WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	**02**					**INJECTOR SYSTEM**							**79,394**	**7,839,612**	**7,118,651**	**8,721,871**	**15,840,522**
1	**02**	**01**				**Injector System Management & Integration**							**7,194**	**110,270**	**688,400**	**132,239**	**820,639**
1	**02**	**01**	**01**			**Injector System Integration**							**3,296**	**22,000**	**267,301**	**24,072**	**291,373**
1	**02**	**01**	**01**	**01**		**Injector Region Integration**							**668**	**22,000**	**57,222**	**24,072**	**81,294**
1	02	01	01	01		Injector Region Layout	1-Feb-05	30-Dec-05		L	SL_ME	Hrs	120		12,780		12,780
1	02	01	01	01		Injector Region Layout	1-Feb-05	30-Dec-05		L	SL_MDD	Hrs	160		10,113		10,113
1	02	01	01	01		Injector Region Fabrication Oversight	16-May-05	15-Aug-06		L	SL_ME	Hrs	32		3,448		3,448
1	02	01	01	01		injector Region Documentation	2-Oct-06	29-Dec-06		C	SL_ME	Hrs	12		1,338		1,338
1	02	01	01	01		Injector Region CF Interface	1-Feb-05	29-Dec-06		L	SL_ME	Hrs	24		2,592		2,592
1	02	01	01	01		Design Injector Vault Base Supports	1-Feb-05	29-Apr-05		L	SL_ME	Hrs	120		12,685		12,685
1	02	01	01	01		Design Injector Vault Base Supports	1-Feb-05	29-Apr-05		L	SL_MDD	Hrs	160		10,038		10,038
1	02	01	01	01		Prep Bid Pkg for Injector Vault Base Supports	2-May-05	13-May-05		L	SL_ME	Hrs	20		2,114		2,114
1	02	01	01	01		Evaluate Proposals for Inj Vault Base Supports	25-May-05	27-May-05		L	SL_ME	Hrs	20		2,114		2,114
1	02	01	01	01		Vendor Fab Injector Vault Base Supports	1-Jun-05	20-Oct-05		L	SA_MSSC	$$		22,000		24,072	24,072
1	**02**	**01**	**01**	**02**		**Gun Area Integration**							**364**	**-**	**28,834**	**-**	**28,834**
1	02	01	01	02		Gun Area Layout	1-Jun-05	30-Sep-05		L	SL_ME	Hrs	80		8,457		8,457
1	02	01	01	02		Gun Area Layout	1-Jun-05	30-Sep-05		L	SL_MDD	Hrs	160		10,038		10,038
1	02	01	01	02		Gun Area Installation Oversight	1-May-06	28-Jul-06		C	SL_ME	Hrs	40		4,347		4,347
1	02	01	01	02		Gun Area Installation Oversight	1-May-06	28-Jul-06		C	SL_MDD	Hrs	20		1,290		1,290
1	02	01	01	02		Gun Area Documentation	3-Apr-06	29-Sep-06		C	SL_ME	Hrs	13		1,413		1,413
1	02	01	01	02		Gun Area Documentation	3-Apr-06	29-Sep-06		C	SL_MDD	Hrs	51		3,289		3,289
1	**02**	**01**	**01**	**03**		**Accelerator Area Integration**							**363**	**-**	**28,770**	**-**	**28,770**
1	02	01	01	03		Accelerator Area Layout	2-May-05	30-Aug-05		L	SL_ME	Hrs	80		8,457		8,457
1	02	01	01	03		Accelerator Area Layout	2-May-05	30-Aug-05		L	SL_MDD	Hrs	160		10,038		10,038
1	02	01	01	03		Accelerator Area Installation Oversight	1-Mar-06	28-Apr-06		C	SL_ME	Hrs	40		4,347		4,347
1	02	01	01	03		Accelerator Area Installation Oversight	1-Mar-06	28-Apr-06		C	SL_MDD	Hrs	20		1,290		1,290
1	02	01	01	03		Accelerator Area Documentation	3-Jan-06	30-Jun-06		C	SL_ME	Hrs	13		1,413		1,413
1	02	01	01	03		Accelerator Area Documentation	3-Jan-06	30-Jun-06		C	SL_MDD	Hrs	50		3,225		3,225
1	**02**	**01**	**01**	**04**		**Heater Area Integration**							**361**	**-**	**28,596**	**-**	**28,596**
1	02	01	01	04		Heater Area Layout	1-Feb-05	30-Jun-05		L	SL_ME	Hrs	80		8,457		8,457
1	02	01	01	04		Heater Area Layout	1-Feb-05	30-Jun-05		L	SL_MDD	Hrs	160		10,038		10,038
1	02	01	01	04		Heater Area Installation Oversight	3-Jan-06	28-Feb-06		C	SL_ME	Hrs	40		4,347		4,347
1	02	01	01	04		Heater Area Installation Oversight	3-Jan-06	28-Feb-06		C	SL_MDD	Hrs	20		1,290		1,290
1	02	01	01	04		Heater Area Documentation	3-Oct-05	30-Mar-06		C	SL_ME	Hrs	12		1,304		1,304
1	02	01	01	04		Heater Area Documentation	3-Oct-05	30-Mar-06		C	SL_MDD	Hrs	49		3,160		3,160
1	**02**	**01**	**01**	**05**		**Wall Area Integration**							**603**	**-**	**47,803**	**-**	**47,803**
1	02	01	01	05		Wall Area Layout	1-Feb-05	29-Apr-05		L	SL_ME	Hrs	80		8,457		8,457
1	02	01	01	05		Wall Area Layout	1-Feb-05	29-Apr-05		L	SL_MDD	Hrs	160		10,038		10,038
1	02	01	01	05		Wall Area Installation Oversight	3-Oct-05	28-Oct-05		C	SL_ME	Hrs	40		4,347		4,347
1	02	01	01	05		Wall Area Installation Oversight	3-Oct-05	28-Oct-05		C	SL_MDD	Hrs	20		1,290		1,290
1	02	01	01	05		Wall Area Documentation	1-Jul-05	30-Dec-05		L	SL_ME	Hrs	101		10,824		10,824
1	02	01	01	05		Wall Area Documentation	1-Jul-05	30-Dec-05		L	SL_MDD	Hrs	202		12,847		12,847
1	**02**	**01**	**01**	**06**		**Insertion Area Integration**							**363**	**-**	**29,177**	**-**	**29,177**
1	02	01	01	06		Insertion Area Layout	1-Jul-05	30-Nov-05		L	SL_ME	Hrs	80		8,549		8,549
1	02	01	01	06		Insertion Area Layout	1-Jul-05	30-Nov-05		L	SL_MDD	Hrs	160		10,148		10,148
1	02	01	01	06		Insertion Area Installation Oversight	2-Oct-06	2-Feb-07		C	SL_ME	Hrs	40		4,460		4,460
1	02	01	01	06		Insertion Area Installation Oversight	2-Oct-06	2-Feb-07		C	SL_MDD	Hrs	20		1,323		1,323
1	02	01	01	06		Insertion Area Documentation	3-Jul-06	29-Dec-06		C	SL_ME	Hrs	13		1,431		1,431
1	02	01	01	06		Insertion Area Documentation	3-Jul-06	29-Dec-06		C	SL_MDD	Hrs	50		3,266		3,266
1	**02**	**01**	**01**	**07**		**Spectrometer Area Integration**							**363**	**-**	**29,492**	**-**	**29,492**
1	02	01	01	07		Spectrometer Area Layout	3-Oct-05	30-Jan-06		C	SL_ME	Hrs	80		8,694		8,694
1	02	01	01	07		Spectrometer Area Layout	3-Oct-05	30-Jan-06		C	SL_MDD	Hrs	160		10,318		10,318
1	02	01	01	07		Spectrometer Area Installation Oversight	2-Oct-06	2-Feb-07		C	SL_ME	Hrs	40		4,460		4,460
1	02	01	01	07		Spectrometer Area Installation Oversight	2-Oct-06	2-Feb-07		C	SL_MDD	Hrs	20		1,323		1,323
1	02	01	01	07		Spectrometer Area Documentation	3-Jul-06	29-Dec-06		C	SL_ME	Hrs	13		1,431		1,431
1	02	01	01	07		Spectrometer Area Documentation	3-Jul-06	29-Dec-06		C	SL_MDD	Hrs	50		3,266		3,266
1	**02**	**01**	**01**	**08**		**Drive Laser Integration**							**211**	**-**	**17,407**	**-**	**17,407**
1	02	01	01	08		Drive Laser Layout	3-Oct-05	30-Dec-05		C	SL_ME	Hrs	40		4,347		4,347
1	02	01	01	08		Drive Laser Layout	3-Oct-05	30-Dec-05		C	SL_MDD	Hrs	80		5,159		5,159
1	02	01	01	08		Drive Laser Installation Oversight	1-May-06	28-Jul-06		C	SL_ME	Hrs	40		4,347		4,347
1	02	01	01	08		Drive Laser Installation Oversight	1-May-06	28-Jul-06		C	SL_MDD	Hrs	20		1,290		1,290
1	02	01	01	08		Drive Laser Documentation	3-Jul-06	29-Sep-06		C	SL_ME	Hrs	6		652		652
1	02	01	01	08		Drive Laser Documentation	3-Jul-06	29-Sep-06		C	SL_MDD	Hrs	25		1,612		1,612
1	**02**	**01**	**02**			**High level Application Software**											

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	**02**	**01**	**03**			**Feedback Software**											
1	**02**	**01**	**04**			**Injector System Integration Effort / M&S**							**3,898**	**88,270**	**421,099**	**108,167**	**529,266**
1	02	01	04			Management - PED	4-Oct-04	3-Oct-05	S	L	SL_TSM	Hrs	1,220		128,981		128,981
1	02	01	04			Management - CONST	4-Oct-05	31-Mar-09	S	C	SL_TSM	Hrs	1,445		162,340		162,340
1	02	01	04			Cost Account Managers - PED	4-Oct-04	3-Oct-05	S	L	SL_ME	Hrs	181		19,136		19,136
1	02	01	04			Cost Account Managers - PED	4-Oct-04	3-Oct-05	S	L	SL_KE	Hrs	181		20,367		20,367
1	02	01	04			Cost Account Managers - PED	4-Oct-04	3-Oct-05	S	L	SL_CP	Hrs	181		16,467		16,467
1	02	01	04			Cost Account Managers - CONST	4-Oct-05	31-Mar-09	S	C	SL_ME	Hrs	184		20,672		20,672
1	02	01	04			Cost Account Managers - CONST	4-Oct-05	31-Mar-09	S	C	SL_KE	Hrs	184		22,002		22,002
1	02	01	04			Cost Account Managers - CONST	4-Oct-05	31-Mar-09	S	C	SL_CP	Hrs	322		31,134		31,134
1	02	01	04			Computers - PED	1-Mar-05	30-Sep-05	S	L	SL_MSEG	$$		3,017		3,289	3,289
1	02	01	04			Computers - CONST	3-Oct-05	30-Mar-09	S	C	SL_MSEG	$$		23,506		27,230	27,230
1	02	01	04			Travel - PED	1-Mar-05	30-Sep-05	S	L	SL_MSTR	$$		6,539		8,043	8,043
1	02	01	04			Travel - CONST	3-Oct-05	30-Mar-09	S	C	SL_MSTR	$$		37,527		49,261	49,261
1	02	01	04			Materials & Supplies - PED	1-Mar-05	30-Sep-05	S	L	SL_MSCS	$$		2,011		2,192	2,192
1	02	01	04			Materials & Supplies - CONST	3-Oct-05	30-Mar-09	S	C	SL_MSCS	$$		15,670		18,152	18,152
1	**02**	**02**				**Injector Controls Subsystem**							**11,500**	**1,561,248**	**927,938**	**1,747,118**	**2,675,056**
1	**02**	**02**	**01**			**Personnel Protection Subsystem (PPS)**							**-**	**79,293**	**-**	**88,311**	**88,311**
1	02	02	01			Procure PPS Hardware	13-Jan-06	5-Jul-06		L	SL_MSEG	$$		62,717		70,243	70,243
1	02	02	01			Procure Entryway Hardware	1-Jun-05	22-Sep-05		L	SL_MSEG	$$		16,576		18,068	18,068
1	**02**	**02**	**02**			**Beam Containment Subsystem (BCS)**							**180**	**-**	**16,796**	**-**	**16,796**
1	02	02	02			Write S/W Docmtn for Power Supply Controls	23-Jun-05	28-Jul-05		L	SL_CP	Hrs	40		3,639		3,639
1	02	02	02			Integrate and Test Power Supply Controls	10-Feb-06	22-Nov-06		C	SL_CP	Hrs	140		13,157		13,157
1	**02**	**02**	**03**			**Machine Protection Subsystem (MPS)**							**-**	**44,477**	**-**	**51,149**	**51,149**
1	02	02	03			Procure MPS Hardware	2-Oct-06	9-Mar-07		L	SL_MSEG	$$		44,477		51,149	51,149
1	**02**	**02**	**04**			**Injector Power Conversion**							**2,021**	**482,250**	**161,840**	**531,671**	**693,511**
1	**02**	**02**	**04**	**01**		**Beamline Pwr Supplies - (Dipole Type)**							**312**	**68,599**	**26,915**	**74,776**	**101,691**
1	**02**	**02**	**04**	**01**	**01**	**10kw Power Supply - (Solenoid 1)**							**64**	**12,234**	**5,563**	**13,338**	**18,901**
1	02	02	04	01	01	10kw Power Supply - (Selenoid 1)	3-May-05	3-Oct-05		L	SL_MSEG	$$		12,234		13,338	13,338
1	02	02	04	01	01	Conduct Design Review	2-May-05	2-May-05	S	L	SL_PCE	Hrs	8		900		900
1	02	02	04	01	01	Perform Solenoid 1 PS 10KW Pre-Install Qual Test	3-Oct-06	30-Oct-06	S	C	SL_PCE	Hrs	16		1,899		1,899
1	02	02	04	01	01	Perform Solenoid 1 PS 10KW Pre-Install Qual Test	3-Oct-06	30-Oct-06	S	C	SL_PCCA	Hrs	40		2,764		2,764
1	**02**	**02**	**04**	**01**	**02**	**30kw Power Supply - (Solenoid 2)**							**64**	**15,197**	**5,563**	**16,565**	**22,128**
1	02	02	04	01	02	30kw Power Supply - (Solenoid 2)	2-Jun-05	9-Sep-05		L	SL_MSEG	$$		15,197		16,565	16,565
1	02	02	04	01	02	Conduct Design Review	1-Jun-05	1-Jun-05	S	L	SL_PCE	Hrs	8		900		900
1	02	02	04	01	02	Perform Solenoid 2 PS 15KW Pre-Install Qual Test	2-Oct-06	27-Oct-06	S	C	SL_PCE	Hrs	16		1,899		1,899
1	02	02	04	01	02	Perform Solenoid 2 PS 15KW Pre-Install Qual Test	2-Oct-06	27-Oct-06	S	C	SL_PCCA	Hrs	40		2,764		2,764
1	**02**	**02**	**04**	**01**	**03**	**2kw Power Supply - (B0.5 Spect)**											
1	**02**	**02**	**04**	**01**	**04**	**15kw Power Supply - (B1-2)**							**64**	**14,467**	**5,563**	**15,769**	**21,332**
1	02	02	04	01	04	15kw Power Supply - (B1-2)	2-Jun-05	9-Sep-05		L	SL_MSEG	$$		14,467		15,769	15,769
1	02	02	04	01	04	Conduct Design Review	1-Jun-05	1-Jun-05	S	L	SL_PCE	Hrs	8		900		900
1	02	02	04	01	04	Perform BX011-BX02 PS 15KW Pre-Install Qual Test	2-Oct-06	27-Oct-06	S	C	SL_PCE	Hrs	16		1,899		1,899
1	02	02	04	01	04	Perform BX011-BX02 PS 15KW Pre-Install Qual Test	2-Oct-06	27-Oct-06	S	C	SL_PCCA	Hrs	40		2,764		2,764
1	**02**	**02**	**04**	**01**	**05**	**15kw Power Supply - (B3 Spect)**							**64**	**14,467**	**5,563**	**15,769**	**21,332**
1	02	02	04	01	05	15kw Power Supply (B3-Spect)	2-Jun-05	9-Sep-05		L	SL_MSEG	$$		14,467		15,769	15,769
1	02	02	04	01	05	Conduct Design Review	1-Jun-05	1-Jun-05	S	L	SL_PCE	Hrs	8		900		900
1	02	02	04	01	05	Perform BXS Spect PS 15KW Pre-Install Qual Test	2-Oct-06	27-Oct-06	S	C	SL_PCE	Hrs	16		1,899		1,899
1	02	02	04	01	05	Perform BXS Spect PS 15KW Pre-Install Qual Test	2-Oct-06	27-Oct-06	S	C	SL_PCCA	Hrs	40		2,764		2,764
1	**02**	**02**	**04**	**01**	**06**	**10kw Power Supply - (New)**							**56**	**12,234**	**4,663**	**13,335**	**17,998**
1	02	02	04	01	06	10kw Power Supply - (New)	21-Jun-05	28-Sep-05		L	SL_MSEG	$$		12,234		13,335	13,335
1	02	02	04	01	06	Perform Wiggler PS 10KW Pre-Install Qual	2-Oct-06	27-Oct-06	S	C	SL_PCE	Hrs	16		1,899		1,899
1	02	02	04	01	06	Perform Wiggler PS 10KW Pre-Install Qual	2-Oct-06	27-Oct-06	S	C	SL_PCCA	Hrs	40		2,764		2,764
1	**02**	**02**	**04**	**02**		**Power Supply Controls**							**60**	**-**	**5,220**	**-**	**5,220**
1	02	02	04	02		Integrate software & hardware	2-Oct-06	6-Oct-06	S	L	SL_CP	Hrs	40		3,838		3,838
1	02	02	04	02		Integrate software & hardware	2-Oct-06	6-Oct-06	S	L	SL_CCA	Hrs	20		1,382		1,382
1	**02**	**02**	**04**	**03**		**Beamline Pwr Supplies - (Trim Type)**							**256**	**157,016**	**22,326**	**175,334**	**197,660**
1	**02**	**02**	**04**	**03**	**01**	**12Amp Power Supply - (MCOR_1)**							**64**	**45,894**	**5,588**	**51,401**	**56,989**
1	02	02	04	03	01	RCV:12 Amp Power Supply (MCOR 1) (16 ps)	0-Jan-00	22-May-06	S	L	SL_MSEG	$$		-		-	-
1	02	02	04	03	01	12 Amp Power Supply (MCOR 1) (16 ps)	8-Dec-05	22-May-06		L	SL_MSEG	$$		45,894		51,401	51,401
1	02	02	04	03	01	Conduct Design Review	7-Dec-05	7-Dec-05	S	L	SL_PCE	Hrs	8		925		925
1	02	02	04	03	01	Perform MCOR_1 Pre-Install Qual Test	2-Oct-06	27-Oct-06	S	C	SL_PCE	Hrs	16		1,899		1,899
1	02	02	04	03	01	Perform MCOR_1 Pre-Install Qual Test	2-Oct-06	27-Oct-06	S	C	SL_PCCA	Hrs	40		2,764		2,764
1	**02**	**02**	**04**	**03**	**02**	**30Amp Power Supply - (MCOR_2)**							**64**	**46,834**	**5,612**	**53,859**	**59,471**
1	02	02	04	03	02	Conduct Design Panel	2-Oct-06	2-Oct-06	S	L	SL_PCE	Hrs	8		949		949

