

EXERCISE SPECIFICATION

Student name:		Student ID number:	
Programme:			
Module:	Safety & Hazard Assessment		
Module code:	ACDB5013	Contribution to Overall Module Assessment (%):	0 - Unmarked
Lecturer:	SSO PE Ltd	Internal Verifier:	
Assignment Title:	Risk Assessment (Exercise)	Word count (or equivalent):	N/A
Submission deadline:	N/A	Return date of provisional marks & written feedback:	N/A
Submission method:	No submission required.		
Academic honesty / referencing:	Academic honesty is required. In the main body of your submission you must give credit to authors on whose research and ideas your work is based. Append to your submission a reference list that indicates the books, articles, etc. that you have used, cited or quoted in order to complete this assessment.		

Module Learning Outcomes (from module syllabus)

1. Critically analyse the requirements for Safety Led Design, hazard identification (HazID) and hazard operability (HazOp)
2. Effectively communicate to specialist and non-specialist audiences the outcomes of HazID & HazOp processes.
3. Demonstrate an awareness of the legislation relevant to the manufacture, storage, transportation and use of explosives.

TASK DESCRIPTION

Group Exercise:

Produce, as part of a small group, a high-level risk assessment covering major hazards for either an air launch munition (e.g. Brimstone 2), personal weapon (e.g. AK-47), armoured vehicle system (e.g. AJAX), sea launch munition (e.g. Sea Wolf), or large calibre gun system (e.g. 155mm).

Important: *This is an exercise and not a marked assignment, the assignment will be based on this work however.*

Step 1 - Initially, the group should perform a small Haz ID, aiming to capture the major hazards for their given system. The group should then select approximately 3-4 of the most important hazards, to be taken forward for further analysis. The group should discuss why the chosen hazards were deemed the most important. It may be helpful to narrow down the scope of the hazard to one phase in the Manufacture to Target Disposal Sequence (MTDS) if the hazard applies to multiple phases. A formal Haz ID technique (as spoken about in lectures) may be too onerous, it is suggested this is done in a brainstorming session. Referring to historical evidence and information from industry may help.

Step 2 - Next, the group should consider and estimate the risk for each of their chosen hazards, prior to any controls being implemented. As part of this, generate a Risk Classification Matrix to determine the risk levels presented by the hazards. It is acceptable to utilise industry experience, however the work must remain non-proprietary and unclassified. By the end of this stage, the 3-4 chosen hazards should be assigned a risk class from the matrix.

Step 3 - Following that, the group should brainstorm controls and mitigations that will reduce the risk presented by these 3-4 hazards. Be as creative as possible and attempt to reduce the risks to an ALARP position. Referring to new technologies, scholarly articles and industry good practice will help. The group should discuss how the chosen mitigations and controls will reduce the risk, and by how much. Additionally, the effectiveness of controls should be considered.

Step 4 - Finally, the group should estimate the new risk, assuming the controls and mitigations have been implemented and using the matrix from Step 2. Justify that the controls and mitigations will reduce the hazards to at least a Tolerable and ALARP position. This justification should explain why controls and mitigations were discounted in the Step 3, focussing on the 'Grossly Disproportionate' concept. Referring to techniques such as Cost Benefit Analysis may be beneficial.

Summary – The group should produce a risk assessment.

Full system knowledge is not expected; however, you should be able to identify the major hazards of each system.

All information utilised must be unclassified and open source.

This work is not an assignment and hence is not marked.