DOE Desired ID:	lea 00 000
	03-SC-002
DOE Project Name:	Linac Coherent Light Source
Managing Office Code:	lsc
Site Code:	SLAC
Project Status:	Active
Project Size:	Other
Project Start Date:	6/13/2001
Project Completion Date:	3/31/2009
Project Acronym:	LCLS
Total Area - sq ft:	60,000
City:	Menio Park
State:	CA
Zip Code:	94025
Prime Contractor:	Stanford University
Project Start at CD2:	6/13/2001
Project Completion at CD2:	3/31/2009
Project Location:	Stanford Linear Accelerator Center, Menlo Park, CA

Project Description Short:

The LCLS project leverages capital investments in the existing SLAC linear accelerator (linac) as well as technologies developed for linear colliders and for the production of intense electron beams with radio-frequency photocathode guns. The LCLS requires an injector to be built at Sector 20 of the 30-sector SLAC linac to create the electron beam required for the x-ray Free Electron Laser. The last one-third of the linac will be modified and most of the linac and its infrastructure will remain unchanged. The existing components in the Final Focus Test Beam tunnel will be removed and replaced by a new undulator and associated equipment. Two new experimental buildings, the Near Hall and the Far Hall, will be constructed and connected by the beam line tunnel. A Central Laboratory Office Building will be constructed to provide laboratory and office space for LCLS users and serve as a center of excellence for basic research in x-ray physics and ultrafast science.

Project Description Long:

The LCLS is based on the existing SLAC linac. The SLAC linac can accelerate electrons or positrons to 50 GeV for colliding beam experiments and for nuclear and high-energy physics experiments on fixed targets. At present, the first two-thirds of the linac is being used to inject electrons and positrons into PEP-II, and the entire linac is used for fixed target experiments. When the LCLS is completed, the latter activity will be limited to 25 percent of the available beam time and the last one-third of the linac will be available for the LCLS a minimum of 75 percent of the available beam time.

For the LCLS, the linac will produce high-brightness 4 - 14 GeV electron bunches at a 120 Hertz repetition rate. When traveling through the new 120 meter long LCLS undulator, these electron bunches will amplify the emitted x-ray radiation to produce an intense, coherent x-ray beam for scientific research. The LCLS makes use of technologies developed for SLAC and the next generation of linear colliders, as well as the progress in the production of intense electron beams with radiofrequency photocathode guns. These advances in the creation, compression, transport, and monitoring of bright electron beams make it possible to base this next generation of x-ray synchrotron radiation sources on linear accelerators rather than on storage rings.

The LCLS will have properties vastly exceeding those of current x-ray sources (both synchrotron radiation light sources and so-called "table-top" x-ray lasers) in three key areas: peak brightness, coherence (i.e., laser-like properties), and ultrashort pulses. The peak brightness of the LCLS is 10 billion times greater than current synchrotrons, providing x-ray photons in a pulse with duration of 230 femtoseconds or less. These characteristics of the LCLS will open new realms of scientific application in the chemical, material, and biological sciences.

The proposed LCLS Project requires a 135 MeV injector to be built at Sector 20 of the 30-sector SLAC linac to create the electron beam required for the x-ray FEL. The last one-third of the linac will be modified by adding two magnetic bunch compressors. Most of the linac and its infrastructure will remain unchanged. The existing components in the Final Focus Test Beam tunnel will be removed and replaced by a new undulator and associated equipment. Two new experimental buildings, the Near Hall and the Far Hall, will be constructed and connected by the beam line tunnel. A Central Laboratory Office Building will be constructed to provide laboratory and office space for LCLS users and serve as a center of excellence for basic research in x-ray physics and ultrafast science.

Project Mission Need Short: The purpose of the LCLS Project is to provide laser-like radiation in the x-ray region of the spectrum that is 10 billion times greater in peak brightness than any existing coherent x-ray light source. This advance in brightness is similar to that of a synchrotron over a 1960's laboratory x-ray tube. Synchrotrons revolutionized science across disciplines ranging from atomic physics to structural biology. Advances from the LCLS are expected to be equally dramatic.

> The characteristics of the light from the LCLS will open new realms of scientific applications in the chemical, material, and biological sciences including fundamental studies of the interaction of intense x-ray pulses with simple atomic systems, structural studies on single nanoscale particles and biomolecules, ultrafast dynamics in chemistry and solid-state physics, studies of nanoscale structure and dynamics in condensed matter, and use of the LCLS to create plasmas.

Project Objectives:

The LCLS Project will provide the first demonstration of an x-ray FEL in the 1.5 - 15 Angstrom range and will apply these extraordinary, high-brightness x-rays to an initial set of scientific problems. This will be the world's first such facility.

