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Safety Analysis Methodology

The methodology used is based upon the guidance given in SAN Management Directive 5481.1A of September 1989.

Table 6-1: Probability Rating Levels

Category	Symbol	Description	Estimated Range of Probability of Occurrence Per Year
Incredible		Probability of occurrence is so small that a reasonable scenario is not conceivable. These events are not considered in the design of SAD accident analysis.	$<10^{-6}$
Extremely Low	A	Probability of occurrence is extremely unlikely or the event is not expected to occur during the life of the operation. Events are limiting faults considered in design. (Maximal credible accidents.)	10^{-6} to 10^{-4}
	B	Probability of occurrence is unlikely or the event is not expected to occur during the life of the facility or operation.	10^{-4} to 10^{-2}
Medium	C	Event may occur during the life of the facility or operation.	10^{-2} to 10^{-1}
	D	Event is likely to occur several times during the facility or operation lifetime.	$>10^{-1}$

Table 6-2: Consequence Rating Levels

Consequence Level	Description Words	Maximum Consequence
	High	Serious impact on site or off site. May cause deaths or loss of the facility/operation. Major impact on the environment.
2	Medium	Major impact on site or minor impact off site. May cause death, severe injury, or severe occupational illness to personnel or major damage to a facility/operation or minor impact on the environment. Capable of returning to operation.
3	Low	Minor on-site with no off-site impact. May cause minor injury or minor occupational illness or minor impact on the environment.
4	Extremely Low	Will not result in a significant injury or occupational illness or provide a significant impact on the environment.

Figure 6-1: Risk Matrix

