Working Group 3 – Force Development

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Combat Vehicle Aging and Trend Analysis

[27 Oct 15, 1330-1400, Rm 14]

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Keywords: Aging, Maintenance, Optimization

ABSTRACT: The Army has a large fleet of vehicles to perform military operations. Upon the conclusion of the longest war in American history, with increased operating tempo, harsh terrain, and usage at five to six times over peacetime expectations, refurbishment decisions are more critical than ever before. It was estimated in 2007, that $13 billion annually was needed for the purpose of reset. The Army Reset program has been faced with multiple complex factors with regard to when and where to perform technical inspections, thereby affecting the overall readiness of the equipment. In some cases, the standard Army overhaul reset standards have been used without regard to the experience of the equipment.

This study analyzes the Army's ground-truth data collected during OCONUS and Garrison operations. The approach employs a dynamic regression modeling technique to examine the impacts of aging on the fleet. Various factors that may impact vehicle reliability are included in the model such as unit type, vehicle location, vehicle mileage, and usage rates. The model results provide a deeper understanding of the impacts of the factors on vehicle failures. This information can directly impact the capabilities of the future force, help to optimize the sustainment costs of the Army fleet, and also improve soldier readiness due to improved vehicle availability. The approach will be demonstrated using the Stryker fleet as a case study.

OPLAN Fratracide

[27 Oct 15, 1515-1545, Rm 14]

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Keywords: Risk and Mitigation, Contingency Sourcing

ABSTRACT: Operational Plan (OPLAN) Fratricide is the detrimental impact on one or more operations when executing multiple OPLANs at the same time or near-simultaneously. This study was performed to help US Army Pacific (USARPAC) understand the risks inherent with unanticipated execution of near-simultaneous OPLANs as might occur during a serious, large-scale, region-wide international incident. In order to assess the risks associated with OPLAN fratricide, planning assumptions were used to define a contingency sourcing strategy and a methodology was developed to show how filling the conditional demands identified in the OPLAN documents known as Time-Phased Force Deployment Data (TPFDDs) may confound rapid response to a crisis. The analysis showed where single units were called upon to meet multiple missions, and identified the magnitude of the risk and ways to mitigate the risk. That is, can a unit do two things at once? If not, can we employ a different unit? If not, can we increase the Army's capacity?

Enhanced Force-on-Force Modeling to Support Developmental/Operational Testing

[27 Oct 15, 1545-1615, Rm 14]

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Keywords: The Military Decision-Making Process, Joint and Service Task Lists, Component-Level Modeling

ABSTRACT: Since the onset of modern Force-on-Force (FoF) modeling in the 1960s, simulations have been driven by task sequences defined by computer programmers. That was necessary since for many decades, military operators/warfighters had no standard task language. In the 1990s, official Joint and Service task lists were developed, establishing formal, doctrinally-linked semantics for the warfighter. This language construct enables evaluation of individual system contribution to collective tasks (the singular source for System-of-System conduct), mission performance and effectiveness. Also, since the 1960s, FoF models have employed combat entities with assigned, unchanging attributes. Interactions have focused on ballistic events, on pristine platforms, for kill/ no-kill outcomes. However, since the 1980s, platform models have existed to support detailed, mutable, internal component geometry so as to maintain a running status of component state space. This state space can be mapped to platform capabilities and then compared to the mission task requirements per the formal task descriptors.

We present a form of FoF modeling using both formal tasks and dynamic geometry. The specific application can support a combined DT and OT strategy per the mission of ATEC/AEC. And beyond testing, this singular integrating formalism has significant ramifications across a broad group of requirements, research, test, training, and analytic activities, all of which are identically mirrored in this conceptual model.

With this approach it is possible to emulate closely the method used by military planners, the Military Decision-Making Process (MDMP), as the structure to plan, monitor and assess execution of operations against mission objectives. And by using detailed component geometry to represent the status of each platform, sequences of interactions, both friendly and enemy caused, can be used to update the state of each component. That enables the analyst to estimate the capabilities of each platform and compare the capability against the task-driven demands of the mission.

This presentation will review the suggested extensions to FoF analysis including both task analysis by level of war and the methods used to model and continuously update platform capabilities. Finally this new paradigm will be related to the needs and strategies of both Developmental and Operational Testing.

