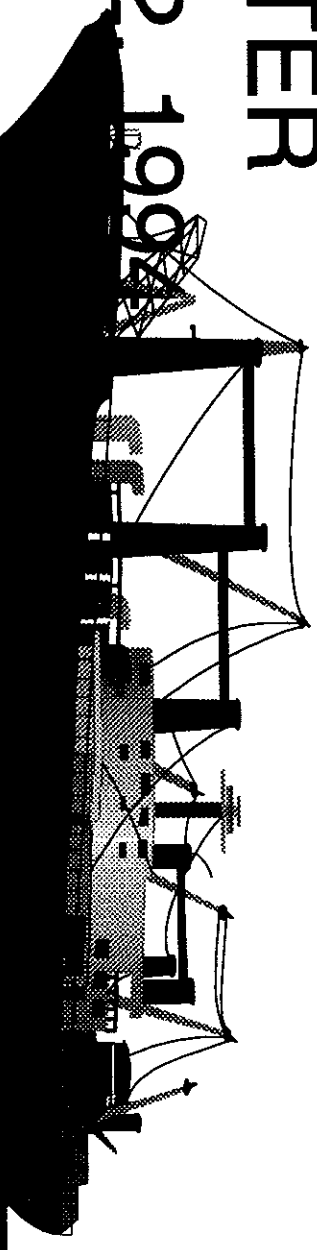# Overview of Simulator & Human-Factors Research Projects

JOHN K. POLLARD

VOLPE CENTER

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OBJECTIVES

- Increase attention to human-factors issues in maritime educational programs

- Develop capabilities to perform human-factors research at the academies

- Demonstrate abilities to generate useful research results within a one-year time frame.

Budget constraints

- $200K total budget
- Must pay for:
  - program management
  - annual meeting
- Leaving about $160K to fund projects
- Group will decide how many projects to fund

Categories of Proposals:

- Simulator standars and guidelines
- Effectiveness of simulator enhancements
- Human-performance
  - mental disrders and substance abuse
  - physical conditioning
  - OPA workhours limitations
  - fatigue
- Radar use and effectiveness
- Communications in oil-spill crisis
- Risk-taking behavior with dirty ballast

Simulator Standards & Guidelines

- Cadet performance comparison (Gt. Lakes), $25K

- State of practice (USMMA), ?

- Sea-time equivalency (USMMA), ?

- Simulation requirements (USMMA), ?

- Training standards (USMMA), ?

- Assessment of cadet performance (USMMA), ?

- Cost effectiveness (USMMA), ?

Effectiveness of Simulator Enhancements

- Evaluate use of geographic information systems in oil-spill simulator (MMA), $42K

- Assess application of electronic charts on ship simulator (MMA), $187K

Human Performance

- Effects of port relief on fatigue and performance (MMA), $172K
- Mental disorders & substance abuse (TAM), $80K
- Physical conditioning (TAM), $45K
- OPA work hours limitations (TAM), $70K

Radar Use and Effectiveness

- Management of multiple radar operators (TAM), $50K

- Applicability of standard radars to inland operations (TAM) $24K

Communications in Oil-Spill Crisis

- Investigate communications problems in simulated crisis & develop appropriate training (MMA) $35K

Risk-Taking with Dirty Ballast

- Investigate whether masters of tankers transiting Gulf of Mexico are engaging in risky behaviors because of dirty ballast problems (TAM), $35K