Fiscal Year Month Calendar Date BCWS (\$K) BCWS (YTD (\$K)) BCWS (0m) (\$K) BCWP (\$K) BCWP (YTD (\$K)) BCWP (Cum (\$K)) BCWP (\$K) BCWP (\$K)											
2007 April 4/1/2007 8,492 62,550 175,067 53,102 6,154 45,098 154,552 38,896 2007 March 3/1/2007 8,556 54,058 166,575 54,058 5,195 38,944 148,398 38,944 2007 February 2/1/2007 9,594 45,502 158,019 52,023 4,700 33,749 143,203 40,170 2007 January 1/1/2006 8,471 25,572 138,089 38,891 7,880 19,905 129,359 38,915 2007 December 12/1/2006 8,471 25,572 138,089 38,891 7,880 19,905 129,359 38,915 2007 November 11/1/2006 7,653 17,101 129,618 33,792 6,202 115,656 34,661 2007 October 10/1/2006 6,521 65,808 112,517 30,133 6,421 64,587 109,454 33,214 2006 August 8/1/2006 <td>Fiscal</td> <td></td> <td></td> <td>BCWS</td> <td>BCWS</td> <td>BCWS</td> <td>BCWS</td> <td>BCWP</td> <td>BCWP</td> <td>BCWP</td> <td>BCWP</td>	Fiscal			BCWS	BCWS	BCWS	BCWS	BCWP	BCWP	BCWP	BCWP
2007 April 4/1/2007 8,492 62,550 175,067 53,102 6,154 45,098 154,552 38,896 2007 March 3/1/2007 8,556 54,058 166,575 54,058 5,195 38,944 148,398 38,944 2007 February 2/1/2007 9,594 45,502 158,019 52,023 4,700 33,749 143,203 40,170 2007 January 1/1/2006 8,471 25,572 138,089 38,891 7,880 19,905 129,359 38,915 2007 December 12/1/2006 8,471 25,572 138,089 38,891 7,880 19,905 129,359 38,915 2007 November 11/1/2006 7,653 17,101 129,618 37,984 5,823 12,025 121,479 35,775 2007 October 10/1/2006 9,448 9,448 121,965 33,792 6,202 6,202 115,656 34,661 2006 August	Year	Month	Calendar Date	(\$K)	YTD (\$K)	Cum (\$K)	6MO (\$K)	(\$K)	YTD (\$K)	Cum (\$K)	6MO (\$K)
2007 February 2/1/2007 9,594 45,502 158,019 52,023 4,700 33,749 143,203 40,170 2007 January 1/1/2007 10,336 35,908 148,425 46,776 9,144 29,049 138,503 43,725 2007 December 12/1/2006 8,471 25,572 138,089 38,891 7,880 19,905 129,359 38,915 2007 November 11/1/2006 7,653 17,101 129,618 37,894 5,823 12,025 121,479 35,775 2007 October 10/1/2006 9,448 9,448 121,965 33,792 6,202 6,202 115,656 34,661 2006 September 9/1/2006 6,521 65,808 112,517 30,133 6,421 64,587 109,454 33,214 2006 August 8/1/2006 4,347 59,287 105,996 30,528 8,255 58,166 103,033 32,823 2006 June <td>2007</td> <td>April</td> <td>4/1/2007</td> <td>8,492</td> <td>62,550</td> <td></td> <td>53,102</td> <td>6,154</td> <td>45,098</td> <td>154,552</td> <td>38,896</td>	2007	April	4/1/2007	8,492	62,550		53,102	6,154	45,098	154,552	38,896
2007 February 2/1/2007 9,594 45,502 158,019 52,023 4,700 33,749 143,203 40,170 2007 January 1/1/2007 10,336 35,908 148,425 46,776 9,144 29,049 138,503 43,725 2007 December 12/1/2006 8,471 25,572 138,089 38,891 7,880 19,905 129,359 38,915 2007 November 11/1/2006 7,653 17,101 129,618 37,894 5,823 12,025 121,479 35,775 2007 October 10/1/2006 9,448 9,448 121,965 33,792 6,202 6,202 115,656 34,661 2006 September 9/1/2006 6,521 65,808 112,517 30,133 6,421 64,587 109,454 33,214 2006 August 8/1/2006 4,347 59,287 105,996 30,528 8,255 58,166 103,033 32,823 2006 June <td>2007</td> <td>March</td> <td>3/1/2007</td> <td>8,556</td> <td>54,058</td> <td>166,575</td> <td>54,058</td> <td>5,195</td> <td>38,944</td> <td>148,398</td> <td>38,944</td>	2007	March	3/1/2007	8,556	54,058	166,575	54,058	5,195	38,944	148,398	38,944
2007 December 12/1/2006 8,471 25,572 138,089 38,891 7,880 19,905 129,359 38,915 2007 November 11/1/2006 7,653 17,101 129,618 37,894 5,823 12,025 121,479 35,775 2007 October 10/1/2006 9,448 9,448 121,965 33,792 6,202 6,202 115,656 34,661 2006 September 9/1/2006 6,521 65,808 112,517 30,133 6,421 64,587 109,454 33,214 2006 August 8/1/2006 4,347 59,287 105,996 30,528 8,255 58,166 103,033 32,823 2006 July 7/1/2006 2,451 54,940 101,649 32,157 4,334 49,911 94,778 28,710 2006 June 6/1/2006 7,474 52,489 99,198 35,273 4,740 45,577 90,444 31,453 2006 Mari	2007	February	2/1/2007	9,594	45,502	158,019	52,023		33,749	143,203	40,170
2007 November 11/1/2006 7,653 17,101 129,618 37,894 5,823 12,025 121,479 35,775 2007 October 10/1/2006 9,448 9,448 121,965 33,792 6,202 6,202 115,656 34,661 2006 September 9/1/2006 6,521 65,808 112,517 30,133 6,421 64,587 109,454 33,214 2006 August 8/1/2006 4,347 59,287 105,996 30,528 8,255 58,166 103,033 32,823 2006 July 7/1/2006 2,451 54,940 101,649 32,157 4,334 49,911 94,778 28,710 2006 June 6/1/2006 7,474 52,489 99,198 35,273 4,740 45,577 90,444 31,453 2006 May 5/1/2006 3,551 45,015 91,724 32,330 4,709 40,837 85,704 31,853 2006 March 3/1	2007	January	1/1/2007	10,336	35,908	148,425	46,776	9,144	29,049	138,503	43,725
2007 October 10/1/2006 9,448 9,448 121,965 33,792 6,202 6,202 115,656 34,661 2006 September 9/1/2006 6,521 65,808 112,517 30,133 6,421 64,587 109,454 33,214 2006 August 8/1/2006 4,347 59,287 105,996 30,528 8,255 58,166 103,033 32,823 2006 July 7/1/2006 2,451 54,940 101,649 32,157 4,334 49,911 94,778 28,710 2006 June 6/1/2006 7,474 52,489 99,198 35,273 4,740 45,577 90,444 31,453 2006 May 5/1/2006 3,551 45,015 91,724 32,330 4,709 40,837 85,704 31,853 2006 April 4/1/2006 5,789 41,464 88,173 35,257 4,755 36,128 80,995 30,964 2006 March 3/1/2006<	2007	December	12/1/2006	8,471	25,572	138,089	38,891	7,880	19,905	129,359	38,915
2006 September 9/1/2006 6,521 65,808 112,517 30,133 6,421 64,587 109,454 33,214 2006 August 8/1/2006 4,347 59,287 105,996 30,528 8,255 58,166 103,033 32,823 2006 July 7/1/2006 2,451 54,940 101,649 32,157 4,334 49,911 94,778 28,710 2006 June 6/1/2006 7,474 52,489 99,198 35,273 4,740 45,577 90,444 31,453 2006 May 5/1/2006 3,551 45,015 91,724 32,330 4,709 40,837 85,704 31,853 2006 April 4/1/2006 5,789 41,464 88,173 35,257 4,755 36,128 80,995 30,964 2006 March 3/1/2006 6,916 35,675 82,384 35,675 6,030 31,373 76,240 31,373 2006 February 2/1/2006<	2007	November	11/1/2006	7,653	17,101	129,618	37,894	5,823	12,025	121,479	35,775
2006 August 8/1/2006 4,347 59,287 105,996 30,528 8,255 58,166 103,033 32,823 2006 July 7/1/2006 2,451 54,940 101,649 32,157 4,334 49,911 94,778 28,710 2006 June 6/1/2006 7,474 52,489 99,198 35,273 4,740 45,577 90,444 31,453 2006 May 5/1/2006 3,551 45,015 91,724 32,330 4,709 40,837 85,704 31,853 2006 April 4/1/2006 5,789 41,464 88,173 35,257 4,755 36,128 80,995 30,964 2006 March 3/1/2006 6,916 35,675 82,384 35,675 6,030 31,373 76,240 31,373 2006 February 2/1/2006 5,976 28,759 75,468 31,027 4,142 25,343 70,210 30,073 2006 January 1/1/2005	2007	October	10/1/2006	9,448	9,448	121,965	33,792	6,202	6,202	115,656	34,661
2006 July 7/1/2006 2,451 54,940 101,649 32,157 4,334 49,911 94,778 28,710 2006 June 6/1/2006 7,474 52,489 99,198 35,273 4,740 45,577 90,444 31,453 2006 May 5/1/2006 3,551 45,015 91,724 32,330 4,709 40,837 85,704 31,853 2006 April 4/1/2006 5,789 41,464 88,173 35,257 4,755 36,128 80,995 30,964 2006 March 3/1/2006 6,916 35,675 82,384 35,675 6,030 31,373 76,240 31,373 2006 February 2/1/2006 5,976 28,759 75,468 31,027 4,142 25,343 70,210 30,073 2006 January 1/1/2006 5,567 22,783 69,492 31,344 7,077 21,201 66,068 29,932 2006 December 12/1/2005 <td>2006</td> <td>September</td> <td>9/1/2006</td> <td>6,521</td> <td>65,808</td> <td>112,517</td> <td>30,133</td> <td>6,421</td> <td>64,587</td> <td>109,454</td> <td>33,214</td>	2006	September	9/1/2006	6,521	65,808	112,517	30,133	6,421	64,587	109,454	33,214
2006 June 6/1/2006 7,474 52,489 99,198 35,273 4,740 45,577 90,444 31,453 2006 May 5/1/2006 3,551 45,015 91,724 32,330 4,709 40,837 85,704 31,853 2006 April 4/1/2006 5,789 41,464 88,173 35,257 4,755 36,128 80,995 30,964 2006 March 3/1/2006 6,916 35,675 82,384 35,675 6,030 31,373 76,240 31,373 2006 February 2/1/2006 5,976 28,759 75,468 31,027 4,142 25,343 70,210 30,073 2006 January 1/1/2006 5,567 22,783 69,492 31,344 7,077 21,201 66,068 29,932 2006 December 12/1/2005 4,531 17,216 63,925 29,990 5,140 14,124 58,991 25,984 2006 November 11/1/2005	2006	August	8/1/2006	4,347	59,287	105,996	30,528	8,255	58,166	103,033	32,823
2006 May 5/1/2006 3,551 45,015 91,724 32,330 4,709 40,837 85,704 31,853 2006 April 4/1/2006 5,789 41,464 88,173 35,257 4,755 36,128 80,995 30,964 2006 March 3/1/2006 6,916 35,675 82,384 35,675 6,030 31,373 76,240 31,373 2006 February 2/1/2006 5,976 28,759 75,468 31,027 4,142 25,343 70,210 30,073 2006 January 1/1/2006 5,567 22,783 69,492 31,344 7,077 21,201 66,068 29,932 2006 December 12/1/2005 4,531 17,216 63,925 29,990 5,140 14,124 58,991 25,984 2006 November 11/1/2005 6,478 12,685 59,394 29,016 3,820 8,984 53,851 23,468 2006 October 10/1/2	2006	July	7/1/2006	2,451	54,940	101,649	32,157	4,334	49,911	94,778	28,710
2006 April 4/1/2006 5,789 41,464 88,173 35,257 4,755 36,128 80,995 30,964 2006 March 3/1/2006 6,916 35,675 82,384 35,675 6,030 31,373 76,240 31,373 2006 February 2/1/2006 5,976 28,759 75,468 31,027 4,142 25,343 70,210 30,073 2006 January 1/1/2006 5,567 22,783 69,492 31,344 7,077 21,201 66,068 29,932 2006 December 12/1/2005 4,531 17,216 63,925 29,990 5,140 14,124 58,991 25,984 2006 November 11/1/2005 6,478 12,685 59,394 29,016 3,820 8,984 53,851 23,468 2006 October 10/1/2005 6,207 6,207 52,916 25,523 5,164 5,164 50,031 22,638	2006	June	6/1/2006	7,474	52,489	99,198	35,273	4,740	45,577	90,444	31,453
2006 March 3/1/2006 6,916 35,675 82,384 35,675 6,030 31,373 76,240 31,373 2006 February 2/1/2006 5,976 28,759 75,468 31,027 4,142 25,343 70,210 30,073 2006 January 1/1/2006 5,567 22,783 69,492 31,344 7,077 21,201 66,068 29,932 2006 December 12/1/2005 4,531 17,216 63,925 29,990 5,140 14,124 58,991 25,984 2006 November 11/1/2005 6,478 12,685 59,394 29,016 3,820 8,984 53,851 23,468 2006 October 10/1/2005 6,207 6,207 52,916 25,523 5,164 5,164 50,031 22,638	2006	May	5/1/2006	3,551	45,015	91,724	32,330	4,709	40,837	85,704	31,853
2006 February 2/1/2006 5,976 28,759 75,468 31,027 4,142 25,343 70,210 30,073 2006 January 1/1/2006 5,567 22,783 69,492 31,344 7,077 21,201 66,068 29,932 2006 December 12/1/2005 4,531 17,216 63,925 29,990 5,140 14,124 58,991 25,984 2006 November 11/1/2005 6,478 12,685 59,394 29,016 3,820 8,984 53,851 23,468 2006 October 10/1/2005 6,207 6,207 52,916 25,523 5,164 5,164 50,031 22,638	2006	April	4/1/2006	5,789	41,464	88,173	35,257	4,755	36,128	80,995	30,964
2006 January 1/1/2006 5,567 22,783 69,492 31,344 7,077 21,201 66,068 29,932 2006 December 12/1/2005 4,531 17,216 63,925 29,990 5,140 14,124 58,991 25,984 2006 November 11/1/2005 6,478 12,685 59,394 29,016 3,820 8,984 53,851 23,468 2006 October 10/1/2005 6,207 6,207 52,916 25,523 5,164 5,164 50,031 22,638	2006	March	3/1/2006	6,916	35,675	82,384	35,675	6,030	31,373	76,240	31,373
2006 December 12/1/2005 4,531 17,216 63,925 29,990 5,140 14,124 58,991 25,984 2006 November 11/1/2005 6,478 12,685 59,394 29,016 3,820 8,984 53,851 23,468 2006 October 10/1/2005 6,207 6,207 52,916 25,523 5,164 5,164 50,031 22,638	2006	February	2/1/2006	5,976	28,759	75,468	31,027	4,142	25,343	70,210	30,073
2006 November 11/1/2005 6,478 12,685 59,394 29,016 3,820 8,984 53,851 23,468 2006 October 10/1/2005 6,207 6,207 52,916 25,523 5,164 5,164 50,031 22,638	2006	January	1/1/2006	5,567	22,783	69,492	31,344	7,077	21,201	66,068	29,932
2006 October 10/1/2005 6,207 6,207 52,916 25,523 5,164 5,164 50,031 22,638	2006	December	12/1/2005	4,531	17,216	63,925	29,990	5,140	14,124	58,991	25,984
	2006	November	11/1/2005	6,478	12,685	59,394	29,016	3,820	8,984	53,851	23,468
2005 September 9/1/2005 2,268 46,709 46,709 4,730 44,867 44,867 44,867	2006	October	10/1/2005	6,207	6,207	52,916	25,523	5,164	5,164	50,031	22,638
	2005	September	9/1/2005	2,268	46,709	46,709	46,709	4,730	44,867	44,867	44,867