An Approach for Quantifying Resiliency in Systems Engineering

[27 Oct 15, 1615-1645, Rm 14]

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Keywords: Engineered Resilient Systems, Resiliency

ABSTRACT: The Engineered Resilient Systems (ERS) Community of Interest (COI) is one of 17 Science and Technology (S&T) strategic priorities of the Office of the Secretary of Defense. The Institute of Systems Engineering Research (ISER) at the Engineer Research and Development Center (ERDC) is developing methods and processes to define resilient systems early in the phases of Analysis of Alternatives (AoA) for future tradespace studies. An area of interest exists in defining, quantifying, and developing a methodology to determine platform based system resiliency.

The ISER group is collaborating with the Georgia Tech Research Institute (GTRI) to build upon a Department of Defense (DoD) definition of a resilient system by translating two components of the DoD's resiliency definition into mathematical model constructs described as robustness (also known as broad utility) and flexibility. The translation includes conceptual workflow processes that include mathematical models. The conceptual robustness and flexibility analytical methods and workflow processes will be validated against a real world example of a resilient system. This study will investigate the validity of the robustness and flexibility measurement metrics for resiliency against the system design data and processes used during the development of the Mine Resistant Ambush Protected (MRAP) vehicle, which is considered to be a system resilient to many operational considerations in the Middle East.

The primary outcome of this study is to determine if the proposed processes and mathematical models yield a design tradespace that includes the current MRAP system design and to determine if there is a statistical correlation between the robustness and flexibility metrics and the MRAP system design selected. A secondary outcome of the study is to provide feedback regarding the clarity of executing the process, process improvement opportunities, ideas to build upon these conceptual measures, and determine additional factors to consider in the development of metrics to analyze resiliency. These results will support and guide the next phase of quantifying resiliency in system engineering.

Ground System Infrared Signature Modeling and Analysis

[28 Oct 15, 1015-1045, Rm 14]

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Keywords: Infrared signature, delta T, finite difference method

ABSTRACT: The United States Army Materiel Systems Analysis Activity (AMSAA) Combat Support Analysis Division (CSAD) Intelligence, Surveillance and Reconnaissance (ISR) activity models, verifies, and maintains signature data for direct system performance comparison analysis and for combat simulation support. Threat sensors exploiting infrared (IR) band signals key off differential temperature or "delta T." CSAD/ISR is currently using a COTS analysis package, ThermoAnalytics MuSES to predict ground systems IR signatures in delta T against selectable backgrounds in selectable environments. Taking advantage of the surface nature of the task, IR analysis has been developed in the finite difference modeling method. Finite difference analysis runs quickly, models are rapidly reconfigurable by varying materials definition, and results are well validated. However, the method looks for model surfaces to be meshed with quad-shaped elements, and common model sources and meshing tools produce surface meshes of triangular shaped elements. A process for tailoring available models for MuSES finite difference IR analysis, including conversion to quad element meshes, utilizing the available tools BRLCAD and Rhino has been developed and results for multiple representative systems will be presented. The resulting simplified models will be considered for accelerating other types of analysis like RCS estimation.

Innovative Implementation of AWARS to Support the Army LRPF Study

[28 Oct 15, 1045-1115, Rm 14]

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Keywords: LRPF, ATACMS, IADS, Multi-service Attack, ATO

ABSTRACT: The Long Range Precision Fires (LRPF) Analysis of Alternatives examined potential materiel solutions to replace the Army Tactical Missile System (ATACMS) as well as the implications of not replacing ATACMS. The U.S. ArmyTraining and Doctrine Command (TRADOC) Analysis Center (TRAC) used the Advanced Warfighting Simulation (AWARS), a unit-level combat simulation representing land warfare from brigade combat team to joint task force levels, to capture the effects of the operational environment on implementation of ATACMS and joint force LRPF alternatives. The LRPF study team identified range, lethality, and responsiveness as discriminating missile performance attributes and phase II operations as the most suitable operational environment for examination of these attributes.
This presentation describes the enhancements to the functional area representation and model methodologies within AWARS used to support a phase II operation for the LRPF study. It demonstrates how AWARS continues to be relevant by adapting and evolving to support analysis of current and future operations not typically examined using AWARS.

