

TABLE A.3
Summary Sheet for Continuing Example 2a: Risk Matrix Consequence Categorization Method
(Method 1 of Chapter 3)

Scenario Number	Equipment Number	Scenario Title: Hexane Storage Tank Overflow. Spill not contained by the dike	
Date:	Description	Probability	Frequency (per year)
Consequence Description/Category	Release of hexane (1,000 - 10,000 lbs.) outside the dike due to tank overflow and failure of dike. Severity Category 4		
Risk Tolerance Criteria (Category or Frequency)	Action required Tolerable		$>1 \times 10^{-3}$ $<1 \times 10^{-5}$
Initiating Event (typically a frequency)	Arrival of tank truck with insufficient room in the tank due to failure of the inventory control system. Frequency based upon plant data.		1
Enabling Event or Condition		N/A	
Conditional Modifiers (if applicable)	Probability of ignition	N/A	
	Probability of personnel in affected area	N/A	
	Probability of fatal injury	N/A	
	Others	N/A	
Frequency of Unmitigated Consequence			1
Independent Protection Layers	Operator checks level before unloading (existing) (PFD from Table 6.5)	1×10^{-1}	
	Dike (existing) (PFD from Table 6.3)	1×10^{-2}	
	SIF (to be added – see Actions)	1×10^{-2}	
Safeguards(non-IPLs)	BPCS level control and alarm is not an IPL as it is part of the BPCS system already credited in LI read by operator.		
Total PFD for all IPLs		1×10^{-5}	
Frequency of Mitigated Consequence			1×10^{-5}
Risk Tolerance Criteria Met? (Yes/No): Yes, with added SIF.			
Actions Required to Meet Risk Tolerance Criteria	Add SIF with PFD of 1×10^{-2} . Responsible Group/Person: Plant Technical/ J. Doe June 2002 Maintain emphasis on procedure to check level as a critical action. Maintain dike as an IPL (Inspection, maintenance, etc.)		
Notes	Human action at 1×10^{-1} since BPCS level indication is part of this IPL. Add action items to action tracking database.		
References (links to originating hazard review, PFD, P&ID, etc.):			
LOPA analyst (and team members, if applicable):			