



Managing Security for the Food Supply

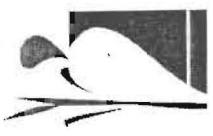
Establishing Security Programs
Assessing and Managing Risk



Why Establish a Security Program

- ◆ The world has changed since 9-11-01
- ◆ Large food manufacturers requiring demonstrated security processes
- ◆ Good business to assess and reduce risk





Security Plans

- ◆ **TEAM Assessment**

Threat Exposure Assessment & Management

- ◆ **ORM**

- ◆ **Operational Risk Management**

Operation Risk Management (ORM)



Operation Risk Management (ORM)

- ◆ Based on military principles
- ◆ Decision making tool for identifying and controlling hazards
- ◆ Goal: Minimize risks so the mission can be accomplished with minimum amount of loss
- ◆ Four Principles:
 - Accept risk when Benefit > Risk
 - Accept no unnecessary risk
 - Anticipate and manage risks by planning
 - Make risk decisions at the right level



Threat Exposure Assessment & Management (TEAM)

TEAM Process Outline

◆ Several Groups have published a set of





Security Guidelines

- ◆ Several Groups have published a set of Security Guidelines
 - Food Safety Inspection Service (FSIS-USDA)
 - Food and Drug Administration(FDA)
 - National Food Processors Association (NFPA)
 - The Sugar Association
 - The American Feed Industry Association
 - Yada, yada, yada.....



Threat Exposure Assessment & Management (TEAM)

TEAM Process Outline

- ◆ **Mission:** The desired outcome (food security)
- ◆ **Management:** Directs the food security operation by defining standards, procedures and controls.
- ◆ **Threat Sources:**
 - ◆ **People: Machines: Environmental Forces**
 - ◆ **Food Security :** Protection of the food supply against deliberate introduction of a harmful agent into the food chain with intent to cause illness, injury or death, property damage or business degradation



TEAM Definitions

- ◆ **Risk:** An expression of possible loss in terms of severity and probability that may result from threats.
- ◆ **Risk assessment:** Identifying threats and determining impact on the safety of food or the business or mission
- ◆ **Risk management:** Analyze food security risks and implement risk control decisions
- ◆ **Threat:** Potential for deliberate introduction of a harmful agent into the food chain with intent to cause illness, injury or death, property damage or business degradation.



TEAM Assessment

Six Step Process

- ◆ 1. Identify the Threats
2. Assess the Risk
- ◆ 3. Analyze Risk Control Measures
4. Make Control Decisions
- ◆ 5. Implement Risk Controls
6. Supervise & Review



Identify the Threats - Step 1

- ◆ Operation Analysis - Flow Diagram
 - ◆ Identify Where Threats Could be Introduced
 - ◆ “What If” Brainstorming
-





Assess the Risks - Step 2

- ◆ Risk is a product of:

Severity x Probability x Detectability

The application of quantitative or qualitative measures to determine the level of risk associated with a specific threat.



Probability

The likelihood a threat can happen

◆ **Frequent - 5**

◆ **Likely - 4**

◆ **Occasional - 3**

◆ **Seldom - 2**

◆ **Unlikely - 1**



Assess the Risks - Step 5



Severity

The degree a threat will damage the business

- ◆ Catastrophic - 4
- ◆ Critical - 3
- ◆ Moderate - 2
- ◆ Negligible - 1





Detectability

The likelihood of the ability to detect a contaminant

- ◆ Almost Impossible - 5
 - ◆ Low - 4
 - ◆ Medium - 3
 - ◆ High - 2
-
- ◆ Almost Certain - 1



Risk Priority Number (RPN)

Example:

- ◆ Reduction of any of the three risk factors

Severity x Probability x Detectability = RPN

- ◆ Address the highest Risk Priority Number

Reduce, mitigate, or eliminate the risk;

- ◆ Investigate strategies and tools that



Analyze Risk Control Measures - Step 3



Analyze Risk Control Measures - Step 3

- ◆ Investigate strategies and tools that reduce, mitigate, or eliminate the risk.
- ◆ Address the highest Risk Priority Numbers (RPNs) first
- ◆ Reduction of any of the three risk factors (Severity, Probability, Detectability) can reduce the overall RPN





Make Control Decisions - Step 4

Analyze and determine Level of Effectiveness of Risk Control Measures

- ◆ Most effective
- ◆ Very effective
- ◆ Effective
- ◆ Somewhat Effective



Implement Risk Control - Step 2



Implement Risk Control - Step 5

- ◆ Document each change
- ◆ Inform personnel of the changes
- ◆ Very effective
- ◆ Most effective



Make Control Decisions - Step 4



Supervise & Review - Step 6

- ◆ Conduct reassessment to determine if risk has been reduced through Risk Control Measure Implementation
- ◆ Address next highest RPNs by following the same process
- ◆ Maintain documentation of risk changes





Getting Started

- ◆ Assemble Team at Each Plant, comprised of 2 cross functional plant personnel
- ◆ Develop process flow starting from entry of raw materials in to the plant and ending with the shipment of finished product
- ◆ Identify risk areas (personnel, machines, environment)
- ◆ Assess risk (severity, probability, detectability)



Assessment Documentation

TEAM Assessment Risk Analysis						
Flow Diagram Step	Description	Threats	S	P	D	RPN Total



Risk Controls - Level of Effectiveness Documentation

Threat	Risk Control Measures	Level of Effectiveness
	1	
	2	
	3	
	4	
Threat	Risk Control Measures	Level of Effectiveness
	1	
	2	
	3	
	4	
Threat	Risk Control Measures	Level of Effectiveness
	1	
	2	
	3	
	4	