Version 2024 November 8	Updated ECH Approved RAK	

SMM 7.0.2.3 Qualitative Risk Assessment (Hazard Analysis)

More complex evolutions or longer-term events require a more detailed approach to assessing risks on a larger scale. This includes identifying hazards associated with a specific event or evolution, assessing likelihood and consequences of those hazards, computing risk for each hazard, considering mitigation measures, and re-evaluating the risk with the mitigation measures in place.

The Qualitative Risk Assessment (Hazard Analysis) is completed using the linked spreadsheet. The user inputs the activity being evaluated and then lists the hazards that have been identified along with this activity. From the dropdown menus, the likelihood of the event (rare, unlikely, possible, probable, highly probable) is selected as well as the consequences (very low, low, medium, high, very high).

Activity being evaluated:					
			Risk Estimate	**Proposed**	**Mitigated Risk**
Identified hazards:	**Likelihood**	**Consequences**	**(from matrix)**	**Controls**	**Estimate**
	Rare	Very Low	1 Minor		
	Unlikely	Low	4 Moderate		
	Possible	Medium	9 Moderate		
	Probable	High	16 Major		
	Highly Probable	Very High	25 Severe		

Using the two input columns, the person conducting the risk assessment then goes into the 5 x 5 risk matrix to compute the risk. This value is entered into the Risk Estimate (from matrix) column.

RISK ESTIMATOR						
5 x 5 RISK MATRIX						
LIKELIHOOD	Highly Probable	5 Moderate	10 Major	15 Major	20 Severe	25 Severe
	Probable	4 Moderate	8 Moderate	12 Major	16 Major	20 Severe
	Possible	3 Minor	6 Moderate	9 Moderate	12 Major	15 Major

	Unlikely	2 Minor	4 Moderate	6 Moderate	8 Moderate	10 Major
	Rare	1 Minor	2 Minor	3 Minor	4 Moderate	5 Moderate
		Very Low	Low	Medium	High	Very High
		CONSEQUENCES				

With the initial risk calculated for each hazard, review the recommended response from the table below.

Recommend Response	
1-3 Minor	No additional controls are required. Monitoring is required to ensure control is maintained.
4-9 Moderate	Efforts are required to reduce risk. Controls are to be implemented within a specified time.
10-16 Major	New work not to start until risk is reduced. If work is in progress, urgent action to be taken. Considerable resources may be required.
>16 Severe	Work shall not be started or continued until the risk has been reduced. If reduction is not possible, the activity shall be prohibited.

For items with risk estimates above minor, efforts are required to reduce risk. These proposed controls (or mitigation measures) are listed in that column on the spreadsheet. Controls can reduce the likelihood of the event, the consequences, or both. The risk estimate is calculated again from the 5 x 5 risk matrix with the controls in place. This value is then recorded in the mitigated risk estimate column.

Since the number of hazards identified for a given evolution will vary, this spreadsheet is not intended to give a cumulative score of the overall risk of an evolution or event against a scale. Instead, it is used to document the hazards, assess which hazards present the highest risks, and propose controls or mitigation measures for the identified risks.

Examples of completed Qualitative Risk Assessment Spreadsheets are in the Safety Management System Google Drive

The completed spreadsheet shall be documented in Sinex and a copy sent to the DPA