Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603542N *I Radiological Control*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	17.484	0.706	0.762	0.669	-	0.669	0.713	0.729	0.741	0.758	Continuing	Continuing
1830: *RADIAC Development*	17.484	0.706	0.762	0.669	-	0.669	0.713	0.729	0.741	0.758	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Mission Description: The Radiation Detection, Indication and Computation (RADIAC) Program is responsible for providing radiation monitoring instruments that detect and measure ionizing radiation. These instruments are used on all Navy, Coast Guard and Military Sealift Command vessels, and at every Navy shore installation, in order to ensure the safety of personnel, continuity of operations in radiological contingencies, and protection of the environment.

Justification: Title 10 of the Code of Federal Regulations, Part 20 (10CFR20) requires RADIAC instruments be used to ensure the safety of personnel who work with or are exposed to radioactive materials in their work. Additionally, the Navy's mission requires personnel and ships to have the ability to operate in radiological environments and the ability to identify and interdict radiological Weapons of Mass Destruction (WMD). Navy programs that require RADIAC instruments for Occupational Safety & Health (OSH) reasons under the provisions of 10CFR20 include Naval Nuclear Propulsion, Nuclear Weapons, Medical, and Radiological Affairs Support. Non-OSH programs include Radiological Defense, Consequence Management, Training, Technical (RADIAC calibration, shielding evaluation, research, etc.) and Radiological Search (maritime interdiction and radiological search missions to locate or intercept WMD).

This budget item develops new, highly reliable, more easily calibrated, easy to care and maintain, light weight and modern RADIAC instruments in order to improve the effectiveness of radiation safety, to make instruments simpler to use, and to reduce life cycle costs. The ultimate goal is to replace old, bulky, costly to maintain and repair, unreliable and obsolete instrumentation with multifunction equipment that can be automatically calibrated at greatly reduced cost.

This budget item also provides for improvement to nuclear weapons intrinsic radiation (gamma and neutron) shielding calculations, mixed field (neutron and gamma) dosimetry, and in neutron measurement. The objective is to develop less costly and more effective integral shielding for better personnel protection and safety. Improvement in personnel dosimetry and neutron measurement is also a major emphasis.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy					Date: March 2014
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*			R-1 Program Element (Number/Name) PE 0603542N *I Radiological Control*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	0.777	0.762	0.807	-	0.807
Current President's Budget	0.706	0.762	0.669	-	0.669
Total Adjustments	-0.071	-	-0.138	-	-0.138
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.006	-			
• Program Adjustments	-	-	-0.129	-	-0.129
• Rate/Misc Adjustments	-	-	-0.009	-	-0.009
• Congressional General Reductions Adjustments	-0.065	-	-	-	-

Change Summary Explanation

Reduced FY13 funding by $64K for sequestration reductions.

All Projects: Reduced FY15 funding by $129K due to the Department's decision to reduce contracted services.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603542N / *Radiological Control*	Project (Number/Name) 1830 / *RADIAC Development*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
1830: *RADIAC Development*	17.484	0.706	0.762	0.669	-	0.669	0.713	0.729	0.741	0.758	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Mission: The Radiation Detection, Indication and Computation (RADIAC) Program is responsible for providing radiation monitoring instruments that detect and measure radiation in accordance with the provisions of Title 10 of the Code of Federal Regulations (10CFR). These instruments are used on all vessels afloat and at every shore installation in order to ensure the safety of personnel and the environment. RADIACs are also required after an act of terrorism or war that involves nuclear material in order to enable continuing warfighting ability.

