



MISSILE DEFENSE AGENCY

Ballistic Missile Defense System (BMDS) Draft Programmatic Environmental Impact Statement (PEIS)

Public Hearing



Purpose of Tonight's Meeting

- ❑ **Discuss development of MDA's BMDS PEIS**
- ❑ **Provide overview of MDA's implementation of the proposed BMDS and how the impacts analysis was done**
- ❑ **Provide a public forum to collect comments on the Draft BMDS PEIS**
- ❑ **Maintain an open public process**



Tonight's Agenda

- ❑ **Presentation**
 - **What is a Programmatic EIS?**
 - **What is the BMDS?**
 - **How were potential impacts analyzed?**
 - **What are the results of the analysis?**
 - **How to submit comments on the Draft PEIS?**
- ❑ **Fifteen-minute break – sign up at registration table to provide oral comments**
- ❑ **Public provides oral and written comments on the Draft PEIS**



Administrative Points

- ❑ **Oral comments**
 - **Five minutes per speaker**
 - **Recorded for transcript**
- ❑ **Written comments**
 - **Leave at registration table**
 - **Mail/fax**
 - **E-mail or submit electronically via the web site**
- ❑ **MDA will consider all comments in the Final PEIS**

*To ensure comments are considered in the Final PEIS,
MDA requests that comments are received no later than*