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	02	02	04	03	02	30 Amp Power Supply - (MCOR_2)	3-Oct-06	19-Mar-07		L	SL_MSEG	$$		46,834		53,859	53,859
1	02	02	04	03	02	Perform MCOR_2 Pre-Install Qual Test	2-Oct-06	27-Oct-06	S	C	SL_PCE	Hrs	16		1,899		1,899
1	02	02	04	03	02	Perform MCOR_2 Pre-Install Qual Test	2-Oct-06	27-Oct-06	S	C	SL_PCCA	Hrs	40		2,764		2,764
1	**02**	**02**	**04**	**03**	**03**	**30Amp Power Supply - (MCOR_3)**							**64**	**27,769**	**5,563**	**30,268**	**35,831**
1	02	02	04	03	03	30Amp Power Supply - (MCOR_3)	3-May-05	29-Sep-05		L	SL_MSEG	$$		27,769		30,268	30,268
1	02	02	04	03	03	Conduct Design Review	2-May-05	2-May-05	S	L	SL_PCE	Hrs	8		900		900
1	02	02	04	03	03	Perform MCOR_3 Pre-Install Qual Test	2-Oct-06	27-Oct-06	S	C	SL_PCE	Hrs	16		1,899		1,899
1	02	02	04	03	03	Perform MCOR_3 Pre-Install Qual Test	2-Oct-06	27-Oct-06	S	C	SL_PCCA	Hrs	40		2,764		2,764
1	**02**	**02**	**04**	**03**	**04**	**30Amp Power Supply - (MCOR_4)**							**64**	**36,519**	**5,563**	**39,806**	**45,369**
1	02	02	04	03	04	30 Amp Power Supply (MCOR_4)	3-May-05	29-Sep-05		L	SL_MSEG	$$		36,519		39,806	39,806
1	02	02	04	03	04	Conduct Design Review	2-May-05	2-May-05	S	L	SL_PCE	Hrs	8		900		900
1	02	02	04	03	04	Perform MCOR_4 Pre-Install Qual Test	2-Oct-06	27-Oct-06	S	C	SL_PCE	Hrs	16		1,899		1,899
1	02	02	04	03	04	Perform MCOR_4 Pre-Install Qual Test	2-Oct-06	27-Oct-06	S	C	SL_PCCA	Hrs	40		2,764		2,764
1	**02**	**02**	**04**	**04**		**Beamline Pwr Supply - Misc Hdwr**							**1,393**	**256,635**	**107,379**	**281,561**	**388,940**
1	02	02	04	04		Design Cableplant and Racks	2-May-05	21-Sep-05		P	SL_PCE	Hrs	256		28,803		28,803
1	02	02	04	04		Design Cableplant and Racks	2-May-05	21-Sep-05		P	SL_PCCA	Hrs	360		23,591		23,591
1	02	02	04	04		Captar Documents	16-May-05	27-May-05	S	L	SL_PCCA	Hrs	80		5,242		5,242
1	02	02	04	04		Cableplant and Rack Hardware	21-Jun-05	9-Dec-05		L	SL_MSEG	$$		68,935		75,966	75,966
1	02	02	04	04		Prep Bid Pak - Single Bay Racks (DC/I&C)	31-May-05	20-Jun-05	S	L	SL_PCE	Hrs	8		900		900
1	02	02	04	04		Evaluate Proposals - Single Bay Racks (DC/	20-Jul-05	9-Aug-05	S	L	SL_PCE	Hrs	8		900		900
1	02	02	04	04		Vendor Fab/Assy - Single Bay Racks	11-Aug-05	15-Feb-06	S	L	SA_MSSC	$$		25,200		27,997	27,997
1	02	02	04	04		Prep Bid Pak - Double Bay Racks	31-May-05	20-Jun-05	S	L	SL_PCE	Hrs	8		900		900
1	02	02	04	04		Evaluate Proposals - Double Bay Racks	20-Jul-05	9-Aug-05	S	L	SL_PCE	Hrs	8		900		900
1	02	02	04	04		Vendor Fab/Assy - Double Bay Racks	11-Aug-05	15-Feb-06	S	L	SA_MSSC	$$		22,500		24,998	24,998
1	02	02	04	04		Prep Bid Pak - Cableplant Install(DC.I&C)-S20	31-May-05	20-Jun-05	S	L	SL_PCE	Hrs	48		5,400		5,400
1	02	02	04	04		Evaluate Prop-Cableplant Install(DC.I&C)-S20	20-Jul-05	2-Aug-05	S	L	SL_PCE	Hrs	24		2,700		2,700
1	02	02	04	04		Vendor - Cableplant Install (DC. I&C)-S20	4-Aug-05	4-Aug-05		L	SA_MSSC	$$		140,000		152,600	152,600
1	02	02	04	04		Integ Rack Rack HW & Internal AC Wiring - S20	16-Feb-06	6-Mar-06	S	C	SL_PCEF	Hrs	135		8,551		8,551
1	02	02	04	04		Integ Rack Mount Pwr Supplies&Intra Cables - S20	23-May-06	16-Aug-06	S	C	SL_PCEF	Hrs	68		4,307		4,307
1	02	02	04	04		Integ Rack/Crate Mount Cntrls&Intra-Cables - S20	23-May-06	5-Jul-06	S	C	SL_PCEF	Hrs	270		17,102		17,102
1	02	02	04	04		Perform Pre-Install Testing Controls - S20	6-Jul-06	26-Jul-06	S	C	SL_CCA	Hrs	120		8,083		8,083
1	**02**	**02**	**04**	**05**		**Magnet Interlock Protection System**											
1	**02**	**02**	**05**			**LLRF Controls**							**4,220**	**241,196**	**342,193**	**265,662**	**607,855**
1	**02**	**02**	**05**	**01**		**Readback & Controls - RF Gun LLRF & Temperature**							**1,250**	**40,044**	**100,913**	**44,106**	**145,019**
1	02	02	05	01		Procure controls H/W (incl digitizer) and cables	8-Aug-05	3-Nov-05	S	L	SL_MSEG	$$		40,044		44,106	44,106
1	02	02	05	01		Write RF Software and Documentation - PED	8-Aug-05	9-Nov-05		L	SL_CP	Hrs	20		1,841		1,841
1	02	02	05	01		Build RF Hardware & Write Documentation	9-May-06	3-Aug-06		C	SL_CCA	Hrs	60		4,042		4,042
1	02	02	05	01		Write RF Software and Documentation - CONST	10-Nov-05	6-Jun-06		C	SL_CP	Hrs	60		5,611		5,611
1	02	02	05	01		Integrate & Test RF Control	7-Jun-06	18-Sep-06		C	SL_CP	Hrs	560		52,371		52,371
1	02	02	05	01		Integrate & Test RF Control	7-Jun-06	18-Sep-06		C	SL_CCA	Hrs	550		37,048		37,048
1	**02**	**02**	**05**	**02**		**Readback & Controls - L0 LLRF**							**1,195**	**80,554**	**97,160**	**88,725**	**185,885**
1	02	02	05	02		Procure Controls H/W (incl Digitizer) and Cables	8-Aug-05	3-Nov-05	S	L	SL_MSEG	$$		40,044		44,106	44,106
1	02	02	05	02		Build RF Control H/W and Write Docmntn - PED	20-Sep-05	2-Mar-06		L	SL_CCA	Hrs	31		2,083		2,083
1	02	02	05	02		Build RF Control H/W and Write Docmntn - CONST	9-May-06	26-Mar-07		C	SL_CCA	Hrs	64		4,370		4,370
1	02	02	05	02		Write RF Control S/W and Docmntn	8-Aug-05	16-Nov-06		L	SL_CP	Hrs	60		5,608		5,608
1	02	02	05	02		Integrate and Test LLRF L0-1	27-Mar-07	27-Apr-07		C	SL_CP	Hrs	240		23,028		23,028
1	02	02	05	02		Integrate and Test LLRF L0-1	27-Mar-07	27-Apr-07		C	SL_CCA	Hrs	220		15,204		15,204
1	02	02	05	02		Procure Controls H/W (incl Digitizer) and Cables	8-Aug-05	3-Nov-05	S	L	SL_MSEG	$$		40,510		44,619	44,619
1	02	02	05	02		Build RF Hardware and Write Documentation	14-Nov-05	16-Feb-06		L	SL_CCA	Hrs	60		4,042		4,042
1	02	02	05	02		Write RF Software Documentation	8-Aug-05	8-Feb-06		L	SL_CP	Hrs	60		5,561		5,561
1	02	02	05	02		Integrate and Test LLRF L0-2	17-Feb-06	23-Mar-06		L	SL_CP	Hrs	240		22,445		22,445
1	02	02	05	02		Integrate and Test LLRF L0-2	17-Feb-06	23-Mar-06		L	SL_CCA	Hrs	220		14,819		14,819
1	**02**	**02**	**05**	**03**		**Readback & Controls - Transverse Cavity LLRF**							**615**	**40,510**	**50,489**	**44,619**	**95,108**
1	02	02	05	03		Procure Contros H/W (incl Digitizer) and Cables	8-Aug-05	3-Nov-05	S	L	SL_MSEG	$$		40,510		44,619	44,619
1	02	02	05	03		Build RF Hardware and Write Documentation	14-Nov-05	14-Nov-05		C	SL_CCA	Hrs	45		3,031		3,031
1	02	02	05	03		Write RF Sortware and Documentation	8-Aug-05	8-Feb-06		L	SL_CP	Hrs	110		10,194		10,194
1	02	02	05	03		Integrate and Test RF Control	15-Nov-05	16-Feb-06		C	SL_CP	Hrs	240		22,445		22,445
1	02	02	05	03		Integrate and Test RF Control	15-Nov-05	16-Feb-06		C	SL_CCA	Hrs	220		14,819		14,819
1	**02**	**02**	**05**	**04**		**S-Band Cavity Controls**							**1,160**	**80,088**	**93,631**	**88,212**	**181,843**
1	02	02	05	04		Procure Controls H/W (incl Digitizer) and Cables	8-Aug-05	3-Nov-05	S	L	SL_MSEG	$$		40,044		44,106	44,106
1	02	02	05	04		Build RF Hardware and Write Documentation	4-Nov-05	8-Feb-06		L	SL_CCA	Hrs	60		4,042		4,042
1	02	02	05	04		Write RF Software and Documentation	8-Aug-05	8-Aug-05		L	SL_CP	Hrs	60		5,458		5,458
1	02	02	05	04		Integrate and Test RF Control	9-Feb-06	16-Mar-06		L	SL_CP	Hrs	240		22,445		22,445
1	02	02	05	04		Integrate and Test RF Control	9-Feb-06	16-Mar-06		L	SL_CCA	Hrs	220		14,819		14,819

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	02	02	05	04		Procure Controls H/W (incl Digitizer) and Cables	8-Aug-05	3-Nov-05	S	L	SL_MSEG	$$		40,044		44,106	44,106
1	02	02	05	04		Build RF Hardware and Write Documentation	4-Nov-05	8-Feb-06		L	SL_CCA	Hrs	60		4,042		4,042
1	02	02	05	04		Write RF Software and Documentation	8-Aug-05	8-Feb-06		L	SL_CP	Hrs	60		5,561		5,561
1	02	02	05	04		Integrate and Test RF Control	9-Feb-06	16-Mar-06		L	SL_CP	Hrs	240		22,445		22,445
1	02	02	05	04		Integrate and Test RF Control	9-Feb-06	16-Mar-06		L	SL_CCA	Hrs	220		14,819		14,819
1	**02**	**02**	**05**	**05**		**EO Phase Controls**											
1	**02**	**02**	**06**			**E-Beam Diagnostics Controls**							**3,583**	**250,686**	**286,420**	**281,340**	**567,760**
1	**02**	**02**	**06**	**01**		**Controls - Wire Scanners**											
1	**02**	**02**	**06**	**02**		**Controls - BPM**							**406**	**100,340**	**32,970**	**111,277**	**144,247**
1	02	02	06	02		Proc 21 sets BPM Controls H/W and Cables	2-Sep-05	29-Nov-05	S	L	SL_MSEG	$$		95,340		105,827	105,827
1	02	02	06	02		Build H/W and Write Docmntn BPMs (21)	5-Dec-05	2-Oct-06		L	SL_CP	Hrs	48		4,490		4,490
1	02	02	06	02		Build H/W and Write Docmntn BPMs (21)	5-Dec-05	2-Oct-06		L	SL_CCA	Hrs	88		5,928		5,928
1	02	02	06	02		Integrate and Test BPM Controls	3-Oct-06	23-Jul-07		C	SL_CP	Hrs	145		13,913		13,913
1	02	02	06	02		Integrate and Test BPM Controls	3-Oct-06	23-Jul-07		C	SL_CCA	Hrs	125		8,639		8,639
1	02	02	06	02		Procure BLM Controls Hdwr/Eq	2-Sep-05	30-Sep-05	S	L	SL_MSEG	$$		5,000		5,450	5,450
1	**02**	**02**	**06**	**03**		**Controls - Toroids**							**616**	**26,191**	**49,550**	**30,120**	**79,670**
1	02	02	06	03		Procure 5 Sets Toroid Contrls H/W and Cables	2-Oct-06	30-Nov-06	S	L	SL_MSEG	$$		26,191		30,120	30,120
1	02	02	06	03		Build Toroid Hardware and Write Documentatin	14-Mar-07	17-May-07		C	SL_CCA	Hrs	56		3,870		3,870
1	02	02	06	03		Write Toroid Software and Documentation	25-Oct-06	17-Jan-07		L	SL_CP	Hrs	80		7,676		7,676
1	02	02	06	03		Integrate Software and Hardware	18-May-07	12-Jul-07		C	SL_CP	Hrs	180		17,271		17,271
1	02	02	06	03		Integrate Software and Hardware	18-May-07	12-Jul-07		C	SL_CCA	Hrs	300		20,733		20,733
1	**02**	**02**	**06**	**05**		**Controls - Profile Monitors**							**1,344**	**82,686**	**106,195**	**92,254**	**198,449**
1	02	02	06	05		Proc 11 sets Profile Mntr Cntrls H/W & Cables	23-Sep-05	21-Nov-05	S	L	SL_MSEG	$$		82,686		92,254	92,254
1	02	02	06	05		Build H/W and Write Docmntn Profile Monitor (11)	22-Nov-05	11-Aug-06		C	SL_CCA	Hrs	504		33,949		33,949
1	02	02	06	05		Write S/W and Docmntn Profile Monitors (11)	23-Sep-05	11-Aug-06		L	SL_CP	Hrs	120		11,214		11,214
1	02	02	06	05		Integrate and Test Profile Monitors	2-Oct-06	20-Apr-07		C	SL_CP	Hrs	420		40,299		40,299
1	02	02	06	05		Integrate and Test Profile Monitors	2-Oct-06	20-Apr-07		C	SL_CCA	Hrs	300		20,733		20,733
1	**02**	**02**	**06**	**06**		**Controls - E/O Diagnostics**							**421**	**-**	**32,280**	**-**	**32,280**
1	02	02	06	06		Build H/W and Write Docmntn for E/O Diagnostics	18-Jul-06	7-Dec-06		C	SL_CCA	Hrs	97		6,614		6,614
1	02	02	06	06		Write S/W and Docmtn E/O Diagnostics	2-Oct-06	9-Mar-07		C	SL_CP	Hrs	40		3,838		3,838
1	02	02	06	06		Integrate and Test E/O Diagnostics Controls H/W	8-Dec-06	20-Jun-07		C	SL_CP	Hrs	82		7,868		7,868
1	02	02	06	06		Integrate and Test E/O Diagnostics Controls H/W	8-Dec-06	20-Jun-07		C	SL_CCA	Hrs	202		13,960		13,960
1	**02**	**02**	**06**	**14**		**Controls - Faraday Cups**							**700**	**38,169**	**57,105**	**43,894**	**100,999**
1	02	02	06	14		Procure 4 Sets Faraday Cup Controls H/W & Cables	2-Oct-06	30-Nov-06	S	L	SL_MSEG	$$		38,169		43,894	43,894
1	02	02	06	14		Build H/W and Write Docmtn Faraday Cup Cntrl (4)	1-Dec-06	1-Dec-06		C	SL_CCA	Hrs	80		5,529		5,529
1	02	02	06	14		Write S/W and Docmtn Faraday Cup Control (4)	23-Sep-05	23-Sep-05		L	SL_CP	Hrs	80		7,278		7,278
1	02	02	06	14		Integrate and Test Faraday Cup Control (4)	4-Dec-06	23-Jan-07		C	SL_CP	Hrs	260		24,947		24,947
1	02	02	06	14		Integrate and Test Faraday Cup Control (4)	4-Dec-06	23-Jan-07		C	SL_CCA	Hrs	280		19,351		19,351
1	**02**	**02**	**06**	**15**		**Controls - Tune-Up Dump**							**96**	**3,300**	**8,320**	**3,795**	**12,115**
1	02	02	06	15		Procure 1 set Tune-up Dump Controls H/W	2-Oct-06	30-Nov-06	S	L	SL_MSEG	$$		3,300		3,795	3,795
1	02	02	06	15		Write S/W - Tune-Up Dump Controls	2-Oct-06	9-Mar-07	S	L	SL_CP	Hrs	40		3,838		3,838
1	02	02	06	15		Write Docs - Tune-Up Dump Controls	2-Oct-06	9-Mar-07	S	L	SL_CP	Hrs	8		768		768
1	02	02	06	15		Write Docs - Tune-Up Dump Controls	2-Oct-06	9-Mar-07	S	L	SL_CCA	Hrs	8		553		553
1	02	02	06	15		Assemble Tune-up Dump Controls	1-Dec-06	14-Feb-07	S	L	SL_PCEF	Hrs	8		520		520
1	02	02	06	15		Integrate and Test Tune Up Dump	12-Mar-07	18-Apr-07		C	SL_CP	Hrs	16		1,535		1,535
1	02	02	06	15		Integrate and Test Tune Up Dump	12-Mar-07	18-Apr-07		C	SL_CCA	Hrs	16		1,106		1,106
1	**02**	**02**	**06**	**16**		**Diagnostics Controls Integration**											
1	**02**	**02**	**08**			**Timing Controls**							**-**	**59,100**	**-**	**67,965**	**67,965**
1	02	02	08			Procure Master & Distributed Timing Controls H/W	2-Oct-06	16-Jan-07	S	L	SL_MSEG	$$		59,100		67,965	67,965
1	**02**	**02**	**09**			**Vacuum Controls**							**310**	**128,770**	**26,255**	**148,086**	**174,341**
1	02	02	09			Procure Vacuum Controls Hardware and Cables	2-Oct-06	16-Jan-07	S	L	SL_MSEG	$$		128,770		148,086	148,086
1	02	02	09			Build Vacuum H/W and Write Docmntn	17-Jan-07	5-Feb-07		C	SL_CCA	Hrs	10		691		691
1	02	02	09			Write Vacuum Documentation	2-Oct-06	9-Mar-07	S	L	SL_CP	Hrs	40		3,838		3,838
1	02	02	09			Integration and Test Vacuum Controls	6-Feb-07	15-Aug-07		C	SL_CP	Hrs	140		13,433		13,433
1	02	02	09			Integration and Test Vacuum Controls	6-Feb-07	15-Aug-07		C	SL_CCA	Hrs	120		8,293		8,293
1	**02**	**02**	**10**			**Software & Controls Infrastructure**							**248**	**184,250**	**16,763**	**211,888**	**228,651**
1	**02**	**02**	**10**	**01**		**Low Level Application Software**											
1	**02**	**02**	**10**	**02**		**High Level Application Software**											
1	**02**	**02**	**10**	**03**		**Data Communications**							**248**	**30,850**	**16,763**	**35,478**	**52,241**
1	02	02	10	03		Supervision of installation	2-May-05	13-Jun-05	S	L	SL_CCA	Hrs	90		5,898		5,898
1	02	02	10	03		SEM Installtn (wall barrd & two 20 A circuits)	2-May-05	21-Sep-05		L	SL_TMUE	Hrs	16		1,541		1,541
1	02	02	10	03		SEM Installtn (wall barrd & two 20 A circuits)	2-May-05	21-Sep-05		L	SL_TMUC	Hrs	2		150		150
1	02	02	10	03		SEM Installtn (wall barrd & two 20 A circuits)	2-May-05	21-Sep-05		L	SL_CCA	Hrs	140		9,174		9,174
1	02	02	10	03		Procure singlemode fiber	2-Oct-06	16-Jan-07	S	L	SL_MSEG	$$		11,250		12,938	12,938