Justification: Many RADIAC instruments and dosimetry systems are decades old and approaching the end of their useful lives. In some cases the equipment and replacement parts are no longer manufactured, making the equipment logistically unsupportable. In other cases increasing failure rates due to age make replacements an economic efficiency
improvement. In all cases a technology refresh will make both economic sense and provide increased operational capabilities.
Naval Nuclear Propulsion Program (NNPP): Instruments are developed to support the safe operation and maintenance of nuclear powered vessels and at nuclear maintenance facilities.
Non-NNPP: Instruments are developed to support other than NNPP end users, such as Explosive Ordnance Disposal, Weapons, Medical, Industrial Radiography and Training.
Visit, Board, Search & Seizure (VBSS): The Navy has been tasked to intercept and board vessels at sea to search for nuclear or radiological materials that could be used for terrorist attacks. These instruments would have different characteristics than those used for NNPP and non-NNPP purposes and prototypes must be developed and/or tested and evaluated.
The AN/PDR-65 Ship Board Monitoring System is obsolete and will be replaced. The IM-239/WDQ Air Particle Detector (APD) and the HD-732, HD-1150 and HD-1151 Air Particle Samplers (APS) are obsolete and will be replaced.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Optically Stimulated Luminescence	0.069	-	-
Articles:	-	-	-
Description: The need for dosimetry is a very significant consequence of working with or around ionizing radiation. The expensive infrastructure and investments by the Navy in its dosimetry program is evidence of the importance attributed by the Navy to the health and safety of the Navy's military and civilian personnel, and that of the general public. As new and improved technologies appear, it is important to evaluate them for their potential to improve performance while reducing total operating costs. Optically Stimulated Luminescence (OSL) is a relatively new technology where the benefits appear to be significant but have yet to be fully evaluated. This project's objective is to make modest investments with the labor of a Navy Health Physicist			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603542N / *Radiological Control*	**Project (Number/Name)** 1830 / *RADIAC Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
to explore, in collaboration with a U.S. Army colleague interested in the same technology for Army use, the potential of the joint military application for OSL dosimetry. ***FY 2013 Accomplishments:*** Research dosimetric properties of OSL material for suitability as a Navy dosimeter. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Radiological Shipboard Defense Monitor ***Articles:*** ***Description:*** All surface combatants require an instrument to detect and measure radiological activity in the event of a nuclear detonation in order for the ship to avoid the radiological danger and continue its mission. The AN/PDR-65, at over 40 years of age, was the instrument used for this purpose, but it is obsolete and has been de-fielded. An interim replacement has been fielded while OPNAV finalizes updating the Cold War requirements under which the AN/PDR-65 was designed in order to include radiological (terrorist dirty bomb) threats. The interim replacement is the IM-265 Survey Meter, which is already in the Navy inventory, but it was not designed for this requirement and cannot measure radiation external to the ship and is therefore not suitable as the permanent replacement. In light of Operation Tomodachi this requirement has taken on more significance. ***FY 2013 Accomplishments:*** Finalize specification development for follow-on procurement. ***FY 2014 Plans:*** Continue working with Navy end users to develop technical specification. ***FY 2015 Plans:*** N/A	0.067 -	0.044 -	- -
Title: Visit, Board, Search & Seizure ***Articles:*** ***Description:*** The Visit, Board, Search & Seizure (VBSS) mission of the Navy includes the requirement to be able to board ships and be able to detect and identify potential radiological or nuclear Weapons of Mass Destruction (WMD). Such a sensitive mission requires leading edge technology and capabilities to ensure success. The AN/PDX-1 RADIAC Set was fielded in response to a Joint Urgent Operational Needs Statement to meet this requirement. It contains several instruments that serve different purposes, including the search detector, isotope identifier, and personal dosimeter. Current technology dictates that	0.108 4.000	0.049 -	0.104 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603542N / *Radiological Control*	**Project (Number/Name)** 1830 / *RADIAC Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
the sensitivity of the detector is directly proportional to the size of the detector element; i.e., the larger the detector, the more sensitive and capable it is. However, in VBSS there must be a tradeoff between size/weight and capability, since it is difficult and hazardous for boarding parties to carry a backpack-sized detector, along with their weapons and other gear, up a rope ladder to board a vessel on the high seas. This will be a continuing and growing effort to find smaller, lighter instruments with enhanced sensitivity, reach-back capability, and other enhancements to provide the Navy the best and most cost effective equipment possible for this critical mission. ***FY 2013 Accomplishments:*** Procure Isotope Identifier articles for evaluation, issue report on testing to date. ***FY 2014 Plans:*** Continue testing of previously purchased units. ***FY 2015 Plans:*** Continue testing of previously purchased units. Purchase additonal articles for further comparison, testing and evaluation.			
Title: Radiological Detection System (RDS) ***Articles:*** ***Description:*** A survey meter for the Naval Nuclear Propulsion Program (NNPP) and other end uses for Navy such as Radiological Defense must meet military specifications for shipboard use, to include high tolerances for exposure to characteristics such as shock, temperature, humidity and sea water. COTS survey meters, which in most cases might be adequate in the mentioned environmental regards for most requirements, cannot meet military requirements. COTS equipment is evaluated for compliance with technical specifications and for potential hardening for military applications. ***FY 2013 Accomplishments:*** Test and evaluate commercial prototypes for suitability for Navy use, begin surveying manufacturers regarding options. ***FY 2014 Plans:*** Continue testing previously purchased units. Provide product demonstrations to end users and capture feedback. ***FY 2015 Plans:*** Develop and test modernization efforts for the existing IM-265 survey meter to bridge the gap until a new RDS meter can be found.	0.035 -	0.077 -	0.211 -
Title: Naval Academy Midshipman Summer Internship ***Articles:***	0.015 -	0.015 -	0.015 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603542N / *Radiological Control*	**Project (Number/Name)** 1830 / *RADIAC Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Description: Every summer a Midshipman is selected to conduct laboratory studies in support of the Naval Dosimetry System to research various responses and issues with thermoluminescent dosimetry. Funds pay for materials. ***FY 2013 Accomplishments:*** Accomplished study assigned by Naval Academy instructor. ***FY 2014 Plans:*** Accomplish study assigned by Naval Academy instructor. ***FY 2015 Plans:*** Accomplish study assigned by Naval Academy instructor.			
Title: Calibrators	0.165	0.067	-
Articles:	-	-	-
Description: Calibrators are the basic tool used to calibrate all Navy radiological detection equipment. Essentially they consist of a high energy radiological source (Cs-137) in a shielded container that is located in a specially constructed room, or "range." A technician places the instrument to be calibrated at a specific calibration point in the range and remotely operates the calibrator by raising the source out of its container so that it irradiates the object instrument. The instrument's response to the radiation is measured so that it can be calibrated to specific tolerances. The current suite of AN/UDM-1B calibrators is over 20 years old and the natural decay of the strength of the radioactive source over time restricts calibration effectiveness by limiting the scale of calibration points below American National Standards Institute (ANSI) requirements that are followed in accordance with Navy policy. Also due to the age of the calibrators, there are several parts no longer supported by the manufacturer, and a malfunctioning calibrator poses a very high safety risk. COTS equipment will be surveyed to find the best solution with which to equip the Navy's seven RADIAC Calibration Laboratories with modern calibrators. ***FY 2013 Accomplishments:*** Study state of the art COTS calibrators for suitability. ***FY 2014 Plans:*** Compare performance of Hopewell GC-60 irradiator with J.L. Shepherd irradiator. Evaluate results for possible replacement of current complement of aging Navy irradiators. A report will be generated that details results and recommendations. ***FY 2015 Plans:*** N/A			
Title: Neutron Area Monitor	0.049	-	-
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603542N / *Radiological Control*	**Project (Number/Name)** 1830 / *RADIAC Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Description: Several facilities throughout the Navy, particularly accelerator facilities, produce significant neutron radiation fields. Having a monitor to provide instant readings on the neutron level provides data on high dose procedures and experiments. The current system requires environmental dosimeters to be used and sent out for processing, taking weeks to obtain results. Waiting on dosimeter results may cause excessive exposures to individuals because safe radiological boundaries may not be maintained where the radiation level is not known. ***FY 2013 Accomplishments:*** Issue report with findings and recommendations, and determination of a need for First Articles. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Casualty Dosimeter	0.073	-	-
Articles:	40.000	-	-
Description: A Casualty Dosimeter is issued to every individual under certain operational conditions. The dosimeter is used for triage of casualties from a radiological event. The current IM-270's useful life will expire in 2016 so a replacement must be found. ***FY 2013 Accomplishments:*** Issue report on test results, finalize specification for follow-on procurement. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Air Particle Sampler	0.048	-	-
Articles:	-	-	-
Description: Portable Air Particle Samplers (APS) are used to sample for airborne radioactivity on board nuclear powered ships and in nuclear ship maintenance facilities in confined work areas where the installed Air Particle Detectors (IM-239/WDQ) are ineffective. The current HD-732 (AC powered) and HD-1151 (DC powered) are obsolete and will shortly be unsupportable. COTS equipment will be evaluated to replace the two current models, to include the feasibility of finding an AC/DC unit that would simplify logistical support by combining the two units into one. ***FY 2013 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Issue report on prototype evaluation; finalize specification for follow-on procurement. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Telescoping Rate Meter	0.046	0.054	-
Articles:	-	-	-
Description: Telescoping rate meters play a vital role in the practice of radiation safety in the Naval Nuclear Propulsion Program. The detector is attached to the end of an extendable, telescoping pole, thus allowing the operator to maintain a safe distance for high exposure areas. This allows the Navy to comply with federal regulations that radioactive doses received by operators are As Low As Reasonably Achievable (ALARA). ***FY 2013 Accomplishments:*** Develop specification by collaborating with technical sponsor and collecting end user input. ***FY 2014 Plans:*** Begin follow-on procurement specification development using results from testing and feedback received during product demonstrations. ***FY 2015 Plans:*** N/A			
Title: Portable Liquid Scintillation Counter	-	-	0.054
Articles:	-	-	-
Description: The portable liquid scintillation counter (PLSC) will be used by Navy personnel in situations where potable water may be contaminated with radioactive material. The nuclear reactor accident at Fukushima and the subsequent Navy involvement revealed the need for this type of instrument. Navy personnel will be able to verify the safety of potable water and possibly test personnel for internal contamination. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603542N / *Radiological Control*	**Project (Number/Name)** 1830 / *RADIAC Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Perform market research on commercially available units. Discuss with various Navy end users the desired technical specifications and anticipated utilization.			
Title: Neutron Detector	0.031	0.122	-
Articles:	-	3.000	-
Description: Several commands use non-destructive interrogation techniques when searching cargo containers. These techniques expose the container to a 14 MeV neutron generator and analyze the reflected data. These end users require a portable neutron detector capable of accurately measuring the neutrons produced by the interrogation in order to monitor the work area to ensure dose limits are not exceeded. This work may also prove to be a suitable technology that would also enable replacement of the aging AN/PDR-70 Neutron Survey Meter. ***FY 2013 Accomplishments:*** Procure, test and evaluate vendor prototypes. ***FY 2014 Plans:*** Purchase three units designed to meet AN/PDR-70 neutron survey meter requirements and perform radiological testing at NSWCCD and other agencies as needed. Issue technical summary detailing the results. ***FY 2015 Plans:*** N/A			
Title: Low Rate Survey Meter	-	-	0.050
Articles:	-	-	3.000
Description: The Low Rate Survey Meter is used with a directional probe and as an underwater probe. NNPP uses the device to perform radiation protection surveys prior to putting divers in the water. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** After a market survey purchase three Articles for testing.			
Title: Primary Dosimetry	-	0.075	0.075

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603542N / *Radiological Control*	**Project (Number/Name)** 1830 / *RADIAC Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Articles:	-	-	-
Description: The need for primary dosimetry is inherent due to the Navy's operation of nuclear reactors and their emission of ionizing radiation. Title 10 of the Code of Federal Regulations, Part 20.1502, states "Each licensee shall monitor exposures to radiation and radioactive material at levels sufficient to demonstrate compliance with the occupational dose limits." A primary dosimeter must pass accreditation proficiency testing, allowing the reading obtained to become a part of an individual's permanent health record. This permanent record is used to protect the individual radiation worker's health, and the Navy from future liability. The Navy's current primary device is the DT-702, a Thermo Luminescence Dosimeter (TLD). Existing TLD and newer technologies (e.g., Optically Stimulated Luminescence, or OSL) must be continually researched to determine on-going performance parameters, cost to field and cost to maintain.			
FY 2013 Accomplishments: N/A			
FY 2014 Plans: Initiate testing on new primary dosimetric devices and stay current on the latest dosimetry standards.			
FY 2015 Plans: Continue testing of new primary dosimetric devices and stay current on the latest dosimetry standards.			
Title: Secondary Dosimetry	-	0.159	0.110
Articles:	-	10.000	20.000
Description: A secondary dosimeter provides an accurate, real-time readout of the radiation exposure being obtained in operational environments, and is utilized in conjunction with a primary dosimeter. The primary dosimeter does not provide real-time exposure information, so the secondary dosimeter is worn for that purpose. The Navy's secondary dosimeter is the Mk2 Electronic Personal Dosimeter (EPD). Evaluation of the current detector must be accomplished to establish a militarized environmental capability. Also, research is required to find a secondary dosimeter that can measure the type of radiation encountered with pulsed X-ray machines, and to see if this new capability can be incorporated into one device such as the existing Mk2.			
FY 2013 Accomplishments: N/A			
FY 2014 Plans: Initiate testing on secondary dosimetric devices capable of responding to pulsed X-ray radiation.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603542N / *Radiological Control*	**Project (Number/Name)** 1830 / *RADIAC Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Procure 10 extremity dosimeters at $1,000.00 per unit and 10 lens dosimeters at $1,000.00 per unit. Continue testing of secondary dosimetric devices capable of responding to pulsed X-ray radiation. Initiate testing of extremity and lens secondary dosimetric devices.			
Title: Tritium Monitor	-	0.100	0.050
Articles:	-	6.000	-
Description: The AN/PDR-73 Tritium Monitor is used at nuclear weapons storage facilities and research laboratories to sample the air for the presence of Tritium. The current instrument is 30 years old and cannot be repaired due to obsolete components. At the current loss rate due to normal wear and tear there will be insufficient assets to meet operational requirements, so a replacement must be found. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Purchase six COTS examples from multiple vendors. Provide units to end users for field testing and evaluation. ***FY 2015 Plans:*** Gather end user feedback and begin specification development.			
Accomplishments/Planned Programs Subtotals	0.706	0.762	0.669

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN 2920: *RADIAC*	8.083	9.842	10.285	-	10.285	9.553	8.296	8.443	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Development efforts are focused on evaluation, modification (as required to meet operational requirements) and adaptation of commercial-off-the-shelf (COTS) technology in order to minimize total ownership costs. To the maximum extent possible new contracts are targeted for fixed price efforts to control development cost.

