CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **February 2005**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION , NAVY/ BA-4**					R-1 ITEM NOMENCLATURE 0603889N/Counterdrug RDT&E Projects			
COST ($ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	**12.079**	**3.756**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
2219/Counterdrug RDT&E Projects	**12.079**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9543/Research of frequency selective surfaces and the	**0.000**	**1.775**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9545/Volume Point Sensors	**0.000**	**1.981**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Counterdrug RDTE Projects Program mission is to develop and deploy technology that disrupts, deters, and denies the flow of drugs, people, information, money and weapons related to narcoterrorism.

The Research of Frequency Selective Surfaces and Thermal Signatures project is a Congressional plus up. Microantenna-array technology will be developed to enhance, camouflage, or conceal the infrared (IR) signatures of controlled assets. The overall project objective is to investigate the utility of frequency selective surfaces (FSS) and thin-film materials as tags that can be viewed using airborne or national sensors. Arrays of infrared microantennas will be applied to the exterior surface of a controlled item to alter the object's emission in the portion of the IR band commonly used by thermal imagers. The microantenna array will be tailored to control the emitted infrared spectral pattern in order to disguise, conceal, or tag the asset of interest. The tag could also be remotely monitored using available thermal imaging technology. Key features include the ability to discriminate friend-from-foe and the tailoring of the thermal profile to enhance long-distance stand-off monitoring.

The Volume Point Sensors project is a Congressional plus up. It is to demonstrate, based on recent research, that the existing or legacy electrical power lines can be used to charge and maintain all plug-in Chemical Biological Nuclear (CBN) point sensors as well as send sensor data and communications to in-line hubs, with out multiplexing coding and switching infrastructure cost. This system will provide the ability to detect counter drug ops and x-mit info over power lines and power grids.

R-1 SHOPPING LIST - Item No. 79