Analysis of Assigning Division Headquarters to Geographic Combatant Commands (GCC)

[28 Oct 15, 1115-1145, Rm 14]

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ABSTRACT: There are currently two Army division headquarters in the US Army Pacific's area of responsibility, the 2nd Infantry Division and the 25th Infantry Division. No other Army Service Component Commands (ASCCs) have assigned division headquarters. Recognizing the requirement for division headquarters to command and control foundational activities, the Chief of Staff of the Army's Strategic Studies Group (SSG) requested that the Center for Army Analysis (CAA) analyze the effects on and risk to the Army's ability to meet contingency timelines if additional division headquarters are assigned to ASCCs. The demands focused on Foundational Activities (FA) from the Global Force Management Allocation Plan (GFMAP) plus two near-simultaneous Defense Planning Scenarios, and a variation using the GFMAP in addition to a different set of two near-simultaneous Defense Planning Scenarios.

Given the assignment of at least one division headquarters to each GCC, we determined that the Army's ability to meet contingency timelines are primarily dependent on the different amounts of time for the DIV HQs to re-mission and/or deploy. Therefore, the methodology of this study looked at the availability timelines of two categories of forces: "service retained forces" and their ability to deploy, and "assigned forces" that would need to re-mission from FA to contingency demands. The base case consisted of 11 Active Component (AC) and 8 National Guard (NG) division headquarters. Two variations of headquarters inventory showed little to no significant effects, and while one variation of demand showed some significant effects, all wartime and the majority of FA demands were met.

A Proximity Fuze Feature in the Weapon Effectiveness Model Fbar

[28 Oct 15, 1300-1330, Rm 14]

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Keywords: CASRED, Expected Fraction of Casualties, personnel targets, fragmenting munitions

ABSTRACT: The Fbar ($\bar{F}$) model developed by the U.S. Army Materiel Systems Analysis Activity (AMSAA) is a Monte Carlo simulation for estimating the effectiveness of small arms weapons and munitions. Fbar simulates a single direct-fire weapon firing at a passive area personnel target. In each replication, Fbar considers aiming strategy, delivery accuracy, and vulnerability data to estimate the probability of incapacitating each of the targets in the area, and therefore the fraction F of the target that is incapacitated. The principal model output is $\bar{F}$, the average of F over all replications.

As originally developed, Fbar could handle bullets and fragmenting munitions. Fragmenting munitions could have a point-detonating fuze or an air-bursting fuze triggered by elapsed time or turns count. In late 2014, the Army's Armament Research, Development and Engineering Center (ARDEC) wanted to evaluate the effectiveness of an air-bursting munition with a proximity fuze. In response, AMSAA developed two algorithms that calculate where a proximity fuze will function as the munition comes near to the ground, a target, or a protective wall. AMSAA ran both algorithms for millions of conditions. They agree to within 1/800th of a centimeter. AMSAA then incorporated one of the algorithms into Fbar for customer use in Analysis of Alternatives (AoA) studies.

We present the mathematics of the algorithms, and a summary of the results of the validation.

Cloud Based Lethality Service for Small Arms

[28 Oct 15, 1330-1400, Rm 14]

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Keywords: Small Arms; Lethality; Cloud

ABSTRACT: Most analytical models and simulations are deployed as stand-alone programs on individual computers. This business model allows easy deployment of these programs as one module, but it also introduces other challenges such as access to the models, data integration, and software update. An alternative deployment method is to deploy models as web based services that can be accessed via a network. This business model is widely used in industry, and it typically includes a significant data integration effort. This strategy is best described as a micro-service architecture in which a modeling and analysis application is the integration of a few small modeling services - each running independently and communicating via lightweight messaging. Web, cloud, and virtualization technologies are advancing to a point of making this type of deployment more attractive. Potential benefits include better integration with data, streamlined software updates, local or remote access and wider accessibility of these models.

AMSAA, in cooperation with USMA, the RDECOM Simulation and Training Technology Center, and the OSD Engineered Resilient Systems Program is using this architecture to build a small arms lethality service to support analysis of weapons lethality for the Small Arms Ammunition Configuration Study. This service iteratively runs the following micro-services - target acquisition, rate of fire, deliver accuracy, human body model, and lethality. The integrated service will estimate the lethality of small arms weapons against specified targets at a given range. Lethality can be analyzed with respect to varying sensors, weapons, targets, munitions, and environmental conditions. This effort is a work in progress in the development phase. Next planned efforts include model verification and validation, data integration, deployment, and analysis.