E. Performance Metrics

Program Reviews

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603542N / *Radiological Control*	**Project (Number/Name)** 1830 / *RADIAC Development*

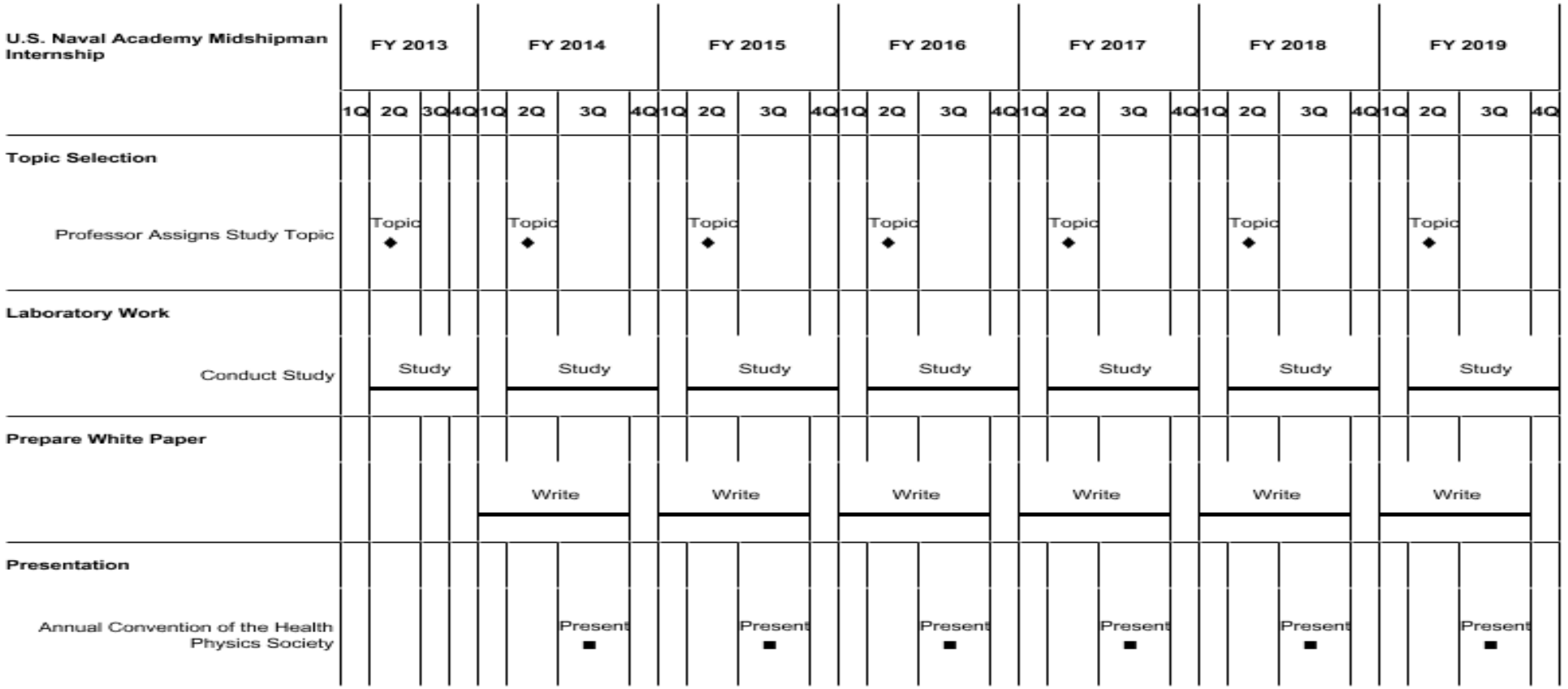

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603542N / *Radiological Control*	**Project (Number/Name)** 1830 / *RADIAC Development*