November 17, 2004

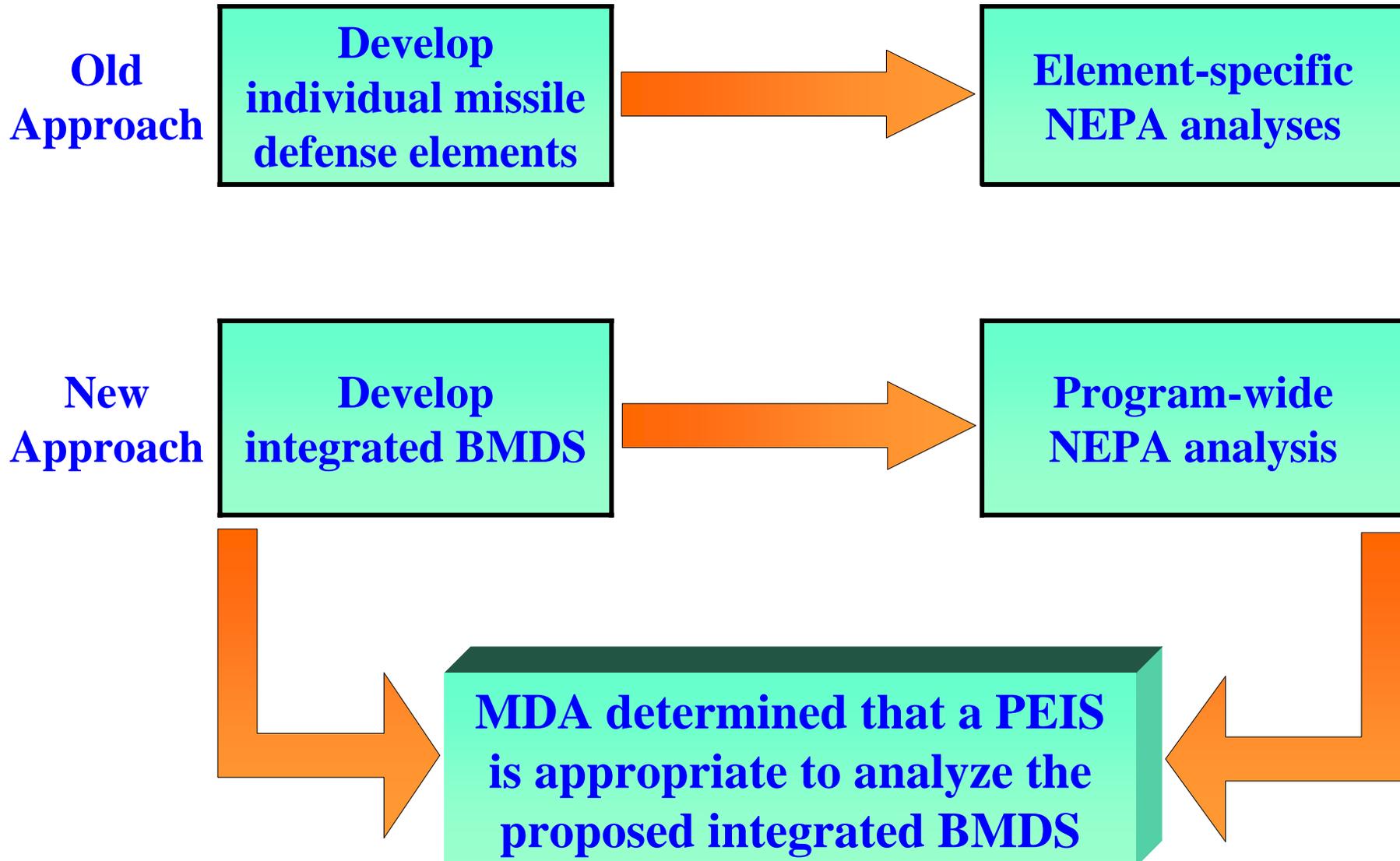


National Environmental Policy Act (NEPA)

- ❑ Provides framework for protecting environment
- ❑ Requires Federal agencies to consider environmental impacts of their activities
- ❑ Assists public decision-makers in incorporating environmental values into programs



Evolution of Missile Defense and NEPA Analysis





Programmatic EIS

- ❑ **Analyzes actions**
 - **Broad in scope**
 - **Occurring in phases**
 - **Widely dispersed geographically**
- ❑ **Creates a comprehensive analytical framework**
 - **Supports subsequent analysis of specific actions and locations, i.e., tiering**
 - **Includes a roadmap for subsequent impact assessment with issues to consider and how to assess significance**



BMDS PEIS

- ❑ **Analyzes the potential environmental impacts of implementing the proposed BMDS**
- ❑ **Evaluates current technology, components, assets, and programs that comprise the proposed BMDS**
- ❑ **Considers future development and application of new technologies**



BMDS PEIS - Proposed Action

Develop, test, deploy, and plan for decommissioning activities for an integrated BMDS using existing infrastructure and capabilities, when feasible, as well as emerging and new technologies, to meet current and evolving ballistic missile threats



BMDS PEIS - Purpose and Need

- ❑ Purpose of proposed action – to incrementally develop and deploy a BMDS, the performance of which can be improved over time, that layers defenses to intercept ballistic missiles of all ranges in all phases of flight**
- ❑ Need for proposed action – to protect the U.S., its deployed forces, friends, and allies from ballistic missile threats**



BMDS PEIS - Alternatives

- ❑ ***Alternative 1*** – Develop, test, deploy, and plan to decommission an integrated BMDS that includes land-, sea-, and air-based weapons platforms
- ❑ ***Alternative 2*** – Develop, test, deploy, and plan to decommission an integrated BMDS that includes land-, sea-, air-, and space-based weapons platforms
- ❑ ***No Action Alternative*** – Not develop, test, deploy or plan for decommissioning activities for an integrated BMDS but continue existing development and testing of discrete systems as stand-alone defensive capabilities



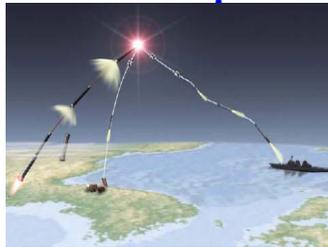
BMDS Layered Defense



Airborne Laser



Kinetic Energy Intercept



Aegis Ballistic Missile Defense



Ground-Based Midcourse Defense



Terminal High Altitude Area Defense



PATRIOT Advanced Capability-3



Boost Phase

Terminal Phase

Midcourse Phase



BMDS Components

- ❑ Weapons, sensors, C2BMC, and support assets**
- ❑ Comprise the building blocks that can be assembled into capabilities and operated together or independently to defeat threat missiles**
- ❑ Scenarios using multiple components were considered to analyze system integration testing**



