

## Edward Hlywa

118 Cleremont Drive, Fredericksburg, VA 22405 540-903-4566 Ed.Hlywa@WeaponsAnalysis.com

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### *WEAPONS ANALYST*

#### *Systems Analysis/ Weapon Effectiveness/ Operations Research/ Modeling and Simulation*

Recognized analyst with extensive knowledge of weaponeering, weapon design and development, fire control design, and algorithm development for modeling, simulations, and analysis. Acknowledged for proficiency in mathematics, physics, statistical analysis, and numerical computational methods. Responsible for influencing weapon procurements for the armed services and foreign navies. Skilled at sharing information with briefings, presentations, reporting and documentation.

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### *PROFESSIONAL EXPERIENCE*

#### *Operating Principal and Founder*

**Weapons Analysis LLC, Fredericksburg, VA**

**2011**

Provides credible analysis based on scientific principles, and sound engineering practices so the Defense Industry and the Government can make good decisions regarding weapon development, procurement and use.

- **Operations Research**

Applies operations research tools, models and simulations, and numerical methods to analyze complex systems and optimize weapon system performance.

- **Provide Analytical Support**

Provides credible solutions to technical problems facing military weapon system suppliers. Conducts comparative analyses to support weapon procurement decisions, and concepts of operation.

#### *Technical Fellow/Principal Staff Engineer*

**BAE Systems (formerly United Defense), King George, VA**

**2002-2011**

Analyzed customer requirements and predicted performance of Company products to support new business and sales. Analyzed critical technologies in strategically important fields. Provided technical leadership and guidance to senior management and influenced Navy weapon acquisitions.

- **Technical Leadership**

Conducted analysis of alternatives and comparative studies of naval weapon systems. Provided technical guidance to senior management and Navy officials regarding the performance and use of naval weapons. Recognized for influencing weapon acquisitions for the Deepwater and Littoral Combat Ship programs supporting over \$200M in Company sales.

- **Naval Warfare**

Analyzed current and future surface warfare capabilities for the National Defense Industrial Association's support to the Deputy Chief of Naval Operations. Developed models for dueling Surface Action Groups and used the Naval Simulation System to identify key surface warfare technologies.

- **Analysis**

Developed and authored weapon analysis algorithms, numerical methods, models, and analysis tools to assess weapon effectiveness. Analyzed capabilities of new technologies for future weapons including hyper-velocity guns, enhanced area protection systems, and precision kill weapons. Analysis results formed the technology basis for Company's marketing strategies.

- **Modeling and Simulation**

Developed the Joint Gun Effectiveness Model for the Joint Technical Coordinating Group for Munitions Effectiveness. Verified and validated the Monte-Carlo model with live-fire data and obtained formal accreditation as the Navy's Operational Tool for direct fire gun effectiveness analysis.

## ***RELEVANT EXPERIENCE***

### ***Principal/Project Engineer***

**United Defense (formerly FMC), King George, VA**

**1984-2002**

Designed and developed engineering solutions to complex problems relating to Company's products, contracts, and customer's requirements. Managed and directed contracts totaling more than \$500K with Naval Surface Warfare Center relating to weapon effectiveness studies and war fighting requirements.

- **Project Management**

Managed Independent Research and Development Programs and contract task orders totaling more than \$2M to analyze requirements for joint expeditionary and amphibious warfare. Secured Company's recognition and bolstered Government commitment for Mk 45 gun upgrade contracts for \$20M.

- **International Business**

Project Manager for international fire control ventures to developed fire controls for NATO combat systems. Developed weapon concepts with international companies, and authored fire control and gun performance proposals to foreign navies.

- **Fire Control Design and Development**

Lead project engineer for Fuel-Air Explosive Land Mine Countermeasures fire control. Developed fire control algorithms, system simulations, and conducted system analysis assessments for \$7M Marine Corps contract.

## ***GOVERNMENT EXPERIENCE***

### ***Physicist/Mathematician***

**Naval Surface Warfare Center, Dahlgren, VA**

**1972-1984**

Developed fire control algorithms for naval weapon systems, conducted delivery accuracy studies, directed at-sea tests, and designed weapon systems simulations to analyze weapon effectiveness and to improve weapon capabilities.

- Developed a real-time training system for the USS NEW JERSEY 16-inch main battery. Conducted ship-board training and testing in the Philippines to ensure Battleship operational readiness for deployment to Beirut during the Lebanese Civil War.
- Improved capabilities of Navy weapon systems with development and implementation of new gun fire control algorithms, and provided in-service systems engineering.
- Developed simulations to analyze and improve weapon performance. Recognized by Naval Sea Systems Command for outstanding contributions for improving Anti-Ship Missile defense.
- Lead the development of the real-time wrap-around simulation program for the verification of tactical software for the predecessors of Standard Missile.

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## ***EDUCATION***

Masters of Science (Less Thesis), Physics, Virginia Tech, Blacksburg VA

Bachelor of Science, Physics (Honors), University of Richmond, Richmond VA

Numerous training, Continued Education and seminar courses relevant to Operations Research and Weapon Systems Analysis including JTCG/ME training with Weapon Engineering Operational Tools

## ***ORGANIZATIONS & AFFILIATIONS***

American Society of Naval Engineers (Former Executive Director of Dahlgren/Rappahannock Chapter)

National Defense Industrial Association (Strike, Land Attack and Air Defense Division – Lead Analyst)

Navy League of the United States, Potomac Gateway Alliance

Izaak Walton League of America (Newsletter Editor for Fredericksburg-Rappahannock Chapter)