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**MORS Power and Energy Workshop, Working
Group 1, Analysis and Metrics**

Regnier, Eva; Blaine, Stephanie; Perdue, William;
Nussbaum, Dan

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MORS Power and Energy Workshop Working Group 1 Analysis and Metrics

Chair – Dr. Eva Regnier, Naval Postgraduate School

Co-Chairs – Ms. Stephanie Blaine, OPNAV N40,
COL Kriz & Mr. William Perdue, US Army CASCOM,
Dr. Dan Nussbaum, Naval Postgraduate School

Nov 30 – 3 Dec 2009



WG1 Findings Structure

- Four Analysis Arenas:
 - Force Planning
 - Joint Capabilities Intergration and Development System (JCIDS)
 - Defense Acquisition System
 - Planning, Programming, Budgeting and Execution

WG1 Findings

- Variables required to support energy related analysis:
 - Energy Efficiency
 - Mission effectiveness
 - Technical Risk
 - Green House Gases Protocol 1,2,3
 - System Performance
 - Value Analysis (future contributions/credit)
 - Burdened Costs (initial and life cycle)

WG1 Findings

- Models required to support decisions:
 - Multi-Variable System Model – Flexible model allowing ready definition of impact of incremental changes to KPPs, KSAs, and Attributes.
 - Fully Burdened Cost of Fuel – Based on standard definition with ability to tailor to any operational scenario.
 - Operational Risk/Value – Model to determine operational impact of energy decisions.
 - Technical Risk – Ability to determine the technical risk associated with energy efficiency KPP, KSA, and attributes
 - Force Planning Tools – Echelon based tool that monitors real-time and historical energy consumption and efficiency. Defense Planning Scenarios must include logistics.

WG1 Findings

- **Definitions Required to support JCIDS Activities:**
 - Energy – Clear common definition explaining the elements of energy to allow standard application across DoD.
 - Energy Efficiency – “Cost” reduced to a common unit for comparison purposes.
 - Fully Burdened Cost of Fuel – Expansion of the term beyond a single number. Include qualifiers that indicate how the number was determined – similar to the reliability confidence level. Explanation of the elements of FBCF and guidance on how to apply the number.
 - Point of Sale – Standard Definition of where DESC responsibilities end and Services start to incur costs.
 - Green House Gases – Define elements of GHG 3
 - Develop single source within DoD for models and metrics.

WG1 Recommendations

- Standardized/Flexible FBCF/EE KPP Methodology/Factors
- Define Force Protection/Attrition Cost Element
- Elevate Fuel & Energy importance
- Include Fuel/Power logistics in DPS' s - include energy vulnerability analyses
- Build a comprehensive database of energy metrics
- Leverage/modify existing tools and databases
- Develop and apply consistent EE principles. Provide a central clearinghouse
- Energy KPP has to be constructed in relationship to mission effectiveness



Immediate Opportunities/ Actions

- Establish standing MORS P&E working group for the annual symposium starting in 2010
- Host a MORS P&E community of interest collaboration site
- Set up multiservice working groups to develop consistent definitions and data requirements
- Coordinate and support efforts to maximize exploitations of FBCF and energy-KSA lessons-learned from JLTV

Immediate Opportunities/ Actions

- Develop a methodology for energy vulnerability analysis
- Pursue working-level, unclassified DPS' s that capture energy issues
(consumption, logistics, and vulnerability)
- Examine recent and ongoing JCIDS and track energy KPP application and impact on decisions
- Explore opportunities for data collection in theater with respect to energy vulnerability



Longer-term Opportunities/ Actions

- Repository to provide central clearinghouse of definitions, databases for FBCF/E and energy KPP
- Initiate energy vulnerability analysis
- Create a mechanism to revisit and reassess progress with analytical tools and metrics and leadership engagement
- Refine the energy-efficiency KPP
- Expand FBCF and energy-efficiency KPP to include other energy sources/storage types