

Cost (\$ in millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete
Project BG - Nuclear Operations	25.4	26.2	25.0	25.5	23.4	24.6	25.8	Continuing

**A. Mission Description and Budget Item Justification:**

- These programs directly reflect the National Military Strategy, support the dictates of the Nuclear Posture Review (NPR), and are directed by the JCS in the Joint Strategic Capabilities Plan (JSCP) Nuclear Annex. This project for this Program Element encompasses two activities:
  - Nuclear Programs
  - Combatant Commands/Forces/Support. (Formerly Combatant Commands/Forces/Security Support)
- Responsive to the oversight of the Nuclear Weapons Council, they provide critical support to the Combatant Commands, Services, JCS and OSD.
- This project continues the realignment begun by DTRA at its inception so as to deal with the emerging 21st Century strategic landscape, and is divided into the two areas as described above:
  - **Nuclear Programs.**
    - Nuclear Weapons Surety: As tasked by the DoD Nuclear Weapon System Safety Program, the surety programs will provide Combatant Commands, Services, and JCS with technical analysis, studies, research, and experimental data to identify and quantify risks of plutonium dispersal and Loss of Assured Safety (LOAS) due to accidents, fires or natural causes during normal, peacetime operations of the nations nuclear weapon systems. Additionally, these programs will provide studies to quantify the probability of success of targeted terrorist attacks on DoD facilities, leveraging these risk assessment advances.
    - Nuclear Mission Management Plan (NMMMP): As tasked by Deputy Secretary of Defense and Director, Defense Research and Engineering (DDR&E), and in support of national requirements to maintain a strategic nuclear deterrent, conduct assessments and develop long-range plans. The continued development of the DoD Nuclear Mission Management Plan is designed to provide a comprehensive, integrated DoD roadmap for the sustainment and viability of U.S. nuclear forces, personnel, and infrastructure.
    - Stockpile Sustainment: Continue to act as DDR&E's Executive Agent for Annual Certification support related stewardship and sustainment activities.
    - Stockpile Operations Support: In support of national requirements to maintain a viable nuclear deterrent, this program provides automated tools to maintain, report, track and highlight trends affecting the nuclear weapon stockpile. It will provide crucial business process and information support to ensure continued sustainability and viability of the nuclear stockpile.
    - Additionally, they provide the DoD nuclear physical security applied research and force-on-force (FoF) testing programs to help insure the security of our nuclear forces.

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		Date: February 2004
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RDT&E, Defense-Wide/Applied Research - BA2		Project BG - Nuclear Operations

- **Combatant Command /Forces/Support.**
- As tasked by the Joint Strategic Capabilities Plan (JSCP) and DoD Directives, these programs will provide Combatant Commands, Services, JCS and DoD with focused analyses in support of nuclear planning and operations and WMD threat mitigation as they pertain to the combat survivability of the forces.
- Provides technical support and curriculum development and enhancement for the Defense Nuclear Weapons School (DNWS), to include other WMD support, and other DoD nuclear training activities.

**B. Accomplishments/Planned Program:**

Nuclear Programs	Cost (\$ in millions)	FY 2003	FY 2004	FY 2005
		18.0	20.5	17.9

**FY 2003 Accomplishments**

- **Nuclear Weapon Surety Thrusts:**
  - Conducted modeling and testing to respond to weapon storage facility and weapon system safety requirements and criteria.
  - Continued the development, improvement, and population of a "Nuclear Surety Information Center," a weapon surety database and interface to utilize and archive completed assessments, studies, tools and test programs.
  - Completed the B-2 Weapon System Safety Assessment.
  - Began forensics nuclear activation project with Oak Ridge National Lab.
  - Completed Phase II SBIR -Automated Vulnerability Evaluation for Risks of Terrorism (AVERT).
  - Initiated Graphical User Interface (GUI) for ISIS-3D Fire model.
  - Began Sentry forensics database project.
  - Began demonstration of Storage Facility Tester.
  - Began development of electrical system Penetration Tester.
  - Supported annual certification and stockpile stewardship for the continued safety and reliability of the U.S. nuclear stockpile in the absence of underground testing.
  - Continued to improve the evaluation of enduring stockpile weapons in support of the Air Force and Navy.
  - Prepared an Annual Surety Report for SECDEF and President.
  - Began Fire Hazard Analysis on Nellis AFB Weapons Storage Area.
- Conducted Force-on-Force exercise program using the Mighty Guardian series.
- Stockpile Sustainment Program thrusts:

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- Supported annual certifications, at Presidential direction, of the continued safety and reliability of the U.S. nuclear stockpile in the absence of underground testing.
- Assessed impacts of Nuclear Posture Review and End-to-End Reviews.
- Continued enhancement of the "Nuclear Deterrent Support Program".
- Continued improvement of technical support to the Nuclear Weapons Council (NWC) and Joint Advisory Committee (JAC).
- Completed third edition of the Nuclear Mission Management Plan.
- Continued to improve the development and presentation of tailored nuclear weapons expertise and sustainment modules through Outreach 21 efforts to the War Colleges and operational units.
- Supported the further development of the Nuclear Weapons Stockpile Plan and Requirements & Planning Document.
- **Stockpile Operations thrusts:**
  - Completed Full Functional testing of Defense Integration and Management of Nuclear Data Services (DIAMONDS). The Headquarters, Air Force, now approves DIAMONDS for use for those sites that have it. The stand-alone Special Weapons Information Management (SWIM) system does not exist at DIAMONDS sites.
  - Migrated SWIM windows to web-based environment for seamless integration with DIAMONDS.
  - Implemented phase one of the Defense Integration and Management of Nuclear Data Services (DIAMONDS) Nuclear Ordinate Commodity Management (NOCM) module. This module will fully subsume all SWIM functionality.
  - Fielded electronic Inspection Record Cards (IRC) and Weapons Information Reports (WIR) in DIAMONDS.
  - Fielded two custodial sites and three headquarter sites (two of which were Navy) during FY2003.
- **FY 2004 Plans**
  - **Nuclear Weapon Surety Thrusts:**
    - Continue to conduct modeling and testing to respond to weapon storage facility and weapon system safety requirements and criteria.
    - Continue to improve the development and population of a "Nuclear Surety Information Center," a weapon surety database and interface to utilize and archive completed assessments, studies, tools and test programs.
    - Enhance forensics nuclear activation project with Oak Ridge National Lab.
    - Complete Demonstration of Automated Vulnerability Evaluation for Risk of Terrorism (AVERT).
    - Complete GUI Development for ISIS-3D Fire model.
    - Upgrade Sentry forensics database project.
    - Complete Demonstration and Validation of Storage Facility Tester.
    - Complete Fire Hazard Analysis for Weapon Storage Areas at Nellis AFB and Kirtland AFB.
    - Terminate development of electrical system Penetration Tester.
    - Support annual certification and stockpile stewardship for the continued safety and reliability of the U.S. nuclear stockpile in the absence of underground testing: review for new opportunities for enhance safety and reliability.
    - Improve upon evaluation of enduring stockpile weapons in support of the Air Force and Navy.

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- Prepare an Annual Surety Report for SECDEF and President.
- Conduct and improve Force-on-Force exercise program using the Mighty Guardian series and based on lessons learned.
- Conduct exploratory research on physical security equipment and technology designed to enhance the protection of the nuclear stockpile.
- Stockpile Sustainment Program thrusts:
  - Support annual certifications, at Presidential direction, of the continued safety and reliability of the U.S. nuclear stockpile in the absence of underground testing.
  - Assess impacts of Nuclear Posture Review and End-to-End Reviews.
  - Continue and enhance the "Nuclear Deterrent Support Program".
  - Continue and improve upon technical support to the Nuclear Weapons Council (NWC) and Joint Advisory Committee (JAC).
  - Continue improvement, development and presentation of tailored nuclear weapons expertise and sustainment modules through Outreach 21 efforts to the War Colleges and operational units.
  - Continue to support development of the Nuclear Weapons Stockpile Plan and Requirements & Planning Document.
- Stockpile Operations thrusts:
  - Complete the NOCM module and SWIM integration into DIAMONDS.
  - Begin planning for the Nuclear Management Information System (NUMIS) integration into DIAMONDS.
  - Install DIAMONDS in 6 OCONUS custodial and headquarter location.
  - Continue to enhance Maintenance Bay, Unsatisfactory Reporting, and other modules based on user feedback and priorities while continuing development of the DIAMONDS system.
  - Provide Phase I of electronic Joint Nuclear Weapons Publication System (JWNPS) module DIAMONDS.
- **FY 2005 Plans**
  - Nuclear Weapon Surety Thrusts:
    - Continue to conduct modeling and testing to respond to weapon storage facility and weapon system safety requirements and criteria.
    - Initiate a nuclear surety program Indefinite Delivery/Indefinite Quantity (ID/IQ) for quick response to the emergent threats.
    - Improve storage facility fire suppression project based on previous results and new technology.
    - Complete the development and population of the "Nuclear Surety Information Center", a weapon surety database and interface to utilize and archive completed assessments, studies, tools and test programs.
    - Continue to improve the evaluation of enduring stockpile weapons in support of the Air Force and Navy.
    - Enhance forensics nuclear activation project with Oak Ridge National Lab.
    - Improve Sentry forensics database project based on previous results and new technology.

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- Begin analyses of abnormal environment scenarios for nuclear weapons systems.
- Conduct Force-on-Force exercise program using the Mighty Guardian series and based on lessons learned and new technology.
- Conduct exploratory research on physical security equipment and technology designed to enhance the protection of the nuclear stockpile.
- Stockpile Sustainment Program thrusts:
  - Support annual certification and stockpile stewardship for the continued safety and reliability of the U.S. nuclear stockpile in the absence of underground testing.
  - Continue to upgrade and improve the "Nuclear Deterrent Support Program".
  - Continue enhanced technical support to the Nuclear Weapons Council (NWC) and Joint Advisory Committee (JAC).
  - Complete developing third edition of the Nuclear Mission Management Plan.
  - Improve the development and presentation of tailored nuclear weapons expertise and sustainment modules through Outreach 21 efforts to the War Colleges and operational units.
  - Support development of the Nuclear Weapons Stockpile Plan and the Requirements & Planning Document.
- Stockpile Operations thrusts:
  - Field remaining Air Force OCONUS sites.
  - Begin fielding of DIAMONDS at Navy munitions sites.
  - Complete Phase I of NUMIS integration into DIAMONDS.
  - Complete integration of JNWPS publications into DIAMONDS.
  - Begin planning and implementation of the Decision Support Module for DIAMONDS.