BMDS Weapons

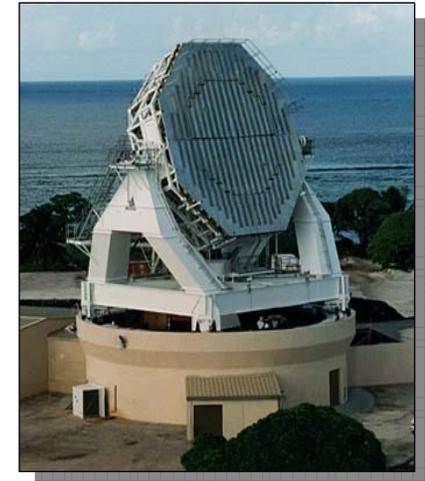
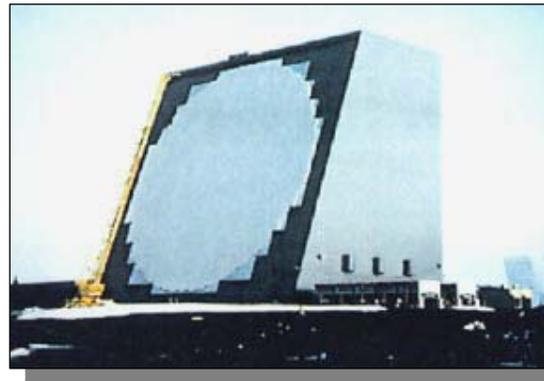
- ❑ Provide defense against threat ballistic missiles
- ❑ Include interceptors and directed energy systems (i.e., high energy lasers)
- ❑ Operate from multiple platforms (i.e., land, sea, air, space)





BMDS Sensors

- ❑ Detect, track, and discriminate threat ballistic missile launches
- ❑ Include radars, infrared, optical, and laser sensors
- ❑ Operate from multiple platforms (i.e., land, sea, air, space)





BMDS C2BMC

- ❑ Integrates and coordinates BMDS equipment and operators through coordinated command and control and integrated fire control
- ❑ Includes underground cable, computer terminals, and antennas
- ❑ Operates from multiple platforms (i.e., land, sea, air, space)





