

Seminar Series Energy Security – Meeting Minutes

Format: Seminar

Moderator: Lieutenant Colonel Ralf Baur

Experts:

- **Commander Ceyhun Ture** - NATO Energy Security Centre of Excellence – Education, Training and Exercise Division
- **Lieutenant Colonel Massimo Dacchille** - NATO Energy Security Centre of Excellence – Concept Development Division
- **Lieutenant Colonel Videt Norng** - NATO Energy Security Centre of Excellence – Education, Training and Education
- **Ms. Laura Johnson-Graham** - US Department of Energy

Audience: Open to the public. Practitioners, experts, academics, and advanced students

Date: 10 May 22, 14:30 - 17:00 UTC+2

Duration: 150 min

Online Seminar of the Civil-Military Centre of Excellence, in collaboration with the NATO Energy Security Centre of Excellence

The Online Seminar sought to open a debate on energy security, a topic of great relevance and importance in recent months, in view of the Russian invasion of Ukraine. With expertise offered by members of NATO Energy Security Centre of Excellence (ENSEC) and the US Department of Energy, topics that will play a major role for NATO in the coming years were discussed, such as optimisation of energy sources, new operational concepts to ensure resilience in the field, and new initiatives to improve the resilience of energy grids and other critical infrastructure.

Presentation of Commander Ceyhun Ture – Education, Training and Exercise Division, ENSEC COE

The Activity and the Mission of the ENSEC

- The mission of ENSEC: support NATO and member states to meet challenges of energy security by addressing resilience, operational energy efficiency and infrastructure protection.

- ENSEC is a COE created by NATO sponsoring nations. It is not part of the Alliance but NATO SACT is its coordinating authority.

- In the last years there has been an increasing demand for the activity of ENSEC as energy security becomes a greater concern in NATO.

- Current active Divisions at ENSEC:
 - **Strategic analysis:**
 1. Monitoring and analysing developments in energy security
 2. Contributing to activities related to energy security
 3. Analysing energy aspects during crisis and conflicts
 4. Supporting NATO members and partner countries

 - **Doctrine and Concept Development:**
 1. Develop doctrines and new concepts
 2. Develop new capabilities
 3. Conduct experiments, test new concepts

 - **Research and lessons learned**
 1. Assessment of energy security risks and innovations
 2. Lead ENSEC's publication process
 3. Research and development

 - **Education, training and exercise**
 1. Awareness of energy security
 2. Critical energy infrastructure protection
 3. Improve energy efficiency in military operations

Education, Training and Exercise also responsible for the organisation of courses regarding energy security awareness, energy efficiency and resilience.

- **Coherent Resilience Exercise 23:**

- In the Baltics, vital region for energy security in light of the Russian invasion of Ukraine
- Perfect scenario for the protection of energy supply lines
- Challenges of critical maritime and underwater infrastructure
- Goal is to increase resilience against hybrid threats, improve crisis management of the countries, cooperate and coordinate STRATCOM of partners and allies

Presentation of Lieutenant Colonel Massimo Dacchille – Concept Development Division of the ENSEC COE

NATO Operational Energy Concept

- NATO has been considering energy problems as related only to fossil fuels. It is a problem because this view doesn't allow for a broader understanding of energy capabilities and issues. In this sense, ENSEC has been working in order to provide NATO with new, more advanced, procedure for a better approach towards energy supply and security.
- Petroleum Logistics: NATO Petroleum supply chain has to be able to respond to the full spectrum of the Alliance's operational requirements
- New NATO policies on energy: Alliance must enhance energy security, making it more reliable and efficient
- Problem: There is no NATO standard doctrine on energy
- How ENSEC COE supports NATO in the new energy challenges:
 - Development of the "**Operational Energy Concept**" (OEC)
 - OEC included in the 2022 SACT Concept Development & Experimentation
 - Part of the NATO Energy Security Agenda discussed at the 2022 Madrid Summit
 - Show that it is possible to generate fuel and energy in other, more efficient, ways
- OEC could enhance the resilience of NATO not only on the tactical level on the field, but also on the strategic level for what concerns energy reserves and infrastructure.
- OEC based on DOTMLPFI concept. Activity of OEC on different levels: personnel, equipment, procedures.