Data Request Force Templates In Support of Army Studies

[28 Oct 15, 1400-1430, Rm 14]

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Keywords: Data Request, BLUFOR, OPFOR

ABSTRACT: The U.S. Army routinely conducts force-on-force modeling in support of acquisition related decisions. These models and associated analyses require a significant amount of characteristics and performance data which AMSAA develops and provides in support of these efforts. As AMSAA matures in this role, we are identifying process improvements with the potential to improve the overall efficiency of data delivery and quality of data provided.

Data Request Force Templates is an effort that has the potential to reduce the burden of and stream-line the manner in which customers build a data request. Templates will be developed by leveraging authoritative sources to draft consolidated lists of friendly and threat systems that are appropriate for timeframe and location. For blue force templates, AMSAA will work with the Office of the Secretary of Defense, Office of Cost Assessment and Program Evaluation (OSD CAPE) and the Center for Army Analysis (CAA) to understand and define the projected force structure and associated materiel. For threat systems, sources will include the Joint Country Force Assessment (JCOFA) documents and intelligence community to identify appropriate threat materiel.

Data Request Force Templates will allow AMSAA data analysts to conduct research and develop data outside of the traditional data request cycle timeline thus reducing data request lead times and increasing data quality. Since data customers will have the ability to build data requests from managed templates, invalid selections and inconsistency in force representation should be decreased across analytical organizations.

As the Army continues to evolve its force structures and work towards a 2025 capability, AMSAA will continue to find ways to enhance its capability for meeting the growing and changing data demand. Data request force template development is just one of a series of efforts for realizing process improvement. The goal is to have Data Request Force Templates available to all data customers through the AMSAA Characteristics and Performance Data Portal by FY17.

Determining the Effectiveness of Modern Surface-to-Surface Missiles in Targeting Air Defense Artillery Systems that Utilize the Shoot-and-Scoot Tactic

[28 Oct 15, 1445-1515, Rm 14]

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Keywords: Missile defense, theater ballistic missile, Shoot and Scoot, Patriot, Accelerated Improved Interceptor Initiative, (AI3), Air Defense Artillery, Counter Rocket, Artillery and Mortar (C-RAM), Indirect Fire Protection Capability (IFPC), Counter-Battery Radars, Ballistic and Cruise missiles, and Extended Air Defense Simulation (EADSIM)

ABSTRACT: Indirect fire was introduced so that artillery systems could fire from hidden positions to reduce their exposure to hostile counter-artillery fire. However, the development of counter-battery radars decreased the viability of these hidden positions. Therefore, units developed techniques such as “shoot and scoot” to improve survivability once again. This technique emphasized mobility inhibiting the threat’s ability to determine an accurate location. Traditionally, the Air Defense Artillery (ADA) systems primary survivability concern was from targeted enemy aircraft. Now, large quantities of long-range precision strike surface-to-surface missiles (SSM) are increasing survivability concerns in the ADA community. This paper looks at the effect of the employing ‘shoot and scoot’ tactics on the survivability of ADA systems on a modern battlefield. The methodology utilizes basic weaponeering equations (Single-Shot Probability of Kill) and the Joint Weaponeering System (JWS) model to determine the reduced effectiveness of modern SSM in targeting ADA systems that did and did not utilize the “shoot-and-scoot” tactic.

Measuring Loosely Defined Concepts in a Combat Model: A Case Study

[28 Oct 15, 1515-1545, Rm 14]

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Keywords: Models and Simulations, Direct-fire Engagements, Direct Fire Contacts

ABSTRACT: This presentation involves a case study highlighting the challenges of modeling and assessing loosely defined real-world behaviors using tangible model concepts. A recent study required the comparison of the metric "% of [direct fire] engagements initiated by enemy" across multiple joint scenarios using a variety of tools and methods. This presentation will show how the simulation analysis team embarked on an effort to weave together the intent of the study issue, doctrinal definitions, and real-world boots-on-the-ground Soldier interpretations in an attempt to provide credible analysis from a combat simulation. This effort led to examining the Army definition of a direct-fire engagement vs a direct-fire contact and to resolving the conflicts between these definitions and the intent of the metric. The research and innovation for this effort led to a new means of measuring direct-fire contacts in the Advanced Warfighting Simulation (AWARS). Research is ongoing to further develop AWARS to improve the ability of analysts to answer similar questions in the future.