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	02	02	10	03		Fiber termination	17-Jan-07	16-Apr-07	S	L	SL_MSPS	$$		3,600		4,140	4,140
1	02	02	10	03		Procure Cisco 3550-24 hubs (4)	2-Oct-06	30-Oct-06	S	C	SL_MSEG	$$		16,000		18,400	18,400
1	**02**	**02**	**10**	**04**		**Computers & Crates**							**-**	**153,400**	**-**	**176,410**	**176,410**
1	02	02	10	04		Procure Infrastructure Comp, Crates H/W & Cable	2-Oct-06	16-Jan-07	S	L	SL_MSEG	$$		153,400		176,410	176,410
1	**02**	**02**	**11**			**EPICS VXI Control Modules (Moved to R&D)**											
1	**02**	**02**	**12**			**Laser Controls**							**454**	**78,026**	**36,784**	**85,866**	**122,650**
1	**02**	**02**	**12**	**01**		**Controls - Alignment Laser**											
1	**02**	**02**	**12**	**02**		**Controls - Gun Laser**							**454**	**78,026**	**36,784**	**85,866**	**122,650**
1	02	02	12	02		Procure 1 set Gun Laser Controls H/W	4-Aug-05	1-Nov-05	S	L	SL_MSEG	$$		78,026		85,866	85,866
1	02	02	12	02		Integrate and Test Gun Laser Controls	2-Nov-05	11-Apr-06		C	SL_PCEF	Hrs	84		5,321		5,321
1	02	02	12	02		Integrate and Test Gun Laser Controls	2-Nov-05	11-Apr-06		C	SL_CP	Hrs	250		23,380		23,380
1	02	02	12	02		Integrate and Test Gun Laser Controls	2-Nov-05	11-Apr-06		C	SL_CCA	Hrs	120		8,083		8,083
1	**02**	**02**	**13**			**Laser Heater Controls**							**484**	**13,200**	**40,887**	**15,180**	**56,067**
1	02	02	13			Procure 1 set Laser Heater Controls H/W	2-Oct-06	16-Jan-07	S	C	SL_MSEG	$$		13,200		15,180	15,180
1	02	02	13			Integrate and Test Laser Heater Controls	17-Jan-07	7-Jun-07		C	SL_PCEF	Hrs	84		5,459		5,459
1	02	02	13			Integrate and Test Laser Heater Controls	17-Jan-07	7-Jun-07		C	SL_CP	Hrs	290		27,826		27,826
1	02	02	13			Integrate and Test Laser Heater Controls	17-Jan-07	7-Jun-07		C	SL_CCA	Hrs	110		7,602		7,602
1	**02**	**03**				**Injector Lasers**							**12,086**	**2,492,218**	**1,260,110**	**2,755,784**	**4,015,894**
1	**02**	**03**	**01**			**Drive Laser Support**							**2,365**	**57,050**	**407,832**	**69,601**	**477,433**
1	**02**	**03**	**01**	**01**		**Drive Laser Support (ANL)**							**500**	**-**	**43,093**	**-**	**43,093**
1	02	03	01	01		Conduct UV Spatial Shaping Test (ANL)	1-Mar-05	13-Oct-05	A	L	AN_PHSS	Hrs	500		43,093		43,093
1	**02**	**03**	**01**	**02**		**Drive Laser Support (LLNL)**							**1,865**	**57,050**	**364,739**	**69,601**	**434,340**
1	02	03	01	02		Shape UV Pulses - convert then stretch	2-May-05	27-Jun-05	L	L	LL_PHS	Hrs	101		19,610		19,610
1	02	03	01	02		Shape UV Pulses - modeling	2-May-05	27-Jun-05	L	L	LL_PHS	Hrs	401		77,858		77,858
1	02	03	01	02		Temporal pulse - IR shaping	2-May-05	27-Jun-05	L	L	LL_PHS	Hrs	176		34,172		34,172
1	02	03	01	02		Temporal pulse - blue shaping	28-Jun-05	30-Sep-05	L	L	LL_PHS	Hrs	186		36,114		36,114
1	02	03	01	02		Temporal pulse - UV shaping	3-Oct-05	30-Dec-05	L	C	LL_PHS	Hrs	186		37,126		37,126
1	02	03	01	02		UV conversion - specify crystals	5-Jul-05	1-Aug-05	L	L	LL_PHS	Hrs	7		1,359		1,359
1	02	03	01	02		UV conversion - procure crystals	2-Aug-05	30-Sep-05	L	L	LL_MSEG	$$		10,500		12,810	12,810
1	02	03	01	02		UV conversion - activate and optimize	3-Oct-05	19-Jan-06	L	C	LL_PHS	Hrs	78		15,569		15,569
1	02	03	01	02		IR diagnostics - design and specify	2-May-05	2-Jun-05	L	L	LL_PHS	Hrs	64		12,426		12,426
1	02	03	01	02		IR diagnostics - procure	6-Jun-05	1-Jul-05	L	L	LL_MSEG	$$		9,550		11,651	11,651
1	02	03	01	02		IR diagnostics - activate	5-Jul-05	1-Aug-05	L	L	LL_PHS	Hrs	76		14,756		14,756
1	02	03	01	02		Blue diagnostics - design and specify	2-May-05	2-Jun-05	L	L	LL_PHS	Hrs	99		19,222		19,222
1	02	03	01	02		Blue diagnostics - procure	3-Jun-05	15-Jul-05	L	L	LL_MSEG	$$		18,500		22,570	22,570
1	02	03	01	02		Blue diagnostics - activate	18-Jul-05	12-Aug-05	L	L	LL_PHS	Hrs	76		14,756		14,756
1	02	03	01	02		UV diagnostics - design and specify	2-May-05	27-Jun-05	L	L	LL_PHS	Hrs	99		19,222		19,222
1	02	03	01	02		UV diagnostics - procure	28-Jun-05	23-Sep-05	L	L	LL_MSEG	$$		18,500		22,570	22,570
1	02	03	01	02		UV diagnostics - activate	26-Sep-05	24-Oct-05	L	L	LL_PHS	Hrs	74		14,675		14,675
1	02	03	01	02		Cathode Launch Optics - test prototype optics	28-Dec-05	3-Apr-06	L	C	LL_PHS	Hrs	63		12,575		12,575
1	02	03	01	02		Steering stabilization	2-Aug-05	5-Dec-05	L	L	LL_PHS	Hrs	20		3,938		3,938
1	02	03	01	02		Support Driver Laser Integr-review proposals	2-May-05	2-Jun-05	L	L	LL_PHS	Hrs	69		13,397		13,397
1	02	03	01	02		Support Driver Laser Integr-integrate shaping	7-Feb-06	31-May-06	L	C	LL_PHS	Hrs	90		17,964		17,964
1	**02**	**03**	**02**			**Drive Laser System**							**680**	**1,000,000**	**70,430**	**1,106,967**	**1,177,397**
1	02	03	02			Evaluate Vendor Proposals- Drive Laser	1-Feb-05	12-Apr-05	S	L	SL_PHSS	Hrs	60		5,560		5,560
1	02	03	02			Evaluate Vendor Proposals- Drive Laser	1-Feb-05	12-Apr-05	S	L	SL_OE	Hrs	60		6,751		6,751
1	02	03	02			Technical Review Preparation	2-Dec-04	12-Jan-05	S	L	SL_PHSS	Hrs	70		6,487		6,487
1	02	03	02			Technical Review Preparation	2-Dec-04	12-Jan-05	S	L	SL_OE	Hrs	70		7,876		7,876
1	02	03	02			Technical Review	13-Jan-05	14-Jan-05	S	L	SL_PHSS	Hrs	10		927		927
1	02	03	02			Technical Review	13-Jan-05	14-Jan-05	S	L	SL_OE	Hrs	10		1,125		1,125
1	02	03	02			Vendor Fab, Assy & Test - Drive Laser	3-May-05	3-May-06	S	L	SA_MSSC	$$		1,000,000		1,106,967	1,106,967
1	02	03	02			Reviews of Vendor's Progress	25-May-05	14-Apr-06	S	L	SL_PHSS	Hrs	200		18,836		18,836
1	02	03	02			Reviews of Vendor's Progress	25-May-05	14-Apr-06	S	L	SL_OE	Hrs	200		22,868		22,868
1	**02**	**03**	**03**			**Drive Laser Diagnostics**							**1,500**	**760,000**	**130,539**	**828,400**	**958,939**
1	02	03	03			Define Laser System Diagnostics Specs	1-Apr-05	28-Apr-05	S	L	SL_PHSS	Hrs	70		6,487		6,487
1	02	03	03			Define Laser System Diagnostics Specs	1-Apr-05	28-Apr-05	S	L	SL_OE	Hrs	70		7,876		7,876
1	02	03	03			Eng & Design of Drive Laser Diagnostics	1-Apr-05	24-May-05	S	L	SL_PHSS	Hrs	160		14,827		14,827
1	02	03	03			Eng & Design of Drive Laser Diagnostics	1-Apr-05	24-May-05	S	L	SL_OE	Hrs	280		31,503		31,503
1	02	03	03			Eng & Design of Drive Laser Diagnostics	1-Apr-05	24-May-05	S	L	SL_MDD	Hrs	280		17,567		17,567
1	02	03	03			Procure Streak Camera	25-May-05	18-Aug-05	S	L	SL_MSEG	$$		350,000		381,500	381,500
1	02	03	03			Procure Oscillator Diagnostics	25-May-05	18-Aug-05	S	L	SL_MSEG	$$		156,000		170,040	170,040
1	02	03	03			Procure Preamplifier Diagnostics	25-May-05	18-Aug-05	S	L	SL_MSEG	$$		54,000		58,860	58,860
1	02	03	03			Procure Final Amplifier Diagnostics	25-May-05	18-Aug-05	S	L	SL_MSEG	$$		120,000		130,800	130,800
1	02	03	03			Procure UV Conversion Diagnostics	25-May-05	18-Aug-05	S	L	SL_MSEG	$$		80,000		87,200	87,200

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	02	03	03			Assemble & Checkout: Drive Laser Diagnostics	14-Oct-05	9-Mar-06	S	L	SL_PHSS	Hrs	40		3,811		3,811
1	02	03	03			Assemble & Checkout: Drive Laser Diagnostics	14-Oct-05	9-Mar-06	S	L	SL_OT	Hrs	400		25,336		25,336
1	02	03	03			Assemble & Checkout: Drive Laser Diagnostics	14-Oct-05	9-Mar-06	S	L	SL_OE	Hrs	200		23,132		23,132
1	**02**	**03**	**04**			**Timing Stability Monitoring**							**828**	**134,000**	**75,535**	**150,080**	**225,615**
1	02	03	04			Define Timing stability specs	13-Apr-05	19-Apr-05	S	L	SL_PHSS	Hrs	24		2,224		2,224
1	02	03	04			Define Timing stability specs	13-Apr-05	19-Apr-05	S	L	SL_OE	Hrs	24		2,700		2,700
1	02	03	04			Eng & Dsn of Timing Stability Monitoring App	26-Aug-05	21-Oct-05	S	L	SL_PHSS	Hrs	100		9,365		9,365
1	02	03	04			Eng & Dsn of Timing Stability Monitoring App	26-Aug-05	21-Oct-05	S	L	SL_OE	Hrs	100		11,369		11,369
1	02	03	04			Eng & Dsn of Timing Stability Monitoring App	26-Aug-05	21-Oct-05	S	L	SL_MDD	Hrs	100		6,340		6,340
1	02	03	04			Proc Timing Stability Apparatus	24-Oct-05	2-Feb-06	S	C	SL_MSEG	$$		134,000		150,080	150,080
1	02	03	04			Assemble & C/O: Timing Stability Mon Apparatus	3-Feb-06	28-Apr-06	S	C	SL_PHSS	Hrs	100		9,527		9,527
1	02	03	04			Assemble & C/O: Timing Stability Mon Apparatus	3-Feb-06	28-Apr-06	S	C	SL_OT	Hrs	190		12,035		12,035
1	02	03	04			Assemble & C/O: Timing Stability Mon Apparatus	3-Feb-06	28-Apr-06	S	C	SL_OE	Hrs	150		17,349		17,349
1	02	03	04			Assemble & C/O: Timing Stability Mon Apparatus	3-Feb-06	28-Apr-06	S	C	SL_KE	Hrs	40		4,626		4,626
1	**02**	**03**	**05**			**Steering Stability Feedback & Msmts**							**380**	**46,500**	**33,128**	**51,499**	**84,627**
1	02	03	05			Define Steering stability specs	25-May-05	1-Jun-05	S	L	SL_PHSS	Hrs	10		927		927
1	02	03	05			Define Steering stability specs	25-May-05	1-Jun-05	S	L	SL_OE	Hrs	10		1,125		1,125
1	02	03	05			Eng & Dsn of Steering Stability Measurement	2-Jun-05	25-Aug-05	S	L	SL_PHSS	Hrs	40		3,707		3,707
1	02	03	05			Eng & Dsn of Steering Stability Measurement	2-Jun-05	25-Aug-05	S	L	SL_OE	Hrs	60		6,751		6,751
1	02	03	05			Eng & Dsn of Steering Stability Measurement	2-Jun-05	25-Aug-05	S	L	SL_MDD	Hrs	60		3,764		3,764
1	02	03	05			Procure Steering Stability Apparatus	26-Aug-05	18-Nov-05	S	L	SL_MSEG	$$		46,500		51,499	51,499
1	02	03	05			Assemble & Checkout: Steering Stabilization App	21-Nov-05	19-Jan-06	S	C	SL_OT	Hrs	120		7,601		7,601
1	02	03	05			Assemble & Checkout: Steering Stabilization App	21-Nov-05	19-Jan-06	S	C	SL_OE	Hrs	80		9,253		9,253
1	**02**	**03**	**06**			**Pre Amp Low Power Comp**							**300**	**32,000**	**28,845**	**34,880**	**63,725**
1	02	03	06			Define PreAmplifier Low Power Comp Specs	25-May-05	8-Jun-05	S	L	SL_PHSS	Hrs	20		1,853		1,853
1	02	03	06			Define PreAmplifier Low Power Comp Specs	25-May-05	8-Jun-05	S	L	SL_OE	Hrs	20		2,250		2,250
1	02	03	06			Design PreAmplifier Low Power Comp	9-Jun-05	7-Jul-05	S	L	SL_PHSS	Hrs	60		5,560		5,560
1	02	03	06			Design PreAmplifier Low Power Comp	9-Jun-05	7-Jul-05	S	L	SL_OE	Hrs	60		6,751		6,751
1	02	03	06			Design PreAmplifier Low Power Comp	9-Jun-05	7-Jul-05	S	L	SL_MDD	Hrs	20		1,255		1,255
1	02	03	06			Procure Low Power Compressor System Parts	8-Jul-05	30-Sep-05	S	L	SL_MSSC	$$		32,000		34,880	34,880
1	02	03	06			Fab (InHouse): Custom Low Power Compressor Parts	8-Jul-05	4-Aug-05	S	L	SL_MFMS	Hrs	40		4,016		4,016
1	02	03	06			Assemble: Low Power Compressor	14-Oct-05	10-Nov-05	S	C	SL_OT	Hrs	40		2,534		2,534
1	02	03	06			Assemble: Low Power Compressor	14-Oct-05	10-Nov-05	S	C	SL_OE	Hrs	40		4,626		4,626
1	**02**	**03**	**07**			**Transport to Tunnel & Relay Optics**							**850**	**75,000**	**72,296**	**81,750**	**154,046**
1	02	03	07			Define Beam path, Beam Properties & Model Xport	4-Oct-04	29-Oct-04	S	L	SL_PHSS	Hrs	10		927		927
1	02	03	07			Define Beam path, Beam Properties & Model Xport	4-Oct-04	29-Oct-04	S	L	SL_OE	Hrs	20		2,250		2,250
1	02	03	07			Define Beam path, Beam Properties & Model Xport	4-Oct-04	29-Oct-04	S	L	SL_MDD	Hrs	20		1,255		1,255
1	02	03	07			Eng & Dsn of Vertical Transport Tube	1-Mar-05	23-May-05	S	L	SL_OE	Hrs	80		9,001		9,001
1	02	03	07			Eng & Dsn of Vertical Transport Tube	1-Mar-05	23-May-05	S	L	SL_MDD	Hrs	300		18,822		18,822
1	02	03	07			Procure Material and Parts	24-May-05	17-Aug-05	S	L	SL_MSEG	$$		59,000		64,310	64,310
1	02	03	07			FAB (inhouse): Custom Parts Tubes, & Supports	24-May-05	6-Jul-05	S	L	SL_MFMS	Hrs	200		20,078		20,078
1	02	03	07			Define Spatial Filter(Vacuum) & Opt Relay	24-May-05	7-Jun-05	S	L	SL_OE	Hrs	20		2,250		2,250
1	02	03	07			Eng & Dsn of Spatial Filter & Opt Relay	8-Jun-05	6-Jul-05	S	L	SL_PHSS	Hrs	20		1,853		1,853
1	02	03	07			Eng & Dsn of Spatial Filter & Opt Relay	8-Jun-05	6-Jul-05	S	L	SL_OE	Hrs	40		4,500		4,500
1	02	03	07			Eng & Dsn of Spatial Filter & Opt Relay	8-Jun-05	6-Jul-05	S	L	SL_MDD	Hrs	60		3,764		3,764
1	02	03	07			FAB (inhouse): Custom Spatial Filter Hardware	7-Jul-05	3-Aug-05	S	L	SL_MFMS	Hrs	40		4,016		4,016
1	02	03	07			Procure Spatial Filter & Opt Relay Parts	7-Jul-05	29-Sep-05	S	L	SL_MSEG	$$		16,000		17,440	17,440
1	02	03	07			Assemble: Spatial Filter & Opt Relay	14-Oct-05	27-Oct-05	S	L	SL_OT	Hrs	20		1,267		1,267
1	02	03	07			Assemble: Spatial Filter & Opt Relay	14-Oct-05	27-Oct-05	S	L	SL_OE	Hrs	20		2,313		2,313
1	**02**	**03**	**08**			**UV Launch, Conditioning & Diagnostics**							**1,846**	**56,000**	**151,088**	**61,040**	**212,128**
1	02	03	08			Design UV Beam Xport & Launch Optics	4-Oct-04	28-Feb-05	S	L	SL_PHSS	Hrs	40		3,707		3,707
1	02	03	08			Design UV Beam Xport & Launch Optics	4-Oct-04	28-Feb-05	S	L	SL_OE	Hrs	160		18,002		18,002
1	02	03	08			Design UV Beam Xport & Launch Optics	4-Oct-04	28-Feb-05	S	L	SL_MDD	Hrs	736		46,177		46,177
1	02	03	08			Design UV Beam Steering Stabilization App	1-Mar-05	21-Mar-05	S	L	SL_PHSS	Hrs	10		927		927
1	02	03	08			Design UV Beam Steering Stabilization App	1-Mar-05	21-Mar-05	S	L	SL_OE	Hrs	40		4,500		4,500
1	02	03	08			Design UV Beam Steering Stabilization App	1-Mar-05	21-Mar-05	S	L	SL_MDD	Hrs	20		1,255		1,255
1	02	03	08			Design UV Spatial Profile Shaper	22-Mar-05	18-Apr-05	S	L	SL_PHSS	Hrs	20		1,853		1,853
1	02	03	08			Design UV Spatial Profile Shaper	22-Mar-05	18-Apr-05	S	L	SL_OE	Hrs	40		4,500		4,500
1	02	03	08			Design UV Spatial Profile Shaper	22-Mar-05	18-Apr-05	S	L	SL_MDD	Hrs	60		3,764		3,764
1	02	03	08			Eng & Dsn of Pulse Energy Control	19-Apr-05	16-May-05	S	L	SL_PHSS	Hrs	40		3,707		3,707
1	02	03	08			Eng & Dsn of Pulse Energy Control	19-Apr-05	16-May-05	S	L	SL_OE	Hrs	60		6,751		6,751
1	02	03	08			Eng & Dsn of Pulse Energy Control	19-Apr-05	16-May-05	S	L	SL_MDD	Hrs	60		3,764		3,764
1	02	03	08			Eng & Dsn of Pulse Energy Control	19-Apr-05	16-May-05	S	L	SL_CE	Hrs	60		6,751		6,751
1	02	03	08			Eng & Dsn of UV Diagnostic	17-May-05	14-Jun-05	S	L	SL_PHSS	Hrs	20		1,853		1,853

