

LCLS TPC Detailed Cost Estimate (FY05FY09)

5/5/2005

WBS Level						LCLA DCE March-2005 Description	Early Start	Early Finish	OBS	Fund Type	Res Code	Units	Budgeted Quantity		Fully Burdened and Escalated Cost			
Run Time: 4/22/05 8:43am													Hours	\$	Labor	M&S	Total (No Conting)	
1	2	3	4	5	6													
1	06					X-RAY END STATION SYSTEMS							64,457	6,923,600	6,562,449	7,953,810	14,516,259	
1	06	01				System Management & Integration							16,891	40,000	1,753,547	51,398	1,804,945	
1	06	01	01			Management							12,901	40,000	1,410,208	51,398	1,461,606	
1	06	01	01			Management & Oversight - FY06-09	3-Oct-05	30-Mar-09		C	SL_PHSS	Hrs	5,922		583,212		583,212	
1	06	01	01			Management & Oversight - FY06-09	3-Oct-05	30-Mar-09		C	SL_EE	Hrs	5,922		708,073		708,073	
1	06	01	01			Travel FY-05	1-Oct-04	29-Sep-05		P	SL_MSTR	\$\$		10,000		12,300	12,300	
1	06	01	01			Travel FY-06	3-Oct-05	28-Sep-06		C	SL_MSTR	\$\$		10,000		12,700	12,700	
1	06	01	01			Travel FY-07	2-Oct-06	27-Sep-07		C	SL_MSTR	\$\$		10,000		13,000	13,000	
1	06	01	01			Travel FY-08	28-Sep-07	26-Sep-08		C	SL_MSTR	\$\$		10,000		13,398	13,398	
1	06	01	01			Management - FY-05 - Mar thru Sep	1-Mar-05	30-Sep-05		P	SL_EE	Hrs	1,057		118,923		118,923	
1	06	01	02			SSRL Physics Support							3,990	-	343,339	-	343,339	
1	06	01	02			SSRL Physics Support	3-Jan-05	29-Jun-05		P	SL_PHSS	Hrs	2,660		246,502		246,502	
1	06	01	02			SSRL Physics Support	3-Jan-05	29-Jun-05		P	SL_PHS	Hrs	1,330		96,837		96,837	
1	06	02				Controls Subsystem							18,256	3,523,000	1,903,569	4,105,005	6,008,574	
1	06	02	01			Cabling							2,520	209,000	290,679	246,620	537,299	
1	06	02	01	01		Front End Enclosure Cable							1,060	22,000	123,278	25,960	149,238	
1	06	02	01	01		Specification FEE - Cabling	5-Jul-07	1-Aug-07		C	SL_PHS	Hrs	20		1,536		1,536	
1	06	02	01	01		Specification FEE - Cabling	5-Jul-07	1-Aug-07		C	SL_EE	Hrs	80		9,494		9,494	
1	06	02	01	01		Specification FEE - Cabling	5-Jul-07	1-Aug-07		C	SL_CE	Hrs	40		4,747		4,747	
1	06	02	01	01		Design FEE - Cabling	2-Aug-07	29-Aug-07		C	SL_PHS	Hrs	40		3,072		3,072	
1	06	02	01	01		Design FEE - Cabling	2-Aug-07	29-Aug-07		C	SL_EE	Hrs	80		9,494		9,494	
1	06	02	01	01		Design FEE - Cabling	2-Aug-07	29-Aug-07		C	SL_CE	Hrs	160		18,987		18,987	
1	06	02	01	01		Vendor Fab/Ship FEE Cable & Cable Tray - Cabling	15-Oct-07	9-Nov-07		C	SA_MSEQ	\$\$		12,000		14,160	14,160	
1	06	02	01	01		Vendor Fab/Ship FEE Racks & Panels - Cabling	15-Oct-07	9-Nov-07		C	SA_MSEQ	\$\$		10,000		11,800	11,800	
1	06	02	01	01		Prepare Bid Pkg FEE Racks & Panels - Cabling	30-Aug-07	13-Sep-07		C	SL_EE	Hrs	160		18,987		18,987	
1	06	02	01	01		Prepare Bid Pkg FEE Racks & Panels - Cabling	30-Aug-07	13-Sep-07		C	SL_CE	Hrs	160		18,987		18,987	
1	06	02	01	01		Prepare Bid Pkg FEE Cable & Cable Tray - Cabling	30-Aug-07	13-Sep-07		C	SL_EE	Hrs	160		18,987		18,987	
1	06	02	01	01		Prepare Bid Pkg FEE Cable & Cable Tray - Cabling	30-Aug-07	13-Sep-07		C	SL_CE	Hrs	160		18,987		18,987	
1	06	02	01	02		Near Hall Cable							580	66,000	66,318	77,880	144,198	
1	06	02	01	02		Specification Near Hall - Cabling	5-Jul-07	1-Aug-07		C	SL_PHS	Hrs	20		1,536		1,536	
1	06	02	01	02		Specification Near Hall - Cabling	5-Jul-07	1-Aug-07		C	SL_EE	Hrs	80		9,494		9,494	
1	06	02	01	02		Specification Near Hall - Cabling	5-Jul-07	1-Aug-07		C	SL_CE	Hrs	40		4,747		4,747	
1	06	02	01	02		Design Near Hall - Cabling	2-Aug-07	29-Aug-07		C	SL_PHS	Hrs	40		3,072		3,072	
1	06	02	01	02		Design Near Hall - Cabling	2-Aug-07	29-Aug-07		C	SL_EE	Hrs	80		9,494		9,494	
1	06	02	01	02		Design Near Hall - Cabling	2-Aug-07	29-Aug-07		C	SL_CE	Hrs	160		18,987		18,987	
1	06	02	01	02		Prepare Bid Pkg NH Racks & Panels - Cabling	30-Aug-07	13-Sep-07		C	SL_EE	Hrs	40		4,747		4,747	
1	06	02	01	02		Prepare Bid Pkg NH Racks & Panels - Cabling	30-Aug-07	13-Sep-07		C	SL_CE	Hrs	40		4,747		4,747	
1	06	02	01	02		Prepare Bid Pkg NH Cable & Cable Tray - Cabling	30-Aug-07	13-Sep-07		C	SL_EE	Hrs	40		4,747		4,747	
1	06	02	01	02		Prepare Bid Pkg NH Cable & Cable Tray - Cabling	30-Aug-07	13-Sep-07		C	SL_CE	Hrs	40		4,747		4,747	
1	06	02	01	02		Vendor Fab/Ship NH Cable & Cable Tray - Cabling	15-Oct-07	9-Nov-07		C	SA_MSEQ	\$\$		40,000		47,200	47,200	
1	06	02	01	02		Vendor Fab/Ship NH Racks & Panels - Cabling	15-Oct-07	9-Nov-07		C	SA_MSEQ	\$\$		26,000		30,680	30,680	
1	06	02	01	03		Tunnel Cable							300	52,000	34,765	61,360	96,125	
1	06	02	01	03		Specification Tunnel - Cabling	5-Jul-07	1-Aug-07		C	SL_PHS	Hrs	20		1,536		1,536	
1	06	02	01	03		Specification Tunnel - Cabling	5-Jul-07	1-Aug-07		C	SL_EE	Hrs	40		4,747		4,747	
1	06	02	01	03		Specification Tunnel - Cabling	5-Jul-07	1-Aug-07		C	SL_CE	Hrs	40		4,747		4,747	
1	06	02	01	03		Design Tunnel - Cabling	2-Aug-07	29-Aug-07		C	SL_EE	Hrs	80		9,494		9,494	
1	06	02	01	03		Design Tunnel - Cabling	2-Aug-07	29-Aug-07		C	SL_CE	Hrs	80		9,494		9,494	
1	06	02	01	03		Prepare Bid Pkg Tunnel Cable/Cable Tray - Cabling	30-Aug-07	13-Sep-07		C	SL_EE	Hrs	40		4,747		4,747	
1	06	02	01	03		Vendor Fab/Ship Tunnel Cable/Cable Tray - Cabling	15-Oct-07	9-Nov-07		C	SA_MSEQ	\$\$		52,000		61,360	61,360	
1	06	02	01	04		Far Hall Cable							580	69,000	66,318	81,420	147,738	
1	06	02	01	04		Specification Far Hall - Cabling	5-Jul-07	1-Aug-07		C	SL_PHS	Hrs	20		1,536		1,536	
1	06	02	01	04		Specification Far Hall - Cabling	5-Jul-07	1-Aug-07		C	SL_EE	Hrs	80		9,494		9,494	
1	06	02	01	04		Specification Far Hall - Cabling	5-Jul-07	1-Aug-07		C	SL_CE	Hrs	40		4,747		4,747	
1	06	02	01	04		Design Far Hall - Cabling	2-Aug-07	29-Aug-07		C	SL_PHS	Hrs	40		3,072		3,072	
1	06	02	01	04		Design Far Hall - Cabling	2-Aug-07	29-Aug-07		C	SL_EE	Hrs	80		9,494		9,494	
1	06	02	01	04		Design Far Hall - Cabling	2-Aug-07	29-Aug-07		C	SL_CE	Hrs	160		18,987		18,987	
1	06	02	01	04		Prepare Bid Pkg Racks & Panels FH - Cabling	30-Aug-07	13-Sep-07		C	SL_EE	Hrs	40		4,747		4,747	
1	06	02	01	04		Prepare Bid Pkg Racks & Panels FH - Cabling	30-Aug-07	13-Sep-07		C	SL_CE	Hrs	40		4,747		4,747	
1	06	02	01	04		Prepare Bid Pkg Cable & Cable Tray FH - Cabling	30-Aug-07	13-Sep-07		C	SL_EE	Hrs	40		4,747		4,747	
1	06	02	01	04		Prepare Bid Pkg Cable & Cable Tray FH - Cabling	30-Aug-07	13-Sep-07		C	SL_CE	Hrs	40		4,747		4,747	
1	06	02	01	04		Vendor Fab/Ship Cable & Cable Tray FH - Cabling	1-Nov-07	30-Nov-07		C	SA_MSEQ	\$\$		40,000		47,200	47,200	
1	06	02	01	04		Vendor Fab/Ship Racks & Panels FH - Cabling	1-Nov-07	30-Nov-07		C	SA_MSEQ	\$\$		29,000		34,220	34,220	
1	06	02	02			Network							2,340	500,000	260,047	579,950	839,997	
1	06	02	02			Specification - Network	10-Jul-06	1-Sep-06		C	SL_EE	Hrs	160		18,506		18,506	

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Run Time: 4/22/05 8:43am													Hours	\$	Labor	M&S	Total (No Conting)		
1	2	3	4	5	6														
1	06	02	02			Specification - Network	10-Jul-06	1-Sep-06		C	SL_CE	Hrs	160			18,506		18,506	
1	06	02	02			Design FEE - Network	5-Sep-06	12-Mar-07		C	SL_PHS	Hrs	40			3,060		3,060	
1	06	02	02			Design FEE - Network	5-Sep-06	12-Mar-07		C	SL_EE	Hrs	320			37,822		37,822	
1	06	02	02			Design FEE - Network	5-Sep-06	12-Mar-07		C	SL_CE	Hrs	320			37,822		37,822	
1	06	02	02			Design Near Hall - Network	5-Sep-06	12-Mar-07		C	SL_PHS	Hrs	20			1,530		1,530	
1	06	02	02			Design Near Hall - Network	5-Sep-06	12-Mar-07		C	SL_EE	Hrs	160			18,911		18,911	
1	06	02	02			Design Near Hall - Network	5-Sep-06	12-Mar-07		C	SL_CE	Hrs	160			18,911		18,911	
1	06	02	02			Prepare Bid Pkg Electronics - Network	13-Mar-07	7-May-07		C	SL_EE	Hrs	40			4,747		4,747	
1	06	02	02			Design Tunnel - Network	5-Sep-06	12-Mar-07		C	SL_EE	Hrs	40			4,728		4,728	
1	06	02	02			Design Tunnel - Network	5-Sep-06	12-Mar-07		C	SL_CE	Hrs	40			4,728		4,728	
1	06	02	02			Design Far Hall - Network	5-Sep-06	12-Mar-07		C	SL_PHS	Hrs	40			3,060		3,060	
1	06	02	02			Design Far Hall - Network	5-Sep-06	12-Mar-07		C	SL_EE	Hrs	160			18,911		18,911	
1	06	02	02			Design Far Hall - Network	5-Sep-06	12-Mar-07		C	SL_CE	Hrs	160			18,911		18,911	
1	06	02	02			Vendor Fab/Ship Electronics - Network	26-Jun-07	14-Nov-07		C	SA_MSEQ	\$\$		500,000			579,950		579,950
1	06	02	02			Programming Near Hall - Network	13-Mar-07	3-Jul-07		C	SL_CP	Hrs	160			15,352		15,352	
1	06	02	02			Programming Tunnel - Network	13-Mar-07	3-Jul-07		C	SL_CP	Hrs	40			3,838		3,838	
1	06	02	02			Programming Far Hall - Network	13-Mar-07	3-Jul-07		C	SL_CP	Hrs	160			15,352		15,352	
1	06	02	02			Programming FEE - Network	13-Mar-07	3-Jul-07		C	SL_CP	Hrs	160			15,352		15,352	
1	06	02	03			PC Support							1,000	360,000	110,017	424,800	534,817		
1	06	02	03			Specification - PC Support	13-Mar-07	14-May-07		C	SL_EE	Hrs	40			4,747		4,747	
1	06	02	03			Specification - PC Support	13-Mar-07	14-May-07		C	SL_CE	Hrs	40			4,747		4,747	
1	06	02	03			Design Near Hall - PC Support	15-May-07	11-Jul-07		C	SL_EE	Hrs	80			9,494		9,494	
1	06	02	03			Design Near Hall - PC Support	15-May-07	11-Jul-07		C	SL_CE	Hrs	80			9,494		9,494	
1	06	02	03			Prepare Bid Pkg Domain Server - PC Support	7-Sep-07	4-Oct-07		C	SL_EE	Hrs	40			4,771		4,771	
1	06	02	03			Prepare Bid Pkg Domain Server - PC Support	7-Sep-07	4-Oct-07		C	SL_CE	Hrs	40			4,771		4,771	
1	06	02	03			Prepare Bid Pkg File Server - PC Support	7-Sep-07	4-Oct-07		C	SL_EE	Hrs	40			4,771		4,771	
1	06	02	03			Prepare Bid Pkg File Server - PC Support	7-Sep-07	4-Oct-07		C	SL_CE	Hrs	40			4,771		4,771	
1	06	02	03			Design Far Hall - PC Support	12-Jul-07	6-Sep-07		C	SL_PHS	Hrs	40			3,072		3,072	
1	06	02	03			Design Far Hall - PC Support	12-Jul-07	6-Sep-07		C	SL_EE	Hrs	80			9,494		9,494	
1	06	02	03			Design Far Hall - PC Support	12-Jul-07	6-Sep-07		C	SL_CE	Hrs	80			9,494		9,494	
1	06	02	03			Vendor Fab/Ship Domain Server - PC Support	5-Nov-07	15-Feb-08		C	SA_MSEQ	\$\$		60,000			70,800		70,800
1	06	02	03			Vendor Fab/Ship File Server - PC Support	5-Nov-07	15-Feb-08		C	SA_MSEQ	\$\$		100,000			118,000		118,000
1	06	02	03			Programming Near Hall - PC Support	22-May-07	13-Sep-07		C	SL_CP	Hrs	160			15,352		15,352	
1	06	02	03			Programming Far Hall - PC Support	19-Jul-07	8-Nov-07		C	SL_CP	Hrs	160			15,497		15,497	
1	06	02	03			Vendor Fab/Ship PCs/Software/Printer - PC Spt	5-Nov-07	15-Feb-08		C	SA_MSEQ	\$\$		200,000			236,000		236,000
1	06	02	03			Prepare Bid Pkg PCs/Software/Printer - PC Spt	7-Sep-07	4-Oct-07		C	SL_EE	Hrs	40			4,771		4,771	
1	06	02	03			Prepare Bid Pkg PCs/Software/Printer - PC Spt	7-Sep-07	4-Oct-07		C	SL_CE	Hrs	40			4,771		4,771	
1	06	02	04			Beamline Controls							2,288	1,499,000	231,578	1,755,385	1,986,963		
1	06	02	04			Design High Perf Data Storage - Beamline Control	12-Jan-07	9-Feb-07		C	SL_PHS	Hrs	80			6,144		6,144	
1	06	02	04			Design High Perf Data Storage - Beamline Control	12-Jan-07	9-Feb-07		C	SL_EE	Hrs	80			9,494		9,494	
1	06	02	04			Design High Perf Data Storage - Beamline Control	12-Jan-07	9-Feb-07		C	SL_CP	Hrs	80			7,676		7,676	
1	06	02	04			Design High Perf Data Storage - Beamline Control	12-Jan-07	9-Feb-07		C	SL_CE	Hrs	80			9,494		9,494	
1	06	02	04			Specification - Beamline Controls	10-Jul-06	11-Jan-07		C	SL_PHS	Hrs	80			6,067		6,067	
1	06	02	04			Specification - Beamline Controls	10-Jul-06	11-Jan-07		C	SL_EE	Hrs	80			9,375		9,375	
1	06	02	04			Specification - Beamline Controls	10-Jul-06	11-Jan-07		C	SL_CE	Hrs	120			14,063		14,063	
1	06	02	04			Design Near Hall - Beamline Control	12-Jan-07	3-Jul-07		C	SL_PHS	Hrs	80			6,144		6,144	
1	06	02	04			Design Near Hall - Beamline Control	12-Jan-07	3-Jul-07		C	SL_EE	Hrs	80			9,494		9,494	
1	06	02	04			Design Near Hall - Beamline Control	12-Jan-07	3-Jul-07		C	SL_CP	Hrs	160			15,352		15,352	
1	06	02	04			Design Near Hall - Beamline Control	12-Jan-07	3-Jul-07		C	SL_CE	Hrs	160			18,987		18,987	
1	06	02	04			Design Far Hall - Beamline Control	12-Jan-07	3-Jul-07		C	SL_PHS	Hrs	80			6,144		6,144	
1	06	02	04			Design Far Hall - Beamline Control	12-Jan-07	3-Jul-07		C	SL_EE	Hrs	120			14,240		14,240	
1	06	02	04			Design Far Hall - Beamline Control	12-Jan-07	3-Jul-07		C	SL_CP	Hrs	120			11,514		11,514	
1	06	02	04			Design Far Hall - Beamline Control	12-Jan-07	3-Jul-07		C	SL_CE	Hrs	80			9,494		9,494	
1	06	02	04			Prep Bid Pkg Rotate/Transl Stage- Beamline Cntrl	5-Jul-07	1-Aug-07		C	SL_PHS	Hrs	40			3,072		3,072	
1	06	02	04			Prepare Bid Pkg MC Software - Beamline Control	5-Jul-07	1-Aug-07		C	SL_PHS	Hrs	40			3,072		3,072	
1	06	02	04			Prepare Bid Pkg MC Software - Beamline Control	5-Jul-07	1-Aug-07		C	SL_CP	Hrs	40			3,838		3,838	
1	06	02	04			Prep Bid Pkg MC Electronics - Beamline Control	5-Jul-07	1-Aug-07		C	SL_PHS	Hrs	40			3,072		3,072	
1	06	02	04			Prep Bid Pkg MC Electronics - Beamline Control	5-Jul-07	1-Aug-07		C	SL_EE	Hrs	40			4,747		4,747	
1	06	02	04			Vendor Fab/Ship Rotate/Transl Stage - Beam Cntl	20-Sep-07	14-Dec-07		C	SA_MSEQ	\$\$		400,000			470,600		470,600
1	06	02	04			Vendor Fab/Ship MC Software - Beamline Control	20-Sep-07	14-Dec-07		C	SA_MSEQ	\$\$		20,000			23,530		23,530
1	06	02	04			Vendor Fab/Ship MC Electronics - Beamline Cntrl	20-Sep-07	14-Dec-07		C	SA_MSEQ	\$\$		300,000			352,950		352,950
1	06	02	04			Programming Near Hall - Beamline Control	22-Jan-07	14-May-07		C	SL_CP	Hrs	480			46,056		46,056	
1	06	02	04			Specification High Perf Data Storage - Beam Cntl	10-Jul-06	11-Jan-07		C	SL_PHS	Hrs	16			1,213		1,213	
1	06	02	04			Specification High Perf Data Storage - Beam Cntl	10-Jul-06	11-Jan-07		C	SL_EE	Hrs	16			1,875		1,875	

