

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-4				R-1 ITEM NOMENCLATURE 0603542N/Radiological Controls				
COST (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost								
Project Unit 1830/RADIAC Development	1.809	1.894	1.546	1.096	0.896	0.948	0.967	0.987
RDT&E Articles Qty	40	75	51	17	2	2	0	0

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.

Expanded Maritime Intercept Operations (EMIO): 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 obsolescent 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 obsolescent and will be replaced.

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B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.640	0.550	0.400	0.400
RDT&E Articles Quantity	20	20	6	6

Continue Multi-Function RADIAC (MFR) development and testing of prototype units and probes for Neutron, Radiography, Transuranic X-ray, Underwater, and Training Simulators for the Naval Nuclear Propulsion Program (NNPP). Develop Next Generation Survey Meter. Articles are prototypes for evaluation.

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.400	0.351	0.240	0.185
RDT&E Articles Quantity	20	20	10	10

Develop and test calibration software, survey instruments, dosimeters and associated probes for non-NNPP end uses, to include Explosive Ordnance Disposal (EOD) and Radiological and Nuclear Defense (RND). Develop Next Generation Survey Meter. Articles are prototypes for evaluation.

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.250	0.206	
RDT&E Articles Quantity		30	30	

Develop and test instruments for Expanded Maritime Intercept Operations (EMIO). Articles are prototypes for evaluation.

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B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.250	0.243	0.200	
RDT&E Articles Quantity		5	5	

Develop replacement for mast-mounted AN/PDR-65. Articles are prototypes for evaluation.

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.519	0.500	0.500	0.511
RDT&E Articles Quantity				1

Air Particle Detector (APD) development. Articles are prototypes for evaluation.

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

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C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget: (FY 07 Pres Bud Controls)	1.818	1.901	1.711	1.237
Current Budget: (FY08 Pres Bud Controls)	1.809	1.894	1.546	1.096
Total Adjustments	-0.009	-0.007	-0.165	-0.141
Summary of Adjustments				
Congressional Action	0.001			
SBIR	-0.008			
Cancelled Accounts Liability	-0.002			
Revised Economic Forecast		-0.007		
Environmental Mission Funding			-0.032	-0.024
Miscellaneous Reductions			-0.143	-0.139
Miscellaneous Additions			0.010	0.022
Subtotal	-0.009	-0.007	-0.165	-0.141

Schedule:

Technical:

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D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN BLI 292000 RADIAC	13.008	12.671	10.205	9.954	9.209	9.429	9.613	9.802	CONT.	CONT.
E. ACQUISITION STRATEGY: *										
Development efforts are being 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.										
F. MAJOR PERFORMERS: **										
NSWC Carderock. Science & Technology Agent, Technical Direction Agent and Primary Contracting Officer. Orbis, Inc. In Service Engineering Agent (ISEA) services. DoE Remote Sensing Laboratory. Development of Next Generation Air Particle Detector.										
* Not required for Budget Activities 1,2,3, and 6 ** Required for DON and OSD submit only.										

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2007				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N / BA-4			0603542N/Radiological Controls				1830/RADIAC Development							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/FP	Various	10.417	0.500	05/06	0.350	06/07	0.169	02/08	0.200	01/09		11.636	
Ancillary Hardware Development													0.000	
Component Development													0.000	
Ship Integration													0.000	
Ship Suitability													0.000	
Systems Engineering			1.100										1.100	
Training Development													0.000	
Licenses													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Product Development			11.517	0.500		0.350		0.169		0.200		0.000	12.736	
Remarks:														
Development Support	WX	NSWC Carderock	1.975	0.379	11/05	0.450	11/06	0.450	11/07	0.450	11/08		3.704	
Software Development													0.000	
Training Development													0.000	
Integrated Logistics Support													0.000	
Configuration Management													0.000	
Technical Data													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Support			1.975	0.379		0.450		0.450		0.450		0.000	3.704	
Remarks:														

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Exhibit R-3 Cost Analysis (page 2)											DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N / BA-4			0603542N/Radiological Controls				1830/RADIAC Development							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total P Y s Cost	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	SPAWARSYSCEN Chasn.	4.508	0.062	10/05								4.570	
Operational Test & Evaluation	WX	Various	0.329	0.018	03/06	0.141	12/06	0.150	01/08	0.150	01/09		0.788	
Live Fire Test & Evaluation													0.000	
Test Assets													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal T&E			4.837	0.080		0.141		0.150		0.150		0.000	5.358	
Remarks:														
Contractor Engineering Support	C/FP	Orbis Inc., Charleston, SC	0.200	0.590	11/05	0.593	12/06	0.461	11/07	0.225	11/07		2.069	
Government Engineering Support			5.045										5.045	
Program Management Support			5.376										5.376	
Travel			0.345	0.010		0.010		0.010		0.010			0.385	
Labor (Research Personnel)	IPR	DoE Remote Sensing Lab	0.000	0.250	03/06	0.350	11/06	0.306	11/07	0.061	11/08		0.967	
SBIR Assessment													0.000	
Subtotal Management			10.966	0.850		0.953		0.777		0.296		0.000	13.842	
Remarks:														
Total Cost			29.295	1.809		1.894		1.546		1.096		0.000	35.640	
Remarks:														