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	02	03	08			Eng & Dsn of UV Diagnostic	17-May-05	14-Jun-05	S	L	SL_OE	Hrs	40		4,500		4,500
1	02	03	08			Eng & Dsn of UV Diagnostic	17-May-05	14-Jun-05	S	L	SL_MDD	Hrs	40		2,510		2,510
1	02	03	08			FAB (inhouse): Custom Parts	15-Jun-05	13-Jul-05	S	L	SL_MFMS	Hrs	60		6,023		6,023
1	02	03	08			Procure UV Launch,Conditioning & Diag HW	15-Jun-05	8-Sep-05	S	L	SL_MSEG	$$		56,000		61,040	61,040
1	02	03	08			Assemble & C/O: UV Launch & Conditioning System	14-Oct-05	23-Feb-06	S	L	SL_PHSS	Hrs	20		1,905		1,905
1	02	03	08			Assemble & C/O: UV Launch & Conditioning System	14-Oct-05	23-Feb-06	S	L	SL_OT	Hrs	160		10,134		10,134
1	02	03	08			Assemble & C/O: UV Launch & Conditioning System	14-Oct-05	23-Feb-06	S	L	SL_OE	Hrs	120		13,879		13,879
1	02	03	08			Assemble & C/O: UV Launch & Conditioning System	14-Oct-05	23-Feb-06	S	L	SL_CE	Hrs	40		4,626		4,626
1	**02**	**03**	**09**			**Load Lock Transport System**							**520**	**21,000**	**45,224**	**23,552**	**68,776**
1	02	03	09			Define Load Lock Transport System Specs	17-Apr-06	12-May-06	S	C	SL_PHSS	Hrs	40		3,811		3,811
1	02	03	09			Define Load Lock Transport System Specs	17-Apr-06	12-May-06	S	C	SL_OE	Hrs	20		2,313		2,313
1	02	03	09			Eng & Dsn of Load Lock Transport System	15-May-06	11-Jul-06	S	C	SL_OE	Hrs	40		4,626		4,626
1	02	03	09			Eng & Dsn of Load Lock Transport System	15-May-06	11-Jul-06	S	C	SL_MDD	Hrs	160		10,318		10,318
1	02	03	09			FAB (inhouse): Custom Load Lock Transport Sys HW	12-Jul-06	22-Aug-06	S	C	SL_MFMS	Hrs	100		10,320		10,320
1	02	03	09			Procure Load Lock Transport Sys Parts	12-Jul-06	4-Oct-06	S	C	SL_MSEG	$$		21,000		23,552	23,552
1	02	03	09			Install transport tubes and supports	5-Oct-06	25-Oct-06	S	C	SL_MFAT	Hrs	80		6,908		6,908
1	02	03	09			Assemble, Integ & C/O:Load Lock Transport System	26-Oct-06	8-Dec-06	S	C	SL_PHSS	Hrs	20		1,955		1,955
1	02	03	09			Assemble, Integ & C/O:Load Lock Transport System	26-Oct-06	8-Dec-06	S	C	SL_OT	Hrs	40		2,600		2,600
1	02	03	09			Assemble, Integ & C/O:Load Lock Transport System	26-Oct-06	8-Dec-06	S	C	SL_OE	Hrs	20		2,373		2,373
1	**02**	**03**	**10**			**Visible Optical Transport & Optics**							**550**	**48,000**	**50,624**	**53,760**	**104,384**
1	02	03	10			Define Visible Beam properties, Beam path/model	24-Oct-05	4-Nov-05	S	C	SL_PHSS	Hrs	10		953		953
1	02	03	10			Define Visible Beam properties, Beam path/model	24-Oct-05	4-Nov-05	S	C	SL_OE	Hrs	20		2,313		2,313
1	02	03	10			Define Visible Beam properties, Beam path/model	24-Oct-05	4-Nov-05	S	C	SL_MDD	Hrs	20		1,290		1,290
1	02	03	10			Define Visible Beam transport Diagnostics Rqmts	7-Nov-05	29-Nov-05	S	C	SL_PHSS	Hrs	20		1,905		1,905
1	02	03	10			Define Visible Beam transport Diagnostics Rqmts	7-Nov-05	29-Nov-05	S	C	SL_OE	Hrs	20		2,313		2,313
1	02	03	10			Design Visible Beam Transport Optics & Encl	30-Nov-05	11-Jan-06	S	C	SL_PHSS	Hrs	20		1,905		1,905
1	02	03	10			Design Visible Beam Transport Optics & Encl	30-Nov-05	11-Jan-06	S	C	SL_OE	Hrs	40		4,626		4,626
1	02	03	10			Design Visible Beam Transport Optics & Encl	30-Nov-05	11-Jan-06	S	C	SL_MDD	Hrs	60		3,869		3,869
1	02	03	10			Design Visible Beam Transport Diagnostics	12-Jan-06	9-Feb-06	S	C	SL_PHSS	Hrs	20		1,905		1,905
1	02	03	10			Design Visible Beam Transport Diagnostics	12-Jan-06	9-Feb-06	S	C	SL_OE	Hrs	20		2,313		2,313
1	02	03	10			Design Visible Beam Transport Diagnostics	12-Jan-06	9-Feb-06	S	C	SL_MDD	Hrs	20		1,290		1,290
1	02	03	10			FAB (inhouse): Visible Beam Transport Tube	10-Apr-06	5-May-06	S	C	SL_MFMS	Hrs	40		4,128		4,128
1	02	03	10			FAB (inhouse):Custom Visible Beam Xport Opt Supt	10-Apr-06	5-May-06	S	C	SL_MFMS	Hrs	40		4,128		4,128
1	02	03	10			Procure Transport Tube Material	12-Jan-06	7-Apr-06	S	C	SL_MSEG	$$		3,000		3,360	3,360
1	02	03	10			Procure Visible Beam Transport Optics & Diag HW	12-Jan-06	7-Apr-06	S	C	SL_MSEG	$$		45,000		50,400	50,400
1	02	03	10			Assemble: Visible Beam Transport Optics & Encl	8-May-06	5-Jun-06	S	C	SL_OT	Hrs	40		2,534		2,534
1	02	03	10			Assemble: Visible Beam Transport Optics & Encl	8-May-06	5-Jun-06	S	C	SL_OE	Hrs	40		4,626		4,626
1	02	03	10			Assemble: Visible Beam Transport Optics & Encl	8-May-06	5-Jun-06	S	C	SL_MFAT	Hrs	40		3,366		3,366
1	02	03	10			Assemble: Visible Beam transport diagnostics	18-Aug-06	31-Aug-06	S	C	SL_OT	Hrs	40		2,534		2,534
1	02	03	10			Assemble: Visible Beam transport diagnostics	18-Aug-06	31-Aug-06	S	C	SL_OE	Hrs	40		4,626		4,626
1	**02**	**03**	**11**			**LB Infrastructure & LB System Wide Items**							**656**	**123,000**	**55,899**	**135,560**	**191,459**
1	02	03	11			Define Optical Table Specs	13-Apr-05	26-Apr-05	S	L	SL_PHSS	Hrs	20		1,853		1,853
1	02	03	11			Define Optical Table Specs	13-Apr-05	26-Apr-05	S	L	SL_OE	Hrs	40		4,500		4,500
1	02	03	11			Define Optical Table Specs	13-Apr-05	26-Apr-05	S	L	SL_MDD	Hrs	20		1,255		1,255
1	02	03	11			Design Optical Tables, Legs & Encl	27-Apr-05	21-Jul-05	S	L	SL_PHSS	Hrs	10		927		927
1	02	03	11			Design Optical Tables, Legs & Encl	27-Apr-05	21-Jul-05	S	L	SL_OE	Hrs	40		4,500		4,500
1	02	03	11			Design Optical Tables, Legs & Encl	27-Apr-05	21-Jul-05	S	L	SL_MDD	Hrs	80		5,019		5,019
1	02	03	11			Procure Laser Bay Optical Tables, Legs & Encl	22-Jul-05	29-Nov-05	S	L	SL_MSEG	$$		78,000		86,060	86,060
1	02	03	11			Assemble & C/O Optical Tables, Legs & Encl	22-Jun-06	17-Aug-06	S	C	SL_SEL	Hrs	60		2,894		2,894
1	02	03	11			Assemble & C/O Optical Tables, Legs & Encl	22-Jun-06	17-Aug-06	S	C	SL_OT	Hrs	30		1,900		1,900
1	02	03	11			Assemble & C/O Optical Tables, Legs & Encl	22-Jun-06	17-Aug-06	S	C	SL_OE	Hrs	10		1,157		1,157
1	02	03	11			Define Laser Bay Equipment Requirements	4-Oct-04	8-Oct-04	S	L	SL_PHSS	Hrs	5		463		463
1	02	03	11			Define Laser Bay Equipment Requirements	4-Oct-04	8-Oct-04	S	L	SL_OE	Hrs	10		1,125		1,125
1	02	03	11			Procure Laser Bay Equipment	3-Oct-05	11-Jan-06	S	L	SL_MSEG	$$		15,000		16,800	16,800
1	02	03	11			Define OAL Equipment Requirements	17-May-05	23-May-05	S	L	SL_PHSS	Hrs	5		463		463
1	02	03	11			Define OAL Equipment Requirements	17-May-05	23-May-05	S	L	SL_OE	Hrs	10		1,125		1,125
1	02	03	11			Develop OAL Design	24-May-05	21-Jun-05	S	L	SL_OE	Hrs	40		4,500		4,500
1	02	03	11			Develop OAL Design	24-May-05	21-Jun-05	S	L	SL_MDD	Hrs	10		627		627
1	02	03	11			Procure OAL Equipment	22-Jun-05	15-Sep-05	S	L	SL_MSEG	$$		30,000		32,700	32,700
1	02	03	11			Install OAL Equipment	16-Sep-05	13-Oct-05	S	L	SL_SEL	Hrs	40		1,901		1,901
1	02	03	11			Install OAL Equipment	16-Sep-05	13-Oct-05	S	L	SL_OT	Hrs	40		2,496		2,496
1	02	03	11			Install OAL Equipment	16-Sep-05	13-Oct-05	S	L	SL_OE	Hrs	10		1,139		1,139
1	02	03	11			Drive Laser Design Review	1-Oct-04	1-Oct-04	S	L	SL_PHSS	Hrs	8		741		741
1	02	03	11			Drive Laser Design Review	1-Oct-04	1-Oct-04	S	L	SL_OE	Hrs	8		900		900

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	02	03	11			Drive Laser Design Modifications	4-Oct-04	15-Oct-04	S	L	SL_PHSS	Hrs	40		3,707		3,707
1	02	03	11			Drive Laser Design Modifications	4-Oct-04	15-Oct-04	S	L	SL_OE	Hrs	40		4,500		4,500
1	02	03	11			Drive Laser Bay Earthquake Safety Review plng	22-Jul-05	4-Aug-05	S	L	SL_PHSS	Hrs	40		3,707		3,707
1	02	03	11			Drive Laser Bay Earthquake Safety Review plng	22-Jul-05	4-Aug-05	S	L	SL_OE	Hrs	40		4,500		4,500
1	**02**	**03**	**12**			**Alignment Laser**							**230**	**20,000**	**20,827**	**22,020**	**42,847**
1	02	03	12			Define alignment Laser System requirements	5-Jul-05	11-Jul-05	S	L	SL_PHSS	Hrs	10		927		927
1	02	03	12			Define alignment Laser System requirements	5-Jul-05	11-Jul-05	S	L	SL_OE	Hrs	20		2,250		2,250
1	02	03	12			Develop alignment Laser System Engrg & Design	12-Jul-05	8-Aug-05	S	L	SL_OE	Hrs	40		4,500		4,500
1	02	03	12			Develop alignment Laser System Engrg & Design	12-Jul-05	8-Aug-05	S	L	SL_MDD	Hrs	60		3,764		3,764
1	02	03	12			Procure alignment Laser System off-shelf parts	9-Aug-05	1-Nov-05	S	L	SL_MSEG	$$		20,000		22,020	22,020
1	02	03	12			Fab (In House) Alignmt Laser System parts	9-Aug-05	20-Sep-05	S	L	SL_MFMS	Hrs	40		4,016		4,016
1	02	03	12			Assemble: alignment Laser system	18-Aug-06	31-Aug-06	S	C	SL_OT	Hrs	20		1,267		1,267
1	02	03	12			Assemble: alignment Laser system	18-Aug-06	31-Aug-06	S	C	SL_OE	Hrs	20		2,313		2,313
1	02	03	12			Test : alignment Laser system	1-Sep-06	8-Sep-06	S	C	SL_OT	Hrs	10		633		633
1	02	03	12			Test : alignment Laser system	1-Sep-06	8-Sep-06	S	C	SL_OE	Hrs	10		1,157		1,157
1	**02**	**03**	**13**			**Light path to Streak Camera**							**635**	**33,500**	**60,954**	**37,520**	**98,474**
1	02	03	13			Define Light Path Sys Reqmts, Beam path & model	15-Aug-05	26-Aug-05	S	L	SL_PHSS	Hrs	20		1,853		1,853
1	02	03	13			Define Light Path Sys Reqmts, Beam path & model	15-Aug-05	26-Aug-05	S	L	SL_OE	Hrs	20		2,250		2,250
1	02	03	13			Develop Light Path System Engrg & Design	29-Aug-05	10-Oct-05	S	L	SL_OE	Hrs	60		6,788		6,788
1	02	03	13			Develop Light Path System Engrg & Design	29-Aug-05	10-Oct-05	S	L	SL_MDD	Hrs	80		5,047		5,047
1	02	03	13			Procure Light Path off shelf parts	11-Oct-05	20-Jan-06	S	L	SL_MSEG	$$		19,000		21,280	21,280
1	02	03	13			Evaluate Vendor Proposals	8-Nov-05	14-Nov-05	S	L	SL_PHSS	Hrs	5		476		476
1	02	03	13			Evaluate Vendor Proposals	8-Nov-05	14-Nov-05	S	L	SL_OE	Hrs	10		1,157		1,157
1	02	03	13			Vendor Fab, Assy & Test	18-Nov-05	2-Mar-06	S	L	SA_MSSC	$$		6,500		7,280	7,280
1	02	03	13			FAB: Light Path transport tube/enclosure/supts	3-Mar-06	13-Apr-06	S	L	SL_MFMS	Hrs	300		30,960		30,960
1	02	03	13			Proc Light Path transport tube/enclosure/supts	11-Oct-05	20-Jan-06	S	L	SL_MSEG	$$		8,000		8,960	8,960
1	02	03	13			Assemble: Light Path System	18-Aug-06	15-Sep-06	S	C	SL_OT	Hrs	40		2,534		2,534
1	02	03	13			Assemble: Light Path System	18-Aug-06	15-Sep-06	S	C	SL_OE	Hrs	40		4,626		4,626
1	02	03	13			Assemble: Light Path System	18-Aug-06	15-Sep-06	S	C	SL_MFAT	Hrs	20		1,683		1,683
1	02	03	13			Test: Light Path system	18-Sep-06	29-Sep-06	S	C	SL_OT	Hrs	20		1,267		1,267
1	02	03	13			Test: Light Path system	18-Sep-06	29-Sep-06	S	C	SL_OE	Hrs	20		2,313		2,313
1	**02**	**03**	**14**			**LSR HTR - Beam Conditioning Optics (Laser Bay)**							**210**	**17,519**	**15,961**	**20,147**	**36,108**
1	02	03	14			Design Beam Conditioning	3-Oct-06	1-Dec-06	S	C	SL_PHS	Hrs	10		768		768
1	02	03	14			Design Beam Conditioning	3-Oct-06	1-Dec-06	S	C	SL_OE	Hrs	40		4,747		4,747
1	02	03	14			Design Beam Conditioning	3-Oct-06	1-Dec-06	S	C	SL_MDD	Hrs	40		2,647		2,647
1	02	03	14			Define Beam Conditioning Components Specs	4-Dec-06	24-Jan-07	S	C	SL_OT	Hrs	40		2,600		2,600
1	02	03	14			Procure Compressor breadboard and components	25-Jan-07	22-Mar-07	S	C	SL_MSEG	$$		8,581		9,868	9,868
1	02	03	14			Procure First telescope optics	25-Jan-07	22-Mar-07	S	C	SL_MSEG	$$		2,466		2,836	2,836
1	02	03	14			Procure Path length adjustor breadboard & Comps	25-Jan-07	22-Mar-07	S	C	SL_MSEG	$$		4,472		5,143	5,143
1	02	03	14			Procure Optics safety equipment	25-Jan-07	22-Mar-07	S	C	SL_MSEG	$$		2,000		2,300	2,300
1	02	03	14			Install and Test Beam Conditioning optics	23-Mar-07	12-Apr-07	S	C	SL_OT	Hrs	80		5,199		5,199
1	**02**	**03**	**15**			**LSR HTR - Transport Optics (Bay to Tunnel)**							**300**	**39,076**	**22,577**	**44,999**	**67,576**
1	02	03	15			Design Transport optics	25-Jan-07	21-Mar-07	S	C	SL_PHS	Hrs	10		768		768
1	02	03	15			Design Transport optics	25-Jan-07	21-Mar-07	S	C	SL_OE	Hrs	40		4,747		4,747
1	02	03	15			Design Transport optics	25-Jan-07	21-Mar-07	S	C	SL_MDD	Hrs	40		2,647		2,647
1	02	03	15			Define Transport System Optics Specs	22-Mar-07	12-Apr-07	S	C	SL_OT	Hrs	40		2,600		2,600
1	02	03	15			Procure Relay optics transport system	13-Apr-07	8-Jun-07	S	C	SL_MSEG	$$		17,075		19,636	19,636
1	02	03	15			Procure Reducing telescope	13-Apr-07	8-Jun-07	S	C	SL_MSEG	$$		1,592		1,831	1,831
1	02	03	15			Procure Optics launch table in tunnel	13-Apr-07	8-Jun-07	S	C	SL_MSEG	$$		11,659		13,408	13,408
1	02	03	15			Transport optics installation, alignment & test	26-Nov-07	11-Mar-08	S	C	SL_OT	Hrs	80		5,334		5,334
1	02	03	15			Design enclosures,laser beam tubes & supports	22-Mar-07	18-May-07	S	C	SL_OE	Hrs	10		1,187		1,187
1	02	03	15			Design enclosures,laser beam tubes & supports	22-Mar-07	18-May-07	S	C	SL_MDD	Hrs	80		5,294		5,294
1	02	03	15			Procure enclosures,beam tubes & supports	21-May-07	7-Nov-07	S	C	SL_MSEG	$$		8,750		10,124	10,124
1	**02**	**03**	**16**			**LSR HTR - Photon Beam Diagnostics**							**236**	**29,573**	**18,351**	**34,009**	**52,360**
1	02	03	16			Design Diagnostics	13-Apr-07	30-May-07	S	C	SL_PHS	Hrs	10		768		768
1	02	03	16			Design Diagnostics	13-Apr-07	30-May-07	S	C	SL_OE	Hrs	40		4,747		4,747
1	02	03	16			Design Diagnostics	13-Apr-07	30-May-07	S	C	SL_MDD	Hrs	40		2,647		2,647
1	02	03	16			Prepare Diagnostics spec and purchase	31-May-07	6-Jun-07	S	C	SL_OT	Hrs	16		1,040		1,040
1	02	03	16			Procure Spiricon camera	7-Jun-07	19-Jul-07	S	C	SL_MSEG	$$		5,000		5,750	5,750
1	02	03	16			Procure Molectron power meter	7-Jun-07	19-Jul-07	S	C	SL_MSEG	$$		1,070		1,231	1,231
1	02	03	16			Procure optics for photon diagnostics	7-Jun-07	6-Jul-07	S	C	SL_MSEG	$$		4,168		4,793	4,793
1	02	03	16			Procure video cameras for OTRs & waist-size mon	7-Jun-07	6-Jul-07	S	C	SL_MSEG	$$		3,000		3,450	3,450
1	02	03	16			Procure Timing diode + oscilloscope	7-Jun-07	6-Jul-07	S	C	SL_MSEG	$$		11,335		13,035	13,035
1	02	03	16			Design Supports	31-May-07	30-Jul-07	S	C	SL_OE	Hrs	10		1,187		1,187

