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The Resilience Imperative

Presentation to the:

Defense Industrial Base Critical Infrastructure Protection Conference

April 12, 2007
Miami, Florida

On Change

“There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success than to take the lead in the introduction of a new order of things, because the innovator has for enemies all those who have done well under the old condition, and lukewarm defenders in those who may do well under the new."

Niccolo Machiavelli
"Il Principe," Circa 1513

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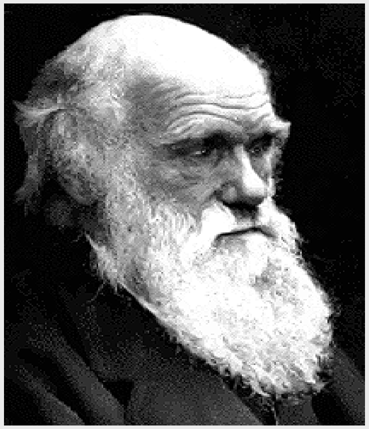
On Change

"If you want to make enemies, try to change something."

Woodrow Wilson

On Change

"It is not the strongest of the species that survive or the most intelligent, but the ones that are most responsive to change."



Charles Darwin

The Purpose

- **Change Thought and Accelerate Action**
  - Move beyond traditional National preparedness thought “standards” and practice.
- **Begin implementing a 21st Century Critical Infrastructure and National Preparedness Standard**
  - All-Hazards, Risk, and “Ground Truth” Based
  - Objectively
    - **Measurable**
    - **Achievable**
    - **Sustainable**
- Address the Question: **How Much *Protection* is Enough?**

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The National Resilience Goal

Make

Nothing

Critical!

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A Quick History of American Critical Infrastructure

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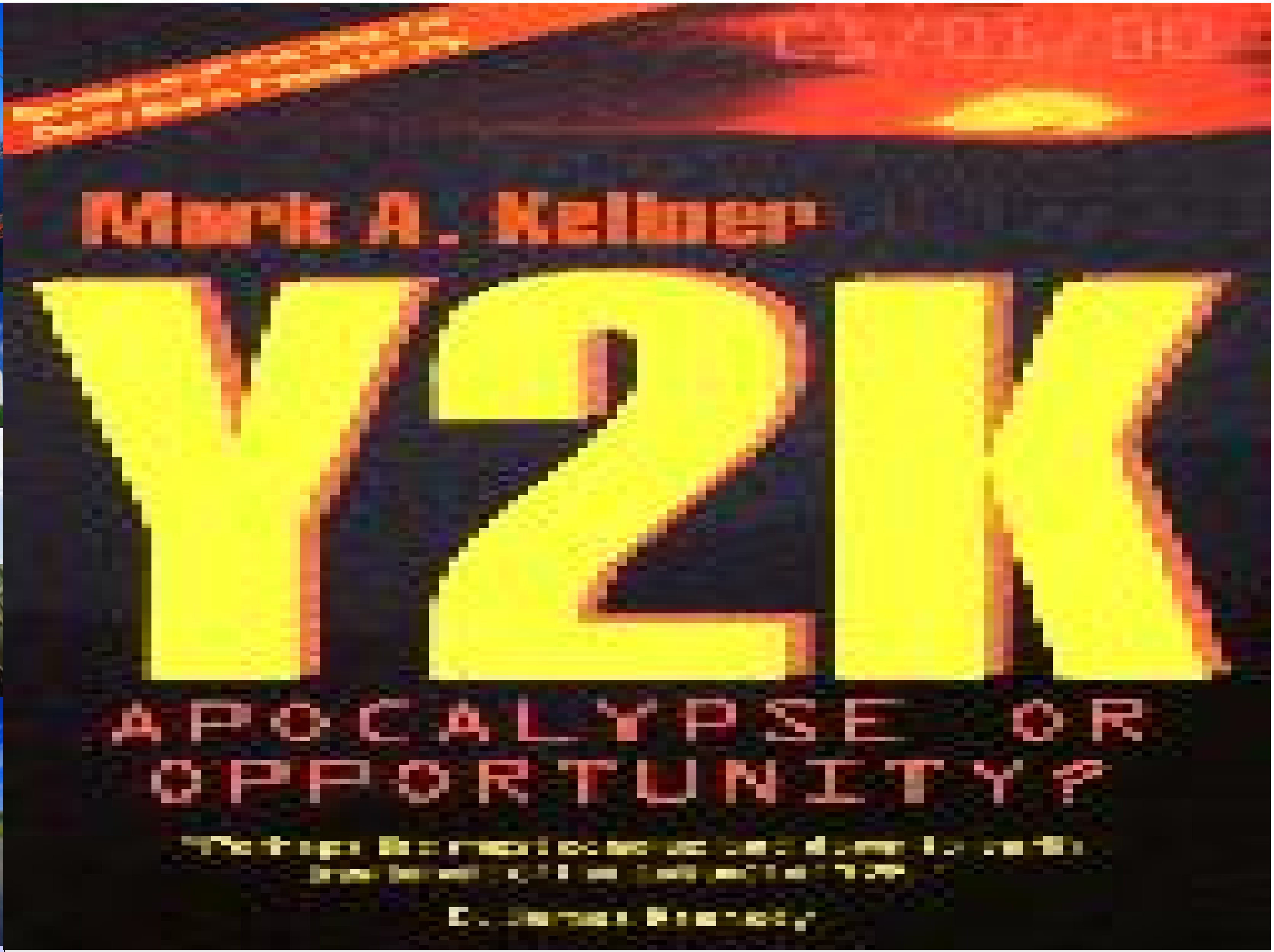
7 December 1941



