The Defense Threat Reduction Agency (DTRA)
Operational Response for The Fukushima Daiichi Nuclear Power Plant Accident

John Hannan, Ph.D.
DTRA
Agenda Change

• Dr. Hannan is not able to attend due to a last minute scheduling conflict

• Slightly different briefing topic:
  • The Defense Threat Reduction Agency’s involvement in hazard prediction and source term estimation for atmospheric contaminant releases
The DTRA Mission

To safeguard the US and its Allies from Weapons of Mass Destruction (Chemical, Biological, Radiological, and Nuclear) and High Yield Explosives by providing capabilities to reduce, eliminate and counter the threat and mitigate its effects.
What We Do – Nuclear Support

- Protect Essential C4ISR Systems
- Nuclear Stockpile Accounting and Tracking
- Independent Nuclear Safety and Security Inspections
- Nuclear Weapons Training
- Safety and Security
- Maintain an Effective Nuclear Deterrent
- Maintenance and Logistical Support

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We Fulfill a Unique and Central Role in the National Effort to Counter WMD

DTRA is a Defense Agency, a Combat Support Agency, and a National Asset for Countering Weapons of Mass Destruction

Providing expertise & support at strategic (global & national), operational (theater), & tactical (battlefield) levels in collaboration with DoD, interagency and international partners:

• Cooperative threat reduction and international engagement
• Planning, readiness, and operational support
• Research and development
• Technology integration with tactics, techniques, procedures

... To improve nonproliferation, counterproliferation, and consequence management efforts and capabilities
... And support a safe, secure, and effective nuclear deterrent
What We Do...

Nonproliferation

Eliminate WMD Delivery Systems

Lockdown Nuclear Weapons and Materials

Build Partnerships and Partner Capabilities

Support Arms Control Negotiations and Treaty Compliance

Promote Bio Engagement, Security, and Early Warning
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What We Do...

Counterproliferation

WMD Defeat Capabilities

Capabilities to Detect, Track, and Interdict WMD

Proliferation Security Initiative

Protect People, Systems, and Infrastructure

Hard and Deeply Buried Target Defeat
What We Do...

Consequence Management

Aid COCOM Support to Civil Authorities

WMD Effects Prediction

Reachback

Experts & Infrastructure

Software Tools

24/7 Experts

Support National Guard WMD Civil Support Teams

Post-Nuclear Detonation Forensics

Foreign Consequence Management
Chemical and Biological Defense Program

- Basic and Supporting Sciences
- Physical Science and Technology (S&T)
- Information and Analysis
- Translational Medical Science and Technology
- Diagnostic and Disease Surveillance S&T
Chemical and Biological Defense Program

Basic and Supporting Sciences

Physical Science and Technology (S&T)

Information and Analysis

Translational Medical Science and Technology

Diagnostic and Disease Surveillance S&T
DTRA JSTO Atmospheric Dispersion Modeling S&T

Hazard Prediction and Analysis Capability
Actual Release Location

Actual Chem/Bio Plume

Chem/Bio Sensor Location

Sensor Detection Based Plume

CBRNE Source Term Estimation
WMD Effects Prediction

Reachback

Experts & Infrastructure

Software Tools

24/7 Experts

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“The proliferation of weapons of mass destruction (WMD) continues to undermine global security, further complicating efforts to sustain peace and prevent harmful arms races. The instability or collapse of a WMD-armed state is among our most troubling concerns. Such an occurrence could lead to rapid proliferation of WMD material, weapons, and technology, and could quickly become a global crisis posing a direct physical threat to the United States and all other nations.”

2010 Quadrennial Defense Review, page iv
Command Structure and Relationships

Chairman of the Joint Chiefs of Staff

Commander, U.S. Strategic Command

Secretary of Defense

Under Secretary of Defense for Acquisition, Technology & Logistics

Assistant Secretary of Defense for Nuclear and Chemical & Biological Defense Programs

Director, DTRA and SCC-WMD

Deputy DIR, SCC-WMD

Deputy DIR, DTRA
DTRA’s lineage dates to WWII “Manhattan Project”

Arms Control

Cooperative Threat Reduction

Nuclear Weapons Expertise

Combat Support

Chem-Bio Defense

Synchronizing CWMD Plans and Advocating Capabilities

2006

2003

1998

1942