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U.S. NAVY AIRCRAFT HALON 1301 EFFECTIVITY ANALYSIS

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OBJECTIVE

- To present data which demonstrate the effectivity of Navy fixed-wing and rotary-wing aircraft Halon 1301 fire suppression systems

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INTRODUCTION

- Navy Safety Center
  - Aircraft mishap reports
- All Navy aircraft fire incidents between 1977 -1993 inclusive

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ASSUMPTIONS

- Analysis restricted to Navy aircraft which utilize halon 1301 as a fire suppressant
- The data pertains to those incidents which the pilot activated the fire suppression system
- Excluded incidents
- Extinguishment by unknown means
- Aircraft equipped w/ halon fire suppression

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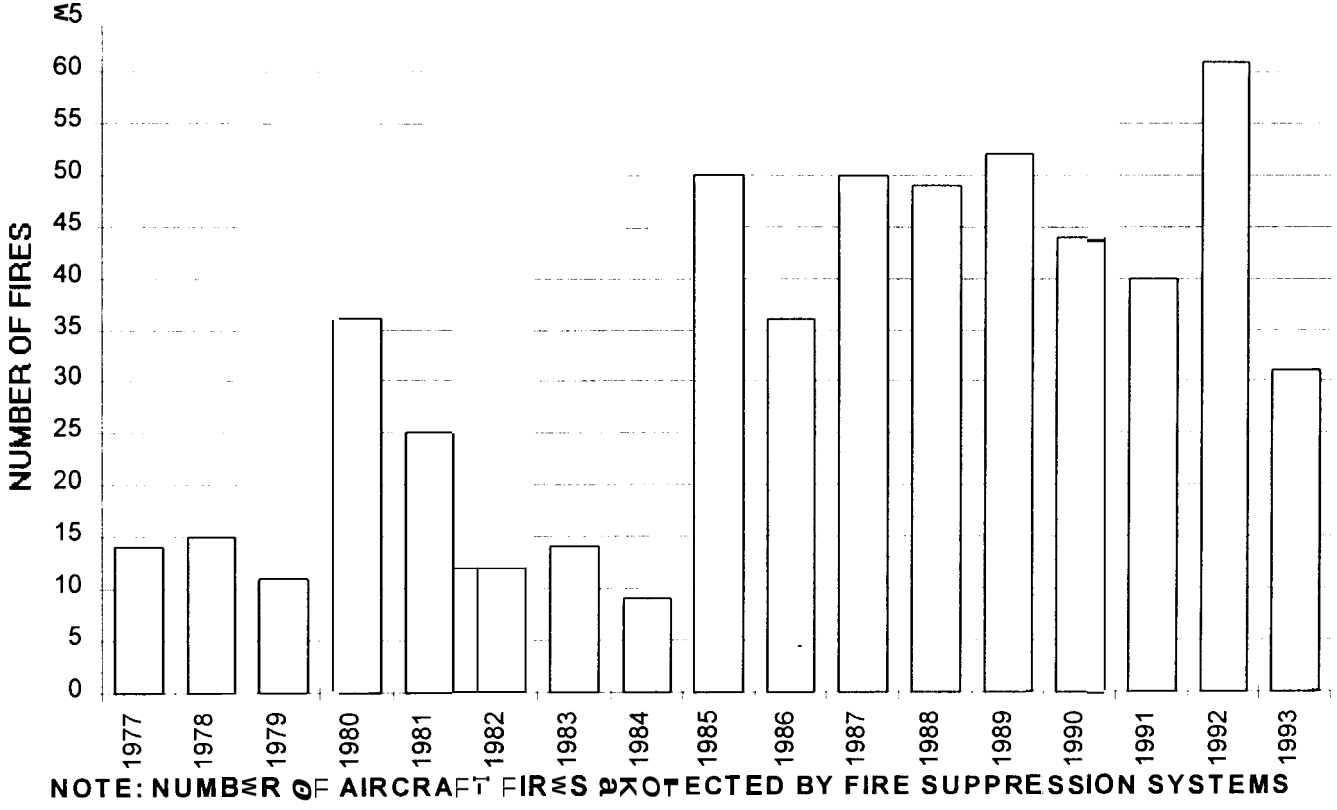
WHEN FIRES OCCURRED IN HALON PROTECTED AIRCRAFT