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Run Time: 4/22/05 8:43am													Hours	\$	Labor	M&S	Total (No Conting)	
1	2	3	4	5	6													
1	06	02	04			Specification High Perf Data Storage - Beam Cntl	10-Jul-06	11-Jan-07		C	SL_CP	Hrs	16			1,516		1,516
1	06	02	04			Specification High Perf Data Storage - Beam Cntl	10-Jul-06	11-Jan-07		C	SL_CE	Hrs	40			4,688		4,688
1	06	02	04			Prepare Bid Pkg Data Storage - Beamline Control	5-Jul-07	1-Aug-07		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	04			Vendor Fab/Ship Data Storage - Beamline Ctrl	20-Sep-07	14-Nov-07		C	SA_MSXX	\$\$		100,000			110,650	110,650
1	06	02	04			Vendor Fab/Ship Data Storage - Beamline Ctrl	20-Sep-07	14-Nov-07		C	SA_MSEQ	\$\$		500,000			587,375	587,375
1	06	02	04			Vendor Ship Computers	20-Sep-07	14-Nov-07		C	SA_MSEQ	\$\$		179,000			210,280	210,280
1	06	02	05			X-Ray PPS							6,244	730,000		628,376	839,500	1,467,876
1	06	02	05	01		FEE X-Ray PPS							1,840	100,000		186,141	115,000	301,141
1	06	02	05	01		Prepare Bid Pkg FEE Alarms/Signs - PPS	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	05	01		Vendor Fab/Ship FEE Alarms/Signs - PPS	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$		20,000			23,000	23,000
1	06	02	05	01		Prep Bid Pkg FEE Beam Stop Hardware - X-Ray PPS	2-Oct-06	13-Oct-06		C	SL_ME	Hrs	80			8,919		8,919
1	06	02	05	01		Prep Bid Pkg NH Beam Stop Hardware - X-Ray PPS	2-Oct-06	13-Oct-06		C	SL_ME	Hrs	80			8,919		8,919
1	06	02	05	01		Prepare Bid Pkg FEE Containment/Interlock - PPS	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	05	01		Bid Process NH Beam Stop Hardware - X-Ray PPS	16-Oct-06	12-Dec-06		C	SL_ME	Hrs	80			8,919		8,919
1	06	02	05	01		Assemble FEE Beam Stop Hardware - X-Ray PPS	27-Feb-07	23-Apr-07		C	SL_MFMS	Hrs	80			8,470		8,470
1	06	02	05	01		Assemble FEE Beam Stop Hardware - X-Ray PPS	27-Feb-07	23-Apr-07		C	SL_MFAT	Hrs	320			27,632		27,632
1	06	02	05	01		Assemble FEE Beam Stop Hardware - X-Ray PPS	27-Feb-07	23-Apr-07		C	SL_ME	Hrs	320			35,677		35,677
1	06	02	05	01		Vendor Fab/Ship FEE Containment/Interlock - PPS	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$		10,000			11,500	11,500
1	06	02	05	01		Bid Process FEE Beam Stop Hardware - X-Ray PPS	16-Oct-06	12-Dec-06		C	SL_ME	Hrs	80			8,919		8,919
1	06	02	05	01		Vendor Fab/Ship FEE Beam Stop Hardware-X-Ray PPS	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$		60,000			69,000	69,000
1	06	02	05	01		Design FEE - PPS	27-Mar-06	19-May-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	05	01		Design FEE - PPS	27-Mar-06	19-May-06		C	SL_ME	Hrs	160			17,387		17,387
1	06	02	05	01		Design FEE - PPS	27-Mar-06	19-May-06		C	SL_MDD	Hrs	160			10,318		10,318
1	06	02	05	01		Design FEE - PPS	27-Mar-06	19-May-06		C	SL_CE	Hrs	160			18,506		18,506
1	06	02	05	01		Specification FEE - X-Ray PPS	27-Feb-06	24-Mar-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	05	01		Specification FEE - X-Ray PPS	27-Feb-06	24-Mar-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	05	01		Safety Review FEE - PPS	22-May-06	18-Jul-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	05	01		Safety Review FEE - PPS	22-May-06	18-Jul-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	05	01		Prepare Bid Pkg FEE Detectors - PPS	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	05	01		Vendor Fab/Ship FEE Detectors - PPS	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$		10,000			11,500	11,500
1	06	02	05	02		Near Hall X-Ray PPS							1,520	280,000		150,465	322,000	472,465
1	06	02	05	02		Vendor Fab/Ship NH Beam Stop Hardware-X-Ray PPS	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$		180,000			207,000	207,000
1	06	02	05	02		Assemble NH Beam Stop Hardware - X-Ray PPS	27-Feb-07	23-Apr-07		C	SL_MFMS	Hrs	80			8,470		8,470
1	06	02	05	02		Assemble NH Beam Stop Hardware - X-Ray PPS	27-Feb-07	23-Apr-07		C	SL_MFAT	Hrs	320			27,632		27,632
1	06	02	05	02		Assemble NH Beam Stop Hardware - X-Ray PPS	27-Feb-07	23-Apr-07		C	SL_ME	Hrs	320			35,677		35,677
1	06	02	05	02		Specification Near Hall - X-Ray PPS	27-Feb-06	24-Mar-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	05	02		Specification Near Hall - X-Ray PPS	27-Feb-06	24-Mar-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	05	02		Design Near Hall - X-Ray PPS	27-Mar-06	19-May-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	05	02		Design Near Hall - X-Ray PPS	27-Mar-06	19-May-06		C	SL_ME	Hrs	160			17,387		17,387
1	06	02	05	02		Design Near Hall - X-Ray PPS	27-Mar-06	19-May-06		C	SL_MDD	Hrs	160			10,318		10,318
1	06	02	05	02		Design Near Hall - X-Ray PPS	27-Mar-06	19-May-06		C	SL_CE	Hrs	160			18,506		18,506
1	06	02	05	02		Prepare Bid Pkg Near Hall Alarms/Signs-X-Ray PPS	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	05	02		Prep Bid Pkg NHall Contain/Interlock - X-Ray PPS	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	05	02		Prepare Near Hall Bid Pkg Detectors - X-Ray PPS	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	05	02		Vendor Fab/Ship Near Hall Alarms/Signs-X-Ray PPS	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$		60,000			69,000	69,000
1	06	02	05	02		Vendor Fab/Ship NHall Contain/Interlock-X-Ray PPS	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$		30,000			34,500	34,500
1	06	02	05	02		Vendor Fab/Ship Near Hall Detectors -X-Ray PPS	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$		10,000			11,500	11,500
1	06	02	05	02		Safety Review Near Hall - X-Ray PPS	22-May-06	18-Jul-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	05	02		Safety Review Near Hall - X-Ray PPS	22-May-06	18-Jul-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	05	03		Tunnel X-Ray PPS							1,702	220,000		170,756	253,000	423,756
1	06	02	05	03		Procure Beam Stop Hardware	27-Feb-07	5-Jul-07		C	SL_ME	Hrs	182			20,291		20,291
1	06	02	05	03		Vendor Fab Beam Stop Hardware	2-Oct-06	26-Feb-07		C	SL_MSEQ	\$\$		180,000			207,000	207,000
1	06	02	05	03		Assemble Beam Stop Hardware	6-Jul-07	30-Aug-07		C	SL_MFMS	Hrs	80			8,470		8,470
1	06	02	05	03		Assemble Beam Stop Hardware	6-Jul-07	30-Aug-07		C	SL_MFAT	Hrs	320			27,632		27,632
1	06	02	05	03		Assemble Beam Stop Hardware	6-Jul-07	30-Aug-07		C	SL_ME	Hrs	320			35,677		35,677
1	06	02	05	03		Specification Tunnel - X-Ray PPS	27-Feb-06	24-Mar-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	05	03		Specification Tunnel - X-Ray PPS	27-Feb-06	24-Mar-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	05	03		Design Tunnel - X-Ray PPS	27-Mar-06	19-May-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	05	03		Design Tunnel - X-Ray PPS	27-Mar-06	19-May-06		C	SL_ME	Hrs	160			17,387		17,387
1	06	02	05	03		Design Tunnel - X-Ray PPS	27-Mar-06	19-May-06		C	SL_MDD	Hrs	160			10,318		10,318
1	06	02	05	03		Design Tunnel - X-Ray PPS	27-Mar-06	19-May-06		C	SL_CE	Hrs	160			18,506		18,506
1	06	02	05	03		Prepare Bid Pkg Tunnel Alarms/Signs - X-Ray PPS	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	05	03		Prep Bid Pkg Tunnel Containmt/Interlock-X-Ray PPS	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	05	03		Prepare Bid Pkg Tunnel Detectors - X-Ray PPS	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747

LCLS TPC Detailed Cost Estimate (FY05FY09)

5/5/2005

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost			
Run Time: 4/22/05 8:43am						Description	Start	Finish		Type	Code		Hours	\$	Labor	M&S	Total (No Conting)	
1	06	02	05	03		Vendor Fab/Ship Tunnel Alarms/Signs - X-Ray PPS	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$			20,000		23,000	23,000
1	06	02	05	03		Vendor Ship Tunnel Contain/Interlock-X-RayPPS	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$			10,000		11,500	11,500
1	06	02	05	03		Vendor Fab/Ship Tunnel Detectors - X-Ray PPS	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$			10,000		11,500	11,500
1	06	02	05	03		Safety Review Tunnel - X-Ray PPS	22-May-06	18-Jul-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	05	03		Safety Review Tunnel - X-Ray PPS	22-May-06	18-Jul-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	05	04		Far Hall X-Ray PPS							1,182	130,000	121,014	149,500	270,514	
1	06	02	05	04		Specification Far Hall - PPS	27-Feb-06	24-Mar-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	05	04		Specification Far Hall - PPS	27-Feb-06	24-Mar-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	05	04		Design Far Hall - PPS	27-Mar-06	19-May-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	05	04		Design Far Hall - PPS	27-Mar-06	19-May-06		C	SL_ME	Hrs	80			8,694		8,694
1	06	02	05	04		Design Far Hall - PPS	27-Mar-06	19-May-06		C	SL_MDD	Hrs	80			5,159		5,159
1	06	02	05	04		Design Far Hall - PPS	27-Mar-06	19-May-06		C	SL_CE	Hrs	160			18,506		18,506
1	06	02	05	04		Prepare Bid Pkg Far Hall Alarms/Signs - PPS	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	05	04		Prep Bid Pkg Far Hall Contain/Interlock - PPS	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	05	04		Prepare Far Hall Bid Pkg Detectors - PPS	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	05	04		Vendor Fab/Ship Far Hall Alarms/Signs - PPS	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$			60,000		69,000	69,000
1	06	02	05	04		Vendor Fab/Ship Far Hall Contain/Interlock- PPS	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$			30,000		34,500	34,500
1	06	02	05	04		Vendor Fab/Ship Far Hall Detectors - PPS	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$			10,000		11,500	11,500
1	06	02	05	04		Procure Beam Stop Hardware	2-Oct-06	26-Feb-07		C	SL_ME	Hrs	182			20,291		20,291
1	06	02	05	04		Procure Beam Stop Hardware	27-Feb-07	5-Jul-07		C	SL_MSEQ	\$\$			30,000		34,500	34,500
1	06	02	05	04		Assemble Beam Stop Hardware	6-Jul-07	2-Aug-07		C	SL_MFMS	Hrs	40			4,235		4,235
1	06	02	05	04		Assemble Beam Stop Hardware	6-Jul-07	2-Aug-07		C	SL_MFAT	Hrs	160			13,816		13,816
1	06	02	05	04		Assemble Beam Stop Hardware	6-Jul-07	2-Aug-07		C	SL_ME	Hrs	160			17,838		17,838
1	06	02	05	04		Safety Review Far Hall - PPS	22-May-06	18-Jul-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	05	04		Safety Review Far Hall - PPS	22-May-06	18-Jul-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	06	01		X-Ray MPS							2,240	140,000	221,961	161,000	382,961	
1	06	02	06	01		FEE X-Ray MPS							560	35,000	55,218	40,250	95,468	
1	06	02	06	01		Prepare Bid Pkg FEE Sensors - MPS	19-Jul-06	1-Aug-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	06	01		Vendor Fab/Ship FEE Sensors - MPS	3-Oct-06	29-Nov-06		C	SA_MSEQ	\$\$			10,000		11,500	11,500
1	06	02	06	01		Prepare Bid Pkg FEE Interlocks - MPS	19-Jul-06	1-Aug-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	06	01		Vendor Fab/Ship FEE Interlocks - MPS	3-Oct-06	29-Nov-06		C	SA_MSEQ	\$\$			5,000		5,750	5,750
1	06	02	06	01		Design FEE - MPS	27-Mar-06	19-May-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	06	01		Design FEE - MPS	27-Mar-06	19-May-06		C	SL_ME	Hrs	80			8,694		8,694
1	06	02	06	01		Design FEE - MPS	27-Mar-06	19-May-06		C	SL_MDD	Hrs	80			5,159		5,159
1	06	02	06	01		Design FEE - MPS	27-Mar-06	19-May-06		C	SL_CE	Hrs	80			9,253		9,253
1	06	02	06	01		Specification FEE - MPS	27-Feb-06	24-Mar-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	06	01		Specification FEE - MPS	27-Feb-06	24-Mar-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	06	01		Prepare Bid Pkg FEE Valves - MPS	19-Jul-06	1-Aug-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	06	01		Vendor Fab/Ship FEE Valves - MPS	3-Oct-06	29-Nov-06		C	SA_MSEQ	\$\$			20,000		23,000	23,000
1	06	02	06	01		Safety Review - MPS	22-May-06	18-Jul-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	06	01		Safety Review - MPS	22-May-06	18-Jul-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	06	02		Near Hall X-Ray MPS							560	35,000	55,581	40,250	95,831	
1	06	02	06	02		Specification Near Hall - MPS	27-Feb-06	24-Mar-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	06	02		Specification Near Hall - MPS	27-Feb-06	24-Mar-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	06	02		Design Near Hall - MPS	27-Mar-06	19-May-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	06	02		Design Near Hall - MPS	27-Mar-06	19-May-06		C	SL_ME	Hrs	80			8,694		8,694
1	06	02	06	02		Design Near Hall - MPS	27-Mar-06	19-May-06		C	SL_MDD	Hrs	80			5,159		5,159
1	06	02	06	02		Design Near Hall - MPS	27-Mar-06	19-May-06		C	SL_CE	Hrs	80			9,253		9,253
1	06	02	06	02		Prepare Bid Pkg Near Hall Sensors - MPS	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	06	02		Prep Bid Pkg Near Hall Interlocks - MPS	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	06	02		Prepare Near Hall Bid Pkg Valves - MPS	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	06	02		Vendor Fab/Ship Near Hall Sensors - MPS	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$			10,000		11,500	11,500
1	06	02	06	02		Vendor Fab/Ship Near Hall Interlocks- MPS	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$			5,000		5,750	5,750
1	06	02	06	02		Vendor Fab/Ship Near Hall Valves - MPS	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$			20,000		23,000	23,000
1	06	02	06	02		Safety Review - MPS	22-May-06	18-Jul-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	06	02		Safety Review - MPS	22-May-06	18-Jul-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	06	03		Tunnel X-Ray MPS							560	35,000	55,581	40,250	95,831	
1	06	02	06	03		Specification Tunnel - MPS	27-Feb-06	24-Mar-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	06	03		Specification Tunnel - MPS	27-Feb-06	24-Mar-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	06	03		Design Tunnel - MPS	27-Mar-06	19-May-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	06	03		Design Tunnel - MPS	27-Mar-06	19-May-06		C	SL_ME	Hrs	80			8,694		8,694
1	06	02	06	03		Design Tunnel - MPS	27-Mar-06	19-May-06		C	SL_MDD	Hrs	80			5,159		5,159
1	06	02	06	03		Design Tunnel - MPS	27-Mar-06	19-May-06		C	SL_CE	Hrs	80			9,253		9,253
1	06	02	06	03		Prepare Bid Pkg Tunnel Sensors - MPS	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747