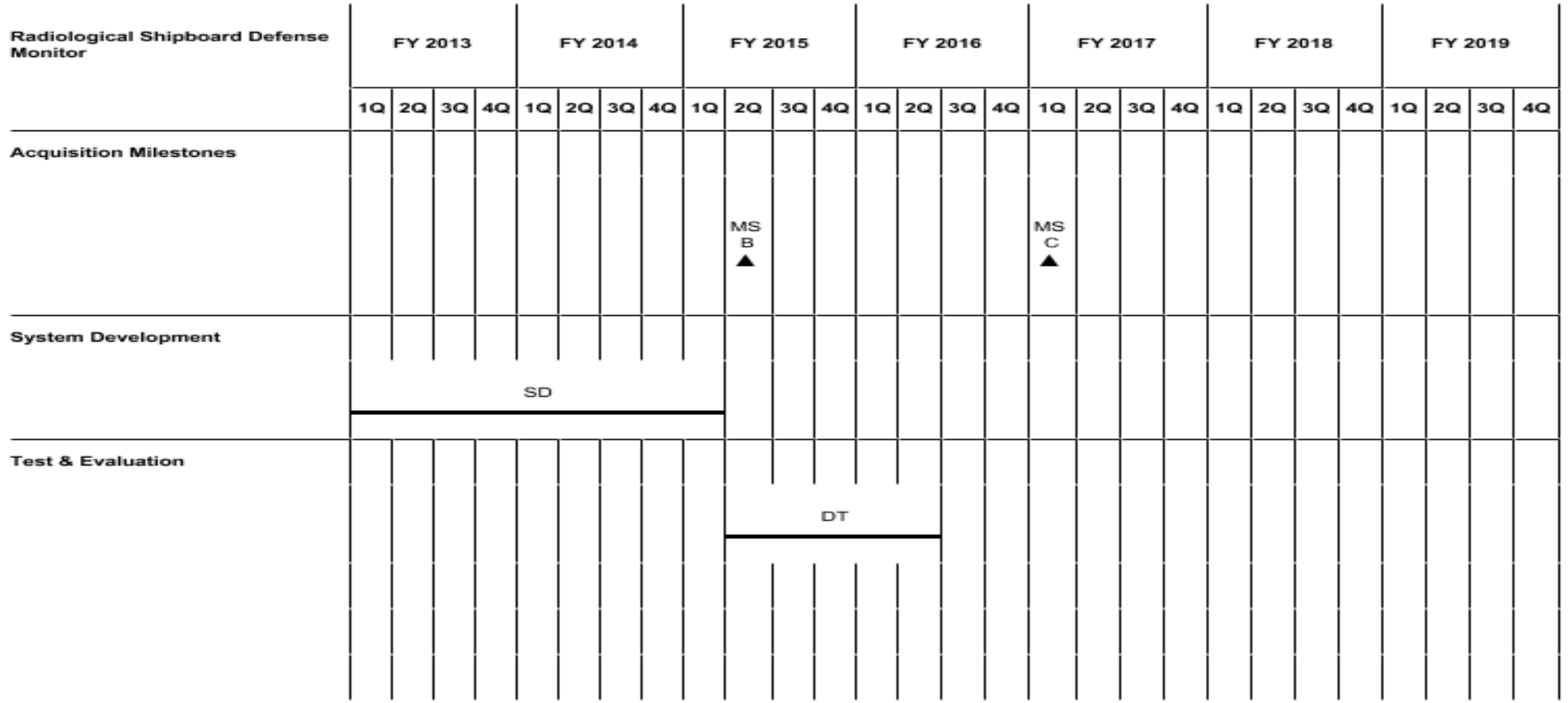

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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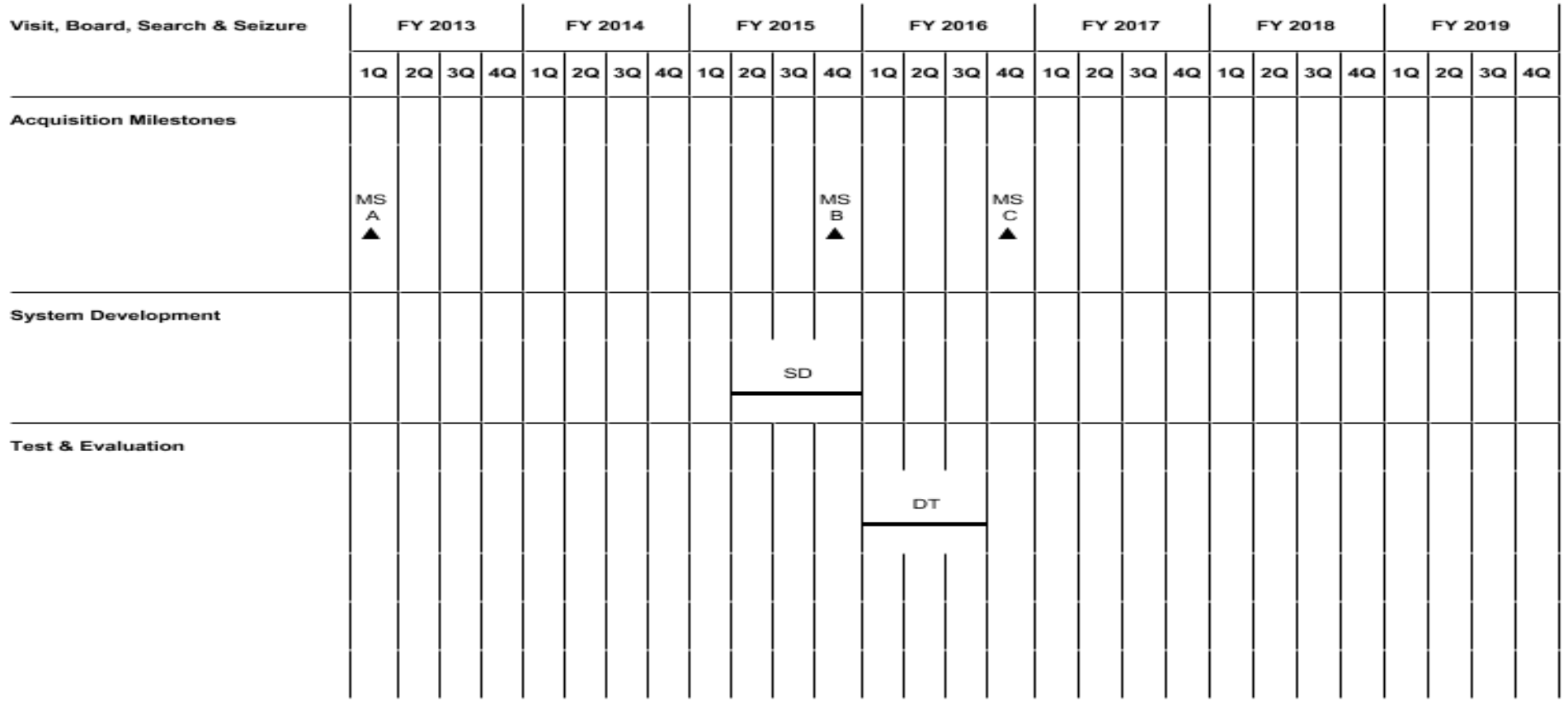

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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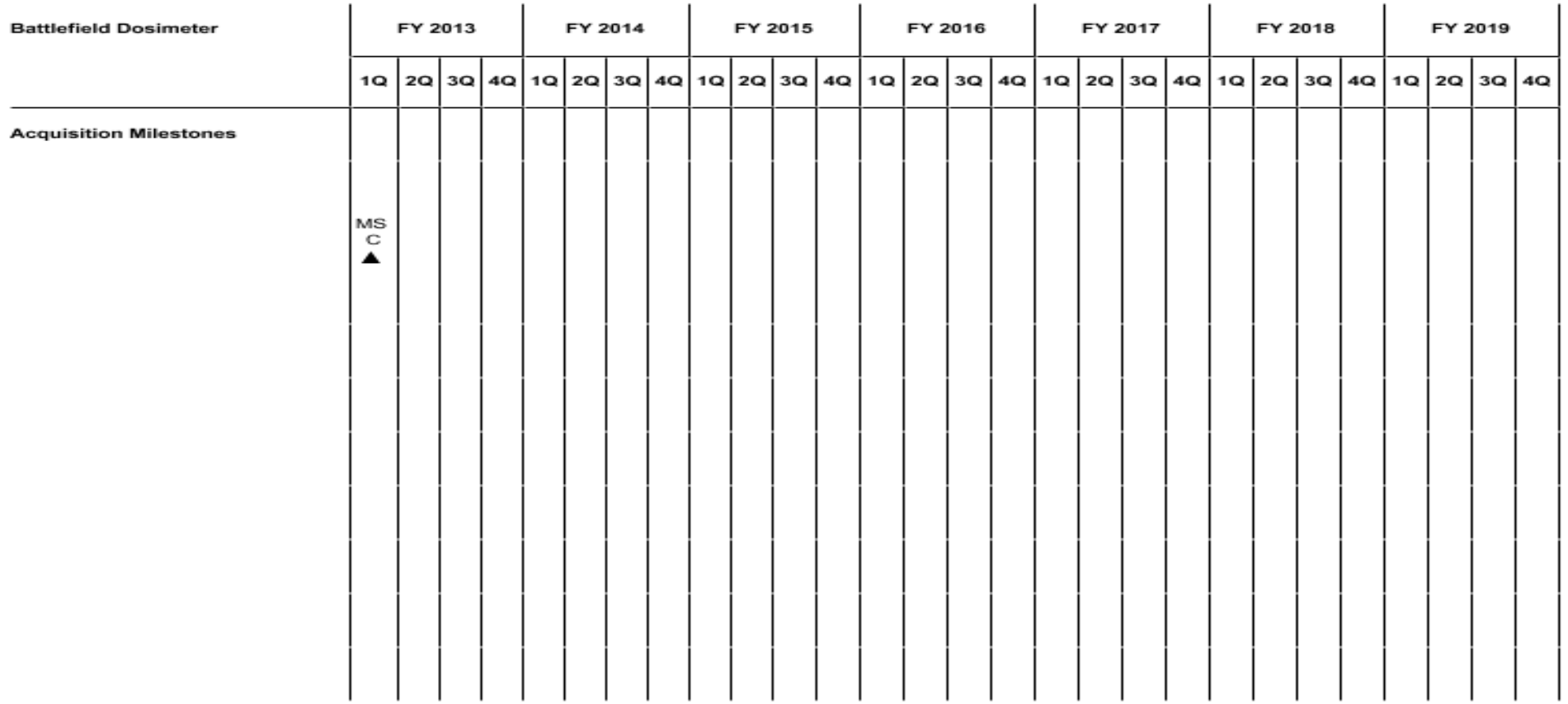

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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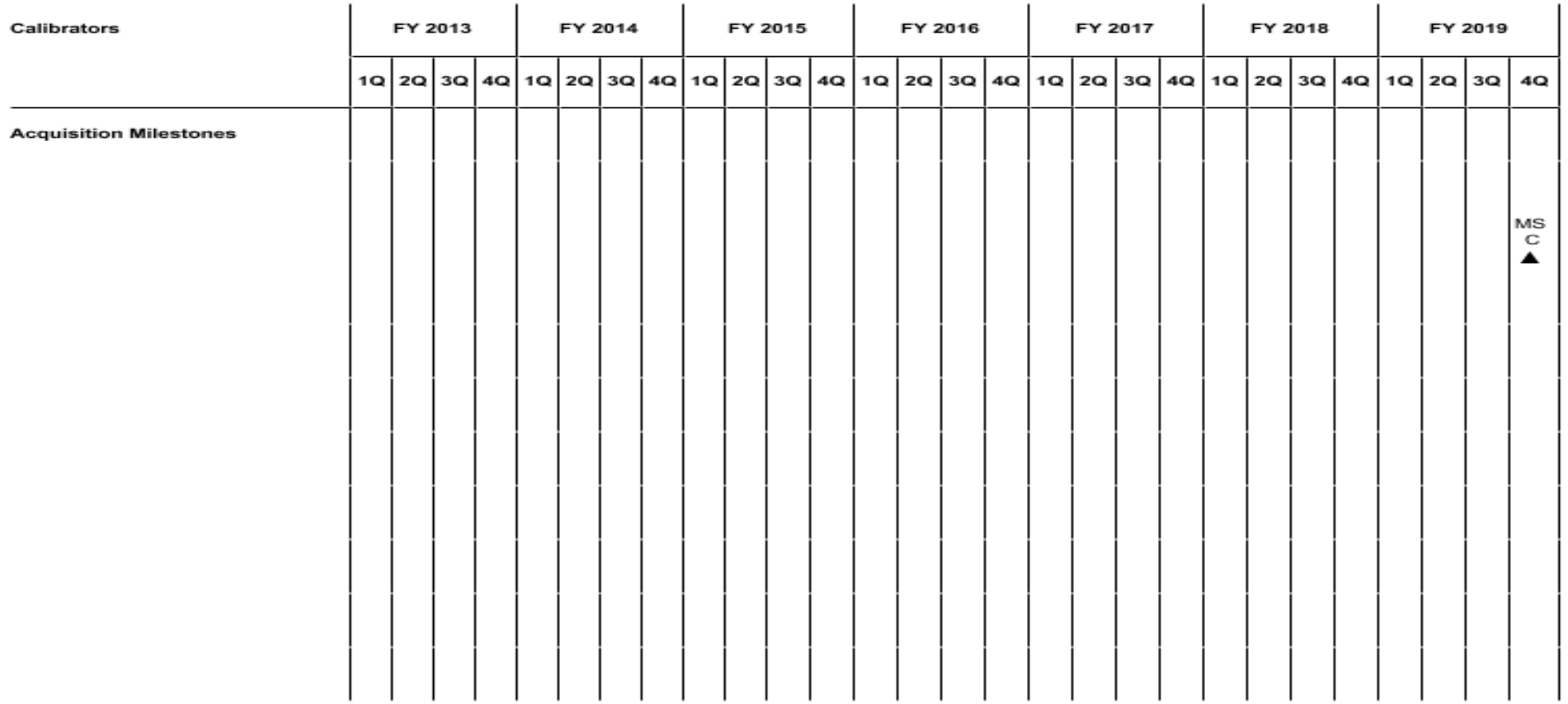