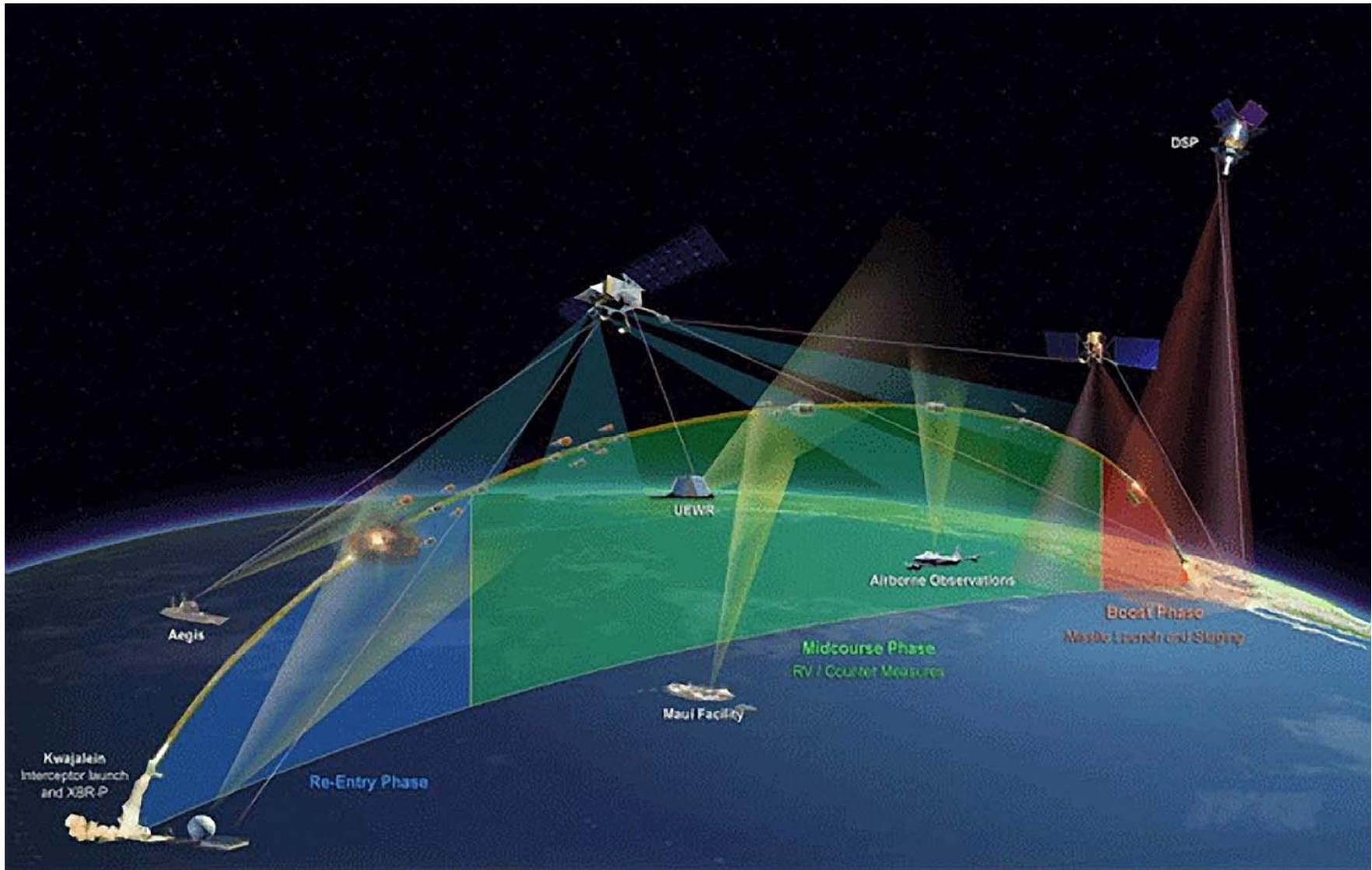
BMDS Support Assets

- ❑ Provide support for weapons, sensors, and C2BMC
- ❑ Include support equipment, infrastructure, and test assets (including Test Bed)