LCLS TPC Detailed Cost Estimate (FY05FY09)

5/5/2005

WBS Level				LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost			
Run Time: 4/22/05 8:43am				Description	Start	Finish		Type	Code		Hours	\$	Labor	M&S	Total (No Conting)	
1	06	02	06	03	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	06	03	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	06	03	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$		10,000			11,500	11,500
1	06	02	06	03	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$		5,000			5,750	5,750
1	06	02	06	03	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$		20,000			23,000	23,000
1	06	02	06	03	22-May-06	18-Jul-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	06	03	22-May-06	18-Jul-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	06	04							560	35,000	55,581	40,250	95,831	
1	06	02	06	04	27-Feb-06	24-Mar-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	06	04	27-Feb-06	24-Mar-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	06	04	27-Mar-06	19-May-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	06	04	27-Mar-06	19-May-06		C	SL_ME	Hrs	80			8,694		8,694
1	06	02	06	04	27-Mar-06	19-May-06		C	SL_MDD	Hrs	80			5,159		5,159
1	06	02	06	04	27-Mar-06	19-May-06		C	SL_CE	Hrs	80			9,253		9,253
1	06	02	06	04	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	06	04	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	06	04	2-Oct-06	13-Oct-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	06	04	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$		10,000			11,500	11,500
1	06	02	06	04	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$		5,000			5,750	5,750
1	06	02	06	04	14-Dec-06	26-Feb-07		C	SA_MSEQ	\$\$		20,000			23,000	23,000
1	06	02	06	04	22-May-06	18-Jul-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	06	04	22-May-06	18-Jul-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	07								920	35,000	91,321	40,250	131,571	
1	06	02	07	01							440	15,000	43,287	17,250	60,537	
1	06	02	07	01	19-Jul-06	15-Aug-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	07	01	16-Aug-06	11-Oct-06		C	SL_PHS	Hrs	120			9,029		9,029
1	06	02	07	01	16-Aug-06	11-Oct-06		C	SL_CE	Hrs	120			13,951		13,951
1	06	02	07	01	12-Oct-06	8-Dec-06		C	SL_PHS	Hrs	40			3,072		3,072
1	06	02	07	01	12-Oct-06	8-Dec-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	07	01	11-Dec-06	8-Jan-07		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	07	01	11-Dec-06	8-Jan-07		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	07	01	9-Mar-07	3-May-07		C	SA_MSEQ	\$\$		10,000			11,500	11,500
1	06	02	07	01	9-Mar-07	3-May-07		C	SA_MSEQ	\$\$		5,000			5,750	5,750
1	06	02	07	02							480	20,000	48,034	23,000	71,034	
1	06	02	07	02	19-Jul-06	15-Aug-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	07	02	16-Aug-06	11-Oct-06		C	SL_PHS	Hrs	120			9,029		9,029
1	06	02	07	02	16-Aug-06	11-Oct-06		C	SL_CE	Hrs	120			13,951		13,951
1	06	02	07	02	12-Oct-06	8-Dec-06		C	SL_PHS	Hrs	40			3,072		3,072
1	06	02	07	02	12-Oct-06	8-Dec-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	07	02	11-Dec-06	8-Jan-07		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	07	02	11-Dec-06	8-Jan-07		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	07	02	11-Dec-06	8-Jan-07		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	07	02	9-Mar-07	3-May-07		C	SA_MSEQ	\$\$		10,000			11,500	11,500
1	06	02	07	02	9-Mar-07	3-May-07		C	SA_MSEQ	\$\$		5,000			5,750	5,750
1	06	02	07	02	9-Mar-07	3-May-07		C	SA_MSEQ	\$\$		5,000			5,750	5,750
1	06	02	08								704	50,000	69,590	57,500	127,090	
1	06	02	08	01							400	25,000	39,676	28,750	68,426	
1	06	02	08	01	19-Jul-06	15-Aug-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	02	08	01	16-Aug-06	11-Oct-06		C	SL_PHS	Hrs	40			3,010		3,010
1	06	02	08	01	16-Aug-06	11-Oct-06		C	SL_ME	Hrs	40			4,369		4,369
1	06	02	08	01	16-Aug-06	11-Oct-06		C	SL_MDD	Hrs	40			2,593		2,593
1	06	02	08	01	16-Aug-06	11-Oct-06		C	SL_CE	Hrs	40			4,650		4,650
1	06	02	08	01	12-Oct-06	8-Dec-06		C	SL_PHS	Hrs	40			3,072		3,072
1	06	02	08	01	12-Oct-06	8-Dec-06		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	08	01	11-Dec-06	8-Jan-07		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	08	01	11-Dec-06	8-Jan-07		C	SL_CE	Hrs	40			4,747		4,747
1	06	02	08	01	9-Mar-07	3-May-07		C	SA_MSEQ	\$\$		5,000			5,750	5,750
1	06	02	08	01	9-Mar-07	3-May-07		C	SA_MSEQ	\$\$		5,000			5,750	5,750
1	06	02	08	01	9-Mar-07	3-May-07		C	SA_MSEQ	\$\$		15,000			17,250	17,250
1	06	02	08	02							304	25,000	29,914	28,750	58,664	
1	06	02	08	02	19-Jul-06	15-Aug-06		C	SL_CE	Hrs	40			4,626		4,626
1	06	02	08	02	16-Aug-06	11-Oct-06		C	SL_PHS	Hrs	40			3,010		3,010
1	06	02	08	02	16-Aug-06	11-Oct-06		C	SL_ME	Hrs	40			4,369		4,369

LCLS TPC Detailed Cost Estimate (FY05FY09)

5/5/2005

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/22/05 8:43am						Description	Start	Finish		Type	Code		Hours	\$\$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	06	02	08	02		Design Far Hall - User Safeguards	16-Aug-06	11-Oct-06		C	SL_MDD	Hrs	40		2,593		2,593
1	06	02	08	02		Design Far Hall - User Safeguards	16-Aug-06	11-Oct-06		C	SL_CE	Hrs	40		4,650		4,650
1	06	02	08	02		Safety Review Far Hall - User Safeguards	12-Oct-06	8-Dec-06		C	SL_PHS	Hrs	40		3,072		3,072
1	06	02	08	02		Safety Review Far Hall - User Safeguards	12-Oct-06	8-Dec-06		C	SL_CE	Hrs	40		4,747		4,747
1	06	02	08	02		Prep Bid Pkg Far Hall Alarms/Signs - User Safegu	11-Dec-06	8-Jan-07		C	SL_CE	Hrs	8		949		949
1	06	02	08	02		Prep Bid Pkg Far Hall Interlock - User Safeguard	11-Dec-06	8-Jan-07		C	SL_CE	Hrs	8		949		949
1	06	02	08	02		Prepare Far Hall Bid Pkg Detectors - User Safegu	11-Dec-06	8-Jan-07		C	SL_CE	Hrs	8		949		949
1	06	02	08	02		Vendor Fab/Ship Far Hall Alarm/Sign - User Safeg	9-Mar-07	3-May-07		C	SA_MSEQ	\$\$		5,000		5,750	5,750
1	06	02	08	02		Vendor Ship Far Hall Contain/Intrick-User Safegu	9-Mar-07	3-May-07		C	SA_MSEQ	\$\$		5,000		5,750	5,750
1	06	02	08	02		Vendor Fab/Ship Far Hall Detectors - User Safegu	9-Mar-07	3-May-07		C	SA_MSEQ	\$\$		15,000		17,250	17,250
1	06	03				Mechanical/Vacuum Subsystem							3,600	280,000	363,568	329,800	693,368
1	06	03	01			Chamber Support Tables - Mech/Vac							640	20,000	63,760	23,000	86,760
1	06	03	01			Specification - Chamber Spt Table	27-Feb-07	23-Apr-07		C	SL_PHS	Hrs	40		3,072		3,072
1	06	03	01			Specification - Chamber Spt Table	27-Feb-07	23-Apr-07		C	SL_ME	Hrs	40		4,460		4,460
1	06	03	01			Design - Chamber Spt Table	24-Apr-07	19-Jun-07		C	SL_PHS	Hrs	40		3,072		3,072
1	06	03	01			Design - Chamber Spt Table	24-Apr-07	19-Jun-07		C	SL_ME	Hrs	160		17,838		17,838
1	06	03	01			Design Review - Chamber Spt Table	20-Jun-07	26-Jun-07		C	SL_PHS	Hrs	40		3,072		3,072
1	06	03	01			Design Review - Chamber Spt Table	20-Jun-07	26-Jun-07		C	SL_ME	Hrs	40		4,460		4,460
1	06	03	01			Prep Bid Pkg Metal Products - Chamber Spt Table	27-Jun-07	3-Jul-07		C	SL_ME	Hrs	40		4,460		4,460
1	06	03	01			Vendor Fab/Ship Metal Products-Chamber Spt Table	3-Aug-07	28-Sep-07		C	SA_MSEQ	\$\$		20,000		23,000	23,000
1	06	03	01			Assemble Far Hall - Chamber Spt Table	11-Mar-08	1-Jul-08		C	SL_MFAT	Hrs	80		7,087		7,087
1	06	03	01			Assemble Far Hall - Chamber Spt Table	11-Mar-08	1-Jul-08		C	SL_ME	Hrs	40		4,576		4,576
1	06	03	01			Assemble Near Hall - Chamber Spt Table	1-Oct-07	8-Feb-08		C	SL_MFAT	Hrs	80		7,087		7,087
1	06	03	01			Assemble Near Hall - Chamber Spt Table	1-Oct-07	8-Feb-08		C	SL_ME	Hrs	40		4,576		4,576
1	06	03	02			Vacuum Components - Mech/Vac							2,080	210,000	211,618	247,800	459,418
1	06	03	02	01		Valves - Vacuum							600	100,000	60,109	118,000	178,109
1	06	03	02	01		Specification Valve - Vacuum	23-Aug-07	18-Oct-07		C	SL_PHS	Hrs	40		3,100		3,100
1	06	03	02	01		Specification Valve - Vacuum	23-Aug-07	18-Oct-07		C	SL_MVE	Hrs	40		4,500		4,500
1	06	03	02	01		Design Valve - Vacuum	19-Oct-07	2-Jan-08		C	SL_PHS	Hrs	40		3,152		3,152
1	06	03	02	01		Design Valve - Vacuum	19-Oct-07	2-Jan-08		C	SL_MVE	Hrs	80		9,151		9,151
1	06	03	02	01		Design Review Valves - Vacuum	3-Jan-08	9-Jan-08		C	SL_PHS	Hrs	40		3,152		3,152
1	06	03	02	01		Design Review Valves - Vacuum	3-Jan-08	9-Jan-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	03	02	01		Prep Bid Pkg Isolation Valve - Vacuum	10-Jan-08	16-Jan-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	03	02	01		Vendor Fab/Ship Isolation Valve - Vacuum	19-Feb-08	14-Apr-08		C	SA_MSEQ	\$\$		50,000		59,000	59,000
1	06	03	02	01		Assemble Near Hall Valve - Vacuum	16-Apr-08	13-May-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	03	02	01		Assemble Near Hall Valve - Vacuum	16-Apr-08	13-May-08		C	SL_MFAT	Hrs	80		7,087		7,087
1	06	03	02	01		Prep Bid Pkg Beryllium Valve - Vacuum	10-Jan-08	16-Jan-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	03	02	01		Vendor Fab/Ship Beryllium Valve - Vacuum	19-Feb-08	14-Apr-08		C	SA_MSEQ	\$\$		50,000		59,000	59,000
1	06	03	02	01		Assemble Far Hall Valve - Vacuum	16-Apr-08	13-May-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	03	02	01		Assemble Far Hall Valve - Vacuum	16-Apr-08	13-May-08		C	SL_MFAT	Hrs	80		7,087		7,087
1	06	03	02	02		Hardware - Vacuum							520	25,000	52,381	29,500	81,881
1	06	03	02	02		Specification - Vacuum Hardware	23-Aug-07	18-Oct-07		C	SL_PHS	Hrs	40		3,100		3,100
1	06	03	02	02		Specification - Vacuum Hardware	23-Aug-07	18-Oct-07		C	SL_MVE	Hrs	40		4,500		4,500
1	06	03	02	02		Design - Vacuum Hardware	19-Oct-07	2-Jan-08		C	SL_MVE	Hrs	80		9,151		9,151
1	06	03	02	02		Design Review - Vacuum Hardware	3-Jan-08	9-Jan-08		C	SL_PHS	Hrs	40		3,152		3,152
1	06	03	02	02		Design Review - Vacuum Hardware	3-Jan-08	9-Jan-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	03	02	02		Prep Bid Pkg - Vacuum Hardware	10-Jan-08	16-Jan-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	03	02	02		Vendor Fab/Ship - Vacuum Hardware	19-Feb-08	14-Apr-08		C	SA_MSEQ	\$\$		25,000		29,500	29,500
1	06	03	02	02		Assemble Near Hall - Vacuum Hardware	15-Apr-08	12-May-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	03	02	02		Assemble Near Hall - Vacuum Hardware	15-Apr-08	12-May-08		C	SL_MFAT	Hrs	80		7,087		7,087
1	06	03	02	02		Assemble Far Hall - Vacuum Hardware	15-Apr-08	12-May-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	03	02	02		Assemble Far Hall - Vacuum Hardware	15-Apr-08	12-May-08		C	SL_MFAT	Hrs	80		7,087		7,087
1	06	03	02	03		Ion Pump - Vacuum							360	25,000	37,619	29,500	67,119
1	06	03	02	03		Specification Ion Pump - Vacuum	23-Aug-07	18-Oct-07		C	SL_MVE	Hrs	40		4,500		4,500
1	06	03	02	03		Design Ion Pump - Vacuum	19-Oct-07	2-Jan-08		C	SL_MVE	Hrs	80		9,151		9,151
1	06	03	02	03		Design Review Ion Pump - Vacuum	3-Jan-08	9-Jan-08		C	SL_PHS	Hrs	40		3,152		3,152
1	06	03	02	03		Design Review Ion Pump - Vacuum	3-Jan-08	9-Jan-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	03	02	03		Vendor Fab/Ship Ion Pump - Vacuum	19-Feb-08	14-Apr-08		C	SA_MSEQ	\$\$		25,000		29,500	29,500
1	06	03	02	03		Assemble Far Hall Ion Pump - Vacuum	15-Apr-08	12-May-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	03	02	03		Assemble Far Hall Ion Pump - Vacuum	15-Apr-08	12-May-08		C	SL_MFAT	Hrs	40		3,544		3,544
1	06	03	02	03		Assemble Near Hall Ion Pump - Vacuum	15-Apr-08	12-May-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	03	02	03		Assemble Near Hall Ion Pump - Vacuum	15-Apr-08	12-May-08		C	SL_MFAT	Hrs	40		3,544		3,544
1	06	03	02	04		Turbo Pump - Vacuum							400	50,000	40,130	59,000	99,130
1	06	03	02	04		Specification Turbo Pump - Vacuum	23-Aug-07	18-Oct-07		C	SL_MVE	Hrs	40		4,500		4,500

LCLS TPC Detailed Cost Estimate (FY05FY09)

