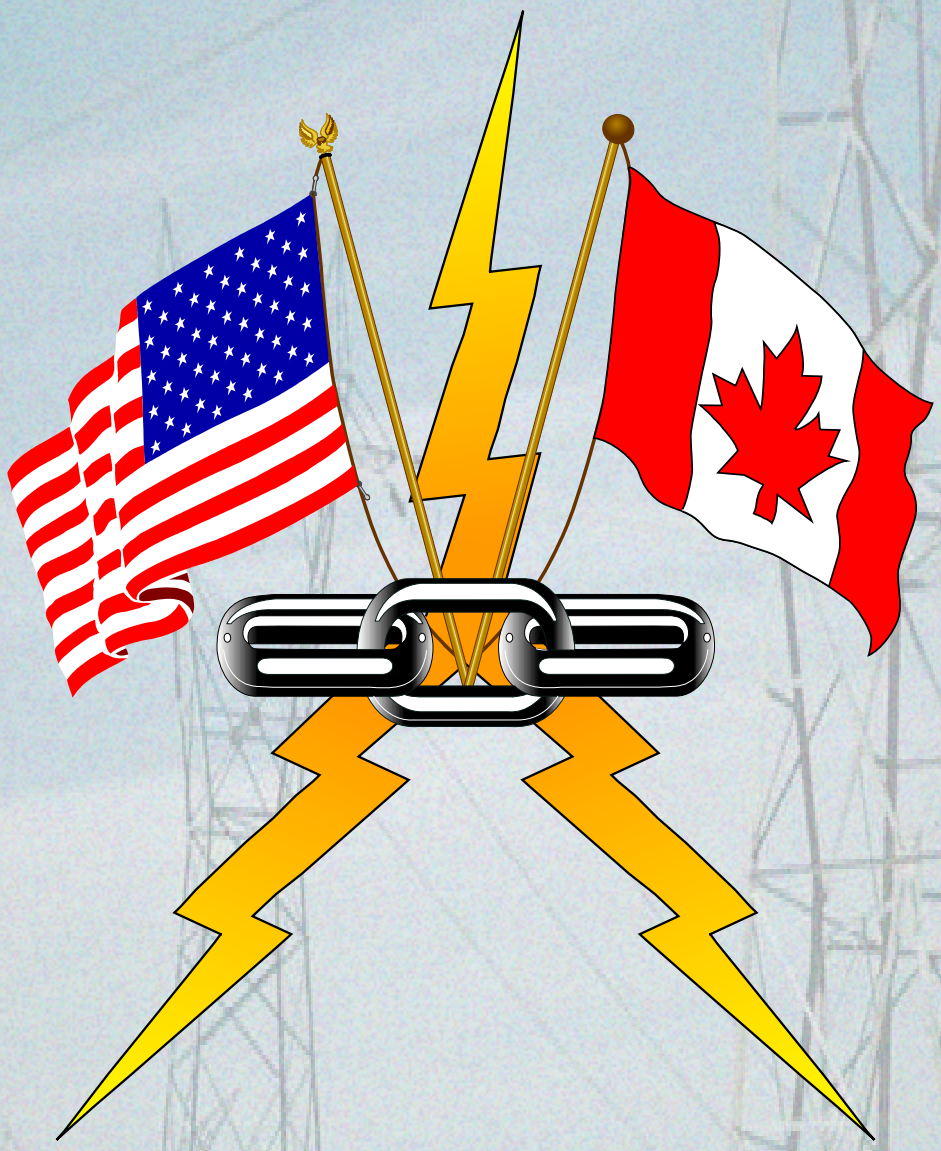
VITALINKS



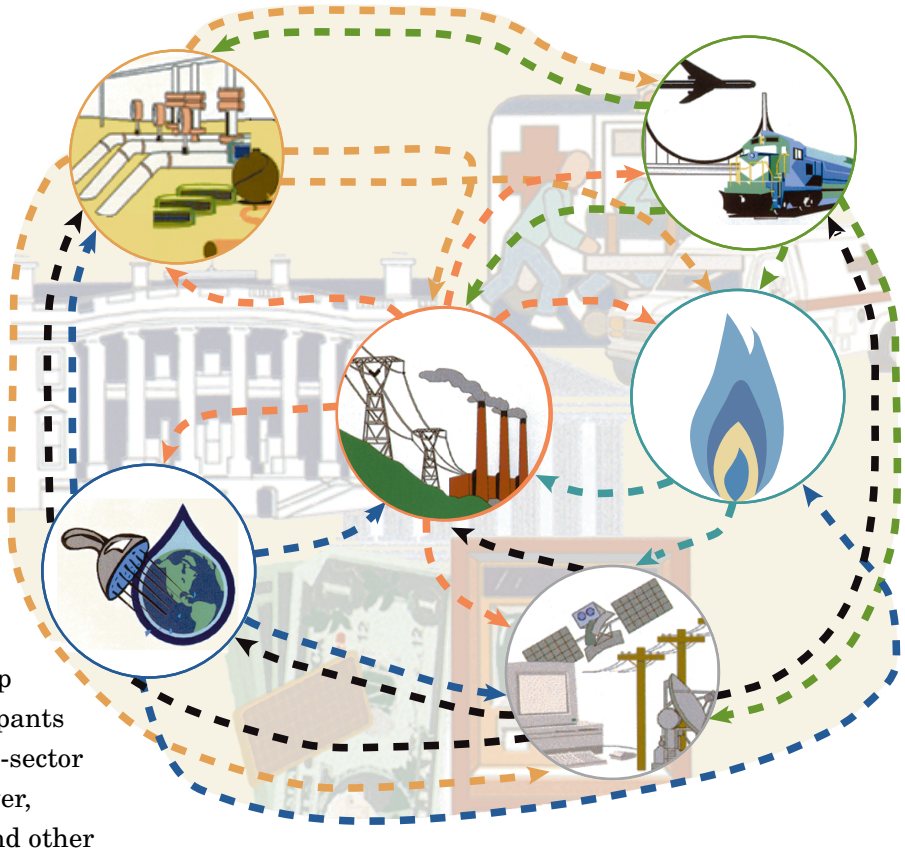
Infrastructure Interdependencies Tabletop Awareness Exercise