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	02	03	16			Design Supports	31-May-07	30-Jul-07	S	C	SL_MDD	Hrs	40		2,647		2,647
1	02	03	16			Fabricate Supports	31-Jul-07	4-Sep-07	S	C	SL_MSSC	$$		5,000		5,750	5,750
1	02	03	16			Install and test Photon beam diagnostics	26-Sep-07	24-Oct-07	S	C	SL_OT	Hrs	80		5,315		5,315
1	**02**	**03**	**21**			**UV Conv Harmonic Generation Unit (Closed Account)**											
1	**02**	**04**				**Injector RF Subsystem**							**25,250**	**1,790,926**	**2,226,624**	**1,994,497**	**4,221,121**
1	**02**	**04**	**01**			**RF Gun & Load Lock**							**5,252**	**314,066**	**425,758**	**357,989**	**783,747**
1	**02**	**04**	**01**	**01**		**RF Gun**							**1,630**	**88,066**	**139,182**	**97,612**	**236,794**
1	02	04	01	01		Mechanical Design RF Gun	15-Mar-05	3-Aug-05		L	SL_ME	Hrs	400		42,284		42,284
1	02	04	01	01		Design/Draft RF Gun	3-May-05	19-Aug-05		L	SL_ME	Hrs	140		14,799		14,799
1	02	04	01	01		Design/Draft RF Gun	3-May-05	19-Aug-05		L	SL_MDD	Hrs	688		43,165		43,165
1	02	04	01	01		Procure RF Gun Parts	22-Aug-05	7-Dec-05		C	SL_MSEQ	$$		88,066		97,612	97,612
1	02	04	01	01		Procure RF Gun Parts	22-Aug-05	7-Dec-05		C	SL_MFAT	Hrs	70		5,829		5,829
1	02	04	01	01		Procure RF Gun Parts	22-Aug-05	7-Dec-05		C	SL_KE	Hrs	12		1,373		1,373
1	02	04	01	01		Fabricate RF Gun	8-Dec-05	4-Apr-06		C	SL_MFPC	Hrs	36		5,931		5,931
1	02	04	01	01		Fabricate RF Gun	8-Dec-05	4-Apr-06		C	SL_MFMS	Hrs	60		6,192		6,192
1	02	04	01	01		Fabricate RF Gun	8-Dec-05	4-Apr-06		C	SL_MFAT	Hrs	154		12,961		12,961
1	02	04	01	01		Fabricate RF Gun	8-Dec-05	4-Apr-06		C	SL_KE	Hrs	12		1,388		1,388
1	02	04	01	01		Cold Test RF Gun	5-Apr-06	11-Apr-06		C	SL_MFAT	Hrs	12		1,010		1,010
1	02	04	01	01		Cold Test RF Gun	5-Apr-06	11-Apr-06		C	SL_KE	Hrs	12		1,388		1,388
1	02	04	01	01		Bake RF Gun	12-Apr-06	25-Apr-06		C	SL_MFAT	Hrs	4		337		337
1	02	04	01	01		Post Bake Assembly	26-Apr-06	2-May-06		C	SL_MFAT	Hrs	30		2,525		2,525
1	**02**	**04**	**01**	**02**		**RF Gun Supports**							**94**	**6,000**	**6,499**	**6,628**	**13,127**
1	02	04	01	02		Define RF Gun Support Requirements	1-Mar-05	14-Mar-05	S	L	SL_ME	Hrs	4		423		423
1	02	04	01	02		Design RF Gun Support	15-Mar-05	3-Aug-05	S	L	SL_ME	Hrs	10		1,057		1,057
1	02	04	01	02		Design RF Gun Support	15-Mar-05	3-Aug-05	S	L	SL_MDD	Hrs	80		5,019		5,019
1	02	04	01	02		Procure RF Gun Support	4-Aug-05	28-Nov-05	S	L	SL_MSEG	$$		6,000		6,628	6,628
1	**02**	**04**	**01**	**03**		**Gun Load Lock**							**2,996**	**135,000**	**238,111**	**159,671**	**397,782**
1	02	04	01	03		Define Load Lock Cathode Clamping Reqmts	1-Jun-06	14-Jun-06	S	C	SL_PHS	Hrs	10		749		749
1	02	04	01	03		Define Load Lock Cathode Clamping Reqmts	1-Jun-06	14-Jun-06	S	C	SL_ME	Hrs	20		2,173		2,173
1	02	04	01	03		Define Load Lock Cathode Clamping Reqmts	1-Jun-06	14-Jun-06	S	C	SL_MDD	Hrs	40		2,580		2,580
1	02	04	01	03		Define Load Lock Cathode Transfer Reqmts	1-Jun-06	28-Jun-06	S	C	SL_PHS	Hrs	20		1,497		1,497
1	02	04	01	03		Define Load Lock Cathode Transfer Reqmts	1-Jun-06	28-Jun-06	S	C	SL_ME	Hrs	40		4,347		4,347
1	02	04	01	03		Define Load Lock Cathode Transfer Reqmts	1-Jun-06	28-Jun-06	S	C	SL_MDD	Hrs	80		5,159		5,159
1	02	04	01	03		Design Cathode Clamping	29-Jun-06	24-Aug-06	S	C	SL_PHS	Hrs	20		1,497		1,497
1	02	04	01	03		Design Cathode Clamping	29-Jun-06	24-Aug-06	S	C	SL_ME	Hrs	40		4,347		4,347
1	02	04	01	03		Design Cathode Clamping	29-Jun-06	24-Aug-06	S	C	SL_MDD	Hrs	80		5,159		5,159
1	02	04	01	03		Prototype - Cathode Clamping	25-Aug-06	20-Oct-06	S	C	SL_MFMS	Hrs	160		16,673		16,673
1	02	04	01	03		Prototype - Cathode Clamping	25-Aug-06	20-Oct-06	S	C	SL_ME	Hrs	10		1,097		1,097
1	02	04	01	03		Prototype - Cathode Clamping	25-Aug-06	20-Oct-06	S	C	SL_MDD	Hrs	20		1,302		1,302
1	02	04	01	03		Evaluate - Cathode Clamping prototype	23-Oct-06	3-Jan-07	S	C	SL_PHS	Hrs	6		461		461
1	02	04	01	03		Evaluate - Cathode Clamping prototype	23-Oct-06	3-Jan-07	S	C	SL_ME	Hrs	16		1,784		1,784
1	02	04	01	03		Evaluate - Cathode Clamping prototype	23-Oct-06	3-Jan-07	S	C	SL_MDD	Hrs	24		1,588		1,588
1	02	04	01	03		Design Cathode Transfer	4-Jan-07	30-Mar-07	S	C	SL_PHS	Hrs	30		2,304		2,304
1	02	04	01	03		Design Cathode Transfer	4-Jan-07	30-Mar-07	S	C	SL_ME	Hrs	80		8,919		8,919
1	02	04	01	03		Design Cathode Transfer	4-Jan-07	30-Mar-07	S	C	SL_MDD	Hrs	250		16,543		16,543
1	02	04	01	03		Design Cathode Tuner	2-Apr-07	25-Jun-07	S	C	SL_PHS	Hrs	30		2,304		2,304
1	02	04	01	03		Design Cathode Tuner	2-Apr-07	25-Jun-07	S	C	SL_ME	Hrs	60		6,689		6,689
1	02	04	01	03		Design Cathode Tuner	2-Apr-07	25-Jun-07	S	C	SL_MDD	Hrs	250		16,543		16,543
1	02	04	01	03		Design Load Lock Transporter	26-Jun-07	14-Dec-07	S	C	SL_PHS	Hrs	20		1,554		1,554
1	02	04	01	03		Design Load Lock Transporter	26-Jun-07	14-Dec-07	S	C	SL_ME	Hrs	160		18,043		18,043
1	02	04	01	03		Design Load Lock Transporter	26-Jun-07	14-Dec-07	S	C	SL_MDD	Hrs	500		33,465		33,465
1	02	04	01	03		Design Load Lock	26-Jun-07	1-Feb-08	S	C	SL_PHS	Hrs	20		1,557		1,557
1	02	04	01	03		Design Load Lock	26-Jun-07	1-Feb-08	S	C	SL_ME	Hrs	200		22,604		22,604
1	02	04	01	03		Design Load Lock	26-Jun-07	1-Feb-08	S	C	SL_MDD	Hrs	750		50,309		50,309
1	02	04	01	03		Prep Bid Pak - Load Lock Cathode	4-Feb-08	15-Feb-08	S	C	SL_ME	Hrs	40		4,576		4,576
1	02	04	01	03		Evaluate Proposals - Load Lock Cathode	7-Apr-08	24-Apr-08	S	C	SL_ME	Hrs	20		2,288		2,288
1	02	04	01	03		Vendor Fab Load Lock Cathode	28-Apr-08	15-Oct-08	S	C	SA_MSSC	$$		135,000		159,671	159,671
1	**02**	**04**	**01**	**04**		**Gun Load Lock Supports**							**102**	**9,000**	**7,783**	**10,620**	**18,403**
1	02	04	01	04		Define Load Lock Support Requirements	26-Jun-07	10-Jul-07	S	C	SL_PHS	Hrs	2		154		154
1	02	04	01	04		Define Load Lock Support Requirements	26-Jun-07	10-Jul-07	S	C	SL_ME	Hrs	4		446		446
1	02	04	01	04		Design Load Lock Support	11-Jul-07	15-Jan-08	S	C	SL_ME	Hrs	10		1,130		1,130
1	02	04	01	04		Design Load Lock Support	11-Jul-07	15-Jan-08	S	C	SL_MDD	Hrs	80		5,366		5,366
1	02	04	01	04		Prep Bid Pak - Load Lock Support	16-Jan-08	13-Feb-08	S	C	SL_ME	Hrs	4		458		458
1	02	04	01	04		Evaluate Proposals - Load Lock Support	5-Mar-08	18-Mar-08	S	C	SL_ME	Hrs	2		229		229

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	02	04	01	04		Vendor Fab Load Lock Support	24-Mar-08	15-Jul-08	S	C	SA_MSSC	$$		9,000		10,620	10,620
1	**02**	**04**	**01**	**05**		**Gun Solenoid**							**66**	**20,000**	**6,206**	**22,370**	**28,576**
1	02	04	01	05		Prep Bid Pak - Solenoid Magnet Assembly	1-Feb-05	31-Mar-05	S	L	SL_ME	Hrs	4		423		423
1	02	04	01	05		Evaluate Proposals - Solenoid Magnet Assembly	7-Sep-05	20-Sep-05	S	L	SL_ME	Hrs	2		211		211
1	02	04	01	05		Vendor Fab Solenoid Magnet Assembly	26-Sep-05	3-Mar-06	S	L	SA_MSSC	$$		20,000		22,370	22,370
1	02	04	01	05		Perform Lab Tests on Sol Magnet Assembly	6-Mar-06	31-Mar-06	S	L	SL_MES	Hrs	60		5,572		5,572
1	**02**	**04**	**01**	**06**		**Gun Solenoid Supports**							**26**	**9,000**	**1,889**	**9,810**	**11,699**
1	02	04	01	06		Design Solenoid Supports	1-Feb-05	16-May-05	S	L	SL_ME	Hrs	3		317		317
1	02	04	01	06		Design Solenoid Supports	1-Feb-05	16-May-05	S	L	SL_MDD	Hrs	20		1,255		1,255
1	02	04	01	06		Prep Bid Pak - Solenoid Supports	17-May-05	16-Jun-05	S	L	SL_ME	Hrs	2		211		211
1	02	04	01	06		Evaluate Proposals - Solenoid Supports	7-Jul-05	13-Jul-05	S	L	SL_ME	Hrs	1		106		106
1	02	04	01	06		Vendor Fab Solenoid Supports	19-Jul-05	13-Sep-05	S	L	SA_MSSC	$$		9,000		9,810	9,810
1	**02**	**04**	**01**	**07**		**Gun RF Feed**							**178**	**43,000**	**16,050**	**46,870**	**62,920**
1	02	04	01	07		Prep Bid Pak - Isolator	1-Apr-05	14-Apr-05	S	L	SL_ME	Hrs	6		634		634
1	02	04	01	07		Vendor Fab & Assy - 1 Isolator	16-May-05	21-Sep-05	S	L	SA_MSEG	$$		38,000		41,420	41,420
1	02	04	01	07		Eval Vendor Prop- Isolator	4-May-05	10-May-05	S	L	SL_ME	Hrs	2		211		211
1	02	04	01	07		Procure Splitter Material	16-May-05	9-Aug-05	S	L	SL_MSEG	$$		5,000		5,450	5,450
1	02	04	01	07		Fab & Assemble Splitter Assembly	10-Aug-05	2-Nov-05	S	L	SL_MFMS	Hrs	50		5,073		5,073
1	02	04	01	07		Fab & Assemble Splitter Assembly	10-Aug-05	2-Nov-05	S	L	SL_MFAT	Hrs	100		8,275		8,275
1	02	04	01	07		Perform Lab Tests on Gun RF Feed Assembly	3-Nov-05	16-Nov-05	S	L	SL_MES	Hrs	20		1,857		1,857
1	**02**	**04**	**01**	**08**		**Gun RF Feed Supports**							**160**	**4,000**	**10,038**	**4,408**	**14,446**
1	02	04	01	08		Design Gun RF Feed Supports	14-Jun-05	2-Aug-05	S	L	SL_MDD	Hrs	160		10,038		10,038
1	02	04	01	08		Procure Gun RF Feed Supports Materials	3-Aug-05	9-Nov-05	S	L	SL_MSEG	$$		4,000		4,408	4,408
1	**02**	**04**	**02**			**Cathode Processing (CP) Station**							**2,225**	**141,400**	**175,471**	**162,460**	**337,931**
1	**02**	**04**	**02**	**01**		**CP Cathode Assembly & Supports**							**233**	**400**	**18,091**	**460**	**18,551**
1	02	04	02	01		Define CP Cathode Assembly Requirements	2-Oct-06	3-Oct-06	S	C	SL_PHS	Hrs	4		307		307
1	02	04	02	01		Define CP Cathode Assembly Requirements	2-Oct-06	3-Oct-06	S	C	SL_ME	Hrs	4		446		446
1	02	04	02	01		Define CP Cathode Assembly Requirements	2-Oct-06	3-Oct-06	S	C	SL_MDD	Hrs	8		529		529
1	02	04	02	01		Develop CP Cathode Assembly Design	4-Oct-06	17-Oct-06	S	C	SL_PHS	Hrs	10		768		768
1	02	04	02	01		Develop CP Cathode Assembly Design	4-Oct-06	17-Oct-06	S	C	SL_ME	Hrs	20		2,230		2,230
1	02	04	02	01		Develop CP Cathode Assembly Design	4-Oct-06	17-Oct-06	S	C	SL_MDD	Hrs	80		5,294		5,294
1	02	04	02	01		Develop CP Cathode Support Design	18-Oct-06	1-Nov-06	S	C	SL_ME	Hrs	5		557		557
1	02	04	02	01		Develop CP Cathode Support Design	18-Oct-06	1-Nov-06	S	C	SL_MDD	Hrs	42		2,779		2,779
1	02	04	02	01		Procure CP Cathode Materials	2-Nov-06	13-Feb-07	S	C	SL_MSEG	$$		200		230	230
1	02	04	02	01		Procure CP Cathode Support Materials	14-Feb-07	7-Mar-07	S	C	SL_MSEG	$$		200		230	230
1	02	04	02	01		Fab & Assemble CP Cathode Assembly	8-Mar-07	21-Mar-07	S	C	SL_MFAT	Hrs	40		3,454		3,454
1	02	04	02	01		Fab & Assemble CP Cathode Support Assembly	22-Mar-07	28-Mar-07	S	C	SL_MFAT	Hrs	20		1,727		1,727
1	**02**	**04**	**02**	**02**		**CP Load Lock**							**359**	**65,000**	**29,559**	**74,750**	**104,309**
1	02	04	02	02		Define Cathode Clamping Requirements	1-Jun-06	5-Jun-06	S	L	SL_PHS	Hrs	2		150		150
1	02	04	02	02		Define Cathode Clamping Requirements	1-Jun-06	5-Jun-06	S	L	SL_ME	Hrs	5		543		543
1	02	04	02	02		Define Cathode Clamping Requirements	1-Jun-06	5-Jun-06	S	L	SL_MDD	Hrs	10		645		645
1	02	04	02	02		Define Cathode Transfer Requirements	6-Jun-06	12-Jun-06	S	L	SL_PHS	Hrs	2		150		150
1	02	04	02	02		Define Cathode Transfer Requirements	6-Jun-06	12-Jun-06	S	L	SL_ME	Hrs	10		1,087		1,087
1	02	04	02	02		Define Cathode Transfer Requirements	6-Jun-06	12-Jun-06	S	L	SL_MDD	Hrs	20		1,290		1,290
1	02	04	02	02		Develop CP Load Lock Design	13-Jun-06	17-Jul-06	S	L	SL_ME	Hrs	20		2,173		2,173
1	02	04	02	02		Develop CP Load Lock Design	13-Jun-06	17-Jul-06	S	L	SL_MDD	Hrs	80		5,159		5,159
1	02	04	02	02		Prep Bid Pak - CP Load Lock Materials	18-Jul-06	31-Jul-06	S	L	SL_ME	Hrs	8		869		869
1	02	04	02	02		Eval Vendor Prop- CP Load Lock Materials	2-Oct-06	6-Oct-06	S	C	SL_ME	Hrs	2		223		223
1	02	04	02	02		Vendor Fab CP Load Lock Materials	10-Oct-06	19-Jan-07	S	C	SA_MSEG	$$		65,000		74,750	74,750
1	02	04	02	02		Fab & Assemble CP Load Lock	22-Jan-07	2-Apr-07	S	C	SL_MFAT	Hrs	200		17,270		17,270
1	**02**	**04**	**02**	**03**		**CP Load Lock Supports**							**132**	**1,000**	**10,620**	**1,150**	**11,770**
1	02	04	02	03		Define Load Lock Supports Requirements	2-Oct-06	4-Oct-06	S	L	SL_ME	Hrs	1		111		111
1	02	04	02	03		Define Load Lock Supports Requirements	2-Oct-06	4-Oct-06	S	L	SL_MDD	Hrs	4		265		265
1	02	04	02	03		Develop CP Load Lock Support Design	5-Oct-06	19-Oct-06	S	L	SL_ME	Hrs	5		557		557
1	02	04	02	03		Develop CP Load Lock Support Design	5-Oct-06	19-Oct-06	S	L	SL_MDD	Hrs	42		2,779		2,779
1	02	04	02	03		Procure CP Load Lock Support Materials	20-Oct-06	9-Nov-06	S	L	SL_MSEG	$$		1,000		1,150	1,150
1	02	04	02	03		Fab & Assemble CP Load Lock Support	10-Nov-06	11-Dec-06	S	L	SL_MFAT	Hrs	80		6,908		6,908
1	**02**	**04**	**02**	**04**		**CP Station**							**1,465**	**70,000**	**114,468**	**80,500**	**194,968**
1	02	04	02	04		Define Cathode Processing Requirements	1-Jun-06	14-Jun-06	S	L	SL_PHS	Hrs	10		749		749
1	02	04	02	04		Define Cathode Processing Requirements	1-Jun-06	14-Jun-06	S	L	SL_ME	Hrs	20		2,173		2,173
1	02	04	02	04		Define Cathode Processing Requirements	1-Jun-06	14-Jun-06	S	L	SL_MDD	Hrs	40		2,580		2,580
1	02	04	02	04		Define Cathode Transfer Requirements	15-Jun-06	21-Jun-06	S	L	SL_PHS	Hrs	10		749		749
1	02	04	02	04		Define Cathode Transfer Requirements	15-Jun-06	21-Jun-06	S	L	SL_ME	Hrs	20		2,173		2,173
1	02	04	02	04		Define Cathode Transfer Requirements	15-Jun-06	21-Jun-06	S	L	SL_MDD	Hrs	35		2,257		2,257