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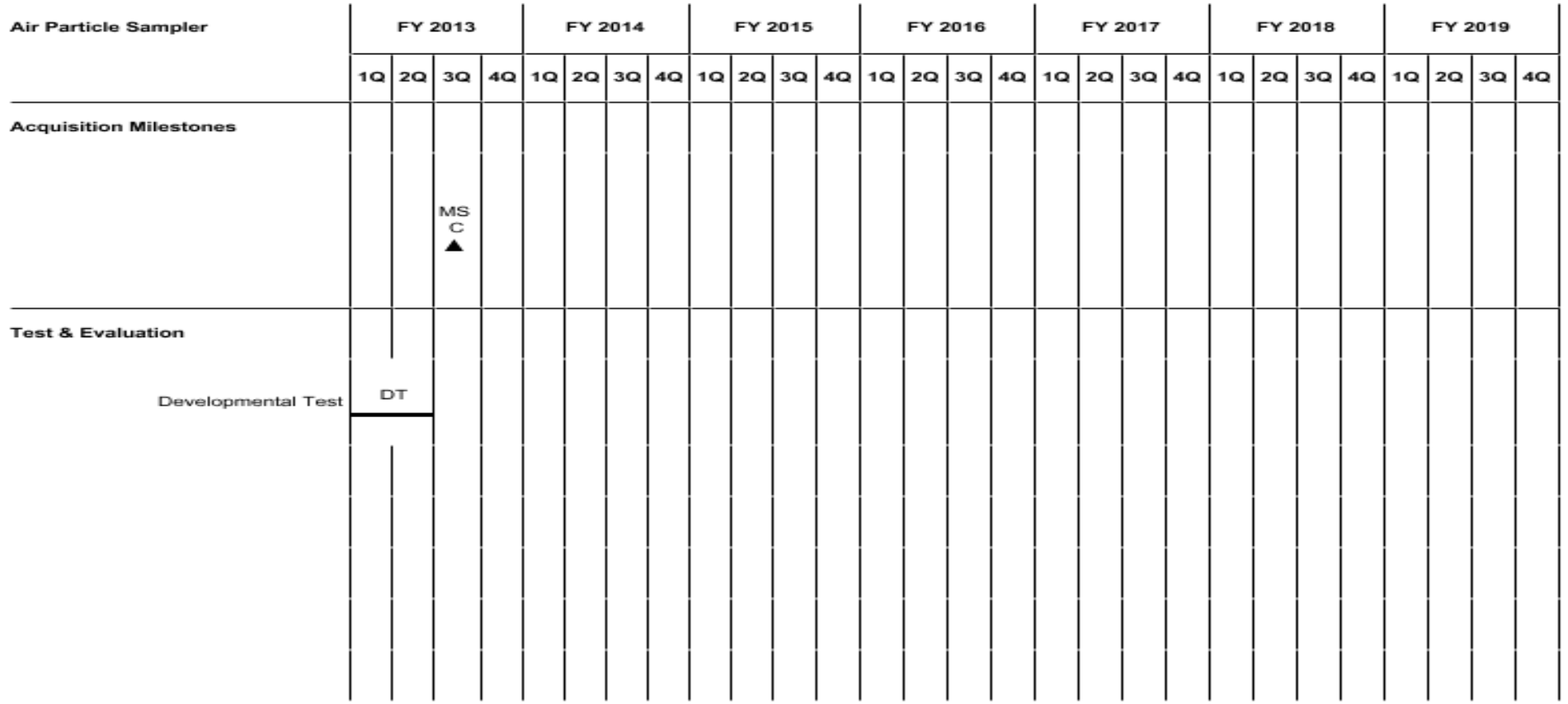
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603542N / *Radiological Control*	**Project (Number/Name)** 1830 / *RADIAC Development*



2015PB - 0603542N - 1830

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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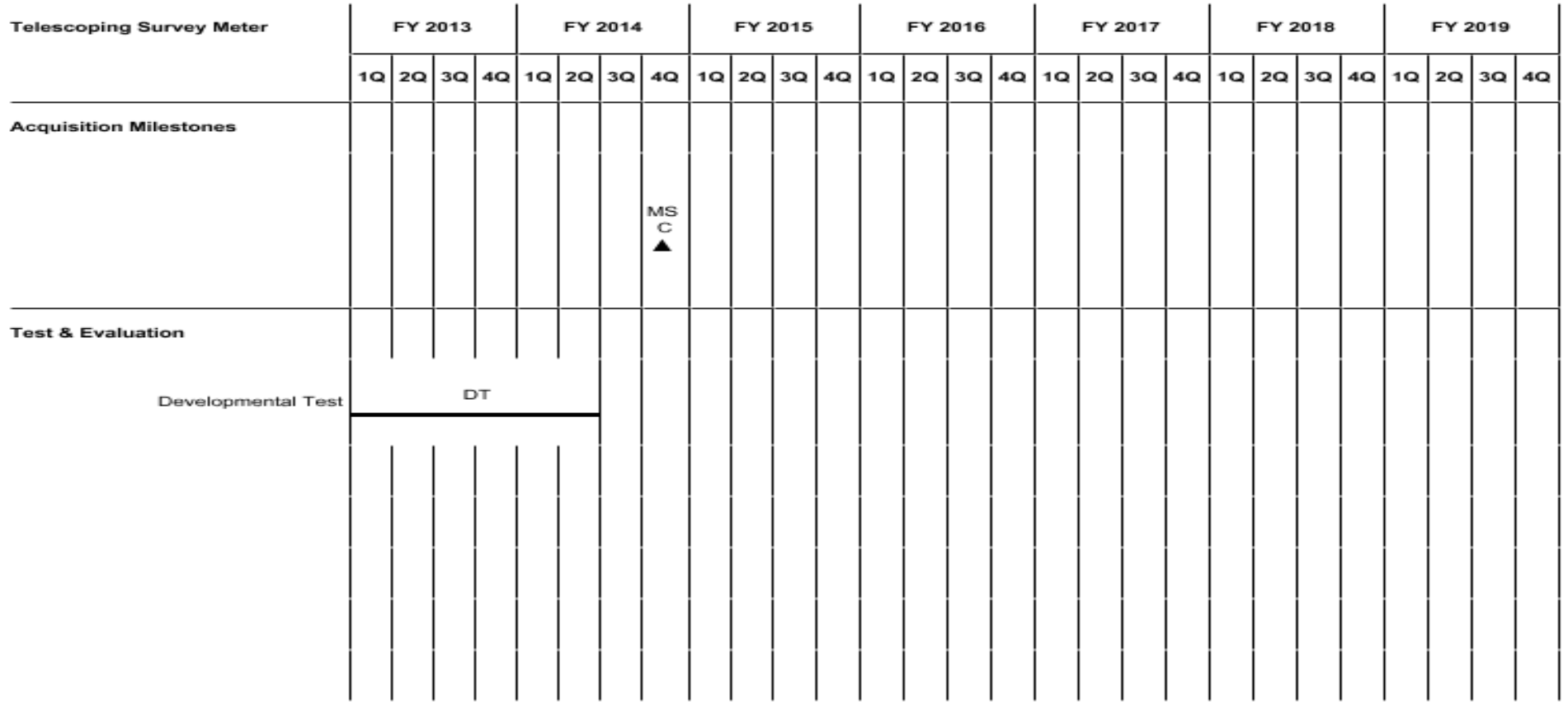