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1998 – 31 March 2000

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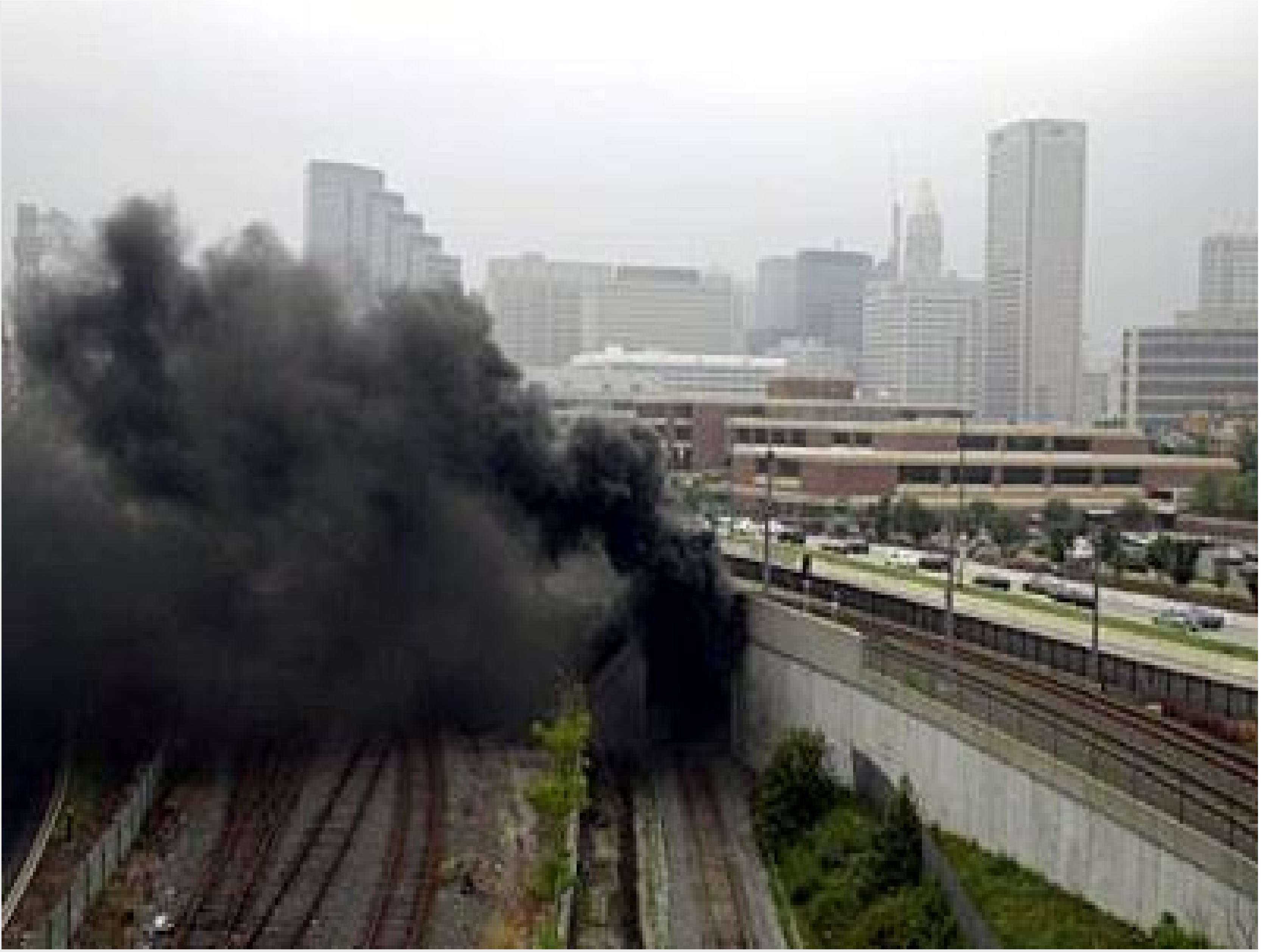
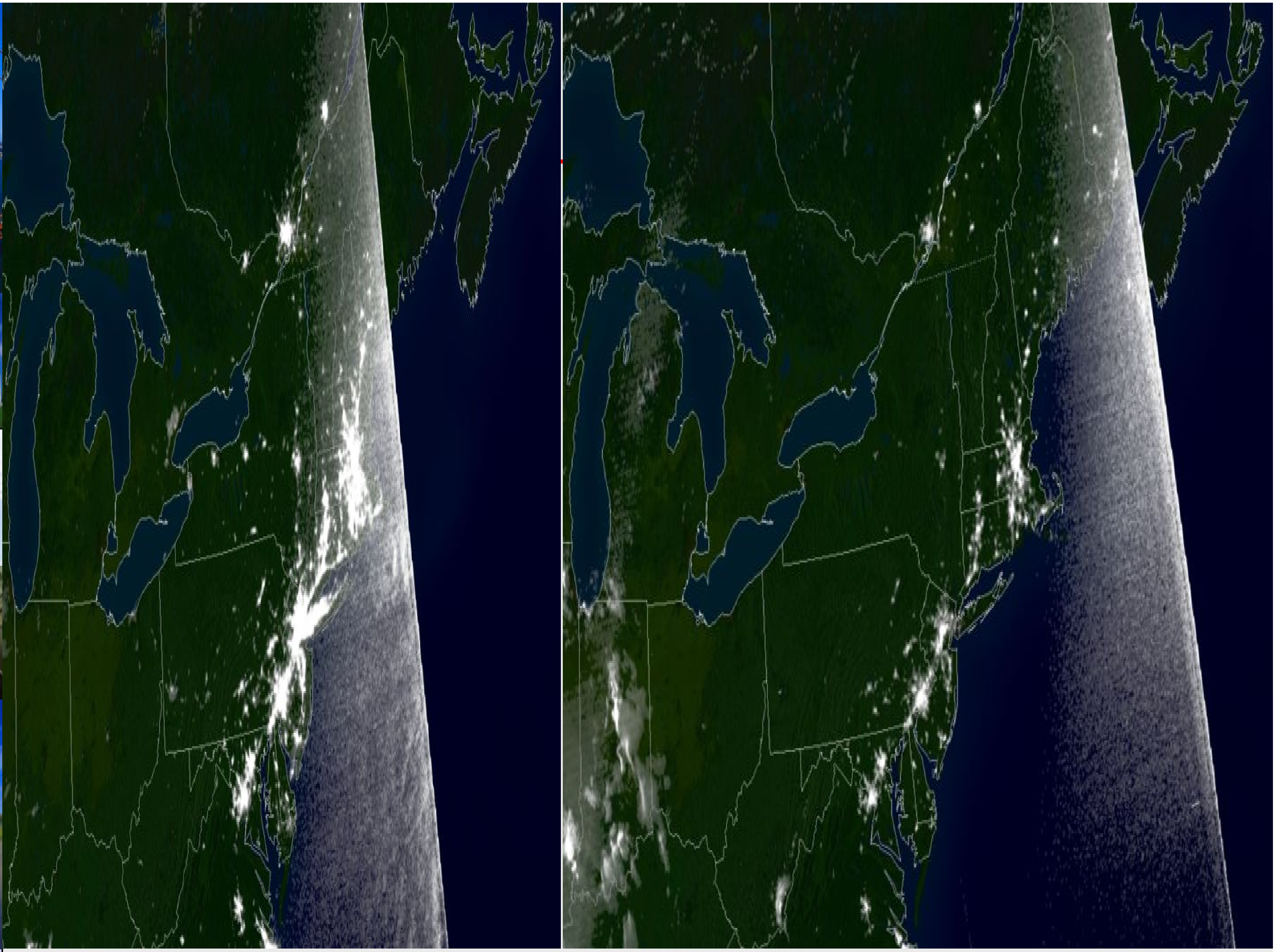