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	02	04	02	04		Develop CP Station Chamber Design	22-Jun-06	27-Oct-06	S	L	SL_PHS	Hrs	50		3,764		3,764
1	02	04	02	04		Develop CP Station Chamber Design	22-Jun-06	27-Oct-06	S	L	SL_ME	Hrs	150		16,395		16,395
1	02	04	02	04		Develop CP Station Chamber Design	22-Jun-06	27-Oct-06	S	L	SL_MDD	Hrs	750		48,648		48,648
1	02	04	02	04		Develop CP Station Support Design	30-Oct-06	28-Nov-06	S	L	SL_PHS	Hrs	10		768		768
1	02	04	02	04		Develop CP Station Support Design	30-Oct-06	28-Nov-06	S	L	SL_ME	Hrs	80		8,919		8,919
1	02	04	02	04		Prep Bid Pak - CP Station Chamber Materials	29-Nov-06	12-Dec-06	S	L	SL_ME	Hrs	8		892		892
1	02	04	02	04		Eval Vendor Prop- CP Station Chamber Materials	11-Jan-07	18-Jan-07	S	C	SL_ME	Hrs	2		223		223
1	02	04	02	04		Vendor Fab CP Station Chamber Materials	22-Jan-07	16-Apr-07	S	C	SA_MSEG	$$		65,000		74,750	74,750
1	02	04	02	04		Procure CP Station Support Materials	17-Apr-07	7-May-07	S	C	SL_MSEG	$$		5,000		5,750	5,750
1	02	04	02	04		Fab & Assemble Chamber Assembly	8-May-07	18-Jul-07	S	C	SL_MFAT	Hrs	200		17,270		17,270
1	02	04	02	04		Fab & Assemble Supports	19-Jul-07	15-Aug-07	S	C	SL_MFAT	Hrs	80		6,908		6,908
1	**02**	**04**	**02**	**05**		**Cathode Lab Infrastructure**							**36**	**5,000**	**2,733**	**5,600**	**8,333**
1	02	04	02	05		Define CP Lab Infrastructure Requirements	1-Jun-06	2-Jun-06	S	L	SL_PHS	Hrs	16		1,198		1,198
1	02	04	02	05		Develop CP Lab Infrastructure Design	5-Jun-06	6-Jun-06	S	L	SL_PHS	Hrs	16		1,198		1,198
1	02	04	02	05		Procure CP Lab Infrastructure Materials	7-Jun-06	30-Aug-06	S	L	SL_MSEG	$$		5,000		5,600	5,600
1	02	04	02	05		Assemble CP Lab Infrastructure	31-Aug-06	31-Aug-06	S	L	SL_MFAT	Hrs	4		337		337
1	**02**	**04**	**03**			**S-Band Low Level Timing**							**13,180**	**582,960**	**1,207,915**	**647,291**	**1,855,206**
1	**02**	**04**	**03**	**01**		**Controls Interface & Timing**							**1,982**	**55,000**	**189,851**	**60,963**	**250,814**
1	02	04	03	01		Develop S-Band LL Controls Timing Design	1-Feb-05	28-Feb-05	S	L	SL_KE	Hrs	7		788		788
1	02	04	03	01		Develop S-Band LL Controls Timing Design	1-Feb-05	28-Feb-05	S	L	SL_CE	Hrs	7		788		788
1	02	04	03	01		Develop Documentation	1-Feb-05	14-Oct-05	S	L	SL_KE	Hrs	40		4,507		4,507
1	02	04	03	01		Develop Documentation	1-Feb-05	14-Oct-05	S	L	SL_CE	Hrs	40		4,507		4,507
1	02	04	03	01		Create Layouts	1-Feb-05	14-Oct-05	S	L	SL_MDD	Hrs	200		12,567		12,567
1	02	04	03	01		Prepare for PDR	15-Mar-05	16-Mar-05	S	L	SL_KE	Hrs	7		788		788
1	02	04	03	01		Prepare for PDR	15-Mar-05	16-Mar-05	S	L	SL_CE	Hrs	7		788		788
1	02	04	03	01		Conduct PDR	17-Mar-05	17-Mar-05	S	L	SL_KE	Hrs	4		450		450
1	02	04	03	01		Countdown Chassis	17-Mar-05	20-Apr-05	S	L	SL_KE	Hrs	150		16,877		16,877
1	02	04	03	01		MTG Modifications	17-Mar-05	2-Sep-05	S	L	SL_CE	Hrs	480		54,005		54,005
1	02	04	03	01		Design & Prototype Master Amplifier	14-Apr-05	25-May-05	S	L	SL_MSEG	$$		10,000		10,900	10,900
1	02	04	03	01		Design & Prototype Master Amplifier	14-Apr-05	25-May-05	S	L	SL_KT	Hrs	40		2,465		2,465
1	02	04	03	01		Design & Prototype Master Amplifier	14-Apr-05	25-May-05	S	L	SL_KE	Hrs	120		13,501		13,501
1	02	04	03	01		Design Fiducial Chassis	17-Mar-05	27-Apr-05	S	L	SL_CE	Hrs	160		18,002		18,002
1	02	04	03	01		Generate Procurement Plan	6-Sep-05	6-Sep-05	S	L	SL_KE	Hrs	4		450		450
1	02	04	03	01		Generate Procurement Plan	6-Sep-05	6-Sep-05	S	L	SL_CE	Hrs	4		450		450
1	02	04	03	01		Create Test Plan	7-Sep-05	13-Sep-05	S	L	SL_KE	Hrs	20		2,250		2,250
1	02	04	03	01		Create Test Plan	7-Sep-05	13-Sep-05	S	L	SL_CE	Hrs	20		2,250		2,250
1	02	04	03	01		Establish Subordinate W.O.'s	14-Sep-05	14-Sep-05	S	L	SL_ME	Hrs	4		423		423
1	02	04	03	01		Prepare for FDR	15-Sep-05	16-Sep-05	S	L	SL_KE	Hrs	8		900		900
1	02	04	03	01		Conduct FDR	19-Sep-05	19-Sep-05	S	L	SL_KE	Hrs	4		450		450
1	02	04	03	01		Countdown Chassis	20-Sep-05	17-Oct-05	S	L	SL_MSEG	$$		10,000		11,065	11,065
1	02	04	03	01		Countdown Chassis	20-Sep-05	17-Oct-05	S	L	SL_KT	Hrs	160		10,011		10,011
1	02	04	03	01		MTG Modifications Fab	20-Sep-05	17-Oct-05	S	L	SL_MSEG	$$		5,000		5,533	5,533
1	02	04	03	01		MTG Modifications Fab	20-Sep-05	17-Oct-05	S	L	SL_CT	Hrs	80		5,005		5,005
1	02	04	03	01		MTG Modifications Test	18-Oct-05	31-Oct-05	S	L	SL_CE	Hrs	80		9,253		9,253
1	02	04	03	01		Fab Master Amplifier	20-Sep-05	14-Dec-05	S	L	SL_MSEG	$$		30,000		33,465	33,465
1	02	04	03	01		Fab Master Amplifier	20-Sep-05	14-Dec-05	S	L	SL_KT	Hrs	160		10,093		10,093
1	02	04	03	01		Fab Master Amplifier	20-Sep-05	14-Dec-05	S	L	SL_KE	Hrs	16		1,843		1,843
1	02	04	03	01		System Tests	15-Dec-05	22-May-06	S	C	SL_CE	Hrs	40		4,626		4,626
1	02	04	03	01		Install Modules	23-May-06	12-Oct-06	S	C	SL_KT	Hrs	40		2,540		2,540
1	02	04	03	01		Install Modules	23-May-06	12-Oct-06	S	C	SL_KE	Hrs	40		4,637		4,637
1	02	04	03	01		Install Modules	23-May-06	12-Oct-06	S	C	SL_CE	Hrs	40		4,637		4,637
1	**02**	**04**	**03**	**02**		**LLRF Phase Reference System**							**2,692**	**136,000**	**246,840**	**151,725**	**398,565**
1	02	04	03	02		System Design	2-May-05	8-Sep-05	S	L	SL_KE	Hrs	30		3,375		3,375
1	02	04	03	02		System Design	2-May-05	8-Sep-05	S	L	SL_CE	Hrs	30		3,375		3,375
1	02	04	03	02		Develop Documentation	9-Sep-05	14-Aug-06	S	L	SL_KE	Hrs	80		9,235		9,235
1	02	04	03	02		Develop Documentation	9-Sep-05	14-Aug-06	S	L	SL_CE	Hrs	40		4,617		4,617
1	02	04	03	02		Create Layouts	9-Sep-05	14-Aug-06	S	L	SL_MDD	Hrs	200		12,873		12,873
1	02	04	03	02		Prepare for PDR	9-Sep-05	12-Sep-05	S	L	SL_KE	Hrs	8		900		900
1	02	04	03	02		Conduct PDR	13-Sep-05	13-Sep-05	S	L	SL_KE	Hrs	4		450		450
1	02	04	03	02		Design & Prototype LCLS Oscillator	31-May-05	10-Jan-06	S	L	SL_MSEG	$$		20,000		22,042	22,042
1	02	04	03	02		Design & Prototype LCLS Oscillator	31-May-05	10-Jan-06	S	L	SL_KE	Hrs	360		40,962		40,962
1	02	04	03	02		Design RF Distribution L0, L1	14-Sep-05	29-Sep-05	S	L	SL_KE	Hrs	80		9,001		9,001
1	02	04	03	02		Design Distribution Amplifier Chassis	14-Sep-05	27-Oct-05	S	L	SL_KE	Hrs	200		22,876		22,876
1	02	04	03	02		Design & Prototype Laser Timing Stability	14-Sep-05	6-Feb-06	S	L	SL_MSEG	$$		20,000		22,313	22,313

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	02	04	03	02		Design & Prototype Laser Timing Stability	14-Sep-05	6-Feb-06	S	L	SL_KE	Hrs	480		55,298		55,298
1	02	04	03	02		Design & Prototype Multiplier Chassis	14-Sep-05	27-Sep-05	S	L	SL_MSEG	$$		5,000		5,450	5,450
1	02	04	03	02		Design & Prototype Multiplier Chassis	14-Sep-05	27-Sep-05	S	L	SL_KE	Hrs	80		9,001		9,001
1	02	04	03	02		Generate Procurement Plan	7-Feb-06	7-Feb-06	S	C	SL_KE	Hrs	4		463		463
1	02	04	03	02		Create Test Plan	8-Feb-06	14-Feb-06	S	C	SL_KE	Hrs	40		4,626		4,626
1	02	04	03	02		Establish Subordinate W.O.'s	15-Feb-06	15-Feb-06	S	C	SL_ME	Hrs	4		435		435
1	02	04	03	02		Prepare for FDR	16-Feb-06	17-Feb-06	S	C	SL_KE	Hrs	8		925		925
1	02	04	03	02		Conduct FDR	21-Feb-06	21-Feb-06	S	C	SL_KE	Hrs	4		463		463
1	02	04	03	02		Vendor Fab LCLS Oscillator (3)	6-Apr-06	12-Apr-06	S	C	SA_MSEG	$$		30,000		33,600	33,600
1	02	04	03	02		Fab LCLS Oscillator	13-Apr-06	7-Jul-06	S	C	SL_KT	Hrs	240		15,202		15,202
1	02	04	03	02		Fab Distribution Amplifier Chassis	22-Feb-06	16-May-06	S	C	SL_MSEG	$$		10,000		11,200	11,200
1	02	04	03	02		Fab Distribution Amplifier Chassis	22-Feb-06	16-May-06	S	C	SL_KT	Hrs	160		10,134		10,134
1	02	04	03	02		Fab Laser Phase Timing Stability	22-Feb-06	16-May-06	S	C	SL_MSEG	$$		10,000		11,200	11,200
1	02	04	03	02		Fab Laser Phase Timing Stability	22-Feb-06	16-May-06	S	C	SL_KT	Hrs	80		5,067		5,067
1	02	04	03	02		S-20 MDL Modifications	22-Feb-06	16-May-06	S	C	SL_MSEG	$$		3,000		3,360	3,360
1	02	04	03	02		S-20 MDL Modifications	22-Feb-06	16-May-06	S	C	SL_KT	Hrs	40		2,534		2,534
1	02	04	03	02		Fab Multiplier Chassis	22-Feb-06	16-May-06	S	C	SL_MSEG	$$		5,000		5,600	5,600
1	02	04	03	02		Fab Multiplier Chassis	22-Feb-06	16-May-06	S	C	SL_KT	Hrs	80		5,067		5,067
1	02	04	03	02		Install Cable Guides	17-May-06	31-May-06	S	C	SL_PCT	Hrs	80		5,067		5,067
1	02	04	03	02		Install Cable Guides	17-May-06	31-May-06	S	C	SL_MSEG	$$		2,000		2,240	2,240
1	02	04	03	02		Install S-Band RF Cables (31)	10-Jul-06	11-Aug-06	S	C	SL_PCT	Hrs	160		10,134		10,134
1	02	04	03	02		Install S-Band RF Cables (31)	10-Jul-06	11-Aug-06	S	C	SL_MSEG	$$		31,000		34,720	34,720
1	02	04	03	02		Install Modules	17-May-06	14-Jun-06	S	C	SL_KT	Hrs	160		10,134		10,134
1	02	04	03	02		Install Modules	17-May-06	14-Jun-06	S	C	SL_KE	Hrs	40		4,626		4,626
1	**02**	**04**	**03**	**03**		**LLRF Monitor & Control System**							**4,530**	**281,960**	**405,364**	**311,403**	**716,767**
1	02	04	03	03		Define Control Interface	15-Mar-05	31-Aug-05	S	L	SL_KE	Hrs	140		15,751		15,751
1	02	04	03	03		Define Control Interface	15-Mar-05	31-Aug-05	S	L	SL_CE	Hrs	144		16,201		16,201
1	02	04	03	03		Develop Documentation	1-Sep-05	12-Sep-06	S	L	SL_KE	Hrs	75		8,655		8,655
1	02	04	03	03		Create Layouts	1-Sep-05	12-Sep-06	S	L	SL_MDD	Hrs	200		12,869		12,869
1	02	04	03	03		Prepare for PDR	1-Sep-05	2-Sep-05	S	L	SL_KE	Hrs	8		900		900
1	02	04	03	03		Conduct PDR	6-Sep-05	6-Sep-05	S	L	SL_KE	Hrs	4		450		450
1	02	04	03	03		Design & Prototype S-Band Phase Measurment	20-Jun-05	4-Oct-05	S	L	SL_MSEG	$$		15,000		16,362	16,362
1	02	04	03	03		Design & Prototype S-Band Phase Measurment	20-Jun-05	4-Oct-05	S	L	SL_KE	Hrs	480		54,045		54,045
1	02	04	03	03		Design & Prototype DAC & SAM Breakout	13-May-05	4-Oct-05	S	L	SL_MSEG	$$		4,000		4,362	4,362
1	02	04	03	03		Design & Prototype DAC & SAM Breakout	13-May-05	4-Oct-05	S	L	SL_KE	Hrs	160		18,012		18,012
1	02	04	03	03		Design Modulator Refurbishment	10-May-05	29-Sep-05	S	L	SL_CE	Hrs	400		45,004		45,004
1	02	04	03	03		Design Solid State Sub Booster	1-Feb-05	9-Sep-05	S	L	SL_MSEG	$$		6,960		7,586	7,586
1	02	04	03	03		Design Solid State Sub Booster	1-Feb-05	9-Sep-05	S	L	SL_KE	Hrs	711		79,995		79,995
1	02	04	03	03		Design & Prototype Optical Interface	13-May-05	4-Oct-05	S	L	SL_MSEG	$$		10,000		10,906	10,906
1	02	04	03	03		Design & Prototype Optical Interface	13-May-05	4-Oct-05	S	L	SL_KE	Hrs	160		18,012		18,012
1	02	04	03	03		Generate Procurement Plan	5-Oct-05	5-Oct-05	S	C	SL_KE	Hrs	4		463		463
1	02	04	03	03		Create Test Plan	6-Oct-05	12-Oct-05	S	C	SL_KE	Hrs	40		4,626		4,626
1	02	04	03	03		Establish Subordinate W.O.'s	13-Oct-05	13-Oct-05	S	C	SL_ME	Hrs	4		435		435
1	02	04	03	03		Prepare for FDR	14-Oct-05	17-Oct-05	S	C	SL_KE	Hrs	8		925		925
1	02	04	03	03		Conduct FDR	18-Oct-05	18-Oct-05	S	C	SL_KE	Hrs	4		463		463
1	02	04	03	03		Vendor Fab Modulator Thyratron Parts	28-Nov-05	22-Mar-06	S	C	SA_MSEG	$$		48,000		53,760	53,760
1	02	04	03	03		Procure SS Subbooster Amplitude Control	19-Oct-05	15-Nov-05	S	C	SL_MSEG	$$		10,000		11,200	11,200
1	02	04	03	03		Eval Vendor Prop- Modulator Thyratron Parts	16-Nov-05	22-Nov-05	S	C	SL_KE	Hrs	8		925		925
1	02	04	03	03		Procure Monitor Scope SCP	15-Feb-05	15-Mar-05	S	L	SL_MSEG	$$		20,000		21,800	21,800
1	02	04	03	03		Procure Dual Power Meter SCP	15-Feb-05	15-Mar-05	S	L	SL_MSEG	$$		20,000		21,800	21,800
1	02	04	03	03		Procure Bunch Length Monitor Electronics	19-Oct-05	15-Nov-05	S	C	SL_MSEG	$$		20,000		22,400	22,400
1	02	04	03	03		Fab S-Band Units (12)	23-Mar-06	11-Aug-06	S	C	SL_MSEG	$$		36,000		40,320	40,320
1	02	04	03	03		Fab S-Band Units (12)	23-Mar-06	11-Aug-06	S	C	SL_KT	Hrs	480		30,403		30,403
1	02	04	03	03		Fab Dac Sam Breakout Units (6)	23-Mar-06	11-Aug-06	S	C	SL_MSEG	$$		6,000		6,720	6,720
1	02	04	03	03		Fab Dac Sam Breakout Units (6)	23-Mar-06	11-Aug-06	S	C	SL_KT	Hrs	120		7,601		7,601
1	02	04	03	03		Refurbish Modulator	23-Mar-06	11-Aug-06	S	C	SL_CT	Hrs	320		20,269		20,269
1	02	04	03	03		Klystron Change to Source Tube	20-Apr-06	11-Sep-06	S	C	SL_KT	Hrs	160		10,134		10,134
1	02	04	03	03		Fab SS Subbooster Amplifier	1-Mar-05	20-Jul-05	S	L	SL_MSEG	$$		72,000		78,480	78,480
1	02	04	03	03		Fab SS Subbooster Amplifier	1-Mar-05	20-Jul-05	S	L	SL_KT	Hrs	200		12,324		12,324
1	02	04	03	03		Integration SS Subbooster Amplifier	31-Jan-06	25-Apr-06	S	C	SL_KT	Hrs	200		12,668		12,668
1	02	04	03	03		Modify IPA Chassis	19-Oct-05	30-Jan-06	S	C	SL_MSEG	$$		2,000		2,240	2,240
1	02	04	03	03		Modify IPA Chassis	19-Oct-05	30-Jan-06	S	C	SL_KT	Hrs	60		3,800		3,800
1	02	04	03	03		Modulator Control Interface Cables	23-Mar-06	15-Jun-06	S	C	SL_KT	Hrs	40		2,534		2,534
1	02	04	03	03		Monitor Scope SCP Interface	23-Mar-06	5-Apr-06	S	C	SL_PCT	Hrs	40		2,534		2,534

