SEF - Assignment #2

"Things That Go Wrong …"

This assignment has to do with *disasters*. More specifically it deals with documenting a disaster, its causes in the hope that such things can be avoided in the future. In the table below, you will find 2 mandatory disasters that you need to research and document. As well you have to choose another from a list to research and document. Finally you also need to find another software-related disaster (not on the list) that cost either $1 million in damage or caused physical harm to humans.

For each of the disasters you have chosen, answer the following (be sure to *answer each section separately* for each of the items below so that, for example, your answer for the cause can be distinguished from your answer for what could have prevented it):
   a)   Describe the background behind the incident.
   b)   Describe the problem.
   c)   Describe the cause or causes of the problem.
   d)   What would have prevented the problem?
   e)   Did this occur because a requirement was changed inappropriately? Justify your answer.
   f)   Did this occur because the technology was rushed? Justify your answer.
   g)   Did this occur because the problem should have been caught by normal testing but was not? Justify your answer.
   h)   Did people pre-warn against the possibility of such a problem occurring? If so, what role did they have and why were their warnings ineffective. Justify your answer.
   i)   What role did software or electronic systems play in causing the disaster? Justify your answer.
   j)   Provide your references for the above information. Use an accepted bibliographic format (e.g. APA format).

The Format of your Answers:
* From the list above, you can see that for each disaster, you need to answer questions (a) through (j).
* Each question gets its own response – clearly label each response with the question identifier (i.e. "(a) This incident …")
* In each of your responses, you need to
    o   Show me that you have done some research on the topic by having an informative answer
    o   Put the research and your response into your own words – do not blindly copy the text from a book or webpage as this is plagiarism
    o   Not rely on Wikipedia only as your source of information – this will not give you a fully researched answer. As a strategy, you can often times use Wikipedia as a starting point
    o   Form your ideas into complete sentences and paragraphs

Restrictions on the disasters chosen:
- You must choose the Therac-25 and the Mars Climate Orbiter as two of the disasters.
- Choose one disaster from Category A.

Restrictions on the disaster you find on your own:
- It must be an accident (cannot be sabotage, cannot be as a result of an attack, etc.).
- It must not be one discussed in any lecture of this course or mentioned in any required reading.

Deliverables: Submit your document to the appropriate eConestoga Dropbox by 11:59pm on Thursday December 4, 2014

Date	Name	Location	Disaster
Mandatory			
1985 to 1987	Therac-25	North America	Radiation Overdoses
Sept 23, 1999	Mars Climate Orbiter	Mars	Crash
Category A			
June 3, 1980	NORAD	North America	False Soviet missile attack
March 28, 1979	Three Mile Island	Middletown, PA	Reactor core meltdown
May 26, 1991	Lauda Air 767	Bangkok, Thailand	Plane crash
June 10, 1995	Royal Majesty	Massachusetts	Ship grounding
Oct 2, 1996	AeroPeru 757	Pacific Ocean	Plane crash
Dec 3, 1999	Mars Polar Lander	Mars	Crash
Category B (one of your own choosing)			
• It must be an accident (cannot be sabotage, cannot be as a result of an attack, etc.) • You need to source out and find a disaster of your own ... you cannot choose another disaster from Category A • It must not be one discussed in any lecture of this course or mentioned in any required reading			

In total, you must cover four disasters: the two required ones, one from A, and one of your choosing.