5/5/2005

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost			
Run Time: 4/22/05 8:43am						Description	Start	Finish		Type	Code		Hours	\$	Labor	M&S	Total (No Conting)	
1	06	03	02	04	6	Design Turbo Pump - Vacuum	19-Oct-07	2-Jan-08		C	SL_MVE	Hrs	40			4,576		4,576
1	06	03	02	04		Design Review Turbo Pump - Vacuum	3-Jan-08	9-Jan-08		C	SL_PHS	Hrs	40			3,152		3,152
1	06	03	02	04		Design Review Turbo Pump - Vacuum	3-Jan-08	9-Jan-08		C	SL_MVE	Hrs	40			4,576		4,576
1	06	03	02	04		Prep Bid Pkg Turbo Pump - Vacuum	10-Jan-08	16-Jan-08		C	SL_MVE	Hrs	40			4,576		4,576
1	06	03	02	04		Vendor Fab/Ship Turbo Pump - Vacuum	19-Feb-08	14-Apr-08		C	SA_MSEQ	\$\$		50,000			59,000	59,000
1	06	03	02	04		Assemble NH Turbo Pump - Vacuum	15-Apr-08	12-May-08		C	SL_MVE	Hrs	20			2,288		2,288
1	06	03	02	04		Assemble NH Turbo Pump - Vacuum	15-Apr-08	12-May-08		C	SL_MFAT	Hrs	80			7,087		7,087
1	06	03	02	04		Assemble FH Turbo Pump - Vacuum	15-Apr-08	12-May-08		C	SL_MVE	Hrs	20			2,288		2,288
1	06	03	02	04		Assemble FH Turbo Pump - Vacuum	15-Apr-08	12-May-08		C	SL_MFAT	Hrs	80			7,087		7,087
1	06	03	02	05		Gauges - Vacuum							200	10,000	21,379	11,800	33,179	
1	06	03	02	05		Specification Gauges - Vacuum	23-Aug-07	18-Oct-07		C	SL_MVE	Hrs	40			4,500		4,500
1	06	03	02	05		Design Gauges - Vacuum	19-Oct-07	2-Jan-08		C	SL_MVE	Hrs	80			9,151		9,151
1	06	03	02	05		Design Review Gauges - Vacuum	3-Jan-08	9-Jan-08		C	SL_PHS	Hrs	40			3,152		3,152
1	06	03	02	05		Design Review Gauges - Vacuum	3-Jan-08	9-Jan-08		C	SL_MVE	Hrs	40			4,576		4,576
1	06	03	02	05		Vendor Fab/Ship Gauges - Vacuum	19-Feb-08	14-Apr-08		C	SA_MSEQ	\$\$		10,000			11,800	11,800
1	06	03	03			Experimental Chambers							880	50,000	88,190	59,000	147,190	
1	06	03	03	01		Near Hall Experimental Chamber							440	25,000	44,095	29,500	73,595	
1	06	03	03	01		Specification Near Hall - Experimental Chamber	27-Feb-07	23-Apr-07		C	SL_PHS	Hrs	40			3,072		3,072
1	06	03	03	01		Specification Near Hall - Experimental Chamber	27-Feb-07	23-Apr-07		C	SL_MVE	Hrs	40			4,460		4,460
1	06	03	03	01		Design Near Hall - Experimental Chamber	24-Apr-07	15-Aug-07		C	SL_PHS	Hrs	40			3,072		3,072
1	06	03	03	01		Design Near Hall - Experimental Chamber	24-Apr-07	15-Aug-07		C	SL_MVE	Hrs	120			13,379		13,379
1	06	03	03	01		Design Review Near Hall - Experimental Chamber	16-Aug-07	22-Aug-07		C	SL_PHS	Hrs	40			3,072		3,072
1	06	03	03	01		Design Review Near Hall - Experimental Chamber	16-Aug-07	22-Aug-07		C	SL_MVE	Hrs	40			4,460		4,460
1	06	03	03	01		Prep Bid Pkg Near Hall - Experimental Chamber	23-Aug-07	29-Aug-07		C	SL_MVE	Hrs	40			4,460		4,460
1	06	03	03	01		Vendor Fab/Ship Near Hall - Experimental Chamber	1-Oct-07	27-Nov-07		C	SA_MSEQ	\$\$		25,000			29,500	29,500
1	06	03	03	01		Assemble Near Hall - Experimental Chamber	28-Nov-07	7-Apr-08		C	SL_MVE	Hrs	40			4,576		4,576
1	06	03	03	01		Assemble Near Hall - Experimental Chamber	28-Nov-07	7-Apr-08		C	SL_MFAT	Hrs	40			3,544		3,544
1	06	03	03	02		Far Hall Experimental Chamber							440	25,000	44,095	29,500	73,595	
1	06	03	03	02		Specification Far Hall - Experimental Chamber	27-Feb-07	23-Apr-07		C	SL_PHS	Hrs	40			3,072		3,072
1	06	03	03	02		Specification Far Hall - Experimental Chamber	27-Feb-07	23-Apr-07		C	SL_MVE	Hrs	40			4,460		4,460
1	06	03	03	02		Design Far Hall - Experimental Chamber	24-Apr-07	15-Aug-07		C	SL_PHS	Hrs	40			3,072		3,072
1	06	03	03	02		Design Far Hall - Experimental Chamber	24-Apr-07	15-Aug-07		C	SL_MVE	Hrs	120			13,379		13,379
1	06	03	03	02		Design Review Far Hall - Experimental Chamber	16-Aug-07	22-Aug-07		C	SL_PHS	Hrs	40			3,072		3,072
1	06	03	03	02		Design Review Far Hall - Experimental Chamber	16-Aug-07	22-Aug-07		C	SL_MVE	Hrs	40			4,460		4,460
1	06	03	03	02		Prep Bid Pkg Far Hall - Experimental Chamber	23-Aug-07	29-Aug-07		C	SL_MVE	Hrs	40			4,460		4,460
1	06	03	03	02		Vendor Fab/Ship Far Hall - Experimental Chamber	1-Oct-07	27-Nov-07		C	SA_MSEQ	\$\$		25,000			29,500	29,500
1	06	03	03	02		Assemble Far Hall - Experimental Chamber	28-Nov-07	7-Apr-08		C	SL_MVE	Hrs	40			4,576		4,576
1	06	03	03	02		Assemble Far Hall - Experimental Chamber	28-Nov-07	7-Apr-08		C	SL_MFAT	Hrs	40			3,544		3,544
1	06	04				Laser Subsystem							4,000	820,600	384,591	950,447	1,335,038	
1	06	04	01			Oscillator Laser & Pump							976	200,000	94,522	232,200	326,722	
1	06	04	01	01		Near Hall Oscillator Laser & Pump							448	100,000	43,252	116,100	159,352	
1	06	04	01	01		Specification Near Hall - Oscillator Laser/Pump	27-Feb-06	21-Apr-06		C	SL_PHS	Hrs	40			2,994		2,994
1	06	04	01	01		Specification Near Hall - Oscillator Laser/Pump	27-Feb-06	21-Apr-06		C	SL_EE	Hrs	40			4,626		4,626
1	06	04	01	01		Design Near Hall - Oscillator Laser/Pump	23-Oct-06	2-Mar-07		C	SL_PHS	Hrs	160			12,288		12,288
1	06	04	01	01		Design Near Hall - Oscillator Laser/Pump	23-Oct-06	2-Mar-07		C	SL_EE	Hrs	160			18,987		18,987
1	06	04	01	01		Design Review Near Hall - Oscillator Laser/Pump	5-Mar-07	16-Mar-07		C	SL_PHS	Hrs	16			1,229		1,229
1	06	04	01	01		Design Review Near Hall - Oscillator Laser/Pump	5-Mar-07	16-Mar-07		C	SL_EE	Hrs	16			1,899		1,899
1	06	04	01	01		Prep Bid Pkg Near Hall - Oscillator Laser/Pump	19-Mar-07	30-Mar-07		C	SL_PHS	Hrs	16			1,229		1,229
1	06	04	01	01		Vendor Fab/Ship Near Hall - Oscillator Laser/Pum	13-Jun-07	3-Dec-07		C	SA_MSEQ	\$\$		100,000			116,100	116,100
1	06	04	01	02		Far Hall Oscillator Laser & Pump							528	100,000	51,270	116,100	167,370	
1	06	04	01	02		Specification Far Hall - Oscillator Laser/Pump	23-Oct-06	3-Jan-07		C	SL_PHS	Hrs	80			6,144		6,144
1	06	04	01	02		Specification Far Hall - Oscillator Laser/Pump	23-Oct-06	3-Jan-07		C	SL_EE	Hrs	80			9,494		9,494
1	06	04	01	02		Design Far Hall - Oscillator Laser/Pump	4-Jan-07	27-Apr-07		C	SL_PHS	Hrs	160			12,288		12,288
1	06	04	01	02		Design Far Hall - Oscillator Laser/Pump	4-Jan-07	27-Apr-07		C	SL_EE	Hrs	160			18,987		18,987
1	06	04	01	02		Design Review Far Hall - Oscillator Laser/Pump	30-Apr-07	4-May-07		C	SL_PHS	Hrs	16			1,229		1,229
1	06	04	01	02		Design Review Far Hall - Oscillator Laser/Pump	30-Apr-07	4-May-07		C	SL_EE	Hrs	16			1,899		1,899
1	06	04	01	02		Prep Bid Pkg Far Hall - Oscillator Laser/Pump	7-May-07	11-May-07		C	SL_PHS	Hrs	16			1,229		1,229
1	06	04	01	02		Vendor Fab/Ship Far Hall - Oscillator Laser/Pump	13-Jun-07	3-Dec-07		C	SA_MSEQ	\$\$		100,000			116,100	116,100
1	06	04	02			Laser Diagnostics							760	118,600	73,443	137,635	211,078	
1	06	04	02			Specification - Laser Diagnostics	4-Jan-07	30-Mar-07		C	SL_PHS	Hrs	240			18,432		18,432
1	06	04	02			Specification - Laser Diagnostics	4-Jan-07	30-Mar-07		C	SL_EE	Hrs	240			28,481		28,481
1	06	04	02			Design - Laser Diagnostics	2-Apr-07	25-May-07		C	SL_PHS	Hrs	40			3,072		3,072
1	06	04	02			Design - Laser Diagnostics	2-Apr-07	25-May-07		C	SL_PCE	Hrs	40			4,747		4,747
1	06	04	02			Design - Laser Diagnostics	2-Apr-07	25-May-07		C	SL_EE	Hrs	40			4,747		4,747

LCLS TPC Detailed Cost Estimate (FY05FY09)

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WBS Level						LCLA DCE March-2005 Description	Early Start	Early Finish	OBS	Fund Type	Res Code	Units	Budgeted Quantity		Fully Burdened and Escalated Cost				
Run Time: 4/22/05 8:43am													Hours	\$	Labor	M&S	Total (No Conting)		
1	2	3	4	5	6														
1	06	05	01			Design Review - Beam Imaging	16-Oct-06	20-Oct-06		C	SL_EE	Hrs	16				1,899		1,899
1	06	05	01			Prep Bid Pkg - Beam Imaging	23-Oct-06	27-Oct-06		C	SL_PHS	Hrs	8				614		614
1	06	05	01			Vendor Fab/Ship - Beam Imaging	30-Nov-06	9-Apr-07		C	SA_MSEQ	\$\$		300,000				345,000	345,000
1	06	05	01			Assemble - Beam Imaging	10-Apr-07	16-Apr-07		C	SL_PHS	Hrs	40				3,072		3,072
1	06	05	01			Assemble - Beam Imaging	10-Apr-07	16-Apr-07		C	SL_EE	Hrs	40				4,747		4,747
1	06	05	02			2-D X-Ray Detector								1,610,000			1,766,600		1,766,600
1	06	05	02			FY-06 Vendor Contract - Prototype-2-D X-Ray Det	3-Oct-05	11-Jul-06		C	SA_MSXX	\$\$		410,000				434,600	434,600
1	06	05	02			FY-08 Vendor Contract - 2-D X-Ray Detector	1-Oct-07	25-Sep-08		C	SA_MSXX	\$\$		1,200,000				1,332,000	1,332,000
1	06	05	03			Beam Intensity							760	50,000			72,531	57,500	130,031
1	06	05	03			Specification - Beam Intensity	2-Oct-06	28-Nov-06		C	SL_PHS	Hrs	80				6,144		6,144
1	06	05	03			Specification - Beam Intensity	2-Oct-06	28-Nov-06		C	SL_EE	Hrs	80				9,494		9,494
1	06	05	03			Design - Beam Intensity	29-Nov-06	8-Feb-07		C	SL_PHS	Hrs	120				9,216		9,216
1	06	05	03			Design - Beam Intensity	29-Nov-06	8-Feb-07		C	SL_EE	Hrs	120				14,240		14,240
1	06	05	03			Design Review - Beam Intensity	9-Feb-07	15-Feb-07		C	SL_PHS	Hrs	40				3,072		3,072
1	06	05	03			Design Review - Beam Intensity	9-Feb-07	15-Feb-07		C	SL_EE	Hrs	40				4,747		4,747
1	06	05	03			Prep Bid Pkg - Beam Intensity	16-Feb-07	23-Feb-07		C	SL_PHS	Hrs	40				3,072		3,072
1	06	05	03			Vendor Fab/Ship - Beam Intensity	27-Mar-07	21-May-07		C	SA_MSEQ	\$\$		50,000				57,500	57,500
1	06	05	03			Assemble - Beam Intensity	22-May-07	13-Sep-07		C	SL_PHS	Hrs	80				6,144		6,144
1	06	05	03			Assemble - Beam Intensity	22-May-07	13-Sep-07		C	SL_MFAT	Hrs	80				6,908		6,908
1	06	05	03			Assemble - Beam Intensity	22-May-07	13-Sep-07		C	SL_EE	Hrs	80				9,494		9,494
1	06	05	04			Streak Camera							920	300,000			90,394	348,060	438,454
1	06	05	04			Specification - Streak Camera	6-Jun-06	1-Aug-06		C	SL_PHS	Hrs	40				2,994		2,994
1	06	05	04			Specification - Streak Camera	6-Jun-06	1-Aug-06		C	SL_EE	Hrs	40				4,626		4,626
1	06	05	04			Preliminary Design - Streak Camera	2-Aug-06	27-Sep-06		C	SL_PHS	Hrs	80				5,988		5,988
1	06	05	04			Preliminary Design - Streak Camera	2-Aug-06	27-Sep-06		C	SL_EE	Hrs	80				9,253		9,253
1	06	05	04			Preliminary Design Review - Streak Camera	2-Oct-06	6-Oct-06		C	SL_PHS	Hrs	40				3,072		3,072
1	06	05	04			Preliminary Design Review - Streak Camera	2-Oct-06	6-Oct-06		C	SL_EE	Hrs	40				4,747		4,747
1	06	05	04			Prep Bid Pkg - Streak Camera	13-Dec-06	3-Jan-07		C	SL_PHS	Hrs	40				3,072		3,072
1	06	05	04			Prep Bid Pkg - Streak Camera	13-Dec-06	3-Jan-07		C	SL_EE	Hrs	40				4,747		4,747
1	06	05	04			Inspect/Vendor Setup - Streak Camera	28-Apr-08	23-Jun-08		C	SL_PHS	Hrs	40				3,152		3,152
1	06	05	04			Inspect/Vendor Setup - Streak Camera	28-Apr-08	23-Jun-08		C	SL_ME	Hrs	40				4,576		4,576
1	06	05	04			Inspect/Vendor Setup - Streak Camera	28-Apr-08	23-Jun-08		C	SL_EE	Hrs	40				4,870		4,870
1	06	05	04			Assemble at SLAC - Streak Camera	3-Mar-08	25-Apr-08		C	SL_PHS	Hrs	40				3,152		3,152
1	06	05	04			Assemble at SLAC - Streak Camera	3-Mar-08	25-Apr-08		C	SL_EE	Hrs	40				4,870		4,870
1	06	05	04			Vendor Contract 100% Complete - Streak Camera	27-Jun-07	15-Nov-07		C	SA_MSEQ	\$\$		300,000				348,060	348,060
1	06	05	04			Final Design - Streak Camera	9-Oct-06	5-Dec-06		C	SL_PHS	Hrs	120				9,216		9,216
1	06	05	04			Final Design - Streak Camera	9-Oct-06	5-Dec-06		C	SL_EE	Hrs	120				14,240		14,240
1	06	05	04			Final Design Review - Streak Camera	6-Dec-06	12-Dec-06		C	SL_PHS	Hrs	40				3,072		3,072
1	06	05	04			Final Design Review - Streak Camera	6-Dec-06	12-Dec-06		C	SL_EE	Hrs	40				4,747		4,747
1	06	06				System Installation & Alignment							19,670	-		1,959,231	-	1,959,231	
1	06	06	01			Front End Install							3,112	-		310,120	-	310,120	
1	06	06	01			Install FEE Racks & Panels - Cabling	27-Nov-07	7-Feb-08		C	SL_TMUE	Hrs	160				16,674		16,674
1	06	06	01			Install FEE Racks & Panels - Cabling	27-Nov-07	7-Feb-08		C	SL_CT	Hrs	40				2,667		2,667
1	06	06	01			Install FEE Racks & Panels - Cabling	27-Nov-07	7-Feb-08		C	SL_CE	Hrs	40				4,870		4,870
1	06	06	01			Test FEE - Cabling	15-Feb-08	29-Feb-08		C	SL_PHS	Hrs	40				3,152		3,152
1	06	06	01			Test FEE - Cabling	15-Feb-08	29-Feb-08		C	SL_CE	Hrs	40				4,870		4,870
1	06	06	01			Install FEE Cables - Cabling	4-Dec-07	14-Feb-08		C	SL_TMUE	Hrs	160				16,674		16,674
1	06	06	01			Install FEE Cables - Cabling	4-Dec-07	14-Feb-08		C	SL_CT	Hrs	40				2,667		2,667
1	06	06	01			Install FEE Cables - Cabling	4-Dec-07	14-Feb-08		C	SL_CE	Hrs	40				4,870		4,870
1	06	06	01			Install FEE Alarms/Signs - PPS	16-Nov-07	31-Jan-08		C	SL_TMUE	Hrs	40				4,168		4,168
1	06	06	01			Install FEE Alarms/Signs - PPS	16-Nov-07	31-Jan-08		C	SL_CE	Hrs	40				4,870		4,870
1	06	06	01			Install FEE Beam Stop Hardware	24-Apr-07	21-May-07		C	SL_MFAT	Hrs	160				13,816		13,816
1	06	06	01			Install FEE Beam Stop Hardware	24-Apr-07	21-May-07		C	SL_ME	Hrs	160				17,838		17,838
1	06	06	01			Install Cable Tray FEE - Cabling	16-Nov-07	31-Jan-08		C	SL_TMUE	Hrs	160				16,674		16,674
1	06	06	01			Install Cable Tray FEE - Cabling	16-Nov-07	31-Jan-08		C	SL_CT	Hrs	80				5,334		5,334
1	06	06	01			Install Cable Tray FEE - Cabling	16-Nov-07	31-Jan-08		C	SL_CE	Hrs	40				4,870		4,870
1	06	06	01			Install FEE Containment/Interlock - PPS	16-Nov-07	31-Jan-08		C	SL_TMUE	Hrs	80				8,337		8,337
1	06	06	01			Install FEE Containment/Interlock - PPS	16-Nov-07	31-Jan-08		C	SL_CE	Hrs	40				4,870		4,870
1	06	06	01			Test FEE - PPS	1-Feb-08	7-Feb-08		C	SL_PHS	Hrs	40				3,152		3,152
1	06	06	01			Test FEE - PPS	1-Feb-08	7-Feb-08		C	SL_CE	Hrs	40				4,870		4,870
1	06	06	01			Install Electronics FEE - Network	15-Nov-07	30-Jan-08		C	SL_EE	Hrs	80				9,740		9,740
1	06	06	01			Install Electronics FEE - Network	15-Nov-07	30-Jan-08		C	SL_CT	Hrs	80				5,334		5,334
1	06	06	01			Install Electronics FEE - Network	15-Nov-07	30-Jan-08		C	SL_CP	Hrs	80				7,876		7,876
1	06	06	01			Install Electronics FEE - Network	15-Nov-07	30-Jan-08		C	SL_CE	Hrs	80				9,740		9,740