18 July 2001



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13 – 14 August 2003

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August 2005

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6 October 2006

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(AP PHOTO)

March 2007

Critical Infrastructure Realities

- Critical Infrastructure operation provides the foundation for every activity in every modern Nation.
- America's interdependent critical infrastructure are concentrated, efficient
  - Old, overstressed, vulnerable, exploitable, interdependent, cascade prone, and consequence amplifying
- Critical Infrastructure are targets
- *"It is impossible to protect everything against all things at all times"*

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Critical Infrastructure Task Force Charter

"Review current and provide recommendations on ***advancing*** **national critical infrastructure policy & planning to ensure the reliable delivery of critical infrastructure services while simultaneously reducing the consequences** of the exploitation, destruction, or disruption of critical infrastructure products, services, and/or operations."

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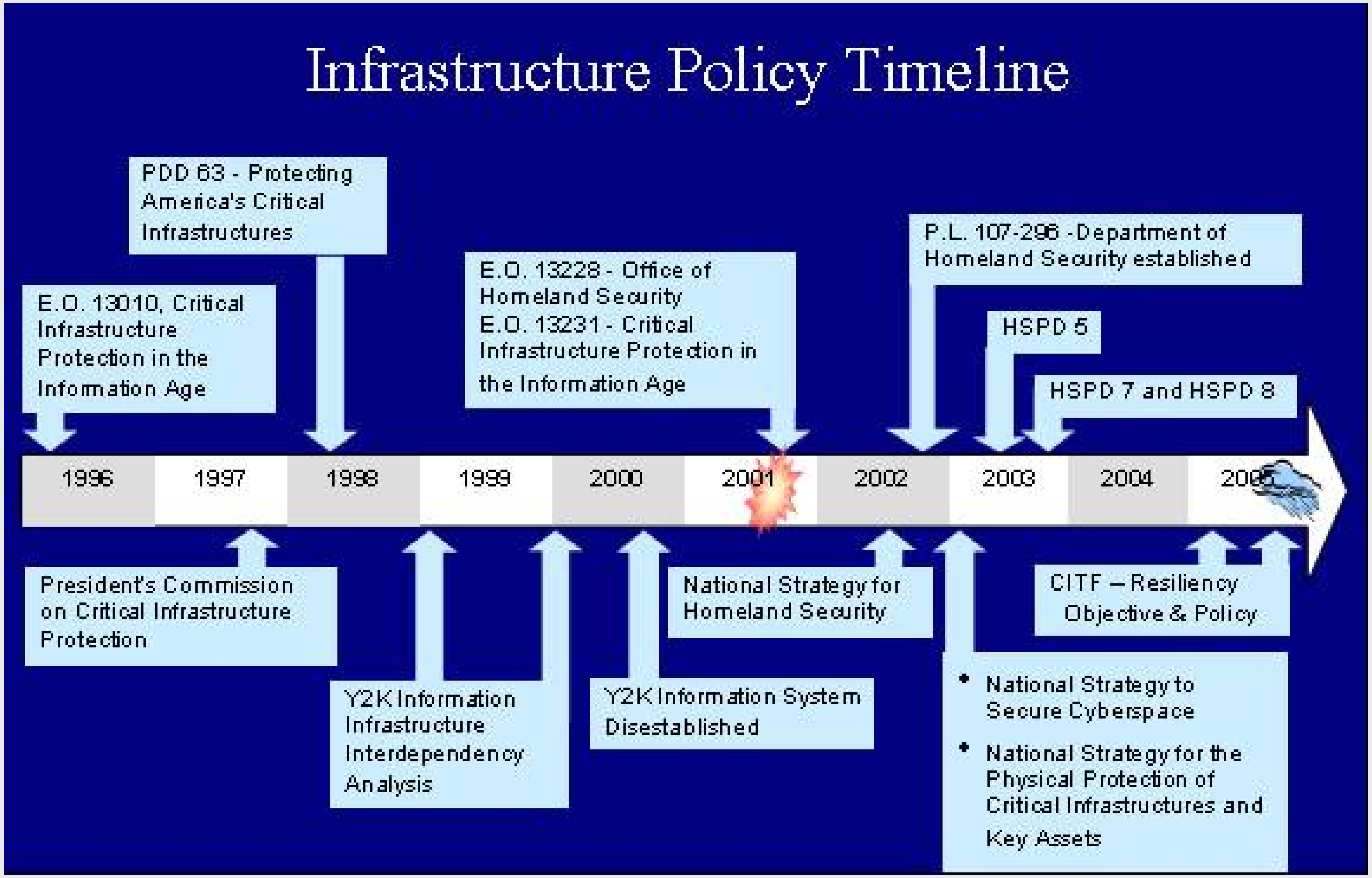
