

Example health risk assessment tables

NSW Mining and extractives industry

January 2018

Risk assessing health hazards that do not have exposure limits

RISK ASSESSMENT NUMBER (RAN)		
RAN 1-6	High and unacceptable	Put in to place the best PREVENTION controls
RAN 7-10	Medium and Unacceptable	A PREVENTION control is necessary (with PROTECTION controls)
RAN 11 -15	Medium and undesirable	Combined PROTECTION controls as minimum. Look to improve.
RAN 16 – 19	Low and acceptable	A PROTECTION control is need as minimum. Review for opportunities to improve.
RAN 20 - 25	Low and desirable	MONITOR effectiveness of controls

		Likelihood					
		A	B	C	D	E	
		Frequent	Probable	Occasional	Remote	Improbable	
Consequence	1	Death	1	2	4	7	11
	2	Severe and Permanent	3	5	8	12	16
	3	Mild and Permanent	6	9	13	17	20
	4	Temporary	10	14	18	21	23
	5	Minor	15	19	22	24	25

CONSEQUENCE KEY		
1	Death/terminal illness	Increasing debilitation over time resulting in death
2	Sever permanent health effects	Substantial loss of normal function
3	Mild permanent health effects	Permanent restriction of normal function such as hearing, mobility and other normal activities
4	Temporary health effects	Health effects. Both physical and psychological, that is reversible and unlikely to result in permanent illness or disability.
5	Minor health effects	Short term impacts that are fully reversible

LIKELIHOOD KEY		
A	Frequent/high intensity	Intense exposure is likely to occur frequently in the life of the operation
B	Probable/moderate to high intensity	Intense exposure is likely to occur several times in the life of the operation.
C	Occasional/moderate intensity	Moderate intensity exposure is likely to occur in the life of the operation
D	Remote/low intensity	Exposure at a level that will result in an adverse health
E	Improbable/low intensity	Intense exposure is so unlikely that is can be assumed that it would not occur. Exposures are controlled to well below the level for adverse health outcomes

Example health risk assessment tables

January 2018

Risk assessing health hazards that have exposure limits (atmospheric contaminants and hazardous chemicals)

CONSEQUENCE KEY		PRIORITISING RISK TABLE							
Death/terminal illness.	Increasing debilitation overtime resulting in death	Intensity		STEL			TWA		No of red risk ratings
		TWA	STEL	Length	Frequency	Break	Length	Frequency	
Severe permanent health effects	Substantial loss of normal function (severely restricted or loss of mobility due to illness)								
Mild permanent health effects	Permanent restriction of normal function	Red rating	Immediate intervention	Immediate action is required to eliminate or reduce exposure. Decide whether your exposure risk is due to intensity, frequency or exposure time and implement appropriate controls					
Temporary health effects	Health effects that are likely to resolve and not result in permanent disability or illness	Orange rating	Reinforce controls	Evaluate the effectiveness of current controls and determine what further controls are needed to manage the risk					
Minor health effects	Short term impacts that are fully reversible	Green rating	Monitor existing controls and exposure	Continue to monitor the implementation and effectiveness of controls and take appropriate action where needed.					
No effect	Exposure not likely to cause effect	Summary of risk:							

TIME WEIGHTED AVERAGE ASSESSMENT TABLE			
Exposure Time		Frequency of Exposure	
Is the exposure more than 8 hours in a 24 hour period?		Is the exposure more than 5 times in a 7 day period	
No	Yes	No	Yes

Example health risk assessment tables

Risk assessing atmospheric contaminants and hazardous chemicals (cont.)

INTENSITY ASSESSMENT TABLE

	Hazard	Exposure Standard		Risk Rating Red, Orange or Green	
		TWA	STEL	TWA	STEL
		ppm	ppm		

SHORT TERM EXPOSURE LEVEL ASSESSMENT TABLE (STEL)

Exposure Length Assessment						Frequency Assessment						Break Length Between Exposure								
Exposure Length	4 Times in a 24 hour period			60 Mins Between Successive Exposure			Frequency	15 Mins			60 Mins Between Successive Exposure			Break Length Between Exposure Assessment	4 Times in a 24 hour period			15 Mins		
	Less	Equal	More	Less	Equal	More		Less	Equal	More	Less	Equal	More		Less	Equal	More			
15 Mins	Less	Equal	More	Less	Equal	More	4 Times in a 24 hour period	Less	Equal	More	Less	Equal	More	60 Mins Between Successive Exposure	Less	Equal	More	Less	Equal	More



Example health risk assessment tables

Risk assessing noise

January 2018

Sound Level L _{Aeq T} dB (A)	15 mins	30 mins	1 hr	2 hr	4 hr	8 hr	10 hr	12 hr
<101	High	High	High	High	High	High	High	High
100	Moderate	High	High	High	High	High	High	High
99	Moderate	High	High	High	High	High	High	High
98	Moderate	High	High	High	High	High	High	High
97	Moderate	Moderate	High	High	High	High	High	High
96	Moderate	Moderate	High	High	High	High	High	High
95	Moderate	Moderate	High	High	High	High	High	High
94	Low	Moderate	Moderate	High	High	High	High	High
93	Low	Moderate	Moderate	High	High	High	High	High
92	Low	Moderate	Moderate	High	High	High	High	High
91	Low	Low	Moderate	Moderate	High	High	High	High
90	Low	Low	Moderate	Moderate	High	High	High	High
89	Low	Low	Moderate	Moderate	High	High	High	High
88	Low	Low	Low	Moderate	Moderate	High	High	High
87	Low	Low	Low	Moderate	Moderate	High	High	High
86	Low	Low	Low	Moderate	Moderate	High	High	High
85	Low	Low	Low	Low	Moderate	Moderate	High	High
84	Low	Low	Low	Low	Moderate	Moderate	Moderate	High
83	Low	Low	Low	Low	Moderate	Moderate	Moderate	Moderate
82	Low	Low	Low	Low	Low	Moderate	Moderate	Moderate
81	Low	Low	Low	Low	Low	Moderate	Moderate	Moderate
80	Low	Low	Low	Low	Low	Moderate	Moderate	Moderate
79	Low	Low	Low	Low	Low	Low	Moderate	Moderate
>78	Low	Low	Low	Low	Low	Low	Low	Low