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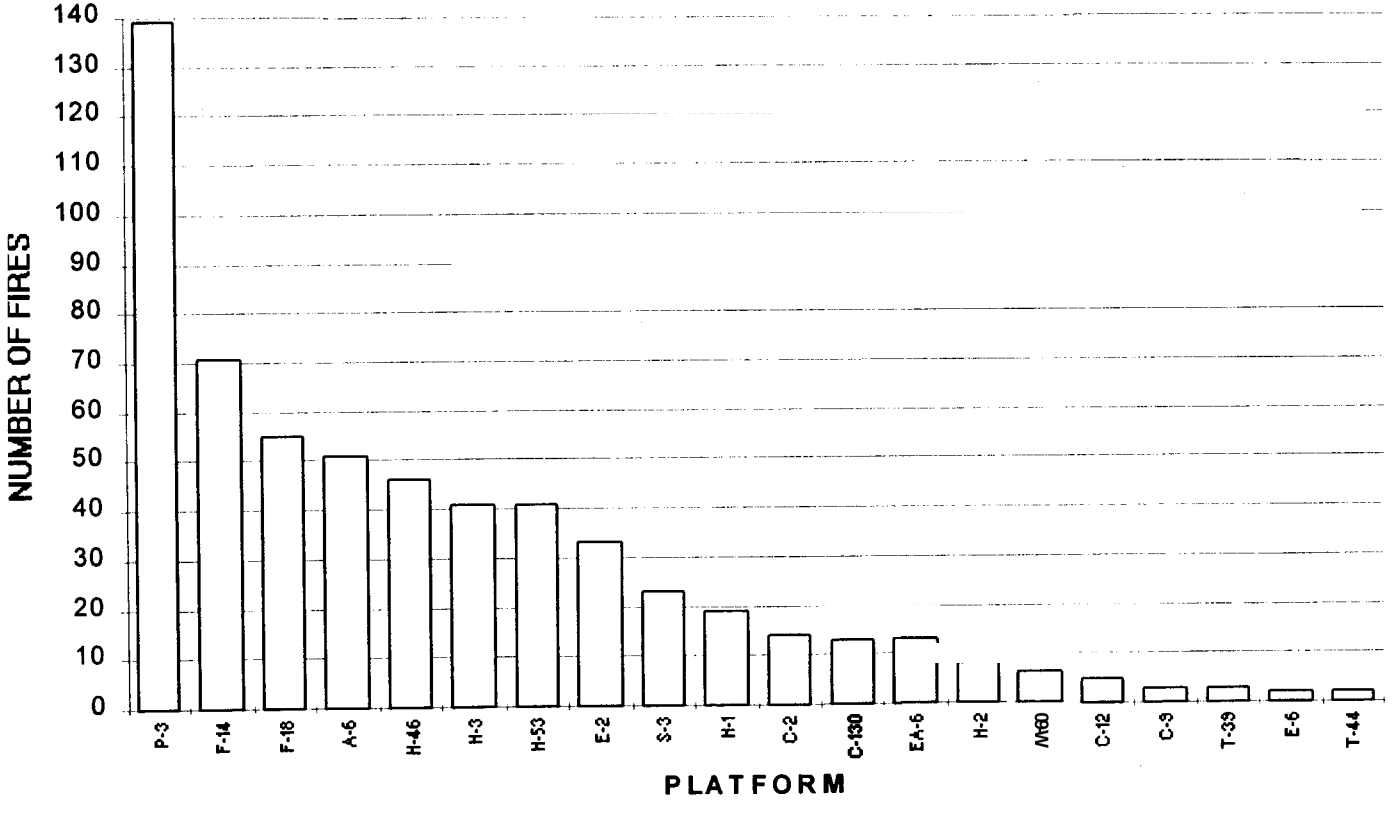
FIRE INCIDENTS BY AIRCRAFT