Critical Infrastructure Task Force

- Dr. Ruth David (Chair)
- Dr. Erle Nye (Vice-Chair & Chair, NIAC)
- Duane Ackerman
- Dr. Richard Andrews
- **William Bryan (DoD)**
- Hon. Frank Cilluffo
- Deputy Commissioner Frank Cruthers,
- Judge Robert Eckels
- Supervisor Don Knabe (LA Co.)
- Peggy Merriss
- Judith Mueller
- Governor Mitt Romney
- Chief Gary Scott
- Bill Whitmore
- Houston Williams
- Dr. John “Skip” Williams
- BG (Ret) Allan Zenowitz

Retrospective



Infrastructure Policy Timeline

1996 1997 1998 1999 2000 2001 2002 2003 2004 2005

E.O. 13010, Critical Infrastructure Protection in the Information Age

PDD 63 - Protecting America's Critical Infrastructures

E.O. 13228 - Office of Homeland Security
E.O. 13231 - Critical Infrastructure Protection in the Information Age

P.L. 107-296 - Department of Homeland Security established

HSPD 5

HSPD 7 and HSPD 8

President's Commission on Critical Infrastructure Protection

Y2K Information Infrastructure Interdependency Analysis

Y2K Information System Disestablished

National Strategy for Homeland Security

- National Strategy to Secure Cyberspace
- National Strategy for the Physical Protection of Critical Infrastructures and Key Assets

