Ballistic Missile Defense Update

To: 2017 Space And Missile Defense Conference

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Agenda

• Mission
• Priorities
• Advanced Technology
• Ballistic Missile Defense Review
• Summary
Missile Defense Agency

**Missile Defense Agency Mission**

To develop and deploy a layered Ballistic Missile Defense System to defend the United States, its deployed forces, allies, and friends from ballistic missile attacks of all ranges and in all phases of flight.
BLUF – MDA Priorities

• Continue focus on increasing system reliability to build warfighter confidence

• Increase engagement capability and capacity

• Address the Advanced Threat

BMDS Meets Today’s Threat but Requires Additional Capacity and Advanced Capability to Stay Ahead of the Evolving Threat
Increasing Threat Complexity

North Korea: Commitment to Long-Range Missile Technology

8 IRBM (3,500-5,500 km) Launches in 2016

Road-Mobile ICBM 2017 (> 5,500 km)

Two Probable ICBM Launches 2017

3 Sea-Launched Ballistic Missile Launches in 2016

Iran: Developing Advanced Capabilities

Iranian Emad MRBM 2016

Iranian Safir SLV February 2015

Simorgh Space Launch Vehicle launch, July 2017

Emerging Threat

Hypersonic Glide Vehicle

Increasing Capability at All Ranges – Maneuvering Threats
Today’s Ballistic Missile Defense System

The System Of Elements

C2BMC Command Control, Battle Management and Communications

Aegis Ballistic Missile Defense

Aegis Ashore

SM-3 Standard Missile-3

Sea-Based Terminal

THAAD Terminal High Altitude Area Defense

PAC-3 Patriot Advanced Capability-3

Aegis Sea-Based Terminal

GBI Ground-Based Interceptor

U.S. Ground-Based Interceptor

Midcourse Defense Segment

Boost / Ascent Defense Segment

Senors

Satellite Surveillance

Forward-Based Radar

Upgraded Early Warning Radar

AEGIS BMD SPY-1 Radar

Sea-Based X-Band Radar

Command Control, Battle Management and Communications

NMCC

USSTRATCOM

USNORTHCOM

USPACOM

USEUCOM

USCENTCOM

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# Key Test Accomplishments

## Flight Test

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## Ground Test

- GTI-06 Part 2
- GTD-06 Part 2
- FTG-15 SPMT
- GTI-07a

- Collected bulk of data for capability assessment
- Helped combatant commands develop doctrine and train operators

## Exercise & Wargames

- 36 exercises, wargames, demos & tabletops to test TTPs and assess future epochs

## Cyber Test

- 8 Experiments, Exercises, & Penetration Assessments

- Implementing robust cyber testing program to characterize vulnerabilities
- Assessments for both operational and developmental BMDS

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• Demonstrated functionality of upgraded CE-II Block I Exo-atmospheric Kill Vehicle (EKV)
• First demonstration of BMDS against an ICBM-type target
• Allows MDA to proceed with emplacing GBIs with new EKVs to reach 44 by end of 2017
• Boosted warfighter and leadership confidence in homeland defenses
Aegis Ballistic Missile Defense

Aegis BMD Ships Deployed Globally

Aegis Ashore Sites

Standard Missile (SM) -3

SM-3 Block IA / IB

SM-3 Block IIA

SM-3 Block IIA Flight Test (SFTM-01)

Sea-Based Terminal

SM-2 Block IV

SM-6

Aegis BMD – On Land, At Sea, On Watch

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Terminal High Altitude Area Defense

Producing 7 THAAD Batteries (U.S)

Recent Test Successes
- Demonstrated IRBM Defense Capability in FTT-18
- THAAD Experimental Data Collect

Warfighter Support - Deployments
- Guam
- Republic of Korea
International Cooperation

Asia / Pacific
- THAAD deployment to ROK
- US-Japan SM-3 IIA Program
- Joint Analysis Activities

Europe
- NATO BMD IOC Declaration
- EPAA Phase III (2018)
- Formidable Shield-17

Middle East
- UAE THAAD FMS Execution
- Israeli Programs Cooperative Development, Testing & Coproduction
- Future FMS Engagement
Advanced Technologies

Ground-Based Midcourse Defense Reliability

Kill Assessment

Multiple Kill Vehicles

Enhanced Radar Coverage

Advanced Discrimination

Advanced Sensors

Boost Phase Intercept

Improving Cost Effectiveness versus Complex Threats

Increasing Capability

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• Directed by the President, comprehensive review of missile defense policy

• Will identify ways to:
  - Strengthen missile defense capabilities
  - Define homeland and theater defense priorities
  - Provide the necessary policy and strategy framework for the nation's missile defense systems

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