Fiscal Year	Month	Calendar Date	ACWP (\$K)	ACWP YTD (\$K)	ACWP Cum (\$K)	ACWP 6MO (\$K)	I RE (\$K)	MRR (\$K)	Contingency Usage (\$K)	Schedule Contingency Usage (Days)
2007	April	4/1/2007	6,245	53,046	167,093	44,582	LIXL (WIX)	ινιιχίχ (ψίλ)	Usage (wit)	Osage (Days)
2007	March	3/1/2007	7,042	46,801	160,848	46,801				
2007	February	2/1/2007	7,958	39,759	153,806	46,053				
2007	January	1/1/2007	10,634	31,801	145,848	46,518				
2007	December	12/1/2006	7,666	21,167	135,214	41,245				
2007	November	11/1/2006	5,037	13,501	127,548	39,662				
2007	October	10/1/2006	8,464	8,464	122,511	41,065				
2006	September	9/1/2006	6,294	69,391	114,047	38,208				
2006	August	8/1/2006	8,423	63,097	107,753	38,317				
2006	July	7/1/2006	5,361	54,674	99,330	34,975				
2006	June	6/1/2006	6,083	49,313	93,969	35,396				
2006	May	5/1/2006	6,440	43,230	87,886	34,236				
2006	April	4/1/2006	5,607	36,790	81,446	32,114				
2006	March	3/1/2006	6,403	31,183	75,839	31,183				
2006	February	2/1/2006	5,081	24,780	69,436	29,654				
2006	January	1/1/2006	5,782	19,699	64,355	27,795				
2006	December	12/1/2005	4,923	13,917	58,573	25,677				
2006	November	11/1/2005	4,318	8,994	53,650	23,583				
2006	October	10/1/2005	4,676	4,676	49,332	21,939				
2005	September	9/1/2005	4,874	44,656	44,656	44,656				