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Exhibit R-4, **RDT&E Schedule Profile:** PB 2015 Navy		**Date:** March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603542N / *Radiological Control*	**Project (Number/Name)** 1830 / *RADIAC Development*

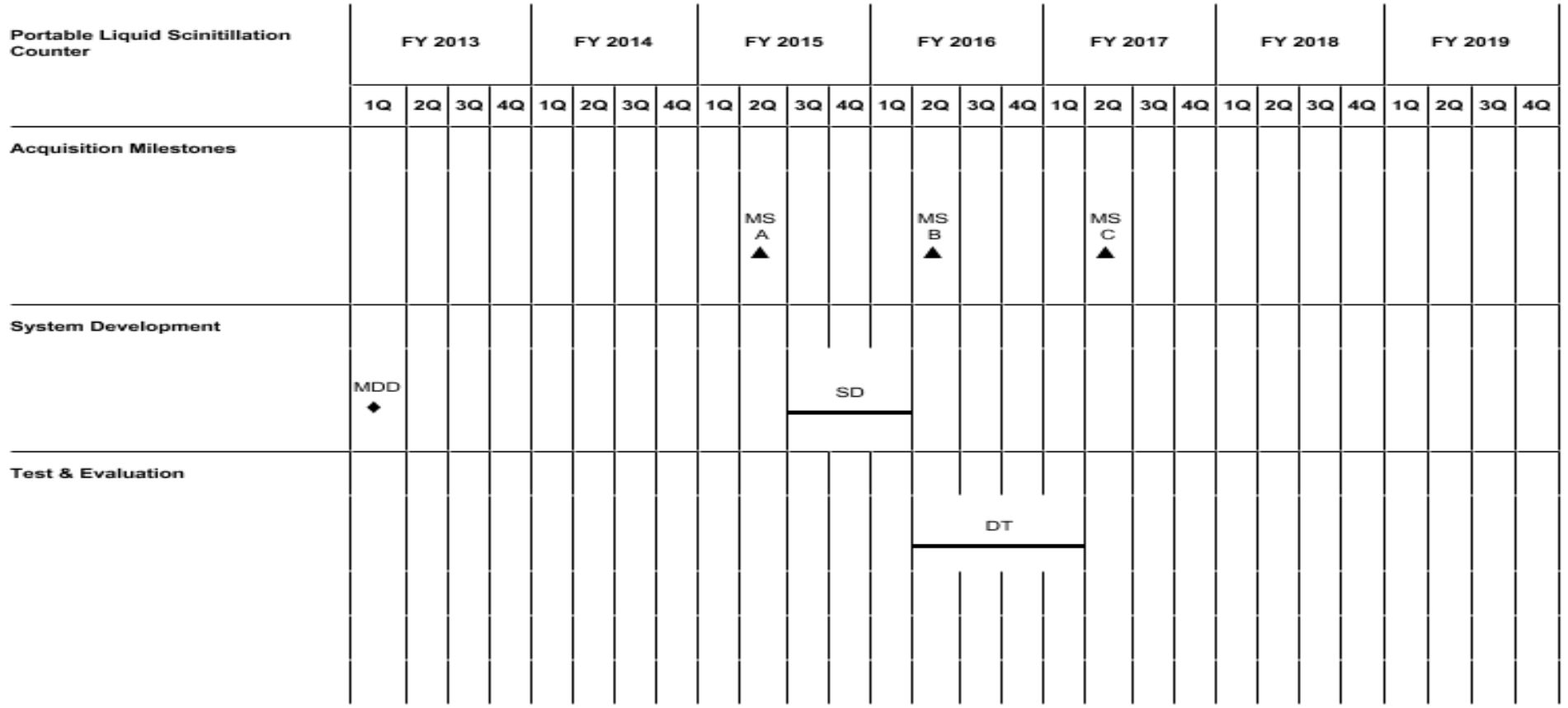

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603542N / *Radiological Control*	**Project (Number/Name)** 1830 / *RADIAC Development*

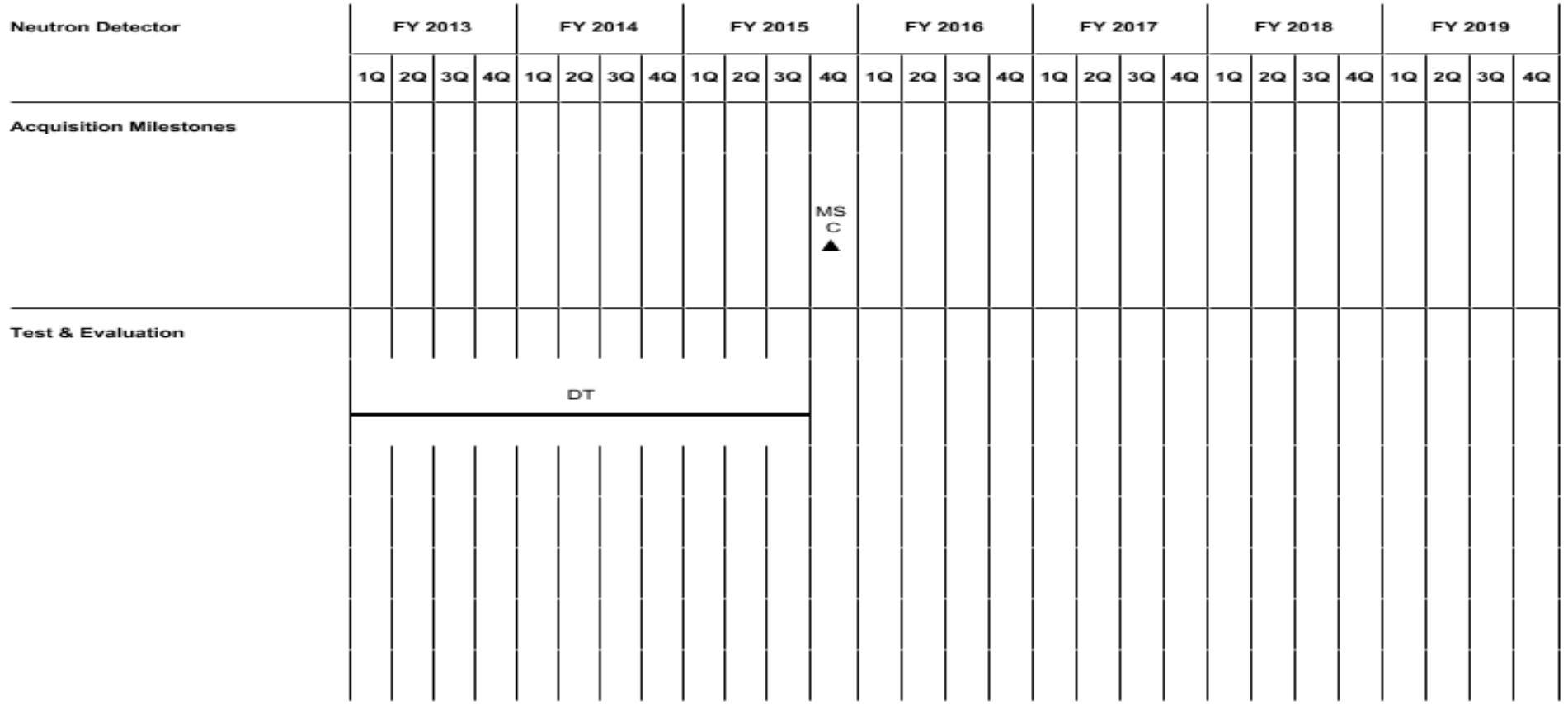

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603542N / *Radiological Control*	**Project (Number/Name)** 1830 / *RADIAC Development*

