

# Workshop on High Power Electromagnetic (HPEM) Threats – High Altitude Electromagnetic Pulse (HEMP) and Intentional Electromagnetic Interference (IEMI)

14-15 March 2011  
Lombard, Illinois (Outside Chicago)  
(Visit [www.narte.org](http://www.narte.org) for more information)

There has been a growing awareness that the threat of high-altitude electromagnetic pulse (HEMP) from a nuclear detonation could be devastating to the commercial power and telecommunication infrastructures of the United States, with special concern for the U.S. power grid.

It has also been established that a severe geomagnetic storm from a solar event could create significant damage to our power grid at a level that could take many years to repair. Finally, the threat of Intentional Electromagnetic Interference (IEMI) from electromagnetic weapons

developed by criminals and terrorists raises a third specific electromagnetic threat.

This workshop is offered to build awareness on present-day HPEM threats and expertise with test and protection measures. Attendees will review the work of the IEC, the IEEE, the ITU-T and Cigré, whose focus has been on developing standards to test, evaluate, and protect equipment and systems against these threats. Workshop materials will cover recommended practices for protecting public accessible computers from IEMI and protection of telecommunications centers from HEMP and IEMI. In addition, the workshop will cover standards under development for the protection of high-voltage substation electronics from the threat of IEMI. Lastly, we will present the US Congressional EMP Commission's findings on the HPEM threats.

As an added interest, there will be an opportunity to observe a 50,000V/m EMP test performed at Elite Electronic Engineering's Downers Grove laboratory. Elite is minutes away from the Hyatt place and transportation will be provided.

***In the HPEM Threats workshop, you will learn:***

- Overview of HEMP
  - The effects of HEMP
  - Classification of HEMP environments
  - The radiated and conducted HEMP environment
  - HEMP testing and test facilities
  - Test standards
  - Protection approaches
- Overview of IEMI
  - The effects of IEMI
  - The radiated and conducted IEMI environment
  - IEMI measurements
  - IEMI testing and test facilities
  - Review of HEMP and IEMI standardization work
  - EMP Commission Status

***Who Should Attend***

Those responsible for protecting systems from HPEM:

- Product Managers and Developers
- Critical Facility Developers
- EMC Engineers and test technicians
- Test Instrumentation Developers
- Test instrumentation and chamber manufacturers

***Expert Instructor***

Workshop features as lead instructor, Dr. William Radasky, IEEE Fellow, EMP Fellow, Chairman of IEC SC 77C, and President of Metatech Corporation.

***Workshop Location***

(and suggested hotel)  
Hyatt Place  
2340 South Fountain Square Drive  
Lombard, IL  
1-800-45-HOTEL  
Reservations are responsibility of attendee. Ask for workshop room rate.

***Fee Includes:***

Lecture notebook, lunch, breaks, and completion certificate.

***Agenda***

14 Mar: Registration: 8:30 am  
Class: 9:00am-5:00pm  
EMP Demo 7:00pm-9:00pm  
  
15 Mar: Class: 9:00am-5:00pm

**Registration Form**

**Contact: iNARTE**

**Telephone:** 1-800-89-NARTE [lawrence@inarte.us](mailto:lawrence@inarte.us)  
**for mailing instructions**

Ms./Mr. \_\_\_\_\_  
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 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Daytime Phone \_\_\_\_\_ Fax \_\_\_\_\_  
 Email \_\_\_\_\_  
 Credit Card (check one): MC \_\_\_\_\_ Visa \_\_\_\_\_ Amex \_\_\_\_\_  
 Credit Card No: \_\_\_\_\_  
 Expiration Date: \_\_\_\_\_  
 Signature: \_\_\_\_\_

**Check or Credit Card Number must accompany registration.**

Alternatively, secure registration can be made on  
<http://www.narte.org>

**HPEM/HEMP/IEMI workshop**

|  |                           |
|--|---------------------------|
| By 15 Feb. 2011*:                      | \$ 900 USD _____          |
| Add \$200 after 15 Feb. or at the door | \$ 200 USD _____          |
| Add 1 copy of workshop notebook**      | \$ 100 USD each _____     |
|  | <b>Total USD \$ _____</b> |

If a check is used for payment, make it payable to iNARTE in US dollars (drawn on a US bank) and mailed to the address on the iNARTE web site.

\* Please do not mail after 15 Feb. 2011.

\*\* Order by 15 Feb. 2011 for pickup at the workshop.

***NOTE: You are not registered until you receive confirmation***

The organizing committee reserves the right to substitute speakers, modify the program (or lecture notes), restrict attendance or to cancel the workshop. In the event the workshop is canceled, registration fees will be refunded (credit cards are only processed if workshop is held). No refunds will be made to individuals who cancel after 28 February 2011. Substitutions are allowed. *Without a minimum of 15 attendees signed up by 25 Feb 2011 the workshop will be cancelled and registration fees returned or not processed. It is suggested that you book refundable travel arrangements as appropriate if workshop is cancelled.*