This presentation explains the process of understanding, defining, summarizing, and simplifying real-world behavior components in order to measure and compare them in a combat model.

Transition to the Sustainable Readiness Model

[28 Oct 15, 1545-1615, Rm 14]

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Keywords: ARmy FORce GENeration (ARFORGEN), Sustainable Readiness Model (SRM), Total Army Analysis, Program Objective Memorandum, President's Budget, Optimization, Simulation, Visualization, Policy

ABSTRACT: For the past decade, the Army has leveraged ARmy FORce GENeration (ARFORGEN) policy to generate forces and source operational requirements, to underpin Total Army Analysis (TAA) shaping decisions, to inform our Program Objective Memorandum and President Budget requests and to support senior leader decisions and initiatives. Now the Army seeks to develop a Force Generation Policy - The Sustainable Readiness Model (SRM) - that will enable our force to sustain readiness and ensure a more responsive force that best meets real-world and strategy-driven requirements.

This study seeks to assist in the development of SRM through analysis of the proposed force generation policy changes. The Center for Army Analysis has been embedded in the SRM Operational Planning Team in order to capture the similarities and differences between SRM and ARFORGEN to understand the analytic underpinnings of the SRM policy. This study incorporates the development of tools, optimization and simulation, which enable CAA to iteratively engage Headquarters, Department of the Army stakeholders through analysis and visualizations, ensuring proposed changes are correctly captured and their repercussions are understood.

Ultimately, the transition from ARFORGEN to SRM will result in a change to the rules used to conduct Army force generation analysis, affecting key Army business practices. As such, in order to ensure uninterrupted support to these processes, it is imperative that the Army analytic community remain abreast of changes to our force generation policy.

Campaign Analysis – Hybrid Threat Scenario Development

[28 Oct 15, 1615-1645, Rm 14]

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Keywords: Army Operating Concept, Campaign Analysis, Theater Modeling, Hybrid Threat, Complex Operating Environment, Joint Integrated Contingency Model (JICM),

ABSTRACT: According to TRADOC Pamphlet 525-3-1, the Army Operating Concept (AOC) guides future force development through the identification of first order capabilities that the Army must possess to accomplish missions in support of policy goals and objectives. The AOC anticipates that future battlefields will occur in a Complex Operating Environment (COE) where adversaries will likely consist of hybrid threats. Hybrid threats combine tactics and equipment associated with both conventional and irregular forces to create a unique form of warfare.

The Center for Army Analysis continually updates and improves the methods for conducting campaign analysis. This study looks at adapting three models to simulate the hybrid threat scenario: the Combat Sample Generator (COSAGE), Attrition Calculator (ATCAL) and Joint Integrated Contingency Model (JICM). These models were modified and applied to historical hybrid threat scenarios to validate the technique. Once validated, these programs can then be used to model modern and future theater-level warfare.

Development of Air and Missile Defense (AMD) Wargame

[29 Oct 15, 0945-1015, Rm 5]

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Keywords: Missile defense, integrated air and missile defense, wargame, deconfliction, decision making, Ballistic and Cruise missiles, Design of Experiments, Machine Learning, and Extended Air Defense Simulation (EADSIM)

ABSTRACT: As the capabilities of threat airborne and missile systems has become more complex and robust, the most advantageous tactics, technique, and procedures (TTPs) for the air and missile defense (AMD) systems against these threats is highly dependent on the combinations of AMD systems, interceptors, system locations, and threat intelligence. The proper TTPs can no longer be specified for all AMD systems at any location against all threat types. Human decision making is a critical part of the engagement process, but AMD units have limited abilities to train and test these TTPs against a live and thinking enemy. To address this shortfall a wargame is needed that focuses exclusively on the ballistic and cruise missile fight for the Army Air and Missile Defense Commands (AADMCs) and/or the Combatant Commanders (COCOMs).