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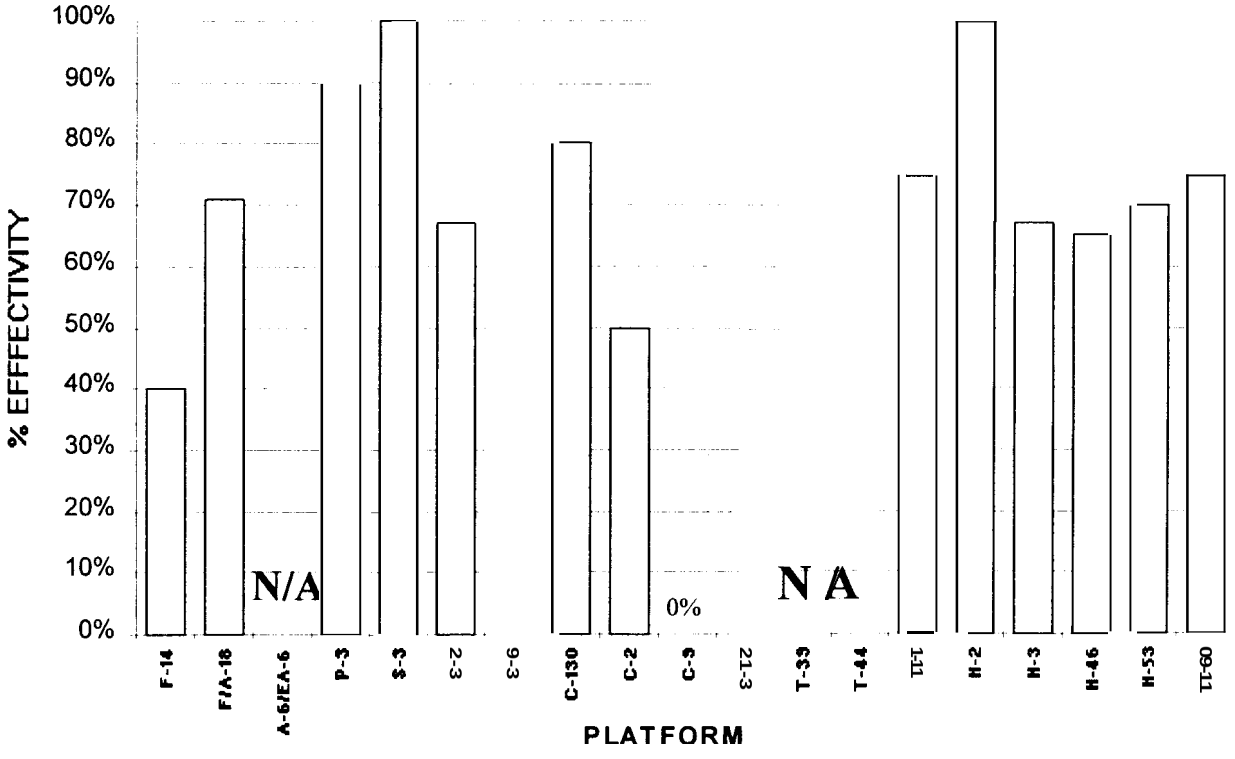
HALON EFFECTIVITY BY AIRCRAFT