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	02	04	03	03		Monitor Scope SCP Interface	23-Mar-06	5-Apr-06	S	C	SL_MSEG	$$		5,000		5,600	5,600
1	02	04	03	03		Install Cables	14-Aug-06	9-Oct-06	S	C	SL_PCT	Hrs	80		5,087		5,087
1	02	04	03	03		Install Cables	14-Aug-06	9-Oct-06	S	C	SL_MSEG	$$		6,000		6,747	6,747
1	02	04	03	03		Recable RF	31-Jan-06	28-Mar-06	S	C	SL_MSEG	$$		1,000		1,120	1,120
1	02	04	03	03		Recable RF	31-Jan-06	28-Mar-06	S	C	SL_KT	Hrs	40		2,534		2,534
1	02	04	03	03		Install Modules	10-Oct-06	6-Nov-06	S	C	SL_KT	Hrs	160		10,398		10,398
1	02	04	03	03		Install Modules	10-Oct-06	6-Nov-06	S	C	SL_KE	Hrs	40		4,747		4,747
1	02	04	03	03		Install Mod Control Interace	7-Nov-06	19-Jan-07	S	C	SL_KT	Hrs	40		2,600		2,600
1	**02**	**04**	**03**	**04**		**Beam Phase Monitor Cavity**							**1,980**	**110,000**	**188,045**	**123,200**	**311,245**
1	02	04	03	04		Define Beamline Component	1-Mar-05	15-Apr-05	S	L	SL_PHSS	Hrs	74		6,858		6,858
1	02	04	03	04		Define Beamline Component	1-Mar-05	15-Apr-05	S	L	SL_KE	Hrs	104		11,701		11,701
1	02	04	03	04		Develop Documentation	18-Apr-05	5-Oct-05	S	L	SL_KE	Hrs	80		9,007		9,007
1	02	04	03	04		Create Layouts	18-Apr-05	5-Oct-05	S	L	SL_MDD	Hrs	400		25,114		25,114
1	02	04	03	04		Prepare for PDR	6-Oct-05	7-Oct-05	S	L	SL_KE	Hrs	8		925		925
1	02	04	03	04		Conduct PDR	10-Oct-05	10-Oct-05	S	L	SL_KE	Hrs	4		463		463
1	02	04	03	04		Generate Procurement Plan	11-Oct-05	11-Oct-05	S	C	SL_KE	Hrs	4		463		463
1	02	04	03	04		Create Test Plan	12-Oct-05	18-Oct-05	S	C	SL_KE	Hrs	40		4,626		4,626
1	02	04	03	04		Establish Subordinate W.O.'s	19-Oct-05	19-Oct-05	S	C	SL_ME	Hrs	4		435		435
1	02	04	03	04		Prepare for FDR	20-Oct-05	21-Oct-05	S	C	SL_KE	Hrs	8		925		925
1	02	04	03	04		Conduct FDR	24-Oct-05	24-Oct-05	S	C	SL_KE	Hrs	4		463		463
1	02	04	03	04		Fab Beam Line Components	25-Oct-05	3-Feb-06	S	C	SL_MSEG	$$		30,000		33,600	33,600
1	02	04	03	04		Fab Beam Line Components	25-Oct-05	3-Feb-06	S	C	SL_MFMS	Hrs	120		12,384		12,384
1	02	04	03	04		Fab Beam Line Components	25-Oct-05	3-Feb-06	S	C	SL_KT	Hrs	80		5,067		5,067
1	02	04	03	04		Cold Test Components	6-Feb-06	10-Feb-06	S	C	SL_KE	Hrs	40		4,626		4,626
1	02	04	03	04		Bake Beamline Components	13-Feb-06	27-Feb-06	S	C	SL_MFAT	Hrs	40		3,366		3,366
1	02	04	03	04		Fabricate Beam Phase Monitor System	25-Oct-05	1-May-06	S	L	SL_PHSS	Hrs	400		38,108		38,108
1	02	04	03	04		Fabricate Beam Phase Monitor System	25-Oct-05	1-May-06	S	L	SL_MSEG	$$		80,000		89,600	89,600
1	02	04	03	04		Fabricate Beam Phase Monitor System	25-Oct-05	1-May-06	S	L	SL_KE	Hrs	400		46,264		46,264
1	02	04	03	04		Install Modules	2-May-06	16-May-06	S	C	SL_MFAT	Hrs	50		4,208		4,208
1	02	04	03	04		Install Modules	2-May-06	16-May-06	S	C	SL_KE	Hrs	104		12,029		12,029
1	02	04	03	04		Install Cables	17-May-06	31-May-06	S	C	SL_KT	Hrs	16		1,013		1,013
1	**02**	**04**	**03**	**05**		**RF System S/W Development / Docs**							**1,996**	**-**	**177,815**	**-**	**177,815**
1	02	04	03	05		Develop Specification	19-Oct-05	15-Nov-05	S	C	SL_KE	Hrs	80		9,253		9,253
1	02	04	03	05		Create Layouts	16-Nov-05	28-Nov-06	S	C	SL_MDD	Hrs	1,000		64,759		64,759
1	02	04	03	05		Prepare for PDR	16-Nov-05	17-Nov-05	S	C	SL_KE	Hrs	8		925		925
1	02	04	03	05		Conduct PDR	18-Nov-05	18-Nov-05	S	C	SL_KE	Hrs	4		463		463
1	02	04	03	05		Create Test Plan	21-Nov-05	29-Nov-05	S	C	SL_KE	Hrs	20		2,313		2,313
1	02	04	03	05		Conduct FDR	30-Nov-05	30-Nov-05	S	C	SL_KE	Hrs	4		463		463
1	02	04	03	05		RF Feedback Measurements/Algorithm Development	1-Feb-05	13-Dec-05	S	L	SL_KE	Hrs	880		99,639		99,639
1	**02**	**04**	**04**			**S-Band High Power System**											
1	**02**	**04**	**04**	**01**		**RF Gun High Power**											
1	**02**	**04**	**04**	**02**		**L0 High Power**											
1	**02**	**04**	**04**	**03**		**Transverse Cavity High Power**											
1	**02**	**04**	**05**			**Injector RF Waveguide Subsystem**							**2,431**	**718,500**	**216,441**	**789,694**	**1,006,135**
1	**02**	**04**	**05**	**01**		**RF Waveguides**							**2,431**	**718,500**	**216,441**	**789,694**	**1,006,135**
1	02	04	05	01		Define RF Waveguide System Specs	1-Feb-05	2-Mar-05	S	L	SL_PHSS	Hrs	80		7,414		7,414
1	02	04	05	01		Develop RF Waveguide System Engineering & Dsn	1-Feb-05	2-Mar-05	S	L	SL_ME	Hrs	8		846		846
1	02	04	05	01		Develop RF Waveguide System Engineering & Dsn	1-Feb-05	2-Mar-05	S	L	SL_MDD	Hrs	27		1,694		1,694
1	02	04	05	01		Develop Vacuum Components Engr & Design	1-Feb-05	18-May-05	S	L	SL_ME	Hrs	120		12,685		12,685
1	02	04	05	01		Develop Vacuum Components Engr & Design	1-Feb-05	18-May-05	S	L	SL_MDD	Hrs	320		20,077		20,077
1	02	04	05	01		Prep Bid Pak - Waveguide Components	1-Feb-05	15-Feb-05	S	L	SL_ME	Hrs	40		4,228		4,228
1	02	04	05	01		Prep Bid Pak - Waveguide Supports Components	16-Feb-05	2-Mar-05	S	L	SL_ME	Hrs	40		4,228		4,228
1	02	04	05	01		Evaluate Vendor Prop Waveguide Supt Components	6-Apr-05	19-Apr-05	S	L	SL_ME	Hrs	16		1,691		1,691
1	02	04	05	01		Vendor Waveguide Supt Components Production	10-May-05	6-Oct-05	S	L	SA_MSSC	$$		100,000		109,114	109,114
1	02	04	05	01		Evaluate Vendor Proposals Waveguide Components	23-Mar-05	5-Apr-05	S	L	SL_ME	Hrs	10		1,057		1,057
1	02	04	05	01		Vendor Vertical Drop Waveguide Comp Production	26-Apr-05	9-Jun-05	S	L	SA_MSSC	$$		76,125		82,976	82,976
1	02	04	05	01		Vendor Klystron Housing Waveguide Comp Prodctn	10-Jun-05	26-Jul-05	S	L	SA_MSSC	$$		76,125		82,976	82,976
1	02	04	05	01		Vendor Injectr Housing Waveguide Comp Production	27-Jul-05	9-Sep-05	S	L	SA_MSSC	$$		76,125		82,976	82,976
1	02	04	05	01		Vendor Transverse Kicker Waveguide Comp Prodctn	12-Sep-05	25-Oct-05	S	L	SA_MSSC	$$		76,125		84,189	84,189
1	02	04	05	01		Prep Bid Pak - Vacuum Components	19-May-05	2-Jun-05	S	L	SL_ME	Hrs	40		4,228		4,228
1	02	04	05	01		Evaluate Vendor Proposals Vacuum Components	24-Jun-05	30-Jun-05	S	L	SL_ME	Hrs	10		1,057		1,057
1	02	04	05	01		Vertical Drop Vacuum Components Production	18-Jul-05	30-Aug-05	S	L	SA_MSSC	$$		75,000		81,750	81,750
1	02	04	05	01		Klystron Housing Vacuum Components Production	31-Aug-05	14-Oct-05	S	L	SA_MSSC	$$		75,000		82,453	82,453
1	02	04	05	01		Injector Housing Vacuum Components Production	17-Oct-05	1-Dec-05	S	L	SA_MSSC	$$		75,000		84,000	84,000

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	02	04	05	01		Transverse Kicker Vacuum Components Production	2-Dec-05	1-Feb-06	S	C	SA_MSSC	$$		75,000		84,000	84,000
1	02	04	05	01		Vertical Drop-Vac Process Waveguide & Vac Comp	31-Aug-05	29-Sep-05	S	L	SL_MVE	Hrs	100		10,571		10,571
1	02	04	05	01		Klys Housing-Vac Process Waveguide & Vac Comp	17-Oct-05	14-Nov-05	S	L	SL_MVE	Hrs	100		10,867		10,867
1	02	04	05	01		Inject Housing-Vac Process Waveguide & Vac Comp	2-Dec-05	17-Jan-06	S	C	SL_MVE	Hrs	100		10,867		10,867
1	02	04	05	01		Transverse Kick-Vac Process Waveguide & Vac Comp	2-Feb-06	3-Mar-06	S	C	SL_MVE	Hrs	100		10,867		10,867
1	02	04	05	01		Conduct RF WG System Comp Testing-Vertical Drop	30-Sep-05	6-Oct-05	S	L	SL_KE	Hrs	30		3,451		3,451
1	02	04	05	01		Conduct RF WG System Comp Testing-Klys Housing	15-Nov-05	21-Nov-05	S	L	SL_KE	Hrs	30		3,470		3,470
1	02	04	05	01		Conduct RF WG System Comp Testing-Inject Housing	18-Jan-06	24-Jan-06	S	C	SL_KE	Hrs	30		3,470		3,470
1	02	04	05	01		Cond RF WG System Comp Testing-Transverse Kickr	6-Mar-06	10-Mar-06	S	C	SL_KE	Hrs	30		3,470		3,470
1	02	04	05	01		Integ RF WG System onto Supports-Vertical Drop	7-Oct-05	14-Oct-05	S	L	SL_MFAT	Hrs	150		12,624		12,624
1	02	04	05	01		Integ RF WG System onto Supports-Klys Housing	22-Nov-05	1-Dec-05	S	C	SL_MFAT	Hrs	150		12,624		12,624
1	02	04	05	01		Integ RF WG System onto Supports-Inject Housing	25-Jan-06	1-Feb-06	S	C	SL_MFAT	Hrs	150		12,624		12,624
1	02	04	05	01		Integ RF WG System onto Supports-Transverse Kick	13-Mar-06	20-Mar-06	S	C	SL_MFAT	Hrs	150		12,624		12,624
1	02	04	05	01		Purchase Coupler Material (9)	19-May-05	15-Jul-05		L	SL_MSEG	$$		14,000		15,260	15,260
1	02	04	05	01		Fabricate Coupler Spools (9)	18-Jul-05	12-Sep-05		L	SL_MFAT	Hrs	240		19,649		19,649
1	02	04	05	01		Assemble Coupler Spools (9)	13-Sep-05	7-Nov-05		L	SL_MFAT	Hrs	300		25,008		25,008
1	02	04	05	01		Injection Area SLED Shielding	2-Feb-06	15-Feb-06		C	SL_MFAT	Hrs	60		5,050		5,050
1	**02**	**04**	**05**	**02**		**RF Waveguide Supports**											
1	**02**	**04**	**06**			**Injector Linac Structures**							**2,162**	**34,000**	**201,039**	**37,063**	**238,102**
1	**02**	**04**	**06**	**01**		**L0-1 Structure Assembly**							**1,720**	**11,000**	**155,815**	**11,990**	**167,805**
1	02	04	06	01		Develop L0A & B RF Engr/Design/Tuning Plan	1-Feb-05	30-Mar-05	S	L	SL_PHSS	Hrs	40		3,707		3,707
1	02	04	06	01		Develop L0A & B Mech Engrg & Design / Waveguide	2-Mar-05	28-Apr-05	S	L	SL_ME	Hrs	220		23,256		23,256
1	02	04	06	01		Develop L0A & B Mech Engrg & Design / Waveguide	2-Mar-05	28-Apr-05	S	L	SL_MDD	Hrs	320		20,077		20,077
1	02	04	06	01		QC Structures for L0A &B	2-Mar-05	28-Apr-05		L	SL_MFAT	Hrs	220		18,011		18,011
1	02	04	06	01		Procure L0A & B Material	29-Apr-05	27-May-05	S	L	SL_MSEG	$$		11,000		11,990	11,990
1	02	04	06	01		Fabricate and Modify L0A &B	31-May-05	23-Aug-05	S	L	SL_MFMS	Hrs	440		44,172		44,172
1	02	04	06	01		Integrate L0A &B onto Support Structure	24-Aug-05	22-Sep-05	S	L	SL_MFAT	Hrs	160		13,099		13,099
1	02	04	06	01		Perform L0A &B Vacuum Processing	23-Sep-05	20-Oct-05	S	L	SL_MVE	Hrs	120		12,934		12,934
1	02	04	06	01		Perform L0A &B Waveguide Integration	23-Sep-05	21-Oct-05	S	L	SL_MFAT	Hrs	80		6,680		6,680
1	02	04	06	01		Prep for & Perform L0A &B RF tuning	24-Oct-05	21-Nov-05	S	C	SL_KE	Hrs	80		9,253		9,253
1	02	04	06	01		Conduct L0A &B RF Processing	6-Jan-06	8-Mar-06		C	SL_KE	Hrs	40		4,626		4,626
1	**02**	**04**	**06**	**02**		**L0-2 Structure Assembly**											
1	**02**	**04**	**06**	**03**		**Major Linac Support**							**140**	**5,000**	**14,226**	**5,450**	**19,676**
1	02	04	06	03		Prep Bid Pak - Major Linac Supports	2-May-05	2-Jun-05	S	L	SL_ME	Hrs	40		4,228		4,228
1	02	04	06	03		Evaluate Vendor Proposals-Major Linac Supports	29-Jun-05	13-Jul-05	S	L	SL_ME	Hrs	40		4,228		4,228
1	02	04	06	03		Vendor Fab, Assy & Test-Major Linac Supports	19-Jul-05	15-Sep-05	S	L	SA_MSSC	$$		5,000		5,450	5,450
1	02	04	06	03		Fab & Mods Linac Supports	16-Sep-05	14-Nov-05	S	L	SL_MFMS	Hrs	40		4,099		4,099
1	02	04	06	03		Fab & Mods Linac Supports	16-Sep-05	14-Nov-05	S	L	SL_MFAT	Hrs	20		1,671		1,671
1	**02**	**04**	**06**	**04**		**GTL RF Phase Cavity**											
1	**02**	**04**	**06**	**05**		**LTDL1 RF Kicker**							**302**	**18,000**	**30,998**	**19,623**	**50,621**
1	02	04	06	05		Prep Bid Pak - RF Kicker	15-Feb-05	1-Mar-05	S	L	SL_ME	Hrs	20		2,114		2,114
1	02	04	06	05		Evaluate Vendor Proposals - RF Kicker	21-Mar-05	1-Apr-05	S	L	SL_ME	Hrs	20		2,114		2,114
1	02	04	06	05		Vendor RF Kicker Production (build to print)	7-Apr-05	3-Oct-05	S	L	SA_MSSC	$$		14,000		15,263	15,263
1	02	04	06	05		Vacuum Process Kicker	4-Oct-05	2-Dec-05	S	L	SL_MVE	Hrs	60		6,520		6,520
1	02	04	06	05		Conduct Test & RF Processing	5-Dec-05	16-Feb-06	S	L	SL_KE	Hrs	40		4,626		4,626
1	02	04	06	05		Develop RF Kicker Support Structure Engr & Dsn	15-Apr-05	16-May-05	S	L	SL_ME	Hrs	2		211		211
1	02	04	06	05		Procure Support Structure Materials	17-May-05	15-Jun-05	S	L	SL_MSEG	$$		4,000		4,360	4,360
1	02	04	06	05		Fab RF Kicker Support Structure	16-Jun-05	15-Aug-05	S	L	SL_MFMS	Hrs	120		12,047		12,047
1	02	04	06	05		Integrate RF Kicker onto Supports	17-Feb-06	20-Mar-06	S	C	SL_MFAT	Hrs	40		3,366		3,366
1	**02**	**05**				**Injector Magnets & Supports**							**3,057**	**826,000**	**290,332**	**923,973**	**1,214,305**
1	**02**	**05**	**01**			**Injector Dipoles**							**1,791**	**222,000**	**171,398**	**245,673**	**417,071**
1	**02**	**05**	**01**	**01**		**GS Dipole**							**531**	**30,000**	**50,476**	**33,428**	**83,904**
1	02	05	01	01		Prep Bid Pak - GS Dipole Assembly and Suppt	1-Apr-05	21-Jun-05	S	L	SL_ME	Hrs	225		23,785		23,785
1	02	05	01	01		Evaluate Proposals -GS Dipole Assembly and Suppt	11-Aug-05	24-Aug-05	S	L	SL_ME	Hrs	16		1,691		1,691
1	02	05	01	01		Vendor Fab GS Dipole Assembly and Suppt	30-Aug-05	7-Mar-06	S	L	SL_ME	Hrs	100		10,810		10,810
1	02	05	01	01		Vendor Fab GS Dipole Assembly and Suppt	30-Aug-05	7-Mar-06	S	L	SL_MDD	Hrs	90		5,774		5,774
1	02	05	01	01		Vendor Fab GS Dipole Assembly and Suppt	30-Aug-05	7-Mar-06	S	L	SA_MSSC	$$		30,000		33,428	33,428
1	02	05	01	01		Perform QC/MM on Dipole Assm & Suppt	8-Mar-06	4-Apr-06		C	SL_MFAT	Hrs	100		8,416		8,416
1	**02**	**05**	**01**	**02**		**DL1 B01 & B02 Dipoles**							**68**	**64,000**	**6,326**	**70,037**	**76,363**
1	02	05	01	02		Prep Bid Pak - DL1 Dipole Assembly and Suppt	1-Feb-05	15-Mar-05	S	L	SL_ME	Hrs	20		2,114		2,114
1	02	05	01	02		Evaluate Proposals DL1 Dipole Assm and Sppt	11-May-05	8-Jun-05	S	L	SL_ME	Hrs	8		846		846
1	02	05	01	02		Vendor Fab DL1 Dipole Assm and Sppt	14-Jun-05	19-Oct-05	S	L	SA_MSSC	$$		64,000		70,037	70,037
1	02	05	01	02		Perform QC/MM on DL1 Dipole Assm and Sppt	20-Oct-05	16-Nov-05		C	SL_MFAT	Hrs	40		3,366		3,366
1	**02**	**05**	**01**	**03**		**SAB Spectrometer Dipole**							**606**	**64,000**	**58,355**	**71,104**	**129,459**

