COMPARATIVE CASE STUDY: EXPEDITIONARY COMBAT VEHICLE (EFV) AMPHIBIOUS COMBAT VEHICLE (ACV)

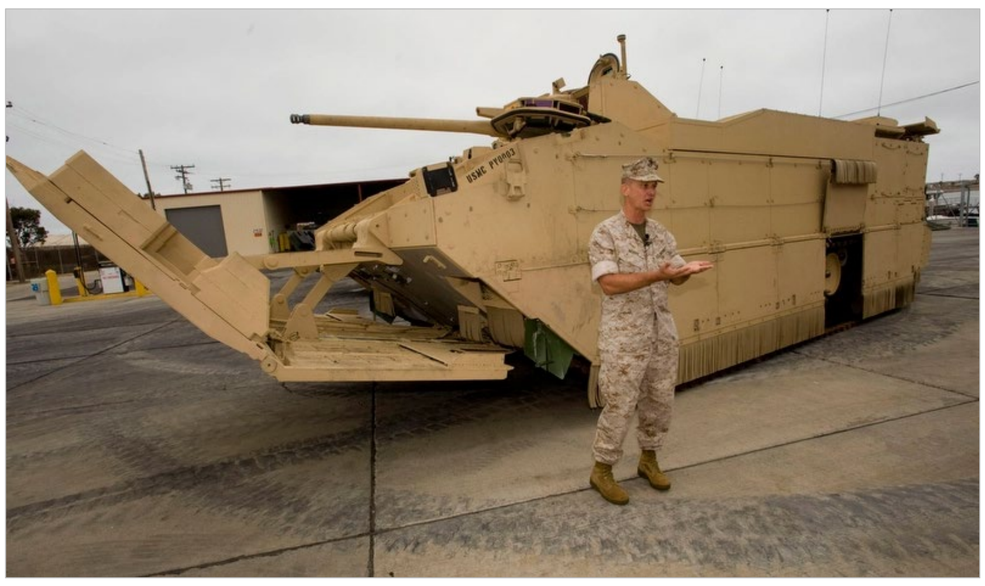
Naval Postgraduate School

Abstract

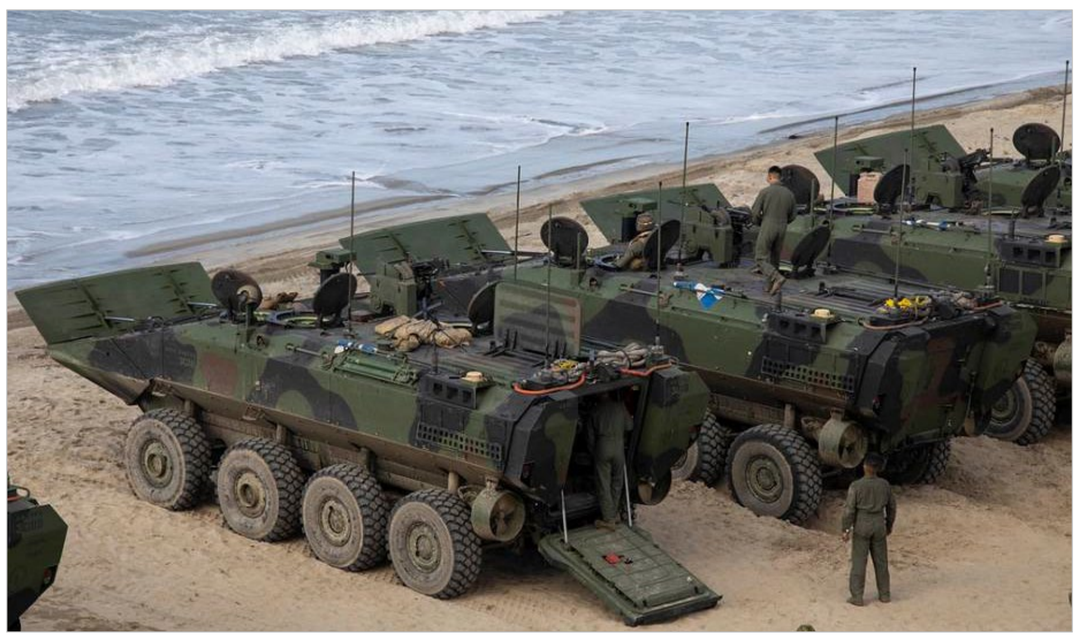
- The failed AAAV/EFV program cost the taxpayers $3 billion from 1988 to 2011.