Fiscal				SV YTD	SV Cum	SV 6MO		CV YTD	CV Cum	CV 6MO
Year	Month	Calendar Date	SV (\$K)	(\$K)	(\$K)	(\$K)	CV (\$K)	(\$K)	(\$K)	(\$K)
2007	April	4/1/2007	-2,338	-17,452	-20,515	-14,206	-91	-7,948	-12,541	-5,686
2007	March	3/1/2007	-3,361	-15,114	-18,177	-15,114	-1,847	-7,857	-12,450	-7,857
2007	February	2/1/2007	-4,894	-11,753	-14,816	-11,853	-3,258	-6,010	-10,603	-5,883
2007	January	1/1/2007	-1,192	-6,859	-9,922	-3,051	-1,490	-2,752	-7,345	-2,793
2007	December	12/1/2006	-591	-5,667	-8,730	24	214	-1,262	-5,855	-2,330
2007	November	11/1/2006	-1,830	-5,076	-8,139	-2,119	786	-1,476	-6,069	-3,887
2007	October	10/1/2006	-3,246	-3,246	-6,309	869	-2,262	-2,262	-6,855	-6,404
2006	September	9/1/2006	-100	-1,221	-3,063	3,081	127	-4,804	-4,593	-4,994
2006	August	8/1/2006	3,908	-1,121	-2,963	2,295	-168	-4,931	-4,720	-5,494
2006	July	7/1/2006	1,883	-5,029	-6,871	-3,447	-1,027	-4,763	-4,552	-6,265
2006	June	6/1/2006	-2,734	-6,912	-8,754	-3,820	-1,343	-3,736	-3,525	-3,943
2006	May	5/1/2006	1,158	-4,178	-6,020	-477	-1,731	-2,393	-2,182	-2,383
2006	April	4/1/2006	-1,034	-5,336	-7,178	-4,293	-852	-662	-451	-1,150
2006	March	3/1/2006	-886	-4,302	-6,144	-4,302	-373	190	401	190
2006	February	2/1/2006	-1,834	-3,416	-5,258	-954	-939	563	774	419
2006	January	1/1/2006	1,510	-1,582	-3,424	-1,412	1,295	1,502	1,713	2,137
2006	December	12/1/2005	609	-3,092	-4,934	-4,006	217	207	418	307
2006	November	11/1/2005	-2,658	-3,701	-5,543	-5,548	-498	-10	201	-115
2006	October	10/1/2005	-1,043	-1,043	-2,885	-2,885	488	488	699	699
2005	September	9/1/2005	2,462	-1,842	-1,842	-1,842	-144	211	211	211