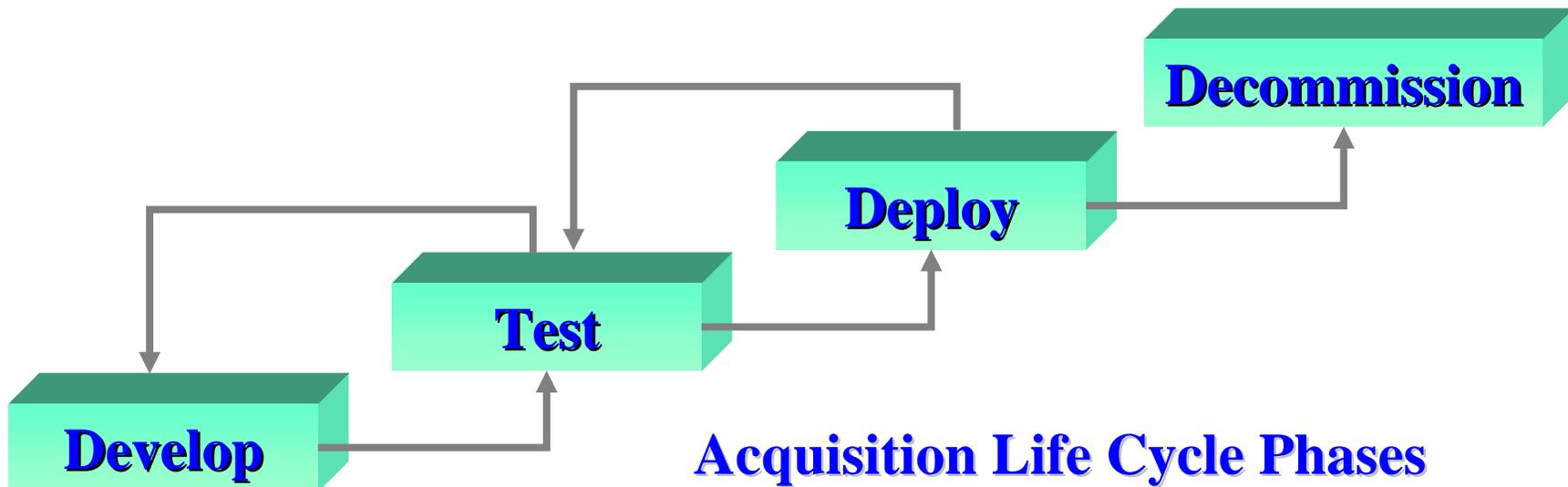
BMDS Integration





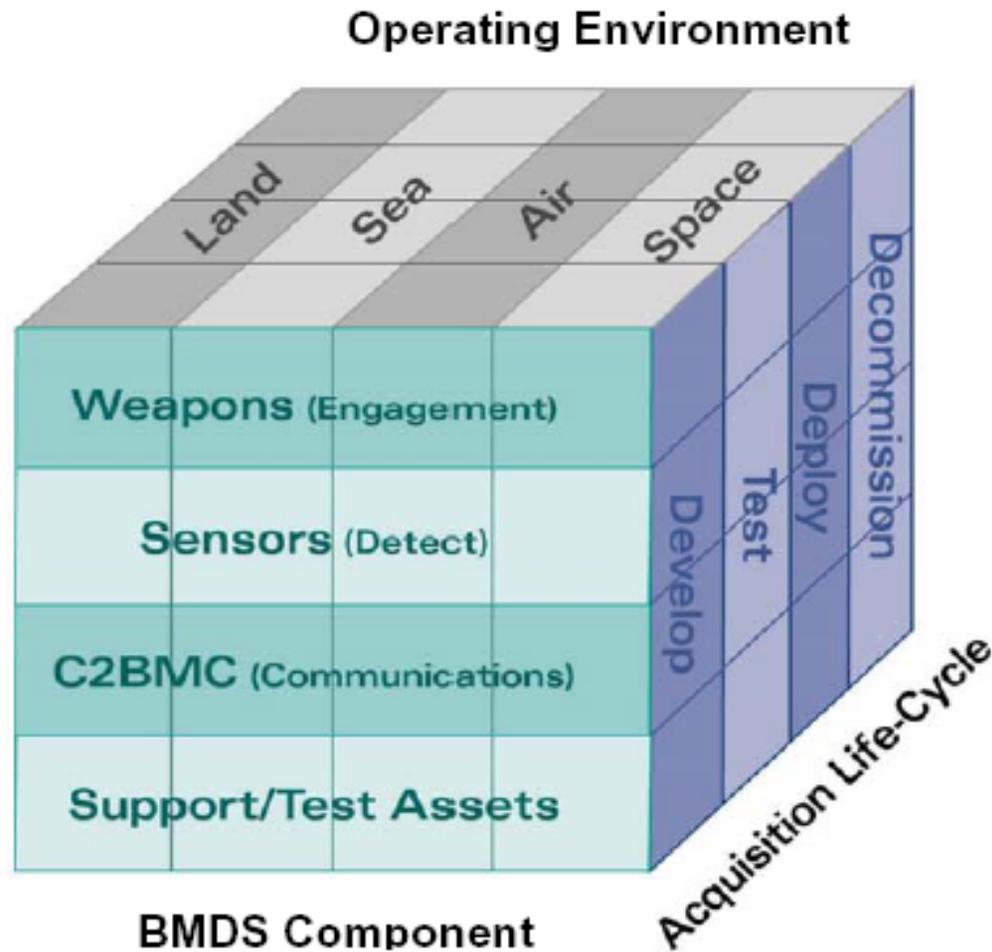
Incorporate Components in BMDS

- ❑ Occurs throughout the acquisition life cycle phases
- ❑ Includes developing new component technologies, testing promising technologies, and deploying proven technologies
- ❑ Concludes with decommissioning





BMDS PEIS Analysis Complexities





BMDS PEIS Analysis Strategy

- ❑ **Identify affected environment, i.e., locations where BMDS component development, testing, deployment, and decommissioning may occur**
- ❑ **Determine resource areas that may be affected by proposed action**
- ❑ **Analyze environmental impacts of implementing integrated BMDS**
 - **Step 1 – Identify and characterize activities**
 - **Step 2 – Identify activities with no potential for impact**
 - **Step 3 – Identify similar activities across life cycle phases**
 - **Step 4 – Conduct impact analyses**



BMDS PEIS Affected Environment

- ❑ **Considers Broad Ocean Area, Atmosphere, and Terrestrial Biomes in which proposed BMDS activities may occur**
 - **Arctic Tundra**
 - **Sub-Arctic Taiga**
 - **Deciduous Forest**
 - **Chaparral**
 - **Grasslands**
 - **Desert**
 - **Mountain**
 - **Tropical**
 - **Savanna**

- ❑ **Biomes include locations of past, present, and potential MDA activities both inside and outside the U.S.**



BMDS PEIS Resource Areas

□ Resource areas potentially affected by the proposed BMDS

- Air quality
- Airspace
- Biological resources
- Cultural resources *
- Geology and soils
- Hazardous materials/waste
- Health and safety
- Land use *
- Noise
- Orbital debris
- Socioeconomics *
- Transportation
- Utilities *
- Visual/aesthetic resources *
- Water resources

* Depend on site-specific information and would be addressed in tiered analyses

□ Resource areas considered in this PEIS and those better suited to site-specific analysis, provide a “roadmap” to assist in preparing future tiered assessments



BMDS PEIS Impacts Analysis

Step 1 – Identify and Characterize Activities

BMDS life cycle phase activities were identified and characterized for each component

