Quantitative Risk Assessment

Single loss expectancy (SLE): Total loss expected from a single incident

Annual rate of occurrence (ARO): Number of times an incident is expected to occur in a year

Annual loss expectancy (ALE): Expected loss for a year

$$ALE = SLE \times ARO$$

Safeguard value: Cost of a safeguard or control

Scenario 1: Richman Investments provides high-end smartphones to several employees. The value of each smartphone is $500, and approximately 1,000 employees have these company-owned devices. In the past year, employees have lost or damaged 75 smartphones.

With this information, calculate the following:

SLE	
ARO	
ALE	

Richman is considering buying insurance for each smartphone. Use the ALE to determine the usefulness of this safeguard. For example, Richman could purchase insurance for each device for $25 per year. The safeguard value is $25 X 1,000 devices, or $25,000. It is estimated that if the insurance is purchased, the ARO will decrease to 5. Should the company purchase the insurance?

Determine the effectiveness of the safeguard (fill in blank boxes):

Current ALE	
ARO with control	5
ALE with control	
Savings with control (current ALE - ALE with control)	
Safeguard value (cost of control)	$25,000
Realized savings (savings with control - safeguard value)	

Should Richman buy the insurance? Explain your answer.