Fiscal										
Year	Month	Calendar Date	SPI	SPI YTD	SPI Cum	SPI 6MO	CPI	CPI YTD	CPI Cum	CPI 6MO
2007	April	4/1/2007	0.72	0.72	0.88	0.73	0.99	0.85	0.92	0.87
2007	March	3/1/2007	0.61	0.72	0.89	0.72	0.74	0.83	0.92	0.83
2007	February	2/1/2007	0.49	0.74	0.91	0.77	0.59	0.85	0.93	0.87
2007	January	1/1/2007	0.88	0.81	0.93	0.93	0.86	0.91	0.95	0.94
2007	December	12/1/2006	0.93	0.78	0.94	1	1.03	0.94	0.96	0.94
2007	November	11/1/2006	0.76	0.7	0.94	0.94	1.16	0.89	0.95	0.9
2007	October	10/1/2006	0.66	0.66	0.95	1.03	0.73	0.73	0.94	0.84
2006	September	9/1/2006	0.98	0.98	0.97	1.1	1.02	0.93	0.96	0.87
2006	August	8/1/2006	1.9	0.98	0.97	1.08	0.98	0.92	0.96	0.86
2006	July	7/1/2006	1.77	0.91	0.93	0.89	0.81	0.91	0.95	0.82
2006	June	6/1/2006	0.63	0.87	0.91	0.89	0.78	0.92	0.96	0.89
2006	May	5/1/2006	1.33	0.91	0.93	0.99	0.73	0.94	0.98	0.93
2006	April	4/1/2006	0.82	0.87	0.92	0.88	0.85	0.98	0.99	0.96
2006	March	3/1/2006	0.87	0.88	0.93	0.88	0.94	1.01	1.01	1.01
2006	February	2/1/2006	0.69	0.88	0.93	0.97	0.82	1.02	1.01	1.01
2006	January	1/1/2006	1.27	0.93	0.95	0.95	1.22	1.08	1.03	1.08
2006	December	12/1/2005	1.13	0.82	0.92	0.87	1.04	1.01	1.01	1.01
2006	November	11/1/2005	0.59	0.71	0.91	0.81	0.88	1	1	1
2006	October	10/1/2005	0.83	0.83	0.95	0.89	1.1	1.1	1.01	1.03
2005	September	9/1/2005	2.09	0.96	0.96	0.96	0.97	1	1	1