LCLS TPC Detailed Cost Estimate (FY05FY09)

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WBS Level						LCLA DCE March-2005 Description	Early Start	Early Finish	OBS	Fund Type	Res Code	Units	Budgeted Quantity		Fully Burdened and Escalated Cost			
Run Time: 4/22/05 8:43am													Hours	\$\$	Labor	M&S	Total (No Conting)	
1	2	3	4	5	6													
1	06	06	01			Test FEE - Network	31-Jan-08	13-Feb-08		C	SL_PHS	Hrs	16			1,261		1,261
1	06	06	01			Test FEE - Network	31-Jan-08	13-Feb-08		C	SL_EE	Hrs	40			4,870		4,870
1	06	06	01			Test FEE - Network	31-Jan-08	13-Feb-08		C	SL_CT	Hrs	40			2,667		2,667
1	06	06	01			Test FEE - Network	31-Jan-08	13-Feb-08		C	SL_CE	Hrs	40			4,870		4,870
1	06	06	01			Install FEE Sensors - MPS	16-Nov-07	31-Jan-08		C	SL_PHS	Hrs	40			3,152		3,152
1	06	06	01			Install FEE Sensors - MPS	16-Nov-07	31-Jan-08		C	SL_MFAT	Hrs	40			3,544		3,544
1	06	06	01			Install FEE Interlocks - MPS	16-Nov-07	31-Jan-08		C	SL_TMUE	Hrs	40			4,168		4,168
1	06	06	01			Install FEE Interlocks - MPS	16-Nov-07	31-Jan-08		C	SL_CE	Hrs	40			4,870		4,870
1	06	06	01			Test FEE - MPS	1-Feb-08	7-Feb-08		C	SL_PHS	Hrs	40			3,152		3,152
1	06	06	01			Test FEE - MPS	1-Feb-08	7-Feb-08		C	SL_CE	Hrs	40			4,870		4,870
1	06	06	01			Install FEE Valves - MPS	16-Nov-07	31-Jan-08		C	SL_PHS	Hrs	40			3,152		3,152
1	06	06	01			Install FEE Valves - MPS	16-Nov-07	31-Jan-08		C	SL_MFAT	Hrs	40			3,544		3,544
1	06	06	01			Install FEE - Beam Imaging	22-May-07	19-Jun-07		C	SL_PHS	Hrs	40			3,072		3,072
1	06	06	01			Install FEE - Beam Imaging	22-May-07	19-Jun-07		C	SL_EE	Hrs	40			4,747		4,747
1	06	06	01			Integrate with Controls - Beam Intensity	3-Jan-08	31-Jan-08		C	SL_PHS	Hrs	80			6,303		6,303
1	06	06	01			Integrate with Controls - Beam Intensity	3-Jan-08	31-Jan-08		C	SL_EE	Hrs	80			9,740		9,740
1	06	06	01			Integrate with Controls - Beam Intensity	3-Jan-08	31-Jan-08		C	SL_CT	Hrs	80			5,334		5,334
1	06	06	01			Integrate with Controls - Beam Intensity	3-Jan-08	31-Jan-08		C	SL_CE	Hrs	80			9,740		9,740
1	06	06	01			Install FEE - Beam Intensity	16-Nov-07	2-Jan-08		C	SL_PHS	Hrs	80			6,303		6,303
1	06	06	01			Install FEE - Beam Intensity	16-Nov-07	2-Jan-08		C	SL_EE	Hrs	80			9,740		9,740
1	06	06	01			Integrate with Controls - Beam Imaging	5-Jul-07	18-Jul-07		C	SL_PHS	Hrs	40			3,072		3,072
1	06	06	01			Integrate with Controls - Beam Imaging	5-Jul-07	18-Jul-07		C	SL_EE	Hrs	40			4,747		4,747
1	06	06	01			Integrate with Controls - Beam Imaging	5-Jul-07	18-Jul-07		C	SL_CT	Hrs	40			2,600		2,600
1	06	06	01			Integrate with Controls - Beam Imaging	5-Jul-07	18-Jul-07		C	SL_CE	Hrs	40			4,747		4,747
1	06	06	01			Set Up PC - Beam Imaging	20-Jun-07	3-Jul-07		C	SL_PHS	Hrs	8			614		614
1	06	06	01			Set Up PC - Beam Imaging	20-Jun-07	3-Jul-07		C	SL_EE	Hrs	8			949		949
1	06	06	01			Install FEE Detectors - PPS	16-Nov-07	31-Jan-08		C	SL_TMUE	Hrs	80			8,337		8,337
1	06	06	01			Install FEE Detectors - PPS	16-Nov-07	31-Jan-08		C	SL_PHS	Hrs	40			3,152		3,152
1	06	06	01			Install FEE Detectors - PPS	16-Nov-07	31-Jan-08		C	SL_CE	Hrs	40			4,870		4,870
1	06	06	02			Near Hall Install							7,338	-	724,066	-	724,066	
1	06	06	02	01		Near Hall Install Controls							4,612	-	458,371	-	458,371	
1	06	06	02	01		Install Near Hall Racks & Panels - Cabling	19-Nov-07	1-Feb-08		C	SL_TMUE	Hrs	160			16,674		16,674
1	06	06	02	01		Install Near Hall Racks & Panels - Cabling	19-Nov-07	1-Feb-08		C	SL_EE	Hrs	40			4,870		4,870
1	06	06	02	01		Install Near Hall Racks & Panels - Cabling	19-Nov-07	1-Feb-08		C	SL_CT	Hrs	40			2,667		2,667
1	06	06	02	01		Install Near Hall Racks & Panels - Cabling	19-Nov-07	1-Feb-08		C	SL_CE	Hrs	40			4,870		4,870
1	06	06	02	01		Test Near Hall - Cabling	19-Feb-08	3-Mar-08		C	SL_PHS	Hrs	40			3,152		3,152
1	06	06	02	01		Test Near Hall - Cabling	19-Feb-08	3-Mar-08		C	SL_EE	Hrs	40			4,870		4,870
1	06	06	02	01		Install Cable to Near Hall Laser - Cabling	11-Feb-08	15-Feb-08		C	SL_EE	Hrs	20			2,435		2,435
1	06	06	02	01		Install Cable to Near Hall Laser - Cabling	11-Feb-08	15-Feb-08		C	SL_CT	Hrs	80			5,334		5,334
1	06	06	02	01		Install Cable Tray Near Hall - Cabling	12-Nov-07	25-Jan-08		C	SL_TMUE	Hrs	160			16,674		16,674
1	06	06	02	01		Install Cable Tray Near Hall - Cabling	12-Nov-07	25-Jan-08		C	SL_EE	Hrs	40			4,870		4,870
1	06	06	02	01		Install Cable Tray Near Hall - Cabling	12-Nov-07	25-Jan-08		C	SL_CT	Hrs	80			5,334		5,334
1	06	06	02	01		Install Cable Tray Near Hall - Cabling	12-Nov-07	25-Jan-08		C	SL_CE	Hrs	40			4,870		4,870
1	06	06	02	01		Install Cable Near Hall - Cabling	28-Nov-07	8-Feb-08		C	SL_EE	Hrs	40			4,870		4,870
1	06	06	02	01		Install Cable Near Hall - Cabling	28-Nov-07	8-Feb-08		C	SL_CT	Hrs	120			8,002		8,002
1	06	06	02	01		Install Cable Near Hall - Cabling	28-Nov-07	8-Feb-08		C	SL_CE	Hrs	40			4,870		4,870
1	06	06	02	01		Install NH Beam Stop Hardware	24-Apr-07	21-May-07		C	SL_MFAT	Hrs	160			13,816		13,816
1	06	06	02	01		Install NH Beam Stop Hardware	24-Apr-07	21-May-07		C	SL_ME	Hrs	160			17,838		17,838
1	06	06	02	01		Install Near Hall Electronics - Network	14-Feb-08	13-Mar-08		C	SL_EE	Hrs	80			9,740		9,740
1	06	06	02	01		Install Near Hall Electronics - Network	14-Feb-08	13-Mar-08		C	SL_CT	Hrs	80			5,334		5,334
1	06	06	02	01		Install Near Hall Electronics - Network	14-Feb-08	13-Mar-08		C	SL_CP	Hrs	80			7,876		7,876
1	06	06	02	01		Install Near Hall Electronics - Network	14-Feb-08	13-Mar-08		C	SL_CE	Hrs	80			9,740		9,740
1	06	06	02	01		Test Near Hall - Network	14-Mar-08	27-Mar-08		C	SL_PHS	Hrs	40			3,152		3,152
1	06	06	02	01		Test Near Hall - Network	14-Mar-08	27-Mar-08		C	SL_EE	Hrs	40			4,870		4,870
1	06	06	02	01		Test Near Hall - Network	14-Mar-08	27-Mar-08		C	SL_CT	Hrs	40			2,667		2,667
1	06	06	02	01		Test Near Hall - Network	14-Mar-08	27-Mar-08		C	SL_CE	Hrs	40			4,870		4,870
1	06	06	02	01		Install Near Hall Domain Server - PC Support	19-Feb-08	17-Mar-08		C	SL_EE	Hrs	20			2,435		2,435
1	06	06	02	01		Install Near Hall Domain Server - PC Support	19-Feb-08	17-Mar-08		C	SL_CT	Hrs	40			2,667		2,667
1	06	06	02	01		Install Near Hall Domain Server - PC Support	19-Feb-08	17-Mar-08		C	SL_CE	Hrs	20			2,435		2,435
1	06	06	02	01		Install Near Hall File Server - PC Support	18-Mar-08	14-Apr-08		C	SL_EE	Hrs	80			9,740		9,740
1	06	06	02	01		Install Near Hall File Server - PC Support	18-Mar-08	14-Apr-08		C	SL_CT	Hrs	80			5,334		5,334
1	06	06	02	01		Install Near Hall File Server - PC Support	18-Mar-08	14-Apr-08		C	SL_CE	Hrs	80			9,740		9,740
1	06	06	02	01		Test Near Hall - PC Support	15-Apr-08	28-Apr-08		C	SL_PHS	Hrs	40			3,152		3,152
1	06	06	02	01		Test Near Hall - PC Support	15-Apr-08	28-Apr-08		C	SL_EE	Hrs	40			4,870		4,870

LCLS TPC Detailed Cost Estimate (FY05FY09)

5/5/2005

WBS Level						LCLA DCE March-2005 Description	Early Start	Early Finish	OBS	Fund Type	Res Code	Units	Budgeted Quantity		Fully Burdened and Escalated Cost			
Run Time: 4/22/05 8:43am													Hours	\$\$	Labor	M&S	Total (No Conting)	
1	2	3	4	5	6													
1	06	06	02	01		Test Near Hall - PC Support	15-Apr-08	28-Apr-08		C	SL_CT	Hrs	40		2,667			2,667
1	06	06	02	01		Test Near Hall - PC Support	15-Apr-08	28-Apr-08		C	SL_CE	Hrs	40		4,870			4,870
1	06	06	02	01		Install Near Hall PCs/Software/Printer - PC Supp	19-Feb-08	17-Mar-08		C	SL_EE	Hrs	16		1,948			1,948
1	06	06	02	01		Install Near Hall PCs/Software/Printer - PC Supp	19-Feb-08	17-Mar-08		C	SL_CT	Hrs	40		2,667			2,667
1	06	06	02	01		Install Near Hall PCs/Software/Printer - PC Supp	19-Feb-08	17-Mar-08		C	SL_CE	Hrs	16		1,948			1,948
1	06	06	02	01		Install Near Hall Data Storage - Beamline Contrl	2-Jan-08	30-Jan-08		C	SL_CP	Hrs	40		3,938			3,938
1	06	06	02	01		Install Near Hall Data Storage - Beamline Contrl	2-Jan-08	30-Jan-08		C	SL_CE	Hrs	40		4,870			4,870
1	06	06	02	01		Install Near Hall R/Trans Stage - Beamline Contr	2-Jan-08	30-Jan-08		C	SL_PHS	Hrs	80		6,303			6,303
1	06	06	02	01		Install Near Hall R/Trans Stage - Beamline Contr	2-Jan-08	30-Jan-08		C	SL_EE	Hrs	40		4,870			4,870
1	06	06	02	01		Install Near Hall R/Trans Stage - Beamline Contr	2-Jan-08	30-Jan-08		C	SL_CT	Hrs	80		5,334			5,334
1	06	06	02	01		Install Near Hall R/Trans Stage - Beamline Contr	2-Jan-08	30-Jan-08		C	SL_CE	Hrs	40		4,870			4,870
1	06	06	02	01		Install Near Hall MC Software - Beamline Control	2-Jan-08	30-Jan-08		C	SL_CP	Hrs	80		7,876			7,876
1	06	06	02	01		Install Near Hall MC Electronics - Beam Control	31-Jan-08	28-Feb-08		C	SL_PHS	Hrs	40		3,152			3,152
1	06	06	02	01		Install Near Hall MC Electronics - Beam Control	31-Jan-08	28-Feb-08		C	SL_EE	Hrs	80		9,740			9,740
1	06	06	02	01		Install Near Hall MC Electronics - Beam Control	31-Jan-08	28-Feb-08		C	SL_CT	Hrs	80		5,334			5,334
1	06	06	02	01		Install Near Hall MC Electronics - Beam Control	31-Jan-08	28-Feb-08		C	SL_CE	Hrs	80		9,740			9,740
1	06	06	02	01		Test Near Hall - Beamline Control	29-Feb-08	13-Mar-08		C	SL_PHS	Hrs	40		3,152			3,152
1	06	06	02	01		Test Near Hall - Beamline Control	29-Feb-08	13-Mar-08		C	SL_EE	Hrs	40		4,870			4,870
1	06	06	02	01		Test Near Hall - Beamline Control	29-Feb-08	13-Mar-08		C	SL_CP	Hrs	40		3,938			3,938
1	06	06	02	01		Test Near Hall - Beamline Control	29-Feb-08	13-Mar-08		C	SL_CE	Hrs	40		4,870			4,870
1	06	06	02	01		Install Near Hall Alarms/Signs - Laser PPS	22-May-07	19-Jun-07		C	SL_TMUE	Hrs	40		4,063			4,063
1	06	06	02	01		Install Near Hall Alarms/Signs - Laser PPS	22-May-07	19-Jun-07		C	SL_CE	Hrs	40		4,747			4,747
1	06	06	02	01		Install Near Hall Contain/Interlock - Laser PPS	22-May-07	19-Jun-07		C	SL_TMUE	Hrs	40		4,063			4,063
1	06	06	02	01		Install Near Hall Contain/Interlock - Laser PPS	22-May-07	19-Jun-07		C	SL_CE	Hrs	40		4,747			4,747
1	06	06	02	01		Test Near Hall - Laser PPS	20-Jun-07	26-Jun-07		C	SL_PHS	Hrs	40		3,072			3,072
1	06	06	02	01		Test Near Hall - Laser PPS	20-Jun-07	26-Jun-07		C	SL_CE	Hrs	40		4,747			4,747
1	06	06	02	01		Install Near Hall Alarms/Signs - X-Ray PPS	22-May-07	19-Jun-07		C	SL_TMUE	Hrs	40		4,063			4,063
1	06	06	02	01		Install Near Hall Alarms/Signs - X-Ray PPS	22-May-07	19-Jun-07		C	SL_CE	Hrs	40		4,747			4,747
1	06	06	02	01		Install Near Hall Containment/Interlock-X-RayPPS	22-May-07	19-Jun-07		C	SL_TMUE	Hrs	80		8,126			8,126
1	06	06	02	01		Install Near Hall Containment/Interlock-X-RayPPS	22-May-07	19-Jun-07		C	SL_CE	Hrs	40		4,747			4,747
1	06	06	02	01		Install Near Hall Detectors - X-Ray PPS	22-May-07	19-Jun-07		C	SL_TMUE	Hrs	80		8,126			8,126
1	06	06	02	01		Install Near Hall Detectors - X-Ray PPS	22-May-07	19-Jun-07		C	SL_PHS	Hrs	40		3,072			3,072
1	06	06	02	01		Install Near Hall Detectors - X-Ray PPS	22-May-07	19-Jun-07		C	SL_CE	Hrs	40		4,747			4,747
1	06	06	02	01		Test Near Hall - X-Ray PPS	20-Jun-07	26-Jun-07		C	SL_PHS	Hrs	40		3,072			3,072
1	06	06	02	01		Test Near Hall - X-Ray PPS	20-Jun-07	26-Jun-07		C	SL_CE	Hrs	40		4,747			4,747
1	06	06	02	01		Install Data Storag Near Hall - Beamline Cntrl	15-Nov-07	14-Dec-07		C	SL_PHS	Hrs	40		3,152			3,152
1	06	06	02	01		Install Data Storag Near Hall - Beamline Cntrl	15-Nov-07	14-Dec-07		C	SL_CP	Hrs	40		3,938			3,938
1	06	06	02	01		Install Data Storag Near Hall - Beamline Cntrl	15-Nov-07	14-Dec-07		C	SL_CE	Hrs	40		4,870			4,870
1	06	06	02	01		Install Near Hall Sensors - MPS	22-May-07	19-Jun-07		C	SL_PHS	Hrs	40		3,072			3,072
1	06	06	02	01		Install Near Hall Sensors - MPS	22-May-07	19-Jun-07		C	SL_MFAT	Hrs	40		3,454			3,454
1	06	06	02	01		Install Near Hall Interlocks - MPS	22-May-07	19-Jun-07		C	SL_TMUE	Hrs	40		4,063			4,063
1	06	06	02	01		Install Near Hall Interlocks - MPS	22-May-07	19-Jun-07		C	SL_CE	Hrs	40		4,747			4,747
1	06	06	02	01		Install Near Hall Valves - MPS	22-May-07	19-Jun-07		C	SL_PHS	Hrs	40		3,072			3,072
1	06	06	02	01		Install Near Hall Valves - MPS	22-May-07	19-Jun-07		C	SL_MFAT	Hrs	40		3,454			3,454
1	06	06	02	01		Test Near Hall - MPS	20-Jun-07	26-Jun-07		C	SL_PHS	Hrs	40		3,072			3,072
1	06	06	02	01		Test Near Hall - MPS	20-Jun-07	26-Jun-07		C	SL_CE	Hrs	40		4,747			4,747
1	06	06	02	01		Install Near Hall Alarms/Signs - User Safeguards	22-May-07	19-Jun-07		C	SL_TMUE	Hrs	40		4,063			4,063
1	06	06	02	01		Install Near Hall Alarms/Signs - User Safeguards	22-May-07	19-Jun-07		C	SL_CE	Hrs	40		4,747			4,747
1	06	06	02	01		Install Near Hall Contain/Interlock - User Safegu	22-May-07	19-Jun-07		C	SL_TMUE	Hrs	40		4,063			4,063
1	06	06	02	01		Install Near Hall Contain/Interlock - User Safegu	22-May-07	19-Jun-07		C	SL_CE	Hrs	40		4,747			4,747
1	06	06	02	01		Install Near Hall Detectors - User Safeguards	22-May-07	19-Jun-07		C	SL_TMUE	Hrs	40		4,063			4,063
1	06	06	02	01		Install Near Hall Detectors - User Safeguards	22-May-07	19-Jun-07		C	SL_CE	Hrs	40		4,747			4,747
1	06	06	02	01		Test Near Hall - User Safeguards	20-Jun-07	26-Jun-07		C	SL_PHS	Hrs	40		3,072			3,072
1	06	06	02	01		Test Near Hall - User Safeguards	20-Jun-07	26-Jun-07		C	SL_CE	Hrs	40		4,747			4,747
1	06	06	02	02		Near Hall Install Mech/Vac							640	-	64,960	-	64,960	
1	06	06	02	02		Install Near Hall Valves - Vacuum	14-May-08	20-May-08		C	SL_MVE	Hrs	40		4,576			4,576
1	06	06	02	02		Install Near Hall Valves - Vacuum	14-May-08	20-May-08		C	SL_MFAT	Hrs	40		3,544			3,544
1	06	06	02	02		Install Near Hall - Vacuum Hardware	13-May-08	19-May-08		C	SL_MVE	Hrs	40		4,576			4,576
1	06	06	02	02		Install Near Hall - Vacuum Hardware	13-May-08	19-May-08		C	SL_MFAT	Hrs	40		3,544			3,544
1	06	06	02	02		Install Near Hall Ion Pump - Vacuum	13-May-08	27-May-08		C	SL_MVE	Hrs	40		4,576			4,576
1	06	06	02	02		Install Near Hall Ion Pump - Vacuum	13-May-08	27-May-08		C	SL_MFAT	Hrs	40		3,544			3,544
1	06	06	02	02		Install NH Turbo Pump - Vacuum	13-May-08	19-May-08		C	SL_MVE	Hrs	40		4,576			4,576
1	06	06	02	02		Install NH Turbo Pump - Vacuum	13-May-08	19-May-08		C	SL_MFAT	Hrs	40		3,544			3,544
1	06	06	02	02		Install Near Hall - Chamber Spt Table	11-Feb-08	10-Mar-08		C	SL_MFAT	Hrs	40		3,544			3,544