- Development**
- Testing**
- Deployment**
- Decommissioning**



BMDS PEIS Impacts Analysis

Step 2 - Identify Activities with No Impact

Activities were then further categorized to identify

- ❑ Activities that normally have no significant impact and are categorically excluded**
- ❑ Activities for which earlier NEPA analyses found no potential for significant impact**



BMDS PEIS Impacts Analysis

Step 3 – Identify Similar Activities

Similar activities that occur across life cycle phases were then identified and considered together to reduce redundancy

Development	Planning/Budgeting
	Research and Development
	Site Preparation and Construction
	Maintenance and Sustainment
Deployment	Site Preparation and Construction
	Operations and Maintenance
	Training
	Service Life Extension



BMDS PEIS Impacts Analysis

Step 4 - Conduct Environmental Analyses

Remaining activities were then analyzed

- ❑ Emissions by component for each resource area and life cycle activity**
- ❑ Operating environment (i.e., land, sea, air, space)**
- ❑ Specific impacts for individual biomes as appropriate**
- ❑ Impacts from system integration testing considering two test flight scenarios**



BMDS PEIS Analysis of Alternatives

- ❑ **Alternative 1 – Considers implementation of integrated BMDS using land-, sea-, and air-based platforms for BMDS weapons components**
- ❑ **Alternative 2 – Considers implementation of integrated BMDS using land-, sea-, air-, and space-based platforms for BMDS weapons components**

Difference between Alternative 1 and 2 is the analysis of space-based weapons (interceptors) platforms



BMDS PEIS Analysis of Cumulative Impacts

Considers other actions that have a similar worldwide scope

- **Alternative 1 – Considers impacts on global warming and ozone depletion with worldwide commercial and government launch programs**
- **Alternative 2 – Considers orbital debris impacts with International Space Station program**





Impacts Summary - BMDS Weapons

	Air Quality	Airspace	Biological Resources	Geology and Soils	Hazardous Materials	Health and Safety	Noise	Transportation	Water Resources	Orbital Debris
Alternative 1										
Laser-Activation	●	●	●	●	●	●	●	●	●	○
Interceptor-Prelaunch	●	○	●	●	●	●	○	●	●	○
Interceptor-Launch	●	●	●	●	●	●	●	●	●	●
Interceptor-Postlaunch	●	○	●	●	●	●	●	●	●	●
Alternative 2										
Interceptor-Launch	○	●	●	○	○	●	○	○	○	●

Potential for impacts
 No impacts expected
MDA BMDS PEIS

*Note: impacts for all components and activities may be found in more detail in Executive Summary tables in the Draft PEIS



Impacts Summary - BMDS Sensors

Alternatives 1 and 2	Air Quality	Airspace	Biological Resources	Geology and Soils	Hazardous Materials	Health and Safety	Noise	Transportation	Water Resources	Orbital Debris
Radars - Activation	○	●	●	○	○	●	○	●	○	●
Infrared and Optical - Activation	○	○	○	○	○	○	○	○	○	●
Laser - Activation	●	●	●	○	●	●	○	●	○	●



Potential for impacts



No impacts expected

*Note: impacts for all components and activities may be found in more detail in Executive Summary tables in the Draft PEIS



Impacts Summary - BMDS C2BMC

Alternatives 1 and 2	Air Quality	Airspace	Biological Resources	Geology and Soils	Hazardous Materials	Health and Safety	Noise	Transportation	Water Resources	Orbital Debris
Computer Terminals and Antennas – Activation	○	●	●	○	●	●	○	●	○	●
Underground Cable – Activation	○	○	○	○	○	○	○	●	○	○

● Potential for impacts

○ No impacts expected

*Note: impacts for all components and activities may be found in more detail in Executive Summary tables in the Draft PEIS



Impacts Summary - BMDS

Support Assets

Alternatives 1 and 2	Air Quality	Airspace	Biological Resources	Geology and Soils	Hazardous Materials	Health and Safety	Noise	Transportation	Water Resources	Orbital Debris
Support Equipment-Operational Use Change	●	●	●	○	●	●	●	●	○	●
Infrastructure-Site Preparation and Construction	●	○	●	●	●	●	●	●	●	○
Test Assets-Use of countermeasures, simulants or drones	●	●	●	●	●	●	○	●	●	●

- Potential for impacts
- No impacts expected

*Note: impacts for all components and activities may be found in more detail in Executive Summary tables in the Draft PEIS