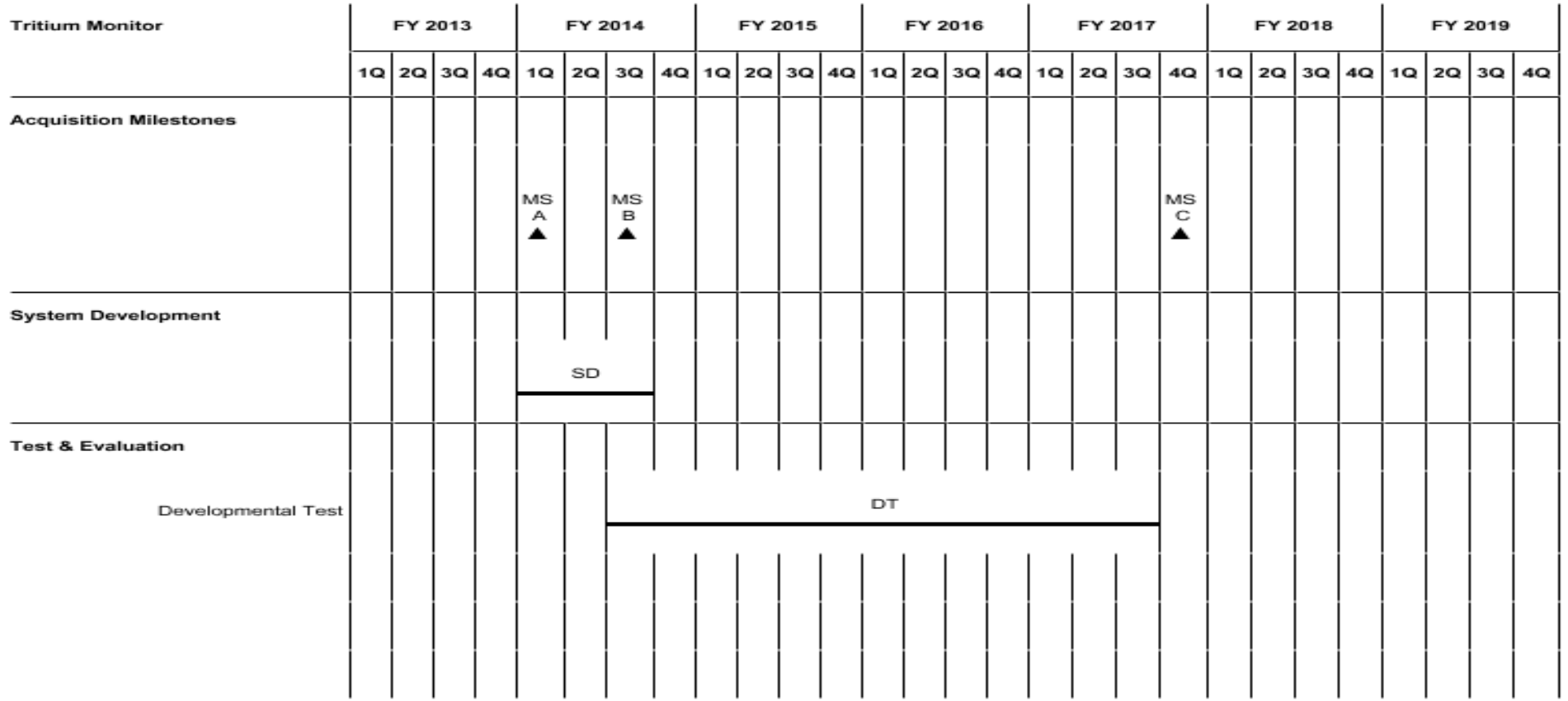

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603542N / *Radiological Control*	**Project (Number/Name)** 1830 / *RADIAC Development*

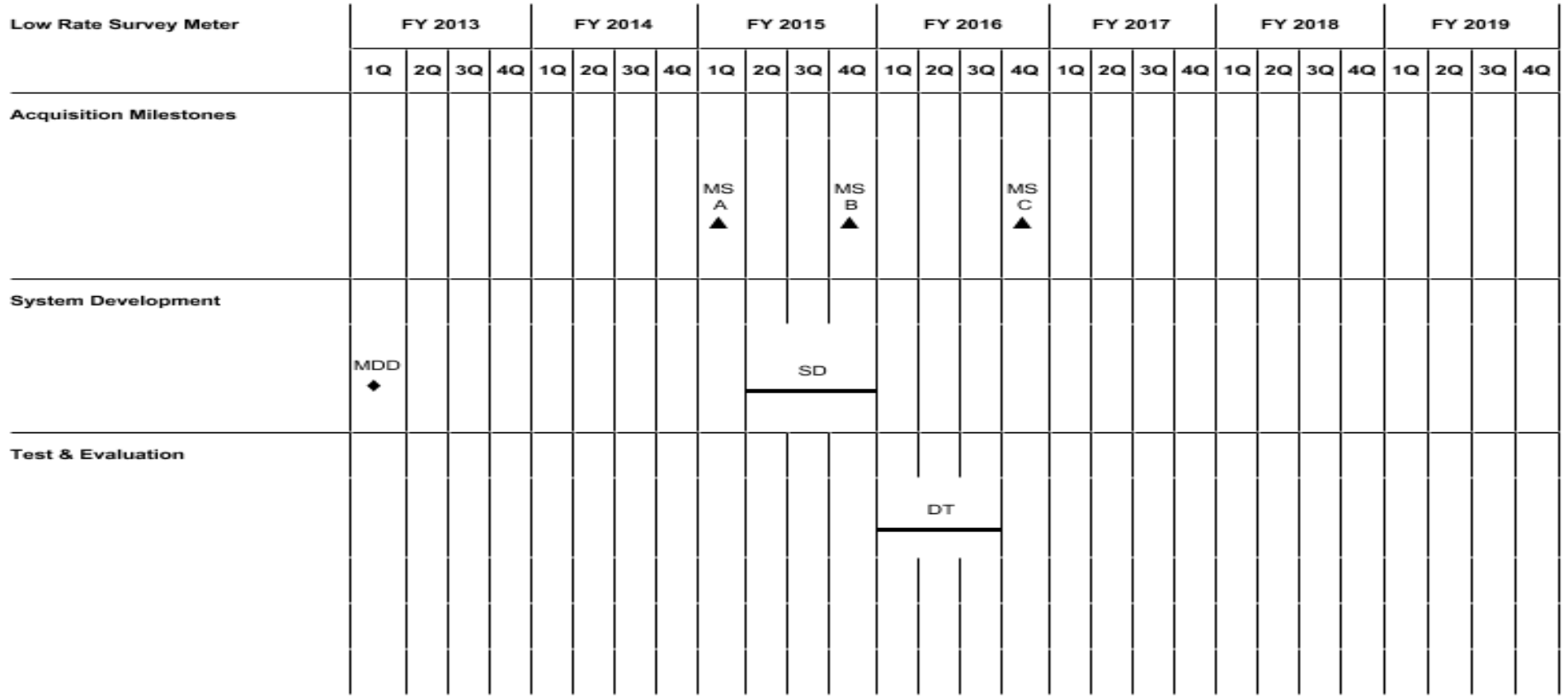

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603542N / *Radiological Control*	**Project (Number/Name)** 1830 / *RADIAC Development*