WHY?

- Bona fide need to replace aging AAV
- EFV requirements challenges
- EFV reliability and testing issues
- Did the ACV learn from the EFV program?



EFV Sideview Showing Bow Flap, Camp Pendleton, CA (Jolly, 2010)



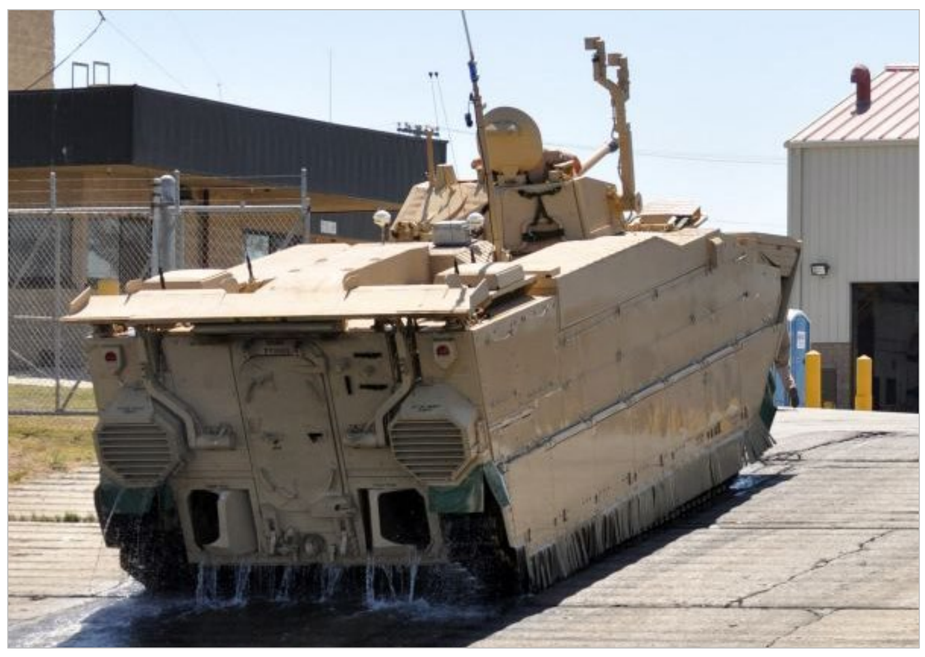
ACV Rear Aspect, Camp Pendleton, CA (DoD, 2022)

Methods

- DoD Decision Support System (DSS) model analysis
- Background and timeline
- Program data analysis
  - Statutes, JCIDS, DAS, PPBE, knowledge-based applicability, risk management, T&E, EVMS
- Decision science analysis
  - Paradigms, heuristics, and biases

Results & Their Impact

- EFV issues: IED vulnerability, bow flap, hydraulics
- EFV mitigations: "test-fix-test," reduced units
- ACV issues: Reduced performance, tradeoffs
- ACV mitigations: Increment combination, tradeoffs
- Four variants: ACV-P, -C, -30, -R
- ACV 2.0 decision tentatively scheduled for ~2025
- Distinct Paradigm Differences
  - EFV: overly synergistic; ACV: rationally bounded



EFV Rear Aspect, Camp Pendleton, CA (Hills, 2019)

Findings

- EFV
  - Poor PM industry communication (major)
  - Poor SE management (major)
  - T&E arrangements (major)
- ACV
  - Variant Timeline vs. Threat (major)
  - Subsystems, environment, and SE (minor)
  - Future HWS 2.0 development (major)

Recommendations

- Reliability of information, bias, quality control, policy windows/transparency, technology assessments

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