Impacts Summary - BMDS

Test Integration

Alternatives 1 and 2	Air Quality	Airspace	Biological Resources	Geology and Soils	Hazardous Materials	Health and Safety	Noise	Transportation	Water Resources	Orbital Debris
Ground Tests	●	●	●	●	●	●	●	●	●	○
System Integrated Flight Test Scenario 1	●	●	●	●	●	●	●	●	●	●
System Integrated Flight Test Scenario 2	●	●	●	●	●	●	●	●	●	●

- Potential for impacts
- No impacts expected

*Note: impacts for all components and activities may be found in more detail in Executive Summary tables in the Draft PEIS



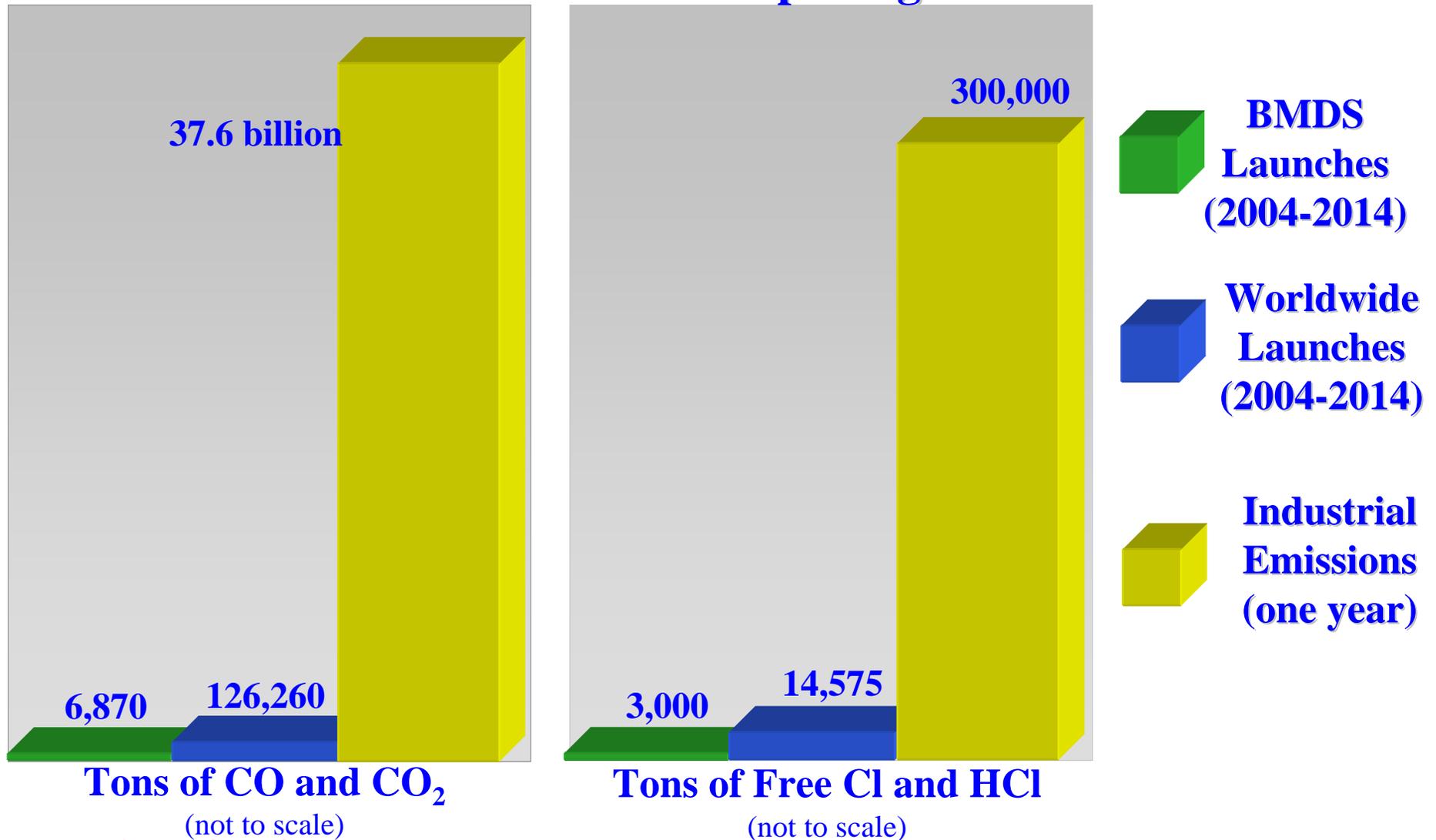
Impacts Summary - No Action Alternative

- ❑ **Environmental impacts would be those impacts associated with continued development and testing of individual missile defense elements**
- ❑ **Could result in the inability to respond to a ballistic missile attack in a timely and successful manner**
- ❑ **Would not meet the purpose and need or specific direction provided by the President and U.S. Congress**



