues.

S1(b). Likewise for the case of Question 2 above, ponder and describe:

- At least two Factual issues with ethical considerations;
- At least two Conceptual issues with ethical considerations;
- Possible outright Ethical/ Moral issues.