

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification							Date: February 2003	
Appropriation/Budget Activity RDT&E, D BA 2				R-1 Item Nomenclature: Medical Free Electron Laser, PE 0602227D8Z				
Cost (\$ in millions)	FY 2002	FY 2003	FY 2004 <sup>1</sup>	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	19.660	11.897	9.494	9.694	9.879	10.089	10.081	10.079
Medical Free Electron Laser/P483	19.660	11.897	9.494	9.694	9.879	10.089	10.081	10.079
<b>A. Mission Description and Budget Item Justification:</b>								
<p>(U) The MFEL program seeks to develop advanced, laser-based applications for military medicine and related materials research. Free electron lasers (FELs) provide unique pulse features and tunable wavelength characteristics that are unavailable in other laser devices. Thus, FELs broaden the experimental options for the development of new laser-based medical technologies.</p> <p>(U) The majority of this program is focused on developing advanced procedures for rapid diagnosis and treatment of battlefield-related medical problems. Specific applications under investigation include soft tissue repair, hard tissue surgery, therapies for thermal and chemical burns, warfighter vision correction, and new medical imaging modalities. Laser applications will be clinically tested in unique program medical centers, leading to Food and Drug Administration (FDA) approval. There is high potential dual use for civilian medicine. Thus far, more than 30 clinical procedures have been developed in several medical specialties, including ophthalmology, orthopedics, thermal and chemical burn treatment, and neurosurgery. Current work on the existing programs will continue through FY2003, with the primary focus of the work remaining on the development of militarily relevant laser medicine applications.</p> <p>(U) A small part of this program is focused on electronic materials research. In this research, the high energy FEL beam is exploited for improved processing applications including more effective microstructure, surface cleaning and modification of transport properties of microelectronic substrates. This portion of the program will continue through FY2003.</p> <p>(U) Overall management plans for FY2003 include conducting a full and open recompetition for the program, with the goal of having new grants or contracts in place for the start of FY 2004.</p>								
<b>B. Program Change Summary:</b> (Show total funding, schedule, and technical changes for the program element that have occurred since the previous President's Budget Submission)								
	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>				
Previous President's Budget	19.660	0	0	0				
Current FY2004 President's Budget	19.660	11.897	9.494	9.694				
Total Adjustments		-11.897						
Congressional program reductions		-.103						
Congressional rescissions								
Congressional increases		12.000						
Reprogrammings								
SBIR/STTR Transfer								
Other				9.494	9.694			