CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **FEBRUARY 2004**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-4**					R-1 ITEM NOMENCLATURE 0603542N/Radiological Controls			
COST ($ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost								
Project Unit 1830/RADIAC Development	**1.008**	**1.053**	**1.097**	**0.946**	**0.956**	**0.966**	**0.983**	**1.002**
RDT&E Articles Qty	**0**	**555**	**5**	**5**				

Defense Emergency Response Funds (DERF) Funds:

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 many cases a technology refresh will make both economic sense and provide increased operational capabilities.

Multi-Function RADIAC (MFR): This instrument replaces 16 families of obsolescent equipment to provide increased capability at what will be significantly lower operating costs once the MFR Control Unit and its entire complement of probes have been developed. The Control Unit and one probe are currently being fielded, but in order to achieve the full design functionality of the MFR, several probes that will detect various other types of radiation (alpha, gamma, beta, neutron) must yet be developed.

Naval Dosimetry System (NDS): The NDS, or personnel dosimetry system, is being developed to support routine operations and maintenance of Navy systems involving occupational exposure to radiation on nuclear ships, nuclear maintenance facilities, hospitals, weapons, and in other radiological environments. A new system is needed to replace the current CP-1112 and DT-526 system, which is approaching the end of its useful life due to increasing failure rates and the non-availablity of replacement parts. Despite ongoing restoration efforts to ensure availability of the current system, current projections are that the system will become unsupported by 2004.

A Casualty Dosimetry System (CDS) is needed to support continuing Fleet operations after an act of terrorism or war involving nuclear materials. The current CDS that consists of the CP-95 Reader and DT-60 Dosimeter is at the end of its useful life. The readers are no longer logistically supported and only cannibalization is available to restore non-operational units.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-4	0603542N/Radiological Controls	1830/RADIAC Development

B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.632	0.815	0.725
RDT&E Articles Quantity	0	5	5	5

Continue Multi-Function RADIAC (MFR) development and testing of prototype units for Frisker, Neutron, Radiography, Transuranic X-ray and Universal Probes, and for software development to enable multiple automated calibration of MFR components. Articles are prototypes for evaluation.

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.224	0.282	0.221
RDT&E Articles Quantity	0	50	0	0

Continue development of a personnel dosimetry system for the Naval Nuclear Propulsion Program. Articles are prototypes for evaluation.

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.197		
RDT&E Articles Quantity	0	500		

Continue development of a Casualty Dosimetry System. Articles are prototypes for evaluation.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **FEBRUARY 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-4	0603542N/Radiological Controls	1830/RADIAC Development **84FB**

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Bud Controls)	1.052	1.109	0.944
Current BES/President's Budget: (FY05 Pres BudControls)	1.053	1.097	0.946
Total Adjustments	0.001	-0.012	0.002
Summary of Adjustments			
Issue 68041 Section 8094		-0.003	
Issue 68066 Section 8126		-0.009	
Issue 68849 FY 2003 Update	0.001		
Issue 69023 WCF - R&D - NSWC - PBD 430			0.001
Issue 69025 WCF - R&D - SPAWAR - PBD 430			-0.001
Issue 69043 PBD 426 Rates - NSWC			0.002
Issue 69043 PBD 426 Rates - SSC			0.003
Issue 69492 PBD 604 inflation			-0.002
Issue 69512 PBD 604 non-purchase inflation			-0.001
Subtotal	0.001	-0.012	0.002

Schedule:

Additional development is required on the Casualty Dosimetry System and the Multi-Function RADIACb(MFR) Frisker Probe based on the initial prototype evaluation. Resultant change shifts development efforts on other MFR probes out to FY 03 start.

Technical:

The scope of development of the Naval Dosimetry System has been expanded to include evaluation of a secondary personnel dosimetry system for shipboard use.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-4	0603542N/Radiological Controls	1830/RADIAC Development	**84FB**

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
OPN BLI 292000 RADIAC	8.173	8.525	9.087	8.639	9.376	9.456	9.104	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:

SPAWARSYSCEN Charleston. Technical Direction Agent and In-Service Engineering Assistance.
NSWC Carderock. Science & Technology Agent.
Science Applications International Corporation (SAIC). Multi-Function RADIAC Probe development. Award estimated May 2003.
JP Laboratories, Inc. Development of Casualty Dosimetry System. Award estimated April 2003.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **FEBRUARY 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**		PROGRAM ELEMENT 0603542N/Radiological Controls			PROJECT NUMBER AND NAME 1830/RADIAC Development			**84FB**			
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/FP	Various	9.000	0.504	05/03	0.538	03/04	0.377	03/05		10.419	
Ancillary Hardware Development											0.000	
Component Development											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	WX	SPAWARSYSCEN Chasn.	1.100								1.100	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			10.100	0.504		0.538		0.377		0.000	11.519	
Remarks:												
Development Support	WX	NSWC Carderock	1.120	0.280	04/03	0.285	10/03	0.290	10/04		1.975	
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			1.120	0.280		0.285		0.290		0.000	1.975	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **FEBRUARY 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**		PROGRAM ELEMENT 0603542N/Radiological Controls			PROJECT NUMBER AND NAME 1830/RADIAC Development							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	SPAWARSYSCEN Chasn.	4.056	0.148	05/03	0.151	10/03	0.154	10/04		4.509	
Operational Test & Evaluation	WX	Various	0.329								0.329	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			4.385	0.148		0.151		0.154		0.000	4.838	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support	WX	SPAWARSYSCEN Chasn.	5.045								5.045	
Program Management Support	WX	SPAWARSYSCEN Chasn.	5.046	0.111	10/02	0.113	10/03	0.115	10/04		5.385	
Travel			0.305	0.010	10/02	0.010	10/03	0.010	10/04		0.335	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			10.396	0.121		0.123		0.125		0.000	10.765	
Remarks:												
Total Cost			26.001	1.053		1.097		0.946		0.000	29.097	
Remarks:												