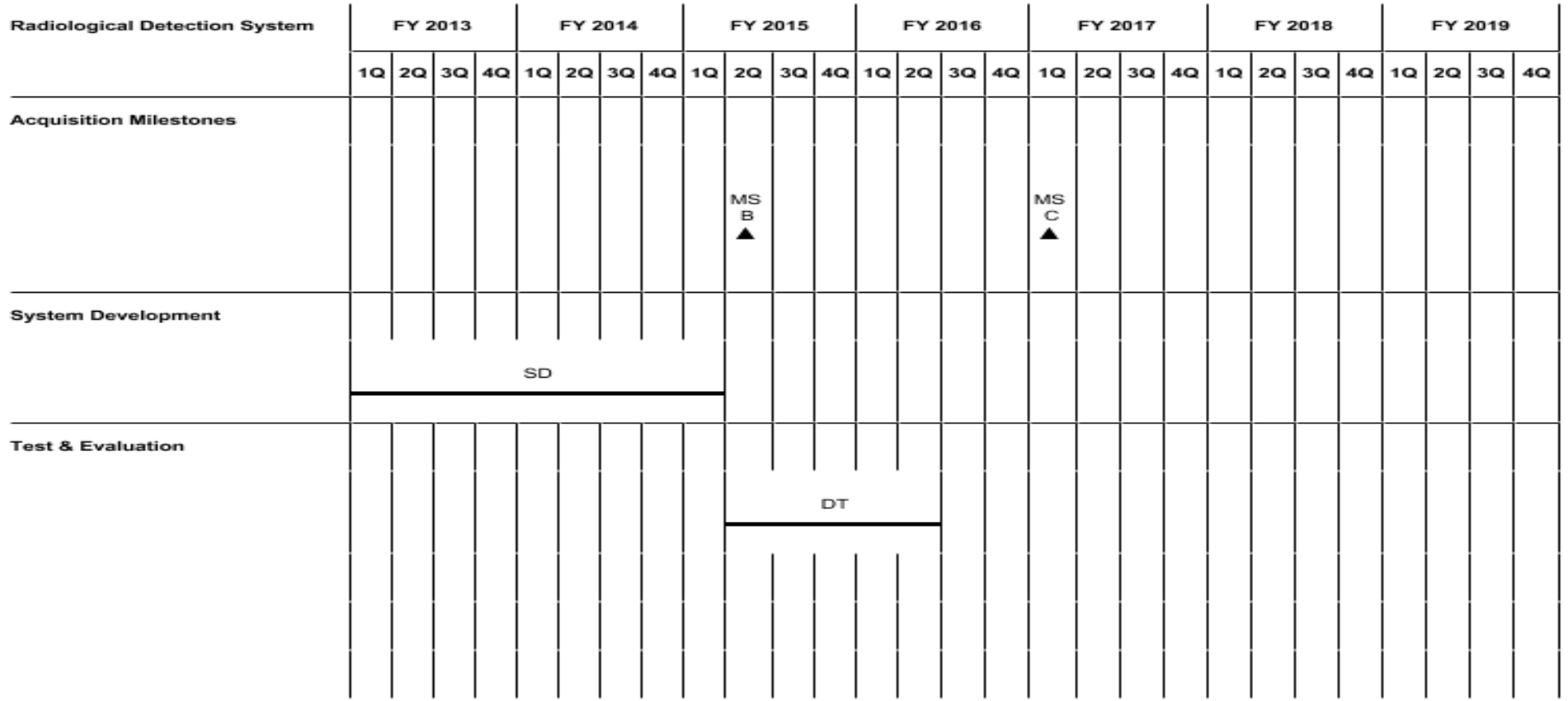

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603542N / *Radiological Control*	**Project (Number/Name)** 1830 / *RADIAC Development*

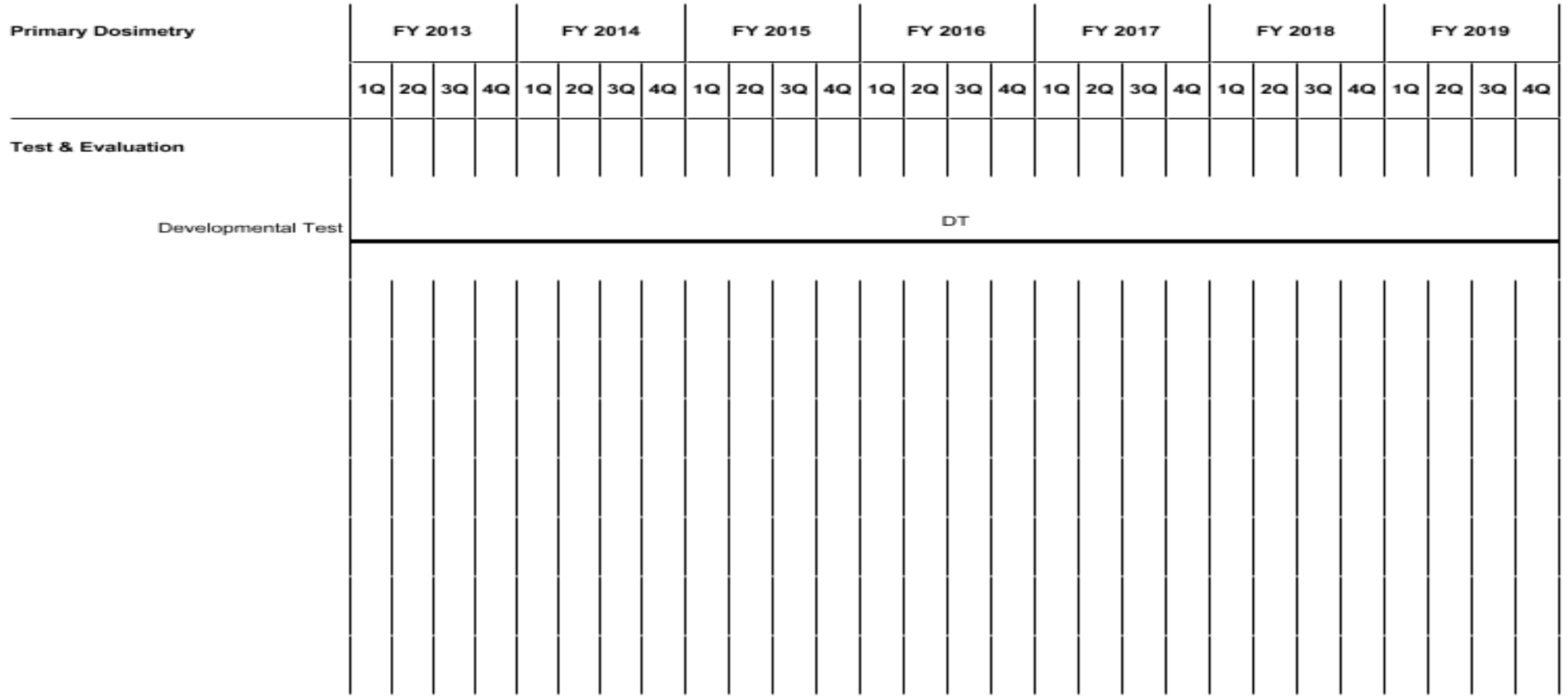

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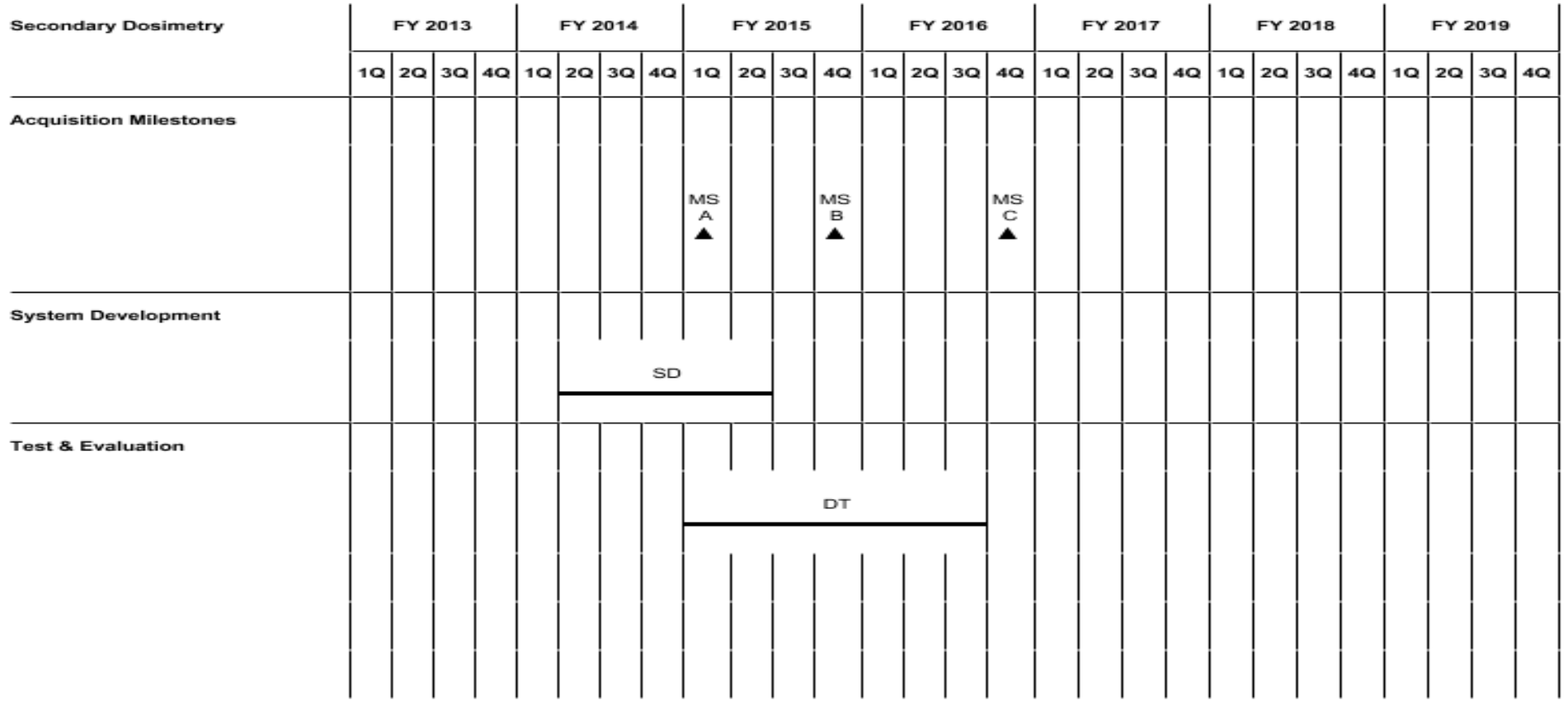
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603542N / *Radiological Control*	**Project (Number/Name)** 1830 / *RADIAC Development*



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