CITF – Resiliency Objective & Policy

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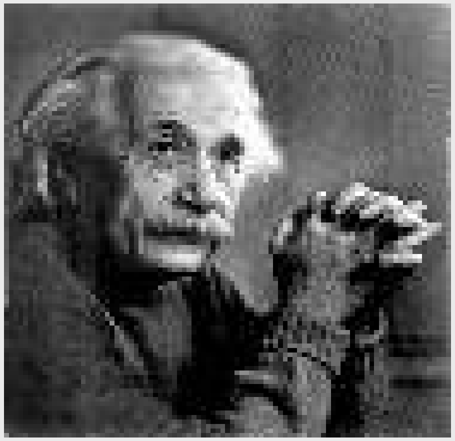
Insanity

"Doing the same thing over and over again and expecting a different result"



Albert Einstein

Homeland Security Advisory Council

- Hon. William Webster (Chair)
- Duane Ackerman
- Dr. Richard Andrews
- Norm R. Augustine
- Kathleen Bader
- David A. Bell
- Elliott Broidy
- Chuck Canterbury
- Hon. Frank Cilluffo
- Dr. Jared Cohen
- Dr. Ruth David
- Hon. Tom Foley
- Hon. Lee Hamilton
- Herb Kelleher
- John McGaw
- Mayor Pat McCrory
- Dr. Erle Nye
- Governor Mitt Romney
- Hon. James Schlesinger
- Dr. Lydia Thomas
- Mayor Anthony Williams

Recommendation 1: Promulgate Critical Infrastructure Resilience (CIR) as the top-level strategic objective—the desired outcome—to drive national policy and planning.

- Definitions
  - ***Protection***—*the act of protecting;* ***Protect***—*to cover or shield from exposure, injury, or destruction*
  - ***Resilience***—*an ability to recover from or adjust easily to misfortune or change*
- Lexicon Recommendation (Science: 12 August 2005)
  - ***"Resiliency is defined as the capability of a system to maintain its functions and structure in the face of internal and external change and to degrade gracefully when it must."***

The Lexicon

Protection:

1: the act of protecting**:** the state of being protected

2a: one that protects

b: supervision or support of one that is smaller and weaker

3: the freeing of the producers of a country from foreign competition in their home market by restrictions (as high duties) on foreign competitive goods

4a: immunity from prosecution purchased by criminals through bribery

b: money extorted by racketeers posing as a protective association

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The Lexicon[2]

Continuity:

1 a : uninterrupted connection, succession, or union

b : **uninterrupted duration or continuation especially without essential change**

2**:** something that has, exhibits, or provides continuity: as

a : a script or scenario in the performing arts

b : transitional spoken or musical matter especially for a radio or television program

c: the story and dialogue of a comic strip

3: the property of being mathematically continuous

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The Lexicon[3]

Resilience:

1: the capability of a strained body to **recover its size and shape after deformation** caused especially by compressive stress

2: **an ability to recover from or adjust easily to misfortune or change**

Why Critical Infrastructure Resilience?

- Leverages CIP
- Addresses Foreign Pronouncements/Threats
- Provides an objective, universally understood investment and success metric – *Time*
  - How much *Protection* is enough?
- Critical infrastructure interdependency
  - Don’t have to attack a target to attack a target
- Risk Based
  - Threat – Vulnerability & *Consequence*

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Why Critical Infrastructure Resilience^2?

- Aligned with:
  - Historic, ongoing, and projected investments in business and government continuity and resiliency
  - Sarbanes-Oxley
  - Terrorism Risk Insurance standards
  - Physical realities of infrastructure placement and operation
  - Rapidly growing international and Private Sector focus on resilience.

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Why Critical Infrastructure Resilience^3?

- Proactive
  - Directly addresses the *“predator’s view”* and all-hazards consequences regardless of cause.
    - Terrorists,
    - *“Trusted”* Insider,
    - Self-inflicted,
    - Technological Failure
    - Accident,
    - Nature,
    - Pandemic
    - Cyber and Physical, and
    - “Stupid-human-trick,”

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Why Critical Infrastructure Resilience^{4}?