LCLS TPC Detailed Cost Estimate (FY05FY09)

5/5/2005

WBS Level						LCLA DCE March-2005 Description	Early Start	Early Finish	OBS	Fund Type	Res Code	Units	Budgeted Quantity		Fully Burdened and Escalated Cost			
Run Time: 4/22/05 8:43am													Hours	\$\$	Labor	M&S	Total (No Conting)	
1	2	3	4	5	6													
1	06	06	03			Install Tunnel Electronics - Network	28-Mar-08	10-Apr-08		C	SL_EE	Hrs	80			9,740		9,740
1	06	06	03			Install Tunnel Electronics - Network	28-Mar-08	10-Apr-08		C	SL_CT	Hrs	80			5,334		5,334
1	06	06	03			Install Tunnel Electronics - Network	28-Mar-08	10-Apr-08		C	SL_CE	Hrs	80			9,740		9,740
1	06	06	03			Test Tunnel - Network	11-Apr-08	17-Apr-08		C	SL_PHS	Hrs	40			3,152		3,152
1	06	06	03			Test Tunnel - Network	11-Apr-08	17-Apr-08		C	SL_EE	Hrs	40			4,870		4,870
1	06	06	03			Test Tunnel - Network	11-Apr-08	17-Apr-08		C	SL_CT	Hrs	40			2,667		2,667
1	06	06	03			Test Tunnel - Network	11-Apr-08	17-Apr-08		C	SL_CE	Hrs	40			4,870		4,870
1	06	06	03			Install Beam Stop Hardware	31-Aug-07	28-Sep-07		C	SL_MFAT	Hrs	160			13,816		13,816
1	06	06	03			Install Beam Stop Hardware	31-Aug-07	28-Sep-07		C	SL_ME	Hrs	160			17,838		17,838
1	06	06	03			Install Tunnel Alarms/Signs - X-Ray PPS	17-Sep-07	9-Nov-07		C	SL_TMUE	Hrs	40			4,142		4,142
1	06	06	03			Install Tunnel Alarms/Signs - X-Ray PPS	17-Sep-07	9-Nov-07		C	SL_CE	Hrs	40			4,839		4,839
1	06	06	03			Install Tunnel Containment/Interlock - X-Ray PPS	17-Sep-07	12-Oct-07		C	SL_TMUE	Hrs	80			8,231		8,231
1	06	06	03			Install Tunnel Containment/Interlock - X-Ray PPS	17-Sep-07	12-Oct-07		C	SL_CE	Hrs	40			4,808		4,808
1	06	06	03			Install Tunnel Detectors - X-Ray PPS	17-Sep-07	12-Oct-07		C	SL_TMUE	Hrs	80			8,231		8,231
1	06	06	03			Install Tunnel Detectors - X-Ray PPS	17-Sep-07	12-Oct-07		C	SL_PHS	Hrs	40			3,112		3,112
1	06	06	03			Install Tunnel Detectors - X-Ray PPS	17-Sep-07	12-Oct-07		C	SL_CE	Hrs	40			4,808		4,808
1	06	06	03			Test Tunnel - X-Ray PPS	12-Nov-07	16-Nov-07		C	SL_PHS	Hrs	40			3,152		3,152
1	06	06	03			Test Tunnel - X-Ray PPS	12-Nov-07	16-Nov-07		C	SL_CE	Hrs	40			4,870		4,870
1	06	06	03			Install Tunnel Sensors - MPS	17-Sep-07	12-Oct-07		C	SL_PHS	Hrs	40			3,112		3,112
1	06	06	03			Install Tunnel Sensors - MPS	17-Sep-07	12-Oct-07		C	SL_MFAT	Hrs	40			3,499		3,499
1	06	06	03			Install Tunnel Interlocks - MPS	17-Sep-07	12-Oct-07		C	SL_TMUE	Hrs	40			4,116		4,116
1	06	06	03			Install Tunnel Interlocks - MPS	17-Sep-07	12-Oct-07		C	SL_CE	Hrs	40			4,808		4,808
1	06	06	03			Install Tunnel Valves - MPS	17-Sep-07	12-Oct-07		C	SL_PHS	Hrs	40			3,112		3,112
1	06	06	03			Install Tunnel Valves - MPS	17-Sep-07	12-Oct-07		C	SL_MFAT	Hrs	40			3,499		3,499
1	06	06	03			Test Tunnel - MPS	15-Oct-07	19-Oct-07		C	SL_PHS	Hrs	40			3,152		3,152
1	06	06	03			Test Tunnel - MPS	15-Oct-07	19-Oct-07		C	SL_CE	Hrs	40			4,870		4,870
1	06	06	04			Far Hall Install							7,300	-	732,017	-	732,017	
1	06	06	04	01		Far Hall Install Controls							5,284	-	530,317	-	530,317	
1	06	06	04	01		Install Far Hall Racks & Panels - Cabling	14-Feb-08	10-Apr-08		C	SL_TMUE	Hrs	160			16,674		16,674
1	06	06	04	01		Install Far Hall Racks & Panels - Cabling	14-Feb-08	10-Apr-08		C	SL_EE	Hrs	40			4,870		4,870
1	06	06	04	01		Install Far Hall Racks & Panels - Cabling	14-Feb-08	10-Apr-08		C	SL_CT	Hrs	40			2,667		2,667
1	06	06	04	01		Install Far Hall Racks & Panels - Cabling	14-Feb-08	10-Apr-08		C	SL_CE	Hrs	40			4,870		4,870
1	06	06	04	01		Install Cable Tray FH - Cabling	3-Dec-07	13-Feb-08		C	SL_TMUE	Hrs	160			16,674		16,674
1	06	06	04	01		Install Cable Tray FH - Cabling	3-Dec-07	13-Feb-08		C	SL_EE	Hrs	80			9,740		9,740
1	06	06	04	01		Install Cable Tray FH - Cabling	3-Dec-07	13-Feb-08		C	SL_CE	Hrs	80			9,740		9,740
1	06	06	04	01		System Integrate & Test Far Hall - Cabling	15-Jul-08	11-Aug-08		C	SL_PHS	Hrs	80			6,303		6,303
1	06	06	04	01		System Integrate & Test Far Hall - Cabling	15-Jul-08	11-Aug-08		C	SL_EE	Hrs	80			9,740		9,740
1	06	06	04	01		System Integrate & Test Far Hall - Cabling	15-Jul-08	11-Aug-08		C	SL_CE	Hrs	80			9,740		9,740
1	06	06	04	01		Install Cable Far Hall - Cabling	11-Apr-08	6-Jun-08		C	SL_EE	Hrs	40			4,870		4,870
1	06	06	04	01		Install Cable Far Hall - Cabling	11-Apr-08	6-Jun-08		C	SL_CT	Hrs	120			8,002		8,002
1	06	06	04	01		Install Cable Far Hall - Cabling	11-Apr-08	6-Jun-08		C	SL_CE	Hrs	40			4,870		4,870
1	06	06	04	01		Test Far Hall - Cabling	16-Jun-08	14-Jul-08		C	SL_PHS	Hrs	40			3,152		3,152
1	06	06	04	01		Test Far Hall - Cabling	16-Jun-08	14-Jul-08		C	SL_EE	Hrs	40			4,870		4,870
1	06	06	04	01		Install Cable to Far Hall Laser - Cabling	9-Jun-08	13-Jun-08		C	SL_EE	Hrs	20			2,435		2,435
1	06	06	04	01		Install Cable to Far Hall Laser - Cabling	9-Jun-08	13-Jun-08		C	SL_CT	Hrs	80			5,334		5,334
1	06	06	04	01		Install Far Hall Electronics - Network	18-Apr-08	15-May-08		C	SL_EE	Hrs	80			9,740		9,740
1	06	06	04	01		Install Far Hall Electronics - Network	18-Apr-08	15-May-08		C	SL_CT	Hrs	80			5,334		5,334
1	06	06	04	01		Install Far Hall Electronics - Network	18-Apr-08	15-May-08		C	SL_CP	Hrs	80			7,876		7,876
1	06	06	04	01		Install Far Hall Electronics - Network	18-Apr-08	15-May-08		C	SL_CE	Hrs	80			9,740		9,740
1	06	06	04	01		Test Far Hall - Network	16-May-08	14-Jul-08		C	SL_PHS	Hrs	40			3,152		3,152
1	06	06	04	01		Test Far Hall - Network	16-May-08	14-Jul-08		C	SL_EE	Hrs	40			4,870		4,870
1	06	06	04	01		Test Far Hall - Network	16-May-08	14-Jul-08		C	SL_CT	Hrs	40			2,667		2,667
1	06	06	04	01		Test Far Hall - Network	16-May-08	14-Jul-08		C	SL_CE	Hrs	40			4,870		4,870
1	06	06	04	01		Integrate & Test System Far Hall - Network	15-Jul-08	9-Sep-08		C	SL_PHS	Hrs	40			3,152		3,152
1	06	06	04	01		Integrate & Test System Far Hall - Network	15-Jul-08	9-Sep-08		C	SL_EE	Hrs	40			4,870		4,870
1	06	06	04	01		Integrate & Test System Far Hall - Network	15-Jul-08	9-Sep-08		C	SL_CT	Hrs	40			2,667		2,667
1	06	06	04	01		Integrate & Test System Far Hall - Network	15-Jul-08	9-Sep-08		C	SL_CE	Hrs	40			4,870		4,870
1	06	06	04	01		Install Far Hall PCs/Software/Printer - PC Spt	29-Apr-08	12-May-08		C	SL_EE	Hrs	16			1,948		1,948
1	06	06	04	01		Install Far Hall PCs/Software/Printer - PC Spt	29-Apr-08	12-May-08		C	SL_CT	Hrs	40			2,667		2,667
1	06	06	04	01		Install Far Hall PCs/Software/Printer - PC Spt	29-Apr-08	12-May-08		C	SL_CE	Hrs	16			1,948		1,948
1	06	06	04	01		Install Far Hall Domain Server - PC Support	29-Apr-08	12-May-08		C	SL_EE	Hrs	20			2,435		2,435
1	06	06	04	01		Install Far Hall Domain Server - PC Support	29-Apr-08	12-May-08		C	SL_CT	Hrs	40			2,667		2,667
1	06	06	04	01		Install Far Hall Domain Server - PC Support	29-Apr-08	12-May-08		C	SL_CE	Hrs	20			2,435		2,435
1	06	06	04	01		Test Far Hall - PC Support	13-May-08	9-Jul-08		C	SL_PHS	Hrs	40			3,152		3,152