- Problem: NATO cannot optimize energy use in order to maximise operational effectiveness.
- NATO commanders are focused on performance, without thinking on fuel and energy. ENSEC tries to demonstrate that it is possible to do the same with less, same results with less quantity of energy required.
- **Objectives of the OEC:**
 - Improve NATO interoperability for existing and new energy sources and technologies, since no standard for energy interoperability
 - Optimise energy availability and accessibility
 - Enhance resilience of energy supply/sources and infrastructure
 - Reduce energy dependency by increasing self-reliance and diversification
 - Foster awareness about operational energy availability
- **Definitions:**

In NATO there are no definition about energy security, member countries use different standards for definitions. ENSEC proposed these definitions:

- **Energy Security:** a stable and reliable supply of required energy
- **Operational Energy:** energy required to train, deploy and sustain allied forces
- **Energy Efficiency:** optimal use of energy to ensure a credible deterrence and defence posture

Current challenges addressed by ENSEC:

- Creation of a new structure in NATO, dedicated to energy security and resilience
- Energy advisors as specialized personnel on the field to assist units and commanders on energy topics
- Explore new possible ways of generating energy, new technologies for the different domains
- New NATO operational structure: Currently there are different branches, independent form each other. ENSEC suggested Idea of creating energy managers that bring logistic, MILENG, EP together

The goal of this would be to **enhance operational energy and military resilience**, allowing for a greater resilience and fight preparedness on the field, improving energy efficiency and thus reduce logistics, fuel waste and personnel involved.

Presentation of Lieutenant Colonel Videt Norng – Education, Training and Exercise Division, ENSEC COE

What is a **Table Top Exercise table** (TTX)

- On the level between workshop and wargame:
- Allies sit together and work together, as a network for energy security issues
- TTX is a collective effort, everybody is equal
- TTX promotes networking and cooperation
- Collective work, sharing of problems and solutions

'Why TTX' is an important format:

Case study: Colonial pipeline ransomware attack 2021: cyberattack on the Colonial Pipeline in the eastern US, Pipeline paralysed for several weeks.

Assessment:

What happened: authority company of the Pipeline made IT-spending on new hardware and security, but no security training was conducted, personnel wasn't prepared enough for such situations.

Why:

The Attack possible by lack of preparedness. Response was partially good but ineffective on resilience and preparation.

Considerations and possible solution:

- They could have been more prepared with enhanced data protection and recovery plans for data.
- This kind of preparation requested is not much to ask. Such attacks are common since the late 1980s.
- STRATCOM of companies and government must be improved in order to avoid panic reactions and shortages.

Core-23 TTX Sample, how is it conducted:

1. **Task:**

- Provide awareness of hybrid threats
- Assess plans, policies and procedures

2. **Aim of the exercise**

- Support authorities in awareness of hybrid IT, build resiliency of energy infrastructure

3. Objectives

- Enhance awareness of the main hybrid hazards on infrastructures
- STRATCOM as a tool to mitigate hostile propaganda and negative effects

4. Execution

- Help identify best practices, creating post exercise reports for brainstorming

Takeaways:

- Designation of critical energy infrastructure to be developed with government and private sector
- Formalize channel of communication of companies and government to the public, enhance STRATCOM
- Build community resilience
- Improve readiness of national resilience entities towards hybrid threats

Presentation of Dr. Laura Johnson-Graham – US Department of Energy

Grid Resilience: US National and Regional Perspectives

US system developed from centralized operations. Modernisation efforts undergoing, several threats to them.

- **Grid vulnerability**
 - Extreme Weather and Natural Disasters
 - Physical Attacks
 - Cyber Attacks
 - EMP Attacks and Geomagnetic Disturbance
- **National grid resilience initiatives**
 - Efforts to build better grids
 - Climate crisis to be addressed at national, state and local level
 - Clean energy, from the production to the final use
 - Investments in order to reduce expositions to extreme weather, capabilities building, innovation of transmission and storage of energy
- **In order to address the challenges to the grid systems, structural changes not only on hardware, but also management are required:**
 - a more structured approach can from a resilience working group
 - Resilience dashboard to keep an eye on different system assets, in order to avoid disruptions

- Adoption of a resilience comprehensive framework is required:
 1. **Assessment of vulnerabilities**
 2. **Planning and strategies to be identified**
 3. **Solutions to be implemented**
 4. **Response to emergencies and threats**
 5. **Adaptation and recovery in light of new situations**

Takeaways:

- Multi-level and multi-jurisdictional collaboration is critical in order to address threats
- Modernisation of grid systems is vital
- Adapt energy grids to emerging, unprecedented threats
- Resilience investments require vertical, and horizontal cross-sector partnerships
- On this matter the European Union represent a reference for the USA