- Nationally Empowering
  - A shared/integrating responsibility and an objectively measurable preparedness standard for an

“Infrastructure Revolution”

and

“Investment in America”

- A Nationally Executable Process
  - Inform, Identify, Assess, Triage, Instrument, Visualize, Decide, Act

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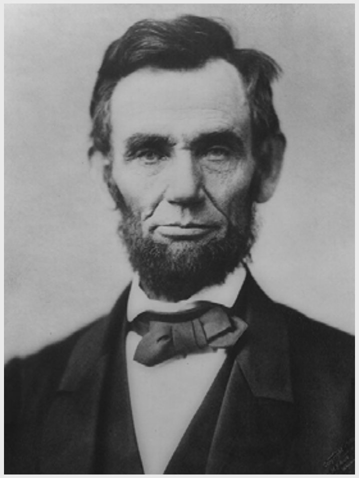
Why Critical Infrastructure Resilience^{5}?

An objectively measurable standard to *advance* the global human condition

On Change

"The dogmas of the quiet past are inadequate to the stormy present. The occasion is piled high with difficulty, and we must rise with the occasion. As our case is new, so we must think anew and act anew."



Abraham Lincoln

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Contact Information

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Backup

Recommendation 2: **Align policy and implementing directives for risk-based decision-making with the Critical Infrastructure objective within the broader homeland security mission context.**

- Homeland Security Presidential Directive-7
  - *"This directive establishes a national policy for Federal departments and agencies to identify and prioritize United States critical infrastructure and key resources and to protect them from terrorist attacks."*
- Homeland Security Presidential Directive-8
  - *"This directive establishes policies to strengthen the preparedness of the United States to prevent and respond to threatened or actual domestic terrorist attacks, major disasters, and other emergencies . . ."*

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__Recommendation 3:__ Create a framework of cascading national goals flowing from the top-level Critical Infrastructure Resilience objective.

- National Preparedness Goal (Required by HSPD-8)
  - **Vision:** *"To engage Federal, State, local, and tribal entities, their private and non-governmental partners, and the general public to achieve and sustain risk-based __target levels of capability__ to prevent, protect against, respond to, and recover from major events in order to minimize the impact on lives, property, and the economy."*
  - **Target Capabilities List:** *Thirty-six essential capabilities that should be developed and maintained, in whole or in part, by various levels of government . . .*

Interim National Preparedness Goal
31 March 2005

Recommendation 4: **Establish and institutionalize proactive mechanisms to continually evolve critical infrastructure policy and planning guidance.**

- **Threats will continue to evolve**
  - *Attractive targets from “predator’s view”*
  - *Growing interdependencies will amplify impacts*
- **Critical Infrastructure Exercise Program**
  - *Public and private sector stakeholders*
  - *Emphasize learning—identify gaps/issues*
- **Lessons-Learned Program**
  - *Institutionalize process*
  - *Exploit opportunities (e.g. Hurricane Katrina)*

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Recommendation 5: **Establish a governance structure that supports the diversity of stakeholders within and between sectors as well as the realities of infrastructure placement and operation within communities.**

- Critical infrastructure sectors have diverse characteristics; definitions have evolved over time
  - Intra-sector dependencies/coupling
  - Inter-sector dependencies/coupling
  - Regulatory environment
- Stakeholders include communities to which products/services are provided
  - Also key decision-makers

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Recommendation 6: Establish an information sharing regime explicitly linked to critical infrastructure resiliency goals and governance—but integrated within an enterprise-wide information architecture.

- *Creation of more resilient critical infrastructures will require* ***unprecedented collaboration and cooperation*** *between disparate stakeholder communities*
- *Progress could be accelerated through aggressive sharing of lessons-learned from regional and local initiatives*
- *An enterprise-wide information architecture is vital; many “end users” wear multiple hats*

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