Fiscal								VAC (\$K)				
Year	Month	Calendar Date	SCI	SCI YTD			MRUI	(%)	ETC	PCE (%)	PC (%)	PS (%)
2007	April	4/1/2007	0.71	0.61	0.82	0.64					88	95
2007	March	3/1/2007	0.45	0.6	0.82	0.6					85	92
2007	February	2/1/2007	0.29	0.63	0.84	0.67					82	88
2007	January	1/1/2007	0.76	0.74	0.89	0.88					79	83
2007	December	12/1/2006	0.96	0.73	0.9	0.94					74	77
2007	November	11/1/2006	0.88	0.63	0.89	0.85					69	73
2007	October	10/1/2006	0.48	0.48	0.9	0.87					66	70
2006	September	9/1/2006	1	0.91	0.93	0.96					63	65
2006	August	8/1/2006	1.86	0.9	0.93	0.92					59	62
2006	July	7/1/2006	1.43	0.83	0.89	0.73					54	57
2006	June	6/1/2006	0.49	0.8	0.88	0.79					52	54
2006	May	5/1/2006	0.97	0.86	0.91	0.92					49	50
2006	April	4/1/2006	0.7	0.86	0.91	0.85					46	47
2006	March	3/1/2006	0.82	0.88	0.93	0.88					44	43
2006	February	2/1/2006	0.57	0.9	0.94	0.98					40	40
2006	January	1/1/2006	1.56	1	0.98	1.03					38	37
2006	December	12/1/2005	1.18	0.83	0.93	0.88					34	33
2006	November	11/1/2005	0.52	0.71	0.91	8.0					31	31
2006	October	10/1/2005	0.92	0.92	0.96	0.92					29	28
2005	September	9/1/2005	2.02	0.97	0.97	0.97					26	26