March 20, 2002

Office of Energy Assurance

VITALINKS
Tabletop Awareness Exercise

Presented by the
U.S. Department of Energy
Office of Energy Assurance



Do you know the vital infrastructure links that will let you maintain service continuity in a crisis? Even if you think you do, the **VITALINKS** exercise is a great opportunity to check your assumptions through focused discussion with other participants. You might be surprised by what you discover.

VITALINKS is an interactive tabletop exercise in which conference participants discuss interdependencies and cross-sector coordination among the electric power, telecommunications, natural gas, and other critical infrastructures. In the process, participants will identify challenges and unintended consequences as they prioritize options needed to restore service. The exercise is based on the Black Ice Exercise held in Salt Lake City in preparation for the 2002 Winter Olympics, with modifications for a Canadian/U.S. audience.

There are three parts to the presentation:

11:15 to 11:40	Overview and lessons learned from the Black Ice Exercise
11:40 to 12:00	Exercise Orientation
1:00 to 3:00	**VITALINKS** Exercise

SCOPE

VITALINKS highlights policy and procedural issues across infrastructures. The scenario requires consideration of interdependency issues. These illustrate opportunities for improved coordination that can lead to enhanced crisis response and service continuity.

"Canada is one of the most developed countries in the world. The underpinnings of its prosperity are the systems that allow it to communicate, heat and light its homes and businesses, power its transportation systems, provide health care for its citizens, run its banking and financial systems, provide water, emergency services and food, and assure the continuity of government."

[Canadian Infrastructures and their Dependencies, National Contingency Planning Group, March 2000]

OBJECTIVES

The objectives of the **VITALINKS** tabletop exercise are to:

- Raise awareness of infrastructure interdependency issues.
- Identify and focus on the most important vulnerabilities and restoration priorities resulting from infrastructure disruptions.
- Examine the resources (people and equipment) required to sustain systems under emergency conditions.
- Identify and highlight roles, responsibilities, and authorities (including trans-border issues).
- Continue to foster a more effective interface among public and private sector service providers and public officials in developing and implementing critical infrastructure protection, mitigation, response, and recovery options.

STRUCTURE

The **VITALINKS** exercise will be divided into

- Orientation
- Two scenario progressions (moves)
- "Hot wash" immediately following the exercise to capture feedback and lessons learned.

The exercise is an interactive experience in which participants will discuss issues affecting their infrastructure, interdependencies with other affected infrastructures, and possible solutions to the challenges that are encountered. Exercise facilitators will introduce notional disruptions to electric power, telecommunications, natural gas transmission, transportation, and other critical infrastructures and services. These disruptions will require participants to consider how they would cope with cascading disruptions to energy and other critical services.

As simulated disruptions progressively worsen, participants will be guided to examine issues that need to be coordinated and prioritized to achieve the common objective of restoring customer service. The entire exercise, including the hot wash, will take about two hours.

SCENARIO SETTING

The effects of a severe winter storm producing electrical and telecommunications outages that in turn cause disruptions to other infrastructures will drive **VITALINKS**. A warm front containing large amounts of precipitation from the Gulf converges with a cold front across the upper Midwestern United States, producing high winds and large amounts of freezing rain along a 50 – 100 mile (30 – 60 km) band bisected by Highway 401 from Detroit to Kingston. Blizzard conditions damage electric transmission lines and microwave towers. In addition to the loss of electric power and telecommunication service to customers, there is a loss of Supervisory Control and Data Acquisition (SCADA) monitoring and control for electric, telecommunications systems, and natural gas. Repair crews must cope with snow/ice covered, congested, and closed roads to get to repair sites. With sustained sub-zero temperatures forecasted, it is expected to take days or weeks to fully restore service. As a result, other essential service providers, including banking and finance, emergency (EMS) and government services, will be forced to consider how long their systems can be sustained. The awareness resulting from this experience will stimulate participants to work across infrastructure and geopolitical boundaries to develop options for mitigating service disruptions, especially those compounded by interdependencies.

"New York City is the economic engine for the US economy, but the country's vast infrastructure allowed the US economy to continue. Toronto is the economic engine of Canada. However our infrastructure is not as well protected and our limited ability to recover from such an attack would have a devastating effect on the economy of the entire country."

[Executive Summary, Enhanced Emergency Management for City of Toronto, October 3, 2001]