This wargame would use the results from the modeling and simulation tool, the Extended Air Defense Simulation (EADSIM), to determine the outcome of all missile raids in a complex environment where the threat may employ missile raids composed of several systems each with countermeasure as well as electronic warfare (EW) abilities. While the air/ground war will serve as the backdrop for the effort, each turn of the game will be composed of a missile raid into a specific location. The red team will select targets, missile types, counter measures, and operating concepts (CONOPs) to employ. The blue team will select system CONOPs at those targeted locations or areas of responsibilities (AORs) for each known threat missile type. The white cell will adjudicate the results using 'metamodels' produced from EADSIM. The metamodels used to adjudicate results will be developed using Design of Experiments (DOEs) and Multivariable regression/machine learning techniques to efficiently map EADSIM inputs to outputs so that the results are analytically rigorous but can be produced near instantaneously. The effects of counter measure and electronic warfare will be adjudicated externally to EADSIM based on results from other joint/internal studies. During the adjudication phase of the wargame, participants will be shown a detail of each missile raid that explains what happened to each inbound missile and each output interceptor. Both the Red and Blue team will then use this information to design the follow-on threat missile raids and blue system CONOPs for the subsequent missile engagements in the wargame.

Stryker Fleet Mix Analysis of Alternatives

[29 Oct 15, 0945-1015, Rm 14]

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Keywords: Force Development, Survivability, AoA, POM, Operational Impact Assessment

ABSTRACT: In 2009, Headquarters, Department of the Army validated the requirement for improved protection for the Stryker Family of Vehicles (FOV) from underbody threats experienced in Operation Enduring Freedom (OEF). Based on this validated requirement, the Army procured 3 Stryker Brigade Combat Team (SBCT) sets of double V-hulled (DVH) Stryker vehicles. During the production of the third DVH SBCT, the Vice Chief of Staff of the Army directed the U.S. Army Training and Doctrine Command (TRADOC) to conduct the Stryker Fleet Mix Analysis (FMA) to determine the range of DVH or flat bottom hull (FBH) SBCT fleet mixes or Army Prepositioned Stocks (APS) capability needed to meet current and future operational requirements while meeting fiscal constraints within the Combat Vehicle Portfolio.

This study evaluated the conditions under which a DVH Stryker is preferable to FBH Stryker and how those conditions relate to current and projected National Defense, National Military, and Army strategies. The study informed fiscal year (FY) 15 decisions on the procurement of Stryker vehicles to optimize the SBCT fleet mix based on affordability, operational performance, and deployment rotation considerations.

This presentation will provide an overview of the Stryker FMA, which assessed a base case and 12 courses of action (COAs) consisting of 2 procurement schedules and 6 fleet mixes. The study team assessed the COAs in terms of system performance, sustainment, cost, affordability, deployability, and APS options to determine the preferred COAs to support potential future strategic operations and Global Response Force missions.

U.S. Army Input to NATO SAS-113/RST-009 Future Defence Budget Constraints: Challenges and Opportunities

[29 Oct 15, 1015-1045, Rm 14]

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Keywords: Defense Spending, Budget, Capability Portfolio Review (CPR), Long-range Investment Requirements Analysis (LIRA), NATO

ABSTRACT: As part of its current strategy, the North Atlantic Treaty Organization (NATO) has recognized complex changes in the world leading to significant security challenges, but affirms that its "essential mission will remain the same: to ensure that [NATO] remains an unparalleled community of freedom, peace, security, and shared values." However, declining defense spending by member countries since the Great Recession is risking NATO's ability to accomplish that mission. One NATO response has been to encourage the sharing of best resource management practices among its member nations in the hopes that expanded implementation of these practices may lessen the harmful impacts of defense resourcing constraints on national and, consequently, NATO defense capabilities.

The NATO SAS-113/RST-009 Future Defence Budget Constraints: Challenges and Opportunities study team was commissioned by NATO to identify and evaluate various resource strategies previously implemented by member countries and to identify a set of best resource management practices for mitigating risks associated with defense budget constraints. The U.S. study team (the U.S Army Training and Doctrine Command (TRADOC) Analysis Center (TRAC), in coordination with Programs and Resources Department, Headquarters Marine Corps) has researched current and planned U.S. national defense budgets and the impact of defense budget constraints on national defense capability, and has identified resource strategy initiatives implemented in response to resourcing constraints. The Army portion of this work will highlight two initiatives, the Capability Portfolio Review (CPR) and the Long-Range Investments Requirements Analysis (LIRA).

In this presentation, a background on the NATO study will be presented along with a review of the current defense budget constraints and an explanation of how the Army continues using CPR and LIRA as the primary mechanisms to identify capability requirements and inform defense spending on Army capabilities in light of budget reductions.