WG A
Microgrids: Ideas for Standards and Planning Requirements

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INTRODUCTION

- Military Aspects of NATO’s role in energy security mentioned...

AIM AND SCOPE

The aim of this report is to inform the Military Committee (MC) on the Military Aspects of NATO’s Role in Energy Security. ...will provide recommendations for tangible action to raise strategic awareness within the military that can have an impact on alliance security, to develop military competencies in supporting the protection of critical energy infrastructure, and to enhance EE in military forces. Energy security issues that are political and economic in nature are outside the scope of this report.

This report is aligned with the three main strands identified above and provides insights on the military aspects to The Report to the Heads of State and Government on the Progress Achieved in the Implementation of NATO’s Role in Energy Security for the Warsaw Summit.

STRATEGIC AWARENESS OF RELEVANT ENERGY DEVELOPMENTS - MILITARY

SUPPORT TO THE PROTECTION OF CEI - MILITARY

ENERGY EFFICIENCY IN THE MILITARY

CONCLUSION

RECOMMENDATIONS

NATO UNCLASSIFIED
Military Transformation

Report

Tangible recommendations not only a performance report but also a proper end state/target in each area

Lines of Effort

- Raising strategic awareness within the military that can affect Alliance security
- Developing military competencies on supporting the protection of Critical Energy Infrastructure
- Enhancing energy efficiency of military forces

Bi-SC Report

- Information Sharing
- Intelligence Production
- Training and Education
- Strategic Analysis
- Sharing Intelligence on Risks and Threats
- Explore the Need for Advanced Planning
- Establishing Common Standards and Techniques
- Sharing Technology and Best Practices

ACT – Leading NATO Military Transformation
Overarching Ideas and Themes

- Interoperability
- Implications NRF-RAP-VJTF
- Validation of concepts/ideas
- Link to NDPP-PSA-MCR
- Operational requirements
- Home base facilities
- Logistic implications
Enhancing Energy Efficiency

- Energy is one of the key enablers for the execution and sustainment of military missions. There is a need for improved awareness of how EE can contribute to better operational effectiveness.

- EE improves the operational capability of military forces, enhances range, endurance and agility, particularly in the future security environment where logistics may be constrained.

Establishing Common Standards and Techniques

- Standardization.

- Interoperability.

- Coordinated Effort.

Sharing Technology and Best Practices

- Capability Development.

- Organizational Structure.
CONCLUSIONS (Energy Efficiency)

- Increasing EE of deployed forces could reduce the logistics footprint while decreasing reliance on fossil fuels and improving operational effectiveness.

- Although NATO may not be able to directly influence the procurement strategies of Nations, it can emphasize the requirement for interoperability of equipment as a paramount consideration.

- NATO should now be focused on developing technical procedures or solutions for future military operations, in concert with nations and their own initiatives.

- In order to achieve a comprehensive and synchronized approach, there is a requirement to establish an energy working group at the joint level.
SE in CL15: Observations

1. **Technical incompatibility of different deployable power generation systems**
   - Insufficient standardization of power generation systems' connectivity may impact the interoperability of energy management controllers deployed by different providers when it is being provided by private companies.
   - **STANAG 4133 ; AEP-28**

2. **Power Generation and management capacity for deployed force infrastructure**
   - Integration of smart grids into DFI to provide a means to establish autonomous power generation, storage, distribution and management capacity in combination with traditional fossil fuels systems as a backup for power generation.
   - **STANAG 2394; AEP-28 ; STANREC for smartgrid integration into DFI**
Standardization Rationale

WHAT TO STANDARDIZE?

Power Generation Concept

STANAG

Required Capability Interoperability/Standardization Requirements

Technology

STANREC

Exclusively Materiel

No obvious impact on interoperability
"This is not a pipe"

"Leci n'est pas une pipe."