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**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY PROJECT NUMBER AND NAME:  
**RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7** Reliable Replacement Warhead J3196

**B. (U) Accomplishments/Planned Program**

	FY 2007	FY 2008	FY 2009
Reliable Replacement Warhead	0.000	14.455	23.346
RDT&E Articles Quantity	0.000	0.000	0.000

- (U) FY 2008 PLAN
- (U) (\$14.455) Continue the RRW Program into Phase 3 Engineering Development, when approved by Congress and the Nuclear Weapons Council.
- FY 2008 efforts include:
  - (U) Engineering development of AF&F for RRW.
  - (U) Developmental Test and Evaluation of AF&F components and subsystems.
  - (U) Systems engineering and integration of RRW with the TRIDENT D5 Weapon System.
  - (U) Engineering development of ancillary reentry body types for RRW.
- (U) FY 2009 PLAN
- (U) (\$23.346) Continue the RRW Program into Phase 3 Engineering Development, when approved by Congress and the Nuclear Weapons Council.
- FY 2009 efforts include:
  - (U) Continue engineering development of AF&F for RRW.
  - (U) Continue developmental Test and Evaluation of AF&F components and subsystems.
  - (U) Continue systems Engineering and integration of RRW with the TRIDENT D5 Weapon System.
  - (U) Continue engineering development of ancillary reentry body types for RRW.

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EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	PE 0101221N Strategic Sub & Wpns Sys Spt

COST (\$ in Millions)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Total PE Cost* (total may or may not add due to rounding)	123.854	67.758	80.120	56.699	56.856	58.663	51.672
J2228 Technology Applications Program	79.253	44.233	45.490	46.298	46.331	48.152	51.200
J3158 Enhanced Special Weapons	41.863	5.816	0.935	0.935	0.000	0.000	0.000
J0951 TRIDENT II	0.000	0.000	0.000	9.072	10.069	10.047	0.000
J3196 Reliable Replacement Warhead	0.000	14.455	23.346	0.000	0.000	0.000	0.000
J3198 Underwater Launch Missile System	0.000	0.000	10.000	0.000	0.000	0.000	0.000
S0004 TRIDENT Submarine System Improvement	0.167	0.273	0.349	0.394	0.456	0.464	0.472
9A66N Advanced Conventional Strike Capability (SLIRBM)	1.261	0.000	0.000	0.000	0.000	0.000	0.000
9A67N/9999 Free Electron Laser Facility	1.310	2.981	0.000	0.000	0.000	0.000	0.000

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

The Technology Applications Program supports the TRIDENT II (D5) Submarine Launched Ballistic Missile (SLBM) that provides the U.S. a weapon system with greater accuracy and payload capability as compared to the TRIDENT I (C4) system. TRIDENT II enhances U.S. strategic deterrence providing a survivable sea-based system capable of engaging the full spectrum of potential targets with fewer submarines. This Program Element supports investigations into new technologies which would help mitigate the program impact due to component obsolescence and a rapidly decreasing manufacturing support base. These efforts include Reentry System Applications and Guidance System Applications, Radiation Hardened Electronics Applications, and Strategic Propulsion Applications.

The Enhanced Special Weapons effort supports the Nuclear Weapons Security program and SSBN Escort mission. The policies and requirements regarding the safeguard of nuclear weapons within the Department of Defense is established by DoD SS210.41M. Within the Department of the Navy, nuclear weapons are limited to TRIDENT Fleet Ballistic Missiles (FBM), either deployed aboard TRIDENT submarines or located landside at Naval Submarine Base, Kings Bay, or Naval Submarine Base, Bangor where missiles are first assembled as well as repaired. The Chief of Naval Operations (CNO) has assigned the Strategic Systems Programs, the FBM program manager, with mission responsibility for the safeguard of FBM nuclear technologies. This budget supports efforts directed at improving the current technological baseline through a series of studies focusing on land and waterside requirements, including both surface and underwater. Collectively, these efforts will improve countermeasure technologies addressing detection, delay and denial.

The TRIDENT II effort supports the SSBN Planning and Operational Flexibility (SPOF) that is the follow-on program to the SLBM Retargeting System (SRS) program. SPOF provides targeting planning tools and added connectivity between United States Strategic Command (STRATCOM), Naval Surface Warfare Center (NSWC) Dahlgren and the Fleet. SPOF will provide the following new capabilities in response to initiatives required by STRATCOM and substantiated by the Nuclear Posture Review (NPR): 1) improved flexibility and responsiveness, 2) enhanced accuracy and effectiveness, and 3) information management and the decision making tools/capabilities.

The Reliable Replacement Warhead Program (RRW) is an effort to provide reliable replacement warheads to the nation's nuclear stockpile. The program will allow the design of replacement warheads that are more efficient to manufacture, are safer and more secure, eliminate environmentally hazardous materials, and increase design performance margins. The design of RRW will enable transformation to a more efficient and responsive nuclear weapons research, development, and production infrastructure in support of the Nuclear Posture Review and the requirements of the new Strategic Triad.

The Underwater Launch Missile System (ULMS) effort develops capabilities definitions and assessments, science & technology development strategies, and conceptual work to prepare for R&D and Prototyping in FY10.

The TRIDENT Submarine System Improvement Program develops and integrates command and control improvements needed to maintain TRIDENT Submarine operational capability through the life cycle of this vital strategic asset. The program conducts efforts needed to maintain strategic connectivity, ensure platform invulnerability, and reduce lifecycle costs through Obsolete Equipment Replacement (OER) and commonality.

The Free Electron Laser Program is for advanced capability Linear Accelerator (LINAC) to include a three stage accelerator section and an electron storage ring that will reduce the main limitations (electrical noise and micro-beam structure) of current LINAC technology. The enhanced LINAC will allow future large chips to be tested while meeting strategic test requirements.

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