Cumulative Impacts - Alternative 1

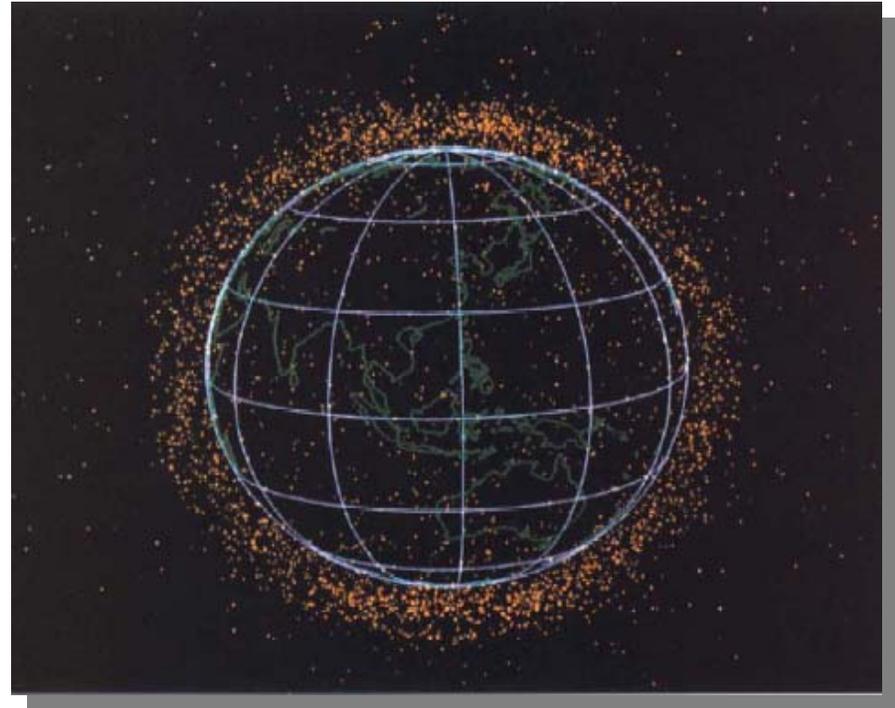
Greenhouse Gas Emissions Ozone-Depleting Emissions





Cumulative Impacts - Alternative 2

- ❑ **Orbital debris can include parts of launch vehicles, old satellites, and small pieces of paint**
- ❑ **Most debris would de-orbit and be destroyed during re-entry; some debris could survive and fall to Earth**
- ❑ **Collision avoidance measures could further reduce potential for impact to orbiting structures**





PEIS Schedule and Milestones





Submitting Comments on the Draft PEIS

- ❑ **Oral comments**
 - **Provide public statement tonight**
 - **Leave voice message via MDA's toll-free telephone number**

- ❑ **Written comments**
 - **Submit previously prepared comments tonight**
 - **Use comment forms provided and submit them tonight**
 - **Fax, mail or e-mail comments**
 - **Use electronic comment form provided on the MDA BMDS PEIS web site**



Contact Information

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- Web site**

<http://www.acq.osd.mil/mda/peis/html/home.html>



For Additional Information

- ❑ **Visit the MDA BMDS PEIS web site at <http://www.acq.osd.mil/mda/peis/html/home.html>**
- ❑ **To obtain a copy of the Final PEIS (when available)**
 - **Fill out request sheet at registration table to receive hardcopy of the Executive Summary or CD-ROM of the entire document**
 - **Send an e-mail to mda.bmds.peis@icfconsulting.com to request hardcopy of the Executive Summary or CD-ROM of the entire document**
 - **Visit local libraries to review hardcopy of the entire Final PEIS**
 - **Download pdf version of the entire Final PEIS from MDA's web site**



Thank You for Participating

**To Ensure That All Comments are Addressed in
the Final PEIS, MDA Requests That Comments
are Received No Later Than**

November 17, 2004



Fifteen-Minute Break



Public Comments