Fiscal					TCPI	TCPI				EAC	EAC
Year	Month	Calendar Date	BCWR	BR	BAC	EAC	EAC BAC	EAC BR	EAC SCI	80/20	50/50
2007	April	4/1/2007	20,515	7,974	3		189,273	189,273	192,217	189,477	189,790
2007	March	3/1/2007	26,669	14,219	2		189,754	189,754	193,295	189,955	190,260
2007	February	2/1/2007	31,864	21,261	1		188,029	188,029	191,570	188,213	188,492
2007	January	1/1/2007	36,564	29,219	1		184,351	184,351	187,109	184,485	184,688
2007	December	12/1/2006	45,708	39,853	1		182,991	182,991	186,215	183,191	183,493
2007	November	11/1/2006	53,588	47,519	1		183,813	183,813	187,583	183,994	184,266
2007	October	10/1/2006	59,411	52,556	1		185,443	185,443	188,876	185,387	185,303
2006	September	9/1/2006	65,613	61,020	1		182,413	182,413	184,326	182,228	181,952
2006	August	8/1/2006	72,034	67,314	1		183,087	183,087	185,253	182,838	182,468
2006	July	7/1/2006	80,289	75,737	1		183,475	183,475	189,575	183,861	184,446
2006	June	6/1/2006	84,623	81,098	1		181,890	181,890	190,400	182,827	184,270
2006	May	5/1/2006	89,363	87,181	1		179,524	179,524	185,961	180,298	181,482
2006	April	4/1/2006	94,072	93,621	1		176,042	176,042	184,425	177,508	179,793
2006	March	3/1/2006	98,827	99,228	1		174,146	174,146	182,068	175,733	178,213
2006	February	2/1/2006	104,857	105,631	1		173,137	173,137	180,903	174,822	177,454
2006	January	1/1/2006	108,999	110,712	1		170,528	170,528	176,030	172,121	174,603
2006	December	12/1/2005	116,076	116,494	1		173,827	173,827	183,466	175,789	178,862
2006	November	11/1/2005	121,216	121,417	1		174,414	174,414	186,844	176,795	180,550
2006	October	10/1/2005	125,036	125,735	1		172,621	172,621	179,731	174,314	176,943
2005	September	9/1/2005	130,200	130,411	1		174,244	174,244	179,564	175,393	177,156

Name	Planned Date	Baseline	Actual Date	Narrative	Approval
CD-0 Approve Mission Need	6/30/2001	6/2/2003 15:08	6/13/2001		
CD-1 Approve Preliminary Baseline	10/30/2002	6/2/2003 15:08	10/16/2002		
CD-2 Approve Performance	5/31/2003	6/2/2003 15:08	7/1/2003	This critical decision is CD-2a, Long Lead	
Baseline				Procurement Baseline, as defined in the Preliminary	
				Project Execution Plan.	
CD-2 Approve Performance	10/31/2004	6/2/2003 15:08	4/11/2005	This critical decision is CD-2b, Approve	
Baseline				Performance Baseline, as defined in the Project	
				Execution Plan.	
CD-3 Approve Start of Construction	12/31/2004	6/2/2003 15:08	12/10/2004	This critical decision is CD-3A, Start Long Lead	
				Procurements. This is defined in the Preliminary	
				Project Execution Plan.	
CD-3 Approve Start of Construction	2/28/2006		3/10/2006	This critical decision is CD-3b, Approve Start of	
				Construction, as defined in the Project Execution	
				Plan.	
CD-4 Acceptance/Completion	3/31/2009			This critical decision is defined in the Project	
				Execution Plan.	