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5/5/2005

WBS Level						LCLA DCE March-2005 Description	Early Start	Early Finish	OBS	Fund Type	Res Code	Units	Budgeted Quantity		Fully Burdened and Escalated Cost				
Run Time: 4/22/05 8:43am													Hours	\$	Labor	M&S	Total (No Conting)		
1	2	3	4	5	6														
1	06	06	04	01		Test Far Hall - PC Support	13-May-08	9-Jul-08		C	SL_EE	Hrs	40				4,870		4,870
1	06	06	04	01		Test Far Hall - PC Support	13-May-08	9-Jul-08		C	SL_CT	Hrs	40				2,667		2,667
1	06	06	04	01		Test Far Hall - PC Support	13-May-08	9-Jul-08		C	SL_CE	Hrs	40				4,870		4,870
1	06	06	04	01		Integrate & Test System - PC Support	10-Jul-08	6-Aug-08		C	SL_PHS	Hrs	16				1,261		1,261
1	06	06	04	01		Integrate & Test System - PC Support	10-Jul-08	6-Aug-08		C	SL_CE	Hrs	16				1,948		1,948
1	06	06	04	01		Install Far Hall File Server - PC Support	29-Apr-08	12-May-08		C	SL_EE	Hrs	80				9,740		9,740
1	06	06	04	01		Install Far Hall File Server - PC Support	29-Apr-08	12-May-08		C	SL_CT	Hrs	80				5,334		5,334
1	06	06	04	01		Install Far Hall File Server - PC Support	29-Apr-08	12-May-08		C	SL_CE	Hrs	80				9,740		9,740
1	06	06	04	01		Programming Far Hall - Beamline Control	2-Jan-08	24-Apr-08		C	SL_CP	Hrs	80				7,876		7,876
1	06	06	04	01		Install Far Hall Rotate/Trans Stage - Beam Cntrl	14-Mar-08	10-Apr-08		C	SL_PHS	Hrs	80				6,303		6,303
1	06	06	04	01		Install Far Hall Rotate/Trans Stage - Beam Cntrl	14-Mar-08	10-Apr-08		C	SL_EE	Hrs	40				4,870		4,870
1	06	06	04	01		Install Far Hall Rotate/Trans Stage - Beam Cntrl	14-Mar-08	10-Apr-08		C	SL_CT	Hrs	80				5,334		5,334
1	06	06	04	01		Install Far Hall Rotate/Trans Stage - Beam Cntrl	14-Mar-08	10-Apr-08		C	SL_CE	Hrs	40				4,870		4,870
1	06	06	04	01		Install Far Hall MC Software - Beamline Cntrl	2-Jan-08	30-Jan-08		C	SL_CP	Hrs	80				7,876		7,876
1	06	06	04	01		Install Far Hall MC Electronics - Beam Control	2-Jan-08	30-Jan-08		C	SL_PHS	Hrs	80				6,303		6,303
1	06	06	04	01		Install Far Hall MC Electronics - Beam Control	2-Jan-08	30-Jan-08		C	SL_EE	Hrs	80				9,740		9,740
1	06	06	04	01		Install Far Hall MC Electronics - Beam Control	2-Jan-08	30-Jan-08		C	SL_CT	Hrs	80				5,334		5,334
1	06	06	04	01		Test Far Hall - Beamline Control	14-Mar-08	10-Apr-08		C	SL_PHS	Hrs	40				3,152		3,152
1	06	06	04	01		Test Far Hall - Beamline Control	14-Mar-08	10-Apr-08		C	SL_EE	Hrs	40				4,870		4,870
1	06	06	04	01		Test Far Hall - Beamline Control	14-Mar-08	10-Apr-08		C	SL_CP	Hrs	40				3,938		3,938
1	06	06	04	01		Test Far Hall - Beamline Control	14-Mar-08	10-Apr-08		C	SL_CE	Hrs	40				4,870		4,870
1	06	06	04	01		Integrate & Test System - Beamline Control	11-Apr-08	8-May-08		C	SL_PHS	Hrs	40				3,152		3,152
1	06	06	04	01		Integrate & Test System - Beamline Control	11-Apr-08	8-May-08		C	SL_EE	Hrs	40				4,870		4,870
1	06	06	04	01		Integrate & Test System - Beamline Control	11-Apr-08	8-May-08		C	SL_CE	Hrs	40				4,870		4,870
1	06	06	04	01		Test High Perf Data Storage - Beamline Control	31-Jan-08	6-Feb-08		C	SL_PHS	Hrs	40				3,152		3,152
1	06	06	04	01		Test High Perf Data Storage - Beamline Control	31-Jan-08	6-Feb-08		C	SL_CP	Hrs	40				3,938		3,938
1	06	06	04	01		Test High Perf Data Storage - Beamline Control	31-Jan-08	6-Feb-08		C	SL_CE	Hrs	40				4,870		4,870
1	06	06	04	01		Install Data Storage Far Hall - Beamline Cntrl	2-Jan-08	30-Jan-08		C	SL_CP	Hrs	40				3,938		3,938
1	06	06	04	01		Install Data Storage Far Hall - Beamline Cntrl	2-Jan-08	30-Jan-08		C	SL_CE	Hrs	40				4,870		4,870
1	06	06	04	01		Install Far Hall Alarms/Signs - PPS	7-Aug-07	4-Sep-07		C	SL_TMUE	Hrs	40				4,063		4,063
1	06	06	04	01		Install Far Hall Alarms/Signs - PPS	7-Aug-07	4-Sep-07		C	SL_CE	Hrs	40				4,747		4,747
1	06	06	04	01		Install Beam Stop Hardware	7-Aug-07	4-Sep-07		C	SL_MFAT	Hrs	160				13,816		13,816
1	06	06	04	01		Install Beam Stop Hardware	7-Aug-07	4-Sep-07		C	SL_ME	Hrs	160				17,838		17,838
1	06	06	04	01		Install Far Hall Containment/Interlock - PPS	7-Aug-07	4-Sep-07		C	SL_TMUE	Hrs	80				8,126		8,126
1	06	06	04	01		Install Far Hall Containment/Interlock - PPS	7-Aug-07	4-Sep-07		C	SL_CE	Hrs	40				4,747		4,747
1	06	06	04	01		Install Far Hall Detectors - PPS	7-Aug-07	4-Sep-07		C	SL_TMUE	Hrs	80				8,126		8,126
1	06	06	04	01		Install Far Hall Detectors - PPS	7-Aug-07	4-Sep-07		C	SL_PHS	Hrs	40				3,072		3,072
1	06	06	04	01		Install Far Hall Detectors - PPS	7-Aug-07	4-Sep-07		C	SL_CE	Hrs	40				4,747		4,747
1	06	06	04	01		Test Far Hall - PPS	5-Sep-07	11-Sep-07		C	SL_PHS	Hrs	40				3,072		3,072
1	06	06	04	01		Test Far Hall - PPS	5-Sep-07	11-Sep-07		C	SL_CE	Hrs	40				4,747		4,747
1	06	06	04	01		Install Far Hall Sensors - MPS	7-Aug-07	4-Sep-07		C	SL_PHS	Hrs	40				3,072		3,072
1	06	06	04	01		Install Far Hall Sensors - MPS	7-Aug-07	4-Sep-07		C	SL_MFAT	Hrs	40				3,454		3,454
1	06	06	04	01		Install Far Hall Interlocks - MPS	7-Aug-07	4-Sep-07		C	SL_TMUE	Hrs	40				4,063		4,063
1	06	06	04	01		Install Far Hall Interlocks - MPS	7-Aug-07	4-Sep-07		C	SL_CE	Hrs	40				4,747		4,747
1	06	06	04	01		Install Far Hall Valves - MPS	7-Aug-07	4-Sep-07		C	SL_PHS	Hrs	40				3,072		3,072
1	06	06	04	01		Install Far Hall Valves - MPS	7-Aug-07	4-Sep-07		C	SL_MFAT	Hrs	40				3,454		3,454
1	06	06	04	01		Test Far Hall - MPS	5-Sep-07	11-Sep-07		C	SL_PHS	Hrs	40				3,072		3,072
1	06	06	04	01		Test Far Hall - MPS	5-Sep-07	11-Sep-07		C	SL_CE	Hrs	40				4,747		4,747
1	06	06	04	01		Install Far Hall Alarms/Signs - Laser PPS	7-Aug-07	4-Sep-07		C	SL_TMUE	Hrs	40				4,063		4,063
1	06	06	04	01		Install Far Hall Alarms/Signs - Laser PPS	7-Aug-07	4-Sep-07		C	SL_CE	Hrs	40				4,747		4,747
1	06	06	04	01		Install Far Hall Contain/Interlock - Laser PPS	7-Aug-07	4-Sep-07		C	SL_TMUE	Hrs	40				4,063		4,063
1	06	06	04	01		Install Far Hall Contain/Interlock - Laser PPS	7-Aug-07	4-Sep-07		C	SL_CE	Hrs	40				4,747		4,747
1	06	06	04	01		Install Far Hall Detectors - Laser PPS	7-Aug-07	4-Sep-07		C	SL_TMUE	Hrs	40				4,063		4,063
1	06	06	04	01		Install Far Hall Detectors - Laser PPS	7-Aug-07	4-Sep-07		C	SL_CE	Hrs	40				4,747		4,747
1	06	06	04	01		Test Far Hall - Laser PPS	5-Sep-07	11-Sep-07		C	SL_PHS	Hrs	40				3,072		3,072
1	06	06	04	01		Test Far Hall - Laser PPS	5-Sep-07	11-Sep-07		C	SL_CE	Hrs	40				4,747		4,747
1	06	06	04	01		Install Far Hall Alarms/Signs - User Safeguards	7-Aug-07	4-Sep-07		C	SL_TMUE	Hrs	40				4,063		4,063
1	06	06	04	01		Install Far Hall Alarms/Signs - User Safeguards	7-Aug-07	4-Sep-07		C	SL_CE	Hrs	40				4,747		4,747
1	06	06	04	01		Install Far Hall Contain/Interlock - User Safegua	7-Aug-07	4-Sep-07		C	SL_TMUE	Hrs	40				4,063		4,063
1	06	06	04	01		Install Far Hall Contain/Interlock - User Safegua	7-Aug-07	4-Sep-07		C	SL_CE	Hrs	40				4,747		4,747
1	06	06	04	01		Install Far Hall Detectors - User Safeguards	7-Aug-07	4-Sep-07		C	SL_TMUE	Hrs	40				4,063		4,063
1	06	06	04	01		Install Far Hall Detectors - User Safeguards	7-Aug-07	4-Sep-07		C	SL_CE	Hrs	40				4,747		4,747
1	06	06	04	01		Test Far Hall - User Safeguards	5-Sep-07	11-Sep-07		C	SL_PHS	Hrs	40				3,072		3,072
1	06	06	04	01		Test Far Hall - User Safeguards	5-Sep-07	11-Sep-07		C	SL_CE	Hrs	40				4,747		4,747

LCLS TPC Detailed Cost Estimate (FY05FY09)

5/5/2005

WBS Level						LCLA DCE March-2005 Description	Early Start	Early Finish	OBS	Fund Type	Res Code	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/22/05 8:43am													Hours	\$\$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6	Far Hall Install Mech/Vac							720	-	72,688	-	72,688
1	06	06	04	02		Install Far Hall Valve - Vacuum	21-May-08	28-May-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	06	04	02		Install Far Hall Valve - Vacuum	21-May-08	28-May-08		C	SL_MFAT	Hrs	40		3,544		3,544
1	06	06	04	02		Install Far Hall - Vacuum Hardware	20-May-08	27-May-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	06	04	02		Install Far Hall - Vacuum Hardware	20-May-08	27-May-08		C	SL_MFAT	Hrs	40		3,544		3,544
1	06	06	04	02		Install Far Hall Ion Pump - Vacuum	13-May-08	27-May-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	06	04	02		Install Far Hall Ion Pump - Vacuum	13-May-08	27-May-08		C	SL_MFAT	Hrs	40		3,544		3,544
1	06	06	04	02		Install Far Hall Turbo Pump - Vacuum	13-May-08	19-May-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	06	04	02		Install Far Hall Turbo Pump - Vacuum	13-May-08	19-May-08		C	SL_MFAT	Hrs	40		3,544		3,544
1	06	06	04	02		Install Far Hall - Chamber Spt Table	2-Jul-08	9-Jul-08		C	SL_MFAT	Hrs	40		3,544		3,544
1	06	06	04	02		Install Far Hall - Chamber Spt Table	2-Jul-08	9-Jul-08		C	SL_ME	Hrs	40		4,576		4,576
1	06	06	04	02		Install Far Hall - Experimental Chamber	8-Apr-08	14-Apr-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	06	04	02		Install Far Hall - Experimental Chamber	8-Apr-08	14-Apr-08		C	SL_MFAT	Hrs	40		3,544		3,544
1	06	06	04	02		Leak Check/Test - Experimental Chamber	8-Apr-08	14-Apr-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	06	04	02		Leak Check/Test - Experimental Chamber	8-Apr-08	14-Apr-08		C	SL_MFAT	Hrs	40		3,544		3,544
1	06	06	04	02		Test Gauges - Vacuum System	29-Apr-08	23-Jul-08		C	SL_PHS	Hrs	40		3,152		3,152
1	06	06	04	02		Test Gauges - Vacuum System	29-Apr-08	23-Jul-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	06	04	02		Install Far Hall Gauges - Vacuum	22-Apr-08	28-Apr-08		C	SL_MVE	Hrs	40		4,576		4,576
1	06	06	04	02		Install Far Hall Gauges - Vacuum	22-Apr-08	28-Apr-08		C	SL_MFAT	Hrs	40		3,544		3,544
1	06	06	04	03		Far Hall Install Laser							896	-	86,096	-	86,096
1	06	06	04	03		Install Laser Table Far Hall-Oscillator Laser	4-Dec-07	10-Dec-07		C	SL_TMUE	Hrs	40		4,168		4,168
1	06	06	04	03		Install Laser Table Far Hall-Oscillator Laser	4-Dec-07	10-Dec-07		C	SL_PHS	Hrs	40		3,152		3,152
1	06	06	04	03		Install Laser Table Far Hall-Oscillator Laser	4-Dec-07	10-Dec-07		C	SL_MFAT	Hrs	40		3,544		3,544
1	06	06	04	03		First Install Far Hall - Oscillator Laser/Pump	11-Dec-07	9-Jan-08		C	SL_TMUE	Hrs	40		4,168		4,168
1	06	06	04	03		First Install Far Hall - Oscillator Laser/Pump	11-Dec-07	9-Jan-08		C	SL_PHS	Hrs	40		3,152		3,152
1	06	06	04	03		First Install Far Hall - Oscillator Laser/Pump	11-Dec-07	9-Jan-08		C	SL_EE	Hrs	40		4,870		4,870
1	06	06	04	03		Vendor Setup/Demo FHall - Oscillator Laser/Pump	10-Jan-08	7-Feb-08		C	SL_PHS	Hrs	40		3,152		3,152
1	06	06	04	03		Final Check Far Hall - Oscillator Laser/Pump	8-Feb-08	14-Feb-08		C	SL_PHS	Hrs	16		1,261		1,261
1	06	06	04	03		Final Check Far Hall - Oscillator Laser/Pump	8-Feb-08	14-Feb-08		C	SL_EE	Hrs	16		1,948		1,948
1	06	06	04	03		Test Far Hall - Oscillator Laser/Pum	15-Feb-08	22-Feb-08		C	SL_TMUE	Hrs	40		4,168		4,168
1	06	06	04	03		Test Far Hall - Oscillator Laser/Pum	15-Feb-08	22-Feb-08		C	SL_PHS	Hrs	40		3,152		3,152
1	06	06	04	03		Test Far Hall - Oscillator Laser/Pum	15-Feb-08	22-Feb-08		C	SL_MFAT	Hrs	8		709		709
1	06	06	04	03		Install Diagnostics Far Hall - Laser Timing	7-Aug-07	4-Sep-07		C	SL_PHS	Hrs	40		3,072		3,072
1	06	06	04	03		Install Diagnostics Far Hall - Laser Timing	7-Aug-07	4-Sep-07		C	SL_EE	Hrs	40		4,747		4,747
1	06	06	04	03		Test Timing Far Hall - Laser Timing	7-Aug-07	2-Oct-07		C	SL_PHS	Hrs	40		3,076		3,076
1	06	06	04	03		Test Timing Far Hall - Laser Timing	7-Aug-07	2-Oct-07		C	SL_EE	Hrs	40		4,753		4,753
1	06	06	04	03		Test Timing Far Hall - Laser Timing	7-Aug-07	2-Oct-07		C	SL_CT	Hrs	24		1,562		1,562
1	06	06	04	03		First Install Far Hall - Laser Amplifiers	11-Dec-07	9-Jan-08		C	SL_TMUE	Hrs	40		4,168		4,168
1	06	06	04	03		First Install Far Hall - Laser Amplifiers	11-Dec-07	9-Jan-08		C	SL_PHS	Hrs	40		3,152		3,152
1	06	06	04	03		First Install Far Hall - Laser Amplifiers	11-Dec-07	9-Jan-08		C	SL_EE	Hrs	40		4,870		4,870
1	06	06	04	03		Final Check Far Hall - Laser Amplifiers	8-Feb-08	14-Feb-08		C	SL_PHS	Hrs	16		1,261		1,261
1	06	06	04	03		Final Check Far Hall - Laser Amplifiers	8-Feb-08	14-Feb-08		C	SL_EE	Hrs	16		1,948		1,948
1	06	06	04	03		Test Far Hall - Laser Amplifiers	15-Feb-08	22-Feb-08		C	SL_PHS	Hrs	80		6,303		6,303
1	06	06	04	03		Test Far Hall - Laser Amplifiers	15-Feb-08	22-Feb-08		C	SL_EE	Hrs	80		9,740		9,740
1	06	06	04	04		Far Hall Install Detectors							400	-	42,916	-	42,916
1	06	06	04	04		Install at SLAC - 2-D X-Ray Detector	21-Nov-08	2-Jan-09		C	SL_PHS	Hrs	80		6,467		6,467
1	06	06	04	04		Install at SLAC - 2-D X-Ray Detector	21-Nov-08	2-Jan-09		C	SL_EE	Hrs	80		9,994		9,994
1	06	06	04	04		Integrate with Controls - 2-D X-Ray Detector	5-Jan-09	30-Jan-09		C	SL_PHS	Hrs	80		6,467		6,467
1	06	06	04	04		Integrate with Controls - 2-D X-Ray Detector	5-Jan-09	30-Jan-09		C	SL_EE	Hrs	80		9,994		9,994
1	06	06	04	04		Integrate with Controls - 2-D X-Ray Detector	5-Jan-09	30-Jan-09		C	SL_CE	Hrs	80		9,994		9,994
1	06	07				Atomic Physics											
1	06	07	01			Samples											
1	06	07	02			Diagnostics											
1	06	07	03			Data Analysis											
1	06	07	04			Detectors											
2	06					X-RAY END STATION SYSTEMS (OPC)							25,685	2,358,820	2,537,344	2,645,778	5,183,122
2	06	01				System Management & Integration							7,925	-	804,313	-	804,313
2	06	01				X-Ray End Stations Pre-Operations	4-Feb-08	25-Mar-09		X	SL_PHS	Hrs	5,943		536,293		536,293
2	06	01				X-Ray End Stations Pre-Operations	4-Feb-08	25-Mar-09		X	SL_ME	Hrs	991		129,831		129,831
2	06	01				X-Ray End Stations Pre-Operations	4-Feb-08	25-Mar-09		X	SL_EE	Hrs	991		138,188		138,188
2	06	01	01			Management											
2	06	02				Controls Subsystem							2,480	-	269,715	-	269,715
2	06	02	01			Cabling							400	-	43,615	-	43,615
2	06	02	01			Commission Far Hall - Cabling	12-Aug-08	9-Sep-08		X	SL_TMUE	Hrs	20		2,362		2,362