NOTE: N/A IMPLIES NO ATTEMPT WAS MADE WITH FIRE SUPPRESSION SYSTEM

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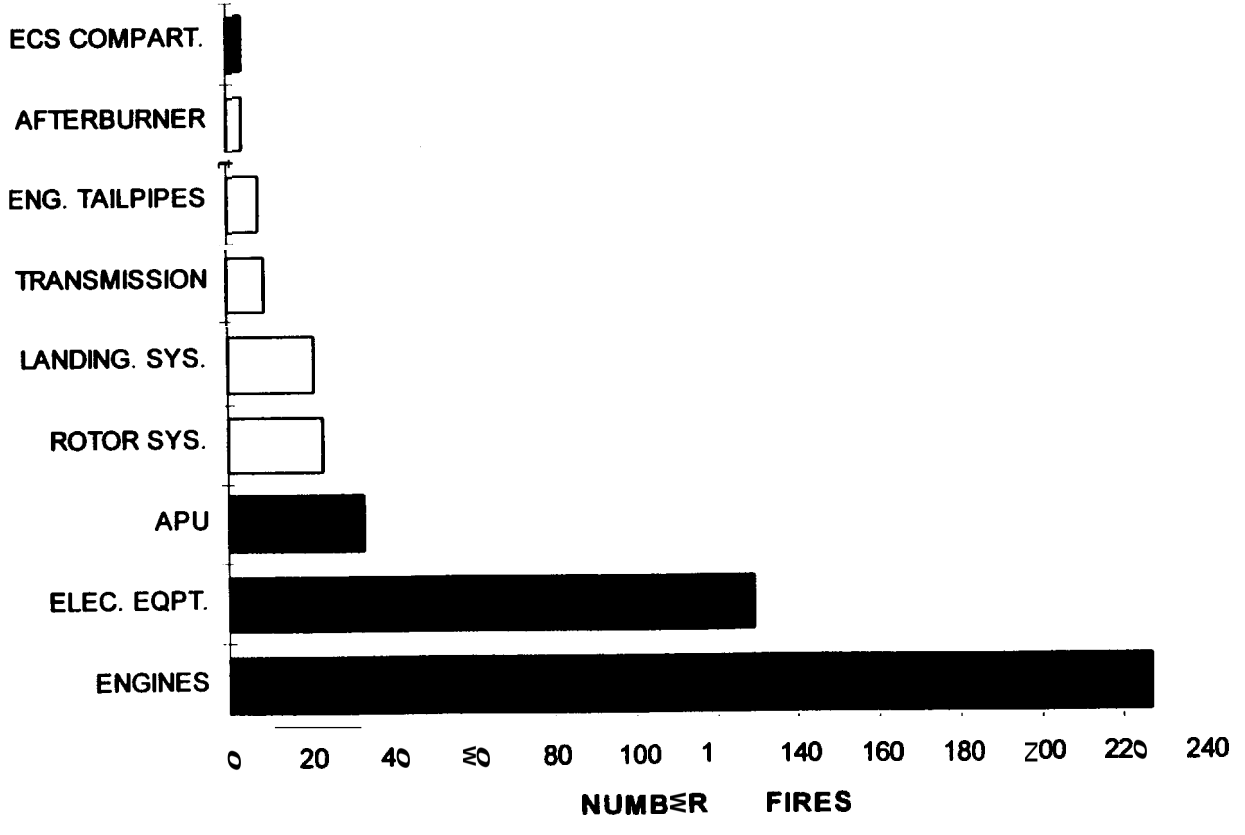
FIRE LOCATIONS