	Fiscal	Project		
Month	Year	Assessment	Narrative Type	Narrative
April	2007	Yellow	Progress	The LCLS cost and schedule indices are 0.92 and 0.88, respectively. The SPI of 0.88 ('Yellow') is primarily driven by CR impacts including hold on procurements affecting future activities, 6 months of uncertainty about FY'07 funding level, as well as delays in civil construction. In April, percent contingency on EAC was reduced, primarily due to ongoing compounding effects. The delays and shortfall in FY2007 funding require a Directed Change to re-baseline the project. High level of effort is being spent on re-baselining and preparing for the upcoming Office of Science IPR for baseline validation and OECM limited EIR of CR impacts, scheduled for July 10-12, 2007.
March	2007	Yellow	Progress	Overall schedule performance index is 0.89 and the cost performance index is 0.92. Decline in SPI is primarily due to delays in civil construction and delayed procurements due to FY2007 CR and budget reduction.
February	2007	Yellow	Progress	CR concluded in mid February; FY07 funding is less than the requested level. Currently the impact is being assessed and a July '07 DOE re-baseline review is scheduled.
January	2007	Yellow	Progress	The FY07 continuing resolution (CR) is impacting the project's schedule as planned procurements are on hold until the final resolution of the CR. LCLS management is evaluating impacts on the project cost and schedule due to the CR, the potential for a year long CR and reduced budget authority.
December	2007	Yellow	Progress	Due to higher than expected civil construction bids, the project has developed a functional alternative to constructing new office and lab space by renovating existing and under utilized space for the operational staff of the LCLS facility. This alternative continues to support all of the mission requirements as a scientific user facility and has no impact on key technical operating parameters. This alternative requires a baseline change and the Acquisition Executive's approval.

November	2007	Yellow	Progress	The remaining civil construction bids received were higher than the project estimate. On average, the bids for the construction of the office building were as high as the first group of bids for the construction of the tunnel and experimental halls. Construction of the tunnel and experimental halls continues. However, the project proposed an alternative to provide office space to support LCLS operations. This alternative has no impact on the scientific capabilities of the LCLS facility. The October 2006 Office of Science IPR reviewed the proposed alternative and provided their recommendations to the SC Program Office. The Program Office is considering the IPR recommendations.
October	2007	Yellow	Progress	An Office of Science Independent Project Review was conducted in October to evaluate the status of the project and to evaluate options due to the high bid prices for civil construction. SC is considering revising the conventional facilities scope while maintaining the project's capability to meet all its mission requirements as a scientific user facility.
September	2006	Yellow	Progress	The construction phase for the major civil activities began this month. The project is contiuing to evaluate the second bid group contracts for civil construction to determine price growth areas. The increase in construction bids continue to be an issue for the project and they are evaluating options to reduce the impact. These options will be evaluated by the SC Independent Project Review next month.
August	2006	Yellow	Progress	The project issued the notice to proceed to the Construction Manager (CM) to award the first group of bids for civil construction. The project and CM are evaluating the group 2 bids currently.
July	2006		Progress	The project SPI and CPI are 0.93 and 0.95 respectively. The first group of civil construction contracts were awarded. The project worked with the construction manager (CM) to reduce bid prices and develop bid alternatives. The overall bids were much higher than estimated. The CM is preparing to mobilize in September to begin construction activities.

June	2006	Progress	The project is working with the Construction Manager (CM) to determine the cause for the high bids for civil construction. The project and CM are developing options to identify areas for cost savings. The first group of bids accounts for approximately 67% of all civil construction.
Мау	2006	Progress	The group 1 bids for civil construction came in higher than expected. The project is currently pursing mitigation strategies with its Construction Management contractor.
April	2006	Progress	The project is receiving bids for civil construction and will be evaluating the bids with the Construction Management firm.
March	2006	Progress	The project continues on track with the schedule and cost performance indices at 0.93 and 1.01, respectively. OECM conducted an earned value management system certification review on March 27-31, 2006. The project will prepare a corrective action plan to address the finding.
February	2006	Progress	The project cost and schedule performance indices are 1.01 and 0.93. An Office of Science Independent Project Review was conducted February 7-9. 2006. The review committee recommended the project proceed with requesting CD-3b approval to start construction.
January	2006	Progress	Project SPI and CPI are 0.95 and 1.03, respectively.

December	2006	Progress	The project remains on track. Major activities include preparation of the construction schedule and reviewing cost estimates for conventional facilities. Project activities ceased during the planned winter shutdown of the entire laboratory.
November	2006	Progress	The project continues on track. The construction manager is in place and meeting regularly with project staff to develop the conventional construction schedule and reviewing the design packages.
October	2006	Progress	The CM/GC contract was awarded this month. The construction manager will begin meetings to prepare construction schedule and review design for the conventional facilities. Preparations for the installation activities during the October downtime was completed and work is proceeding. The project remains on track for cost and schedule.
September	2005	Progress	The project cost and schedule performance remains on track. Negotiations continue on finalizing the subcontract for the construction management procurement. Subcontract award is expected in October.

Funds Type	Budget Fiscal Year	TPC Current (\$K)	TPC at CD2 (\$K)	TEC Current (\$K)	TEC at CD2 (\$K)	BAC Current (\$K)	Total Contingency Current (\$K)	Total Contingency at CD2 (\$K)	Total Schedule Contingency Current (Days)	Total Schedule Contingency at CD2 (Days)	Total PED Current (\$K)	Total PED at CD2 (\$K)
Capital	2005	379,000	379,000	315,000	315,000	175,067						