The Violated Engineering Ethics That Resulted in the Takata Airbag Recall and the

Actions That Could Have Prevented It

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In February 2017 Takata Corporation, a Japanese company that focused on manufacturing safety devices such as seatbelts and airbags, admitted to knowingly distributing faulty airbags. Prior to this point, Takata was one of the leading companies in the airbag industry, working with 19 different automotive companies. The defective airbags had managed to cause an estimated 25 deaths and 300 injuries worldwide [1]. The problem lies in the inflator, the part of the airbag responsible for inflating the airbag when necessary. The inflator works by using propellant wafers, and Takata had decided to use a cheaper alternative than industry standard, which would sometimes cause the airbag to improperly inflate, sending shards of metal towards the person the airbag was supposed to save. Usually, engineers do their best to ensure that incidents such as this do not happen, and their judgment is helped in part by the code of ethics they follow. Every type of engineer follows a different code of ethics that is relevant to their industry. These ethic codes are put in place so that engineers can ensure that they are always putting the safety and wellbeing of the public first. With respect of the engineers at Takata, it is apparent that some of these ethic codes were violated while manufacturing the defective airbag. My focus will be on the chemical engineers who worked at Takata, as they would have been the ones responsible for overseeing the use of the cheaper and deadlier propellant wafers. The chemical engineers working at Takata were likely part of a Japanese society for chemical engineers, which possesses its own set of ethic codes that they should have followed. Since I do not know the exact organization they were part of I will instead be using the Code of Ethics published by the American Institute of Chemical Engineers (AIChE), as the code of ethics the chemical engineers at Takata followed should be similar [2]. **While keeping the code of ethics published by AIChE in mind, what specific engineering ethics were violated by the chemical engineers responsible, were the actions of the whistleblowers done out of consideration of ethics, and what actions I think the engineers could have taken that would have protected both the public, as well as Takata Corporation.**

What ethics did the chemical engineers at Takata violate while manufacturing the defective airbag? The most obvious ethic code violated is the first one listed by the AIChE, keeping the safety and the wellbeing of the public paramount above all else [2]. Once it became evident that the new propellant they were using was not safe and posed a treat to the public, the engineers at Takata should have done something about it. And they did know that there was danger present. Mark Lillie, a former propellant engineer at Takata, claims that he knew as early as the late nineties that he knew propellant wafers made the air bag unsafe, and had provided evidence that proved as such. Lillie retired from Takata in 1999, stating that he was upset that the company would not listen to his warnings [3]. While it seems evident that Lillie was thinking of the safety of the public, he was not the only engineer at this time. His statements over the matter highlight the lack of corresponding statements by other engineers. This suggests that most of them were either content with doing nothing or did not know how to act in order to bring the matter to light. With some of the executives at Takata falsifying test results and hiding the issue, reporting the problem to higher ups in the company seemingly did nothing [4]. What they should have done lies in the second ethics code they should have followed, to not only advise their employer if the perceive a threat to the public’s safety, but to also consider further disclosure if needed [2]. There are a few former employees who did report the danger to outside authorities, but they were the few among the many. The engineers at Takata should have been more proactive in reporting the dangers to others once it became clear that the company was not taking the treat serious. Regarding the few engineers who did reach out to expose the danger, how much did they actually do?

Did the whistleblowers wo spoke out against their former employer do so out of ethical obligation, or did they have some other motive? Mark Lillie, the most prominent whistleblower against Takata, claimed that speaking up was his “ethical duty” and that he felt it was necessary [3]. Not everyone believes that Lillie and the other whistleblowers came forward due to the “ethical duty”. Kevin Fitzgerald, the former Vice President of Inflator Engineering and Processing who retired in 2014, believes the whistleblowers did not come forth because it was ethically right, but instead in search of an award for doing so. Fitzgerald claims that he was the main informant who brought Takata’s misconduct to light and collaborated with the government in order to enact the massive recall [5]. Fitzgerald started working with the FBI in 2015, the same year Lillie and the other whistleblowers came forward. According to Fitzgerald, Lillie failed to provide any crucial information that would actually help in the investigation. He also mentions that the claims made by John Keller, another of the whistleblowers, that the report he made over the design flaws in the airbags, and how he was told to “go away” was false. Fitzgerald explains how he was the person Keller would have reported to, and at no point did he tell the man to leave, but instead asked him to continue researching [5]. I was only able to find a single article covering Fitzgerald’s side of the story, which was written by Fitzgerald itself. Regardless of if it is true or not, there is one fact that stuck out to me while I was reading it. It was only until 2015, at which point the airbags had been in circulation for many years, that these two engineers decided it was finally time to go to outside authorities about the danger posed to the public. The fact that it took so long for any of the engineers to come forth about the dangers the airbag posed brings in to question if they revealed what they knew because it was ethically right, or if they decided to cash in on the momentum brought forth by the recall that was already in place. If someone had come forth earlier, then I believe that less people would have been injured, and that Takata as a company would still exist today.

# References

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