LCLS TPC Detailed Cost Estimate (FY05FY09)

5/5/2005

WBS Level						LCLA DCE March-2005 Description	Early Start	Early Finish	OBS	Fund Type	Res Code	Units	Budgeted Quantity		Fully Burdened and Escalated Cost			
Run Time: 4/22/05 8:43am													Hours	\$	Labor	M&S	Total (No Conting)	
1	2	3	4	5	6													
2	06	02	01			Commission Far Hall - Cabling	12-Aug-08	9-Sep-08		X	SL_CT	Hrs	40			3,023		3,023
2	06	02	01			Commission Far Hall - Cabling	12-Aug-08	9-Sep-08		X	SL_CE	Hrs	40			5,519		5,519
2	06	02	01			Commission Tunnel - Cabling	4-Jun-08	1-Jul-08		X	SL_TMUE	Hrs	20			2,362		2,362
2	06	02	01			Commission Tunnel - Cabling	4-Jun-08	1-Jul-08		X	SL_CT	Hrs	40			3,023		3,023
2	06	02	01			Commission Tunnel - Cabling	4-Jun-08	1-Jul-08		X	SL_CE	Hrs	40			5,519		5,519
2	06	02	01			Commission FEE - Cabling	3-Mar-08	28-Mar-08		X	SL_TMUE	Hrs	20			2,362		2,362
2	06	02	01			Commission FEE - Cabling	3-Mar-08	28-Mar-08		X	SL_CT	Hrs	40			3,023		3,023
2	06	02	01			Commission FEE - Cabling	3-Mar-08	28-Mar-08		X	SL_CE	Hrs	40			5,519		5,519
2	06	02	01			Commission Near Hall - Cabling	4-Mar-08	31-Mar-08		X	SL_TMUE	Hrs	20			2,362		2,362
2	06	02	01			Commission Near Hall - Cabling	4-Mar-08	31-Mar-08		X	SL_CT	Hrs	40			3,023		3,023
2	06	02	01			Commission Near Hall - Cabling	4-Mar-08	31-Mar-08		X	SL_CE	Hrs	40			5,519		5,519
2	06	02	02			Network							160	-		17,749	-	17,749
2	06	02	02			Commission - Network	10-Sep-08	7-Oct-08		X	SL_PHS	Hrs	40			3,595		3,595
2	06	02	02			Commission - Network	10-Sep-08	7-Oct-08		X	SL_EE	Hrs	40			5,556		5,556
2	06	02	02			Commission - Network	10-Sep-08	7-Oct-08		X	SL_CT	Hrs	40			3,043		3,043
2	06	02	02			Commission - Network	10-Sep-08	7-Oct-08		X	SL_CE	Hrs	40			5,556		5,556
2	06	02	03			PC Support							160	-		19,074	-	19,074
2	06	02	03			Commission - PC Support	7-Aug-08	4-Sep-08		X	SL_PHS	Hrs	40			3,572		3,572
2	06	02	03			Commission - PC Support	7-Aug-08	4-Sep-08		X	SL_EE	Hrs	40			5,519		5,519
2	06	02	03			Commission - PC Support	7-Aug-08	4-Sep-08		X	SL_CP	Hrs	40			4,463		4,463
2	06	02	03			Commission - PC Support	7-Aug-08	4-Sep-08		X	SL_CE	Hrs	40			5,519		5,519
2	06	02	04			Beamline Controls							320	-		33,153	-	33,153
2	06	02	04			Commission - Beamline Control	9-May-08	6-Jun-08		X	SL_PHS	Hrs	80			7,143		7,143
2	06	02	04			Commission - Beamline Control	9-May-08	6-Jun-08		X	SL_CT	Hrs	80			6,045		6,045
2	06	02	04			Commission - Beamline Control	9-May-08	6-Jun-08		X	SL_CP	Hrs	80			8,926		8,926
2	06	02	04			Commission - Beamline Control	9-May-08	6-Jun-08		X	SL_CE	Hrs	80			11,039		11,039
2	06	02	05			X-Ray PPS							480	-		54,339	-	54,339
2	06	02	05			Commission FEE - X-Ray PPS	8-Feb-08	7-Mar-08		X	SL_ME	Hrs	40			5,186		5,186
2	06	02	05			Commission FEE - X-Ray PPS	8-Feb-08	7-Mar-08		X	SL_CT	Hrs	40			3,023		3,023
2	06	02	05			Commission FEE - X-Ray PPS	8-Feb-08	7-Mar-08		X	SL_CE	Hrs	40			5,519		5,519
2	06	02	05			Commission Near Hall - X-Ray PPS	27-Jun-07	25-Jul-07		X	SL_ME	Hrs	40			5,055		5,055
2	06	02	05			Commission Near Hall - X-Ray PPS	27-Jun-07	25-Jul-07		X	SL_CT	Hrs	40			2,947		2,947
2	06	02	05			Commission Near Hall - X-Ray PPS	27-Jun-07	25-Jul-07		X	SL_CE	Hrs	40			5,380		5,380
2	06	02	05			Commission Far Hall X-Ray PPS	12-Sep-07	9-Oct-07		X	SL_ME	Hrs	40			5,100		5,100
2	06	02	05			Commission Far Hall X-Ray PPS	12-Sep-07	9-Oct-07		X	SL_CT	Hrs	40			2,973		2,973
2	06	02	05			Commission Far Hall X-Ray PPS	12-Sep-07	9-Oct-07		X	SL_CE	Hrs	40			5,429		5,429
2	06	02	05			Commission Tunnel - X-Ray PPS	19-Nov-07	3-Jan-08		X	SL_ME	Hrs	40			5,186		5,186
2	06	02	05			Commission Tunnel - X-Ray PPS	19-Nov-07	3-Jan-08		X	SL_CT	Hrs	40			3,023		3,023
2	06	02	05			Commission Tunnel - X-Ray PPS	19-Nov-07	3-Jan-08		X	SL_CE	Hrs	40			5,519		5,519
2	06	02	06			X-Ray MPS							480	-		54,339	-	54,339
2	06	02	06			Commission Near Hall - X-Ray MPS	27-Jun-07	25-Jul-07		X	SL_ME	Hrs	40			5,055		5,055
2	06	02	06			Commission Near Hall - X-Ray MPS	27-Jun-07	25-Jul-07		X	SL_CT	Hrs	40			2,947		2,947
2	06	02	06			Commission Near Hall - X-Ray MPS	27-Jun-07	25-Jul-07		X	SL_CE	Hrs	40			5,380		5,380
2	06	02	06			Commission Tunnel - X-Ray MPS	22-Oct-07	16-Nov-07		X	SL_ME	Hrs	40			5,186		5,186
2	06	02	06			Commission Tunnel - X-Ray MPS	22-Oct-07	16-Nov-07		X	SL_CT	Hrs	40			3,023		3,023
2	06	02	06			Commission Tunnel - X-Ray MPS	22-Oct-07	16-Nov-07		X	SL_CE	Hrs	40			5,519		5,519
2	06	02	06			Commission Far Hall - X-Ray MPS	12-Sep-07	9-Oct-07		X	SL_ME	Hrs	40			5,100		5,100
2	06	02	06			Commission Far Hall - X-Ray MPS	12-Sep-07	9-Oct-07		X	SL_CT	Hrs	40			2,973		2,973
2	06	02	06			Commission Far Hall - X-Ray MPS	12-Sep-07	9-Oct-07		X	SL_CE	Hrs	40			5,429		5,429
2	06	02	06			Commission FEE - X-Ray MPS	8-Feb-08	7-Mar-08		X	SL_ME	Hrs	40			5,186		5,186
2	06	02	06			Commission FEE - X-Ray MPS	8-Feb-08	7-Mar-08		X	SL_CT	Hrs	40			3,023		3,023
2	06	02	06			Commission FEE - X-Ray MPS	8-Feb-08	7-Mar-08		X	SL_CE	Hrs	40			5,519		5,519
2	06	02	07			Laser PPS							240	-		23,723	-	23,723
2	06	02	07			Commission Near Hall - Laser PPS	27-Jun-07	25-Jul-07		X	SL_PHS	Hrs	40			3,482		3,482
2	06	02	07			Commission Near Hall - Laser PPS	27-Jun-07	25-Jul-07		X	SL_CT	Hrs	40			2,947		2,947
2	06	02	07			Commission Near Hall - Laser PPS	27-Jun-07	25-Jul-07		X	SL_CE	Hrs	40			5,380		5,380
2	06	02	07			Commission Far Hall - Laser PPS	12-Sep-07	9-Oct-07		X	SL_PHS	Hrs	40			3,513		3,513
2	06	02	07			Commission Far Hall - Laser PPS	12-Sep-07	9-Oct-07		X	SL_CT	Hrs	40			2,973		2,973
2	06	02	07			Commission Far Hall - Laser PPS	12-Sep-07	9-Oct-07		X	SL_CE	Hrs	40			5,429		5,429
2	06	02	08			User Safeguards							240	-		23,723	-	23,723
2	06	02	08			Commission Far Hall - User Safeguards	12-Sep-07	9-Oct-07		X	SL_PHS	Hrs	40			3,513		3,513
2	06	02	08			Commission Far Hall - User Safeguards	12-Sep-07	9-Oct-07		X	SL_CT	Hrs	40			2,973		2,973
2	06	02	08			Commission Far Hall - User Safeguards	12-Sep-07	9-Oct-07		X	SL_CE	Hrs	40			5,429		5,429
2	06	02	08			Commission Near Hall - User Safeguards	27-Jun-07	25-Jul-07		X	SL_PHS	Hrs	40			3,482		3,482

LCLS TPC Detailed Cost Estimate (FY05FY09)

5/5/2005

WBS Level						LCLA DCE March-2005 Description	Early Start	Early Finish	OBS	Fund Type	Res Code	Units	Budgeted Quantity		Fully Burdened and Escalated Cost				
Run Time: 4/22/05 8:43am													Hours	\$	Labor	M&S	Total (No Conting)		
1	2	3	4	5	6														
2	06	05	04			Commission - Streak Camera	20-Aug-08	19-Feb-09		X	SL_EE	Hrs	240				33,770		33,770
2	06	05	04			Commission - Streak Camera	20-Aug-08	19-Feb-09		X	SL_CT	Hrs	240				18,494		18,494
2	06	06				X-Ray End Station System Commissioning													
2	06	06	01			X-Ray End Station System Commissioning													
2	06	07				Atomic Physics							10,040	750,000			917,166	883,500	1,800,666
2	06	07	01			Atomic Physics Samples							2,480	100,000			225,528	118,000	343,528
2	06	07	01			Vendor Fab/Ship - AP Samples	6-Jun-08	1-Aug-08		X	SA_MSEQ	\$\$		100,000				118,000	118,000
2	06	07	01			Define AP Samples	3-Oct-05	11-Oct-06		X	SL_PHS	Hrs	1,000				84,880		84,880
2	06	07	01			Design AP preparation and handling - Samples	12-Oct-06	18-Apr-07		X	SL_PHS	Hrs	480				41,779		41,779
2	06	07	01			Design AP preparation and handling - Samples	12-Oct-06	18-Apr-07		X	SL_ME	Hrs	120				15,163		15,163
2	06	07	01			Procurements - AP Samples	30-Apr-08	17-Oct-08		X	SL_PHS	Hrs	480				42,983		42,983
2	06	07	01			Assembly - AP Samples	4-Aug-08	29-Aug-08		X	SL_PHS	Hrs	80				7,143		7,143
2	06	07	01			Assembly - AP Samples	4-Aug-08	29-Aug-08		X	SL_MFAT	Hrs	80				8,032		8,032
2	06	07	01			Assembly - AP Samples	4-Aug-08	29-Aug-08		X	SL_ME	Hrs	40				5,186		5,186
2	06	07	01			Test AP Sample	2-Sep-08	29-Sep-08		X	SL_PHS	Hrs	80				7,143		7,143
2	06	07	01			Test AP Sample	2-Sep-08	29-Sep-08		X	SL_MFAT	Hrs	80				8,032		8,032
2	06	07	01			Test AP Sample	2-Sep-08	29-Sep-08		X	SL_ME	Hrs	40				5,186		5,186
2	06	07	01			First Atomic Physics Experiment	0-Jan-00	29-Aug-08		X	SL_PHS	Hrs	-				-		-
2	06	07	01			First Atomic Physics Experiment	0-Jan-00	29-Aug-08		X	SL_MFAT	Hrs	-				-		-
2	06	07	01			First Atomic Physics Experiment	0-Jan-00	29-Aug-08		X	SL_ME	Hrs	-				-		-
2	06	07	02			Atomic Physics Diagnostics							2,440	500,000			221,483	590,000	811,483
2	06	07	02			Vendor Fab/Ship - AP Diagnostics	6-Jun-08	1-Aug-08		X	SA_MSEQ	\$\$		500,000				590,000	590,000
2	06	07	02			Define AP Diagnostics	12-Oct-06	22-Oct-07		X	SL_PHS	Hrs	1,000				87,184		87,184
2	06	07	02			Design AP Diagnostics	23-Oct-07	29-Apr-08		X	SL_PHS	Hrs	480				42,862		42,862
2	06	07	02			Design AP Diagnostics	23-Oct-07	29-Apr-08		X	SL_EE	Hrs	120				16,558		16,558
2	06	07	02			Procurements - AP Diagnostics	30-Apr-08	17-Oct-08		X	SL_PHS	Hrs	480				42,983		42,983
2	06	07	02			Assembly - AP Diagnostics	4-Aug-08	29-Aug-08		X	SL_PHS	Hrs	80				7,143		7,143
2	06	07	02			Assembly - AP Diagnostics	4-Aug-08	29-Aug-08		X	SL_EE	Hrs	40				5,519		5,519
2	06	07	02			Assembly - AP Diagnostics	4-Aug-08	29-Aug-08		X	SL_CT	Hrs	80				6,045		6,045
2	06	07	02			Test AP Diagnostics	2-Sep-08	29-Sep-08		X	SL_PHS	Hrs	80				7,143		7,143
2	06	07	02			Test AP Diagnostics	2-Sep-08	29-Sep-08		X	SL_CT	Hrs	80				6,045		6,045
2	06	07	03			Atomic Physics Data Analysis							2,680	50,000			247,842	57,500	305,342
2	06	07	03			Vendor Fab/Ship - AP Data Handling	25-May-07	23-Jul-07		X	SA_MSEQ	\$\$		50,000				57,500	57,500
2	06	07	03			Define AP Data Handling	3-Oct-05	11-Oct-06		X	SL_PHS	Hrs	1,000				84,880		84,880
2	06	07	03			Design AP Data Handling	12-Oct-06	18-Apr-07		X	SL_PHS	Hrs	480				41,779		41,779
2	06	07	03			Design AP Data Handling	12-Oct-06	18-Apr-07		X	SL_EE	Hrs	120				16,139		16,139
2	06	07	03			Design AP Data Handling	12-Oct-06	18-Apr-07		X	SL_CP	Hrs	240				26,098		26,098
2	06	07	03			Procurements - AP Data Handling	19-Apr-07	8-Oct-07		X	SL_PHS	Hrs	480				41,834		41,834
2	06	07	03			Assembly - AP Data Handling	24-Jul-07	20-Aug-07		X	SL_PHS	Hrs	80				6,963		6,963
2	06	07	03			Assembly - AP Data Handling	24-Jul-07	20-Aug-07		X	SL_EE	Hrs	40				5,380		5,380
2	06	07	03			Assembly - AP Data Handling	24-Jul-07	20-Aug-07		X	SL_CP	Hrs	80				8,699		8,699
2	06	07	03			Test - AP Data Handling	2-Sep-08	29-Sep-08		X	SL_PHS	Hrs	80				7,143		7,143
2	06	07	03			Test - AP Data Handling	2-Sep-08	29-Sep-08		X	SL_CP	Hrs	80				8,926		8,926
2	06	07	04			Atomic Physics Detectors							2,440	100,000			222,314	118,000	340,314
2	06	07	04			Vendor Fab/Ship - AP Data Handling	6-Jun-08	1-Aug-08		X	SA_MSEQ	\$\$		100,000				118,000	118,000
2	06	07	04			Define AP Detectors	12-Oct-06	22-Oct-07		X	SL_PHS	Hrs	1,000				87,184		87,184
2	06	07	04			Design AP Detectors	23-Oct-07	29-Apr-08		X	SL_PHS	Hrs	480				42,862		42,862
2	06	07	04			Design AP Detectors	23-Oct-07	29-Apr-08		X	SL_EE	Hrs	120				16,558		16,558
2	06	07	04			Procurements - AP Detectors	30-Apr-08	17-Oct-08		X	SL_PHS	Hrs	480				42,983		42,983
2	06	07	04			Assembly - AP Detectors	20-Oct-08	14-Nov-08		X	SL_PHS	Hrs	80				7,329		7,329
2	06	07	04			Assembly - AP Detectors	20-Oct-08	14-Nov-08		X	SL_EE	Hrs	40				5,663		5,663
2	06	07	04			Assembly - AP Detectors	20-Oct-08	14-Nov-08		X	SL_CT	Hrs	80				6,203		6,203
2	06	07	04			Test - AP Detectors	17-Nov-08	16-Dec-08		X	SL_PHS	Hrs	80				7,329		7,329
2	06	07	04			Test - AP Detectors	17-Nov-08	16-Dec-08		X	SL_CT	Hrs	80				6,203		6,203