

TABLE A.7
Summary Sheet for Continuing Example 2a: Fatality Frequency Method
(Method 3 of Chapter 3)

Scenario Number	Equipment Number	Scenario Title: Hexane Storage Tank Overflow. Spill not contained by the dike	
2a			
Date:	Description	Probability	Frequency (per year)
Consequence Description/Category	Release of hexane outside the dike due to tank overflow and failure of dike with potential for ignition and fatality.		
Risk Tolerance Criteria (Category or Frequency)	Maximum Tolerable Risk of a Serious Fire Maximum Tolerable Risk of a Fatal Injury		$<1 \times 10^{-4}$ $<1 \times 10^{-5}$
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	1	
	Probability of personnel in affected area	0.5	
	Probability of fatal injury	0.5	
	Others	N/A	
Frequency of Unmitigated Consequence			0.25
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			2.5×10^{-6}
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):			