

# Energy Planning for Resilient Military Installations

## Information Sharing Session

**Tuesday, December 5**

0830 **Introduction**

0845 Installation Energy Planning (IEP) Policies and Strategies:

Leader: CDR Walter Ludwig, OSD

[Denise Faldowski, OACSIM](#)

[David Irwin, Air Force](#)

[Kristina Kaur, Navy](#)

1000 **Installation Energy Resilience Policies and Strategies:**

Leader: [Dr. Ariel Castillo, OSD](#)

[Kristine Kingery, Army](#)

[CDR Jennifer Tetatzin, Navy](#)

[Douglas Tucker, Air Force](#)

1115 **Network/Break**

1130 **Energy supply for mission critical facilities: tiered requirements and capabilities of supporting energy systems – Panel Discussion:**

Leader: [Dr. Alexander Zhivov, ERDC](#)

[Mike Savena, NAVFAC](#)

[Tarone Watley, AFCEC](#)

[Avinash Srivastava and Calum Thompson, AECOM](#)

1245-1345 **Lunch**

1345 **Resilience of Energy Systems: metrics and evaluation – Panel Discussion:**

Leader: Dr. Nicholas Judson – MIT Lincoln Laboratory

[Dr. Anu Narayanan, RAND](#)

[Andrew Linowes, NAVFAC](#)

[Dr. Igor Linkov, ERDC](#)

[Avinash Srivastava and Calum Thompson, AECOM](#)

1500 **Introduction to Existing Tools for installation-wide Energy Planning and Resiliency Analysis: great**

[N2P-Tool – Dr. Michael Case, ERDC](#)

[MIT Tool for Resiliency Analysis – Dr. Nicholas Judson, MIT Lincoln Laboratory](#)

[Optimizing Strategies through Effective Modeling - Juan Ontiveros, UT Austin](#)

1600 **Experiences with energy planning for DOD installations**

[Energy Projects at Army Installations – Susan Walters, USACE](#)

[Energy Projects at Navy installations- Keith Benson, CNIC](#)

[Energy Projects at USMC installations - Randy Monohan, MCICOM](#)

1715 ***Recap and Questions and Answer Session***

1730 ***Closing comments for Day 1.***

1800-2000 ***Exhibits, Networking, Reception (at the U.S. Institute of Peace)***



# Energy Planning for Resilient Communities – Best Practices

## EBC Annex 73 Symposium

Wednesday, December 6, 2017

8:00 **Registration**

8:30 **Welcome** - Cameron Oskvig (NAS FFC)

**Introduction** – Alexander Zhivov (ERDC-CERL)

8:45 [IEA EBC Program Annex 73 “Towards Net Zero Resilient Public Communities” Alexander Zhivov \(ERDC\) and Rüdiger Lohse \(KEA, Germany\)](#)

9:05 **Advanced Energy Supply Strategies for Resilient Applications. Part 1**

Moderator: Alexander Zhivov (ERDC)

- [4th Generation of Energy Supply Systems – Anders Dyrelund \(Ramboll, Denmark\)](#)
- [Advanced Hot Water Systems – Stephan Richter \(GEF, Germany\)](#)
- [Biomass and Fuel Flexible CHP/District Energy Systems – Bob Smith \(RMF Engineering, Inc.\)](#)
- [Steam-to-Hot Water Conversion – Anders Dyrelund \(Ramboll, Denmark\)](#)
- [Advanced Hot Water Piping: Cost and Heat Losses – Jean Laganiere \(Georg Fischer Urecon Ltd, Canada\)](#)

10:30 **Coffee Break**

10:45 **Advanced Energy Supply Strategies for Resilient Applications. Part 2**

Moderator: [Robert Jeffers \(Sandia National Laboratories\)](#)

- [Community-Scale Geothermal Energy Systems – Daniel Dixon \(Lincoln Electric System\)](#)
- [Community Scale Heating/Cooling Systems with Seasonal Storage and Solar Thermal Collectors – Nicole Olsacher \(SOLID, Austria\)](#)
- Renewable Energy Community-Scale Energy Planning – Thomas Phelps (Stantec)
- [Electrical Systems Resiliency with Power Micro Grids – Brad Luyster \(IPERC\)](#)
- Storage:
  - o Power Storage:
    - [Daniel Fingleton \(Solar Turbines\)](#)
    - [Richard Brody \(Lockheed Martin Energy\)](#)
  - o [Advantages and Costs of Implementation of Seasonal Thermal Storage – Mark Worthington \(Underground Energy\)](#)

12:15 **Lunch**

13:15 [Energy Planning as a Part of the Installation Master Plan – Jerry Zekert \(USACE HQ\)](#)

### **13:30 Energy supply to Mission Critical Facilities – Lessons Learned from University Campuses**

*Moderator: Robert Thornton (IDEA, USA)*

- [University of Texas Medical Branch at Galveston – Jerry Schuett \(Affiliated Engineers\)](#)
- [University of Texas Austin – Supporting a Fast Track Mission-Critical Campus Healthcare Expansion – Juan Ontiveros \(UT Austin\)](#)
- [Emergency Preparation & Response Lessons from Super Storm Sandy – Ted Borer \(Princeton University\)](#)
- [Energy Supply to the U.S. Capitol - Christopher Potter \(Director of Utilities\)](#)
- [Planning and Optimizing Energy Efficiency at University of Missouri Columbia – Gregg Coffin \(University of Missouri Columbia\)](#)
- [DOE Zero Energy Districts Accelerator – Sarah Zaleski \(DOE Building Technologies Office\)](#)
- [Bjerringbro District Energy - Pete Korzeniewski \(Grundfos\)](#)

15:00 Coffee Break

### **15:30 Business Case for Energy Scenario Selection**

*Moderator: Robert Thornton (IDEA, USA)*

- [Multi-Criteria Decision Analysis – Michael Case \(ERDC\)](#)
- [Monetary Value of Resilience – David Tine \(HBC RE\)](#)
- [Funding and Financing Strategies – Baird Brown and Christopher Berendt \(Drinker, Biddle & Reath, LLP\)](#)
- Kevin Vaughn, Schneider Electric
- [Thomas Phelps, Stantec](#)
- [Serge Zinger, Thermo Systems](#)

17:20 **Conclusions and Closing Remarks**