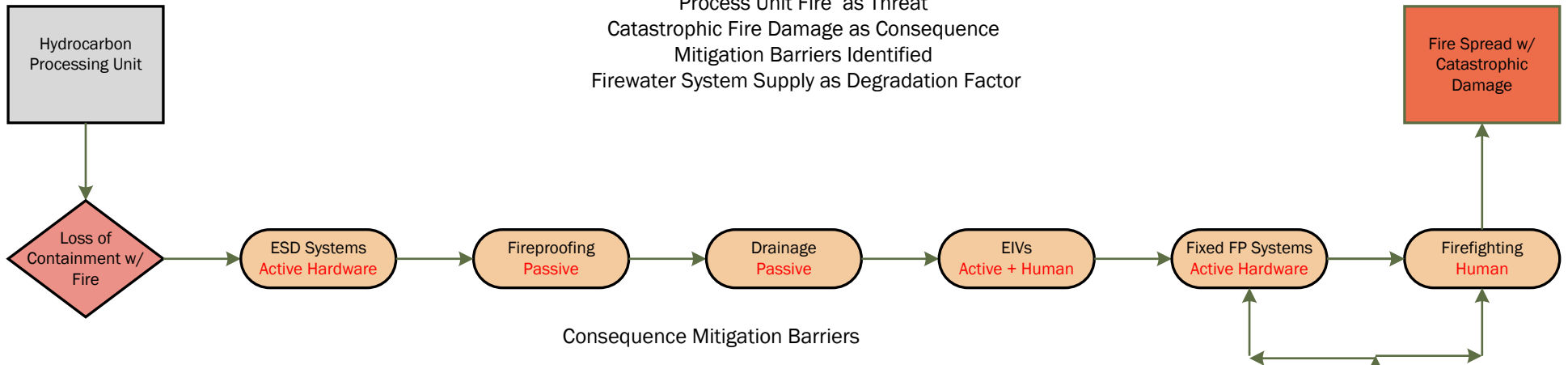


BOW TIE

Process Unit Fire as Threat
 Catastrophic Fire Damage as Consequence
 Mitigation Barriers Identified
 Firewater System Supply as Degradation Factor



Description

A loss of containment of hydrocarbons with ensuing fire is assumed. This Bow Tie looks at the barriers a process unit has to mitigate the consequences of a fire.

The final two barriers: Fixed Fire Protection Systems and manual Firefighting have a common degradation factor - the Firewater Supply (FWS).

The FWS consists of Source, Pumps and Piping.

Fixed Fire Protection Systems includes Sprinkler and Deluge Systems, fire monitors, hydrants, foam systems, etc.

Firefighting includes incipient and structural firefighting efforts by all parties

Degradation Controls

Firewater System Needs Analysis
Human

Design Review of Equipment
Human

Impairment Handling Policy
Human

Common Mode Degradation Factor

Inadequate Firewater Supply

Design

Maintenance

Impairment

Basis for Inadequacy