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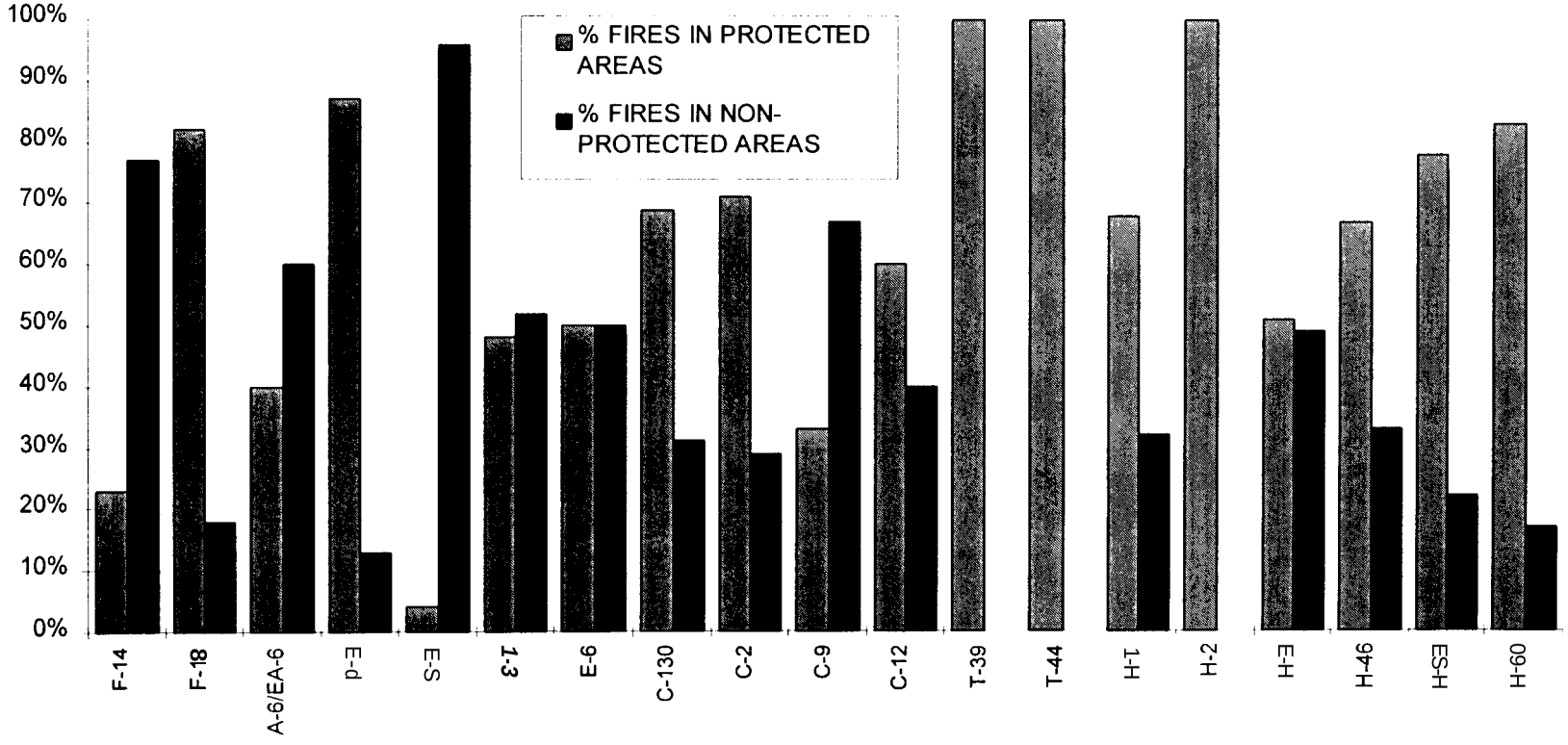
PROTECTED Vs. NON-PROTECTED AREAS



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SUMMARY - FIXED WING AIRCRAFT

- Halon fire extinguishing systems were 78% effective overall
  - Portable halon fire extinguishing systems were 86% effective overall

    Engine halon fire extinguishing systems were 72% effective overall

    APU halon fire extinguishing systems were 100% effective overall (P-3)

SUMMARY - ROTARY WING AIRCRAFT

- Halon fire suppression systems were 72% effective overall
  - Portable halon fire extinguishing systems were 89% effective overall
  - Engine halon fire extinguishing systems were 57% effective overall
  - APU halon fire extinguishing systems were 75% effective overall (H-53)

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LESSONS LEARNED FROM ANALYSIS

- Altitude data
- Fire bottle redundancy
- Left/right engine vs. concentration measurement
- Greater attention to non-traditional fire zones