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	02	05	01	03		Prep Bid Pak - SAB Dipole Assembly and Suppt	2-May-05	15-Jun-05	S	L	SL_ME	Hrs	300		31,713		31,713
1	02	05	01	03		Evaluate Proposals SAB Assembly and Suppt	5-Aug-05	18-Aug-05	S	L	SL_ME	Hrs	16		1,691		1,691
1	02	05	01	03		Vendor Fab SAB Dipole Assembly and Suppt	24-Aug-05	17-Jan-06	S	L	SL_ME	Hrs	100		10,778		10,778
1	02	05	01	03		Vendor Fab SAB Dipole Assembly and Suppt	24-Aug-05	17-Jan-06	S	L	SL_MDD	Hrs	90		5,757		5,757
1	02	05	01	03		Vendor Fab SAB Dipole Assembly and Suppt	24-Aug-05	17-Jan-06	S	L	SA_MSSC	$$		64,000		71,104	71,104
1	02	05	01	03		Perform QC/MM on SAB Dipole Assm & Suppt	18-Jan-06	14-Feb-06		C	SL_MFAT	Hrs	100		8,416		8,416
1	**02**	**05**	**01**	**04**		**Chicane DIPOLES (4)**							**586**	**64,000**	**56,241**	**71,104**	**127,345**
1	02	05	01	04		Prep Bid Pak - Chicane Dipole Assembly and Suppt	1-Apr-05	15-Jun-05	S	L	SL_ME	Hrs	280		29,599		29,599
1	02	05	01	04		Evaluate Proposals -Chicane Assembly and Suppt	5-Aug-05	18-Aug-05	S	L	SL_ME	Hrs	16		1,691		1,691
1	02	05	01	04		Vendor Fab Chicane Dipole Assembly and Suppt	24-Aug-05	17-Jan-06	S	L	SL_ME	Hrs	100		10,778		10,778
1	02	05	01	04		Vendor Fab Chicane Dipole Assembly and Suppt	24-Aug-05	17-Jan-06	S	L	SL_MDD	Hrs	90		5,757		5,757
1	02	05	01	04		Vendor Fab Chicane Dipole Assembly and Suppt	24-Aug-05	17-Jan-06	S	L	SA_MSSC	$$		64,000		71,104	71,104
1	02	05	01	04		Perform QC/MM on Chicane Dipole Assm & Suppt	18-Jan-06	14-Feb-06		C	SL_MFAT	Hrs	100		8,416		8,416
1	**02**	**05**	**02**			**Injector Quads**							**144**	**160,000**	**13,928**	**174,796**	**188,724**
1	**02**	**05**	**02**	**01**		**GS Quadrupoles**							**48**	**10,000**	**4,643**	**11,127**	**15,770**
1	02	05	02	01		Prep Bid Pak - GS Quads Assy & Sppt	2-May-05	15-Jun-05	S	L	SL_ME	Hrs	20		2,114		2,114
1	02	05	02	01		Eval Proposals - GS Quads Assy & Sppt	12-Aug-05	25-Aug-05	S	L	SL_ME	Hrs	8		846		846
1	02	05	02	01		Vendor Fab GS Quads Assy & Sppt	31-Aug-05	24-Jan-06	S	L	SA_MSSC	$$		10,000		11,127	11,127
1	02	05	02	01		Perform QC/MM on GS Quads Assy & Sppt	25-Jan-06	22-Feb-06		C	SL_MFAT	Hrs	20		1,683		1,683
1	**02**	**05**	**02**	**02**		**Injector Quadrupoles**							**96**	**150,000**	**9,285**	**163,669**	**172,954**
1	02	05	02	02		Prep Bid Pak - Inj Quads Assy & Sppt	1-Feb-05	15-Mar-05	S	L	SL_ME	Hrs	40		4,228		4,228
1	02	05	02	02		Eval Proposals - Inj Quads Assy & Sppt	11-May-05	8-Jun-05	S	L	SL_ME	Hrs	16		1,691		1,691
1	02	05	02	02		Vendor Fab Inj Quads Assy & Sppt	14-Jun-05	5-Oct-05	S	L	SA_MSSC	$$		150,000		163,669	163,669
1	02	05	02	02		Perform QC/MM on Inj Quads Assy & Sppt	6-Oct-05	19-Oct-05		C	SL_MFAT	Hrs	40		3,366		3,366
1	**02**	**05**	**02**	**03**		**LTDL1 Quadrupoles (4)**											
1	**02**	**05**	**02**	**04**		**DL1 QB Quadrupole**											
1	**02**	**05**	**02**	**05**		**DL1TL Quadrupoles (2)**											
1	**02**	**05**	**02**	**06**		**SAB Quadrupoles (3)**											
1	**02**	**05**	**03**			**Injector Steering Coils**							**746**	**54,000**	**72,080**	**60,104**	**132,184**
1	**02**	**05**	**03**	**01**		**Gun Solenoid Correctors**							**118**	**6,000**	**11,249**	**6,696**	**17,945**
1	02	05	03	01		Prep Bid Pak - Gun Solenoid Corr Assy & Sppt	2-May-05	15-Jun-05	S	L	SL_ME	Hrs	40		4,228		4,228
1	02	05	03	01		Eval Proposals - Gun Solenoid Corr Assy & Sppt	26-Aug-05	9-Sep-05	S	L	SL_ME	Hrs	8		846		846
1	02	05	03	01		Vendor Fab Gun Solenoid Corr Assy & Sppt	15-Sep-05	7-Feb-06	S	L	SL_ME	Hrs	20		2,166		2,166
1	02	05	03	01		Vendor Fab Gun Solenoid Corr Assy & Sppt	15-Sep-05	7-Feb-06	S	L	SL_MDD	Hrs	10		643		643
1	02	05	03	01		Vendor Fab Gun Solenoid Corr Assy & Sppt	15-Sep-05	7-Feb-06	S	L	SA_MSSC	$$		6,000		6,696	6,696
1	02	05	03	01		Perform QC/MM on Gun Solenoid Corr Assy & Sppt	8-Feb-06	8-Mar-06		C	SL_MFAT	Hrs	40		3,366		3,366
1	**02**	**05**	**03**	**02**		**Gun Spectrometer Correctors**							**118**	**9,000**	**11,249**	**10,044**	**21,293**
1	02	05	03	02		Prep Bid Pak - Gun Spectrometer Corr Assy & Sppt	2-May-05	15-Jun-05	S	L	SL_ME	Hrs	40		4,228		4,228
1	02	05	03	02		Eval Proposals -Gun Spectromete Corr Assy & Sppt	26-Aug-05	9-Sep-05	S	L	SL_ME	Hrs	8		846		846
1	02	05	03	02		Vendor Fab Gun Spectrometer Corr Assy & Sppt	15-Sep-05	7-Feb-06	S	L	SL_ME	Hrs	20		2,166		2,166
1	02	05	03	02		Vendor Fab Gun Spectrometer Corr Assy & Sppt	15-Sep-05	7-Feb-06	S	L	SL_MDD	Hrs	10		643		643
1	02	05	03	02		Vendor Fab Gun Spectrometer Corr Assy & Sppt	15-Sep-05	7-Feb-06	S	L	SA_MSSC	$$		9,000		10,044	10,044
1	02	05	03	02		Perform QC/MM on Gun Spectrometer Corr Assy&Sppt	8-Feb-06	8-Mar-06		C	SL_MFAT	Hrs	40		3,366		3,366
1	**02**	**05**	**03**	**03**		**Injector Correctors - A**							**118**	**15,000**	**11,220**	**16,580**	**27,800**
1	02	05	03	03		Prep Bid Pak - Inj Corrector-A Assy & Sppt	1-Feb-05	15-Apr-05	S	L	SL_ME	Hrs	40		4,228		4,228
1	02	05	03	03		Eval Proposals - Inj Corrector-A Assy & Sppt	28-Jun-05	26-Jul-05	S	L	SL_ME	Hrs	8		846		846
1	02	05	03	03		Vendor Fab Inj Corrector-A Assy & Sppt	1-Aug-05	7-Dec-05	S	L	SL_ME	Hrs	20		2,144		2,144
1	02	05	03	03		Vendor Fab Inj Corrector-A Assy & Sppt	1-Aug-05	7-Dec-05	S	L	SL_MDD	Hrs	10		636		636
1	02	05	03	03		Vendor Fab Inj Corrector-A Assy & Sppt	1-Aug-05	7-Dec-05	S	L	SA_MSSC	$$		15,000		16,580	16,580
1	02	05	03	03		Perform QC/MM on Inj Corrector-A Assy & Sppt	8-Dec-05	6-Jan-06		C	SL_MFAT	Hrs	40		3,366		3,366
1	**02**	**05**	**03**	**04**		**Injector Correctors - D (Gun)**							**196**	**18,000**	**19,130**	**20,088**	**39,218**
1	02	05	03	04		Prep Bid Pak - Inj Corrector-D Assy & Sppt	2-May-05	15-Jun-05	S	L	SL_ME	Hrs	80		8,457		8,457
1	02	05	03	04		Eval Proposals - Inj Corrector-D Assy & Sppt	26-Aug-05	9-Sep-05	S	L	SL_ME	Hrs	16		1,691		1,691
1	02	05	03	04		Vendor Fab Inj Corrector-D Assy & Sppt	15-Sep-05	7-Feb-06	S	L	SL_ME	Hrs	40		4,331		4,331
1	02	05	03	04		Vendor Fab Inj Corrector-D Assy & Sppt	15-Sep-05	7-Feb-06	S	L	SL_MDD	Hrs	20		1,285		1,285
1	02	05	03	04		Vendor Fab Inj Corrector-D Assy & Sppt	15-Sep-05	7-Feb-06	S	L	SA_MSSC	$$		18,000		20,088	20,088
1	02	05	03	04		Perform QC/MM on Inj Corrector-D Assy & Sppt	8-Feb-06	8-Mar-06		C	SL_MFAT	Hrs	40		3,366		3,366
1	**02**	**05**	**03**	**05**		**GS Quadrupole Correctors**							**196**	**6,000**	**19,232**	**6,696**	**25,928**
1	02	05	03	05		Prep Bid Pak - GS Quad Corr Assy & Sppt	2-May-05	15-Jun-05	S	L	SL_ME	Hrs	40		4,228		4,228
1	02	05	03	05		Eval Proposals - GS Quad Corr Assy & Sppt	26-Aug-05	9-Sep-05	S	L	SL_ME	Hrs	16		1,691		1,691
1	02	05	03	05		Vendor Fab GS Quad Corr Assy & Sppt	15-Sep-05	7-Feb-06	S	L	SL_ME	Hrs	80		8,662		8,662
1	02	05	03	05		Vendor Fab GS Quad Corr Assy & Sppt	15-Sep-05	7-Feb-06	S	L	SL_MDD	Hrs	20		1,285		1,285
1	02	05	03	05		Vendor Fab GS Quad Corr Assy & Sppt	15-Sep-05	7-Feb-06	S	L	SA_MSSC	$$		6,000		6,696	6,696
1	02	05	03	05		Perform QC/MM on GS Quad Corr Assy & Sppt	8-Feb-06	8-Mar-06		C	SL_MFAT	Hrs	40		3,366		3,366

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	**02**	**05**	**04**			**Linac & Gun Solenoids**							**48**	**150,000**	**4,643**	**167,400**	**172,043**
1	02	05	04			Prep Bid Pak - Linac Solenoid Assy & Sppt	2-May-05	15-Jun-05	S	L	SL_ME	Hrs	20		2,114		2,114
1	02	05	04			Eval Proposals - Linac Solenoid Assy & Sppt	26-Aug-05	9-Sep-05	S	L	SL_ME	Hrs	8		846		846
1	02	05	04			Vendor Fab Linac Solenoid Assy & Sppt	15-Sep-05	7-Feb-06	S	L	SA_MSSC	$$		150,000		167,400	167,400
1	02	05	04			Perform QC/MM on Linac Solenoid Assy & Sppt	8-Feb-06	8-Mar-06		C	SL_MFAT	Hrs	20		1,683		1,683
1	**02**	**05**	**05**			**Injector Laser Heater Subsystem**							**328**	**240,000**	**28,283**	**276,000**	**304,283**
1	**02**	**05**	**05**	**01**		**System Design & Optimization (LSR HTR)**							**100**	**-**	**10,324**	**-**	**10,324**
1	02	05	05	01		Laser Heater System Design Review	7-Jun-07	13-Jun-07	S	C	SL_PHS	Hrs	20		1,536		1,536
1	02	05	05	01		Laser Heater System Design Review	7-Jun-07	13-Jun-07	S	C	SL_OE	Hrs	10		1,187		1,187
1	02	05	05	01		Laser Heater System Design Review	7-Jun-07	13-Jun-07	S	C	SL_ME	Hrs	20		2,230		2,230
1	02	05	05	01		Laser Heater System Design Modifications	14-Jun-07	27-Jun-07	S	C	SL_PHS	Hrs	10		768		768
1	02	05	05	01		Laser Heater System Design Modifications	14-Jun-07	27-Jun-07	S	C	SL_OE	Hrs	20		2,373		2,373
1	02	05	05	01		Laser Heater System Design Modifications	14-Jun-07	27-Jun-07	S	C	SL_ME	Hrs	20		2,230		2,230
1	**02**	**05**	**05**	**02**		**Injector Undulator**							**228**	**240,000**	**17,959**	**276,000**	**293,959**
1	02	05	05	02		Define Undulator specifications	17-Apr-06	11-Jul-06	S	C	SL_PHS	Hrs	40		2,994		2,994
1	02	05	05	02		Undulator design review	12-Jul-06	25-Jul-06	S	C	SL_PHS	Hrs	20		1,497		1,497
1	02	05	05	02		Prep Bid Pak - Undulator	26-Jul-06	8-Aug-06	S	C	SL_MDD	Hrs	20		1,290		1,290
1	02	05	05	02		Prep Bid Pak - Undulator	26-Jul-06	8-Aug-06	S	C	SL_ADMN	Hrs	20		1,201		1,201
1	02	05	05	02		Evaluate Vendor Proposals - Undulator	11-Oct-06	11-Oct-06	S	C	SL_PHS	Hrs	8		614		614
1	02	05	05	02		Fab/Procure Undulator	1-Nov-06	30-Aug-07	S	C	SA_MSEG	$$		240,000		276,000	276,000
1	02	05	05	02		Perform Magnetic measurements and QA	31-Aug-07	1-Oct-07	S	C	SL_PHS	Hrs	20		1,538		1,538
1	02	05	05	02		Perform Magnetic measurements and QA	31-Aug-07	1-Oct-07	S	C	SL_MFAT	Hrs	80		6,917		6,917
1	02	05	05	02		Perform Magnetic measurements and QA	31-Aug-07	1-Oct-07	S	C	SL_MES	Hrs	20		1,908		1,908
1	**02**	**06**				**Injector Vacuum & Supports**							**3,730**	**283,300**	**295,018**	**311,547**	**606,565**
1	**02**	**06**	**01**			**Injector Vacuum Engineering**							**2,482**	**-**	**202,457**	**-**	**202,457**
1	02	06	01			Define Injector Vacuum Requirements	1-Feb-05	3-Feb-05		L	SL_ME	Hrs	24		2,537		2,537
1	02	06	01			Create Injector Vacuum ICD & Update LCLS Db	1-Feb-05	3-Feb-05		L	SL_ME	Hrs	24		2,537		2,537
1	02	06	01			Review & Accept Requirements, ICD & Db Entries	3-Feb-05	3-Feb-05		L	SL_ME	Hrs	8		846		846
1	02	06	01			Develop Inj Vac System Prelim Desgn Review (PDR)	4-Feb-05	6-May-05		L	SL_ME	Hrs	216		22,833		22,833
1	02	06	01			Develop Inj Vac System Prelim Desgn Review (PDR)	4-Feb-05	6-May-05		L	SL_MDD	Hrs	540		33,880		33,880
1	02	06	01			Vacuum Gauge - Test Engineering	4-Feb-05	15-Jul-05		L	SL_ME	Hrs	136		14,377		14,377
1	02	06	01			Prepare Bid Packages for Inj Vacuum System	7-Mar-05	25-Mar-05		L	SL_ME	Hrs	100		10,571		10,571
1	02	06	01			Evaluate Vendor Proposals	28-Mar-05	15-Apr-05		L	SL_ME	Hrs	100		10,571		10,571
1	02	06	01			Develop Injector Vacuum System Final Design	9-May-05	16-Aug-05		L	SL_ME	Hrs	214		22,622		22,622
1	02	06	01			Develop Injector Vacuum System Final Design	9-May-05	16-Aug-05		L	SL_MDD	Hrs	600		37,644		37,644
1	02	06	01			Develop Vac Post-Processing Plan for Inj Vac Sys	17-Aug-05	23-Aug-05		L	SL_ME	Hrs	40		4,228		4,228
1	02	06	01			Vacuum Post-Processing	17-Aug-05	9-Nov-05		L	SL_MFAT	Hrs	480		39,811		39,811
1	**02**	**06**	**02**			**Injector Vacuum Components**							**-**	**112,800**	**-**	**123,267**	**123,267**
1	02	06	02			Proc - Valve,VAT47132-CE44_ADM1, 24VDC, 34.8mm	11-Apr-05	5-Jul-05		L	SL_MSEG	$$		12,630		13,767	13,767
1	02	06	02			Proc - Valve,VAT47132-CE44_ADL1, 24VDC, 22.1mm	11-Apr-05	5-Jul-05		L	SL_MSEG	$$		40,520		44,167	44,167
1	02	06	02			Proc - ManualValve #54032_GE02	11-Apr-05	5-Jul-05		L	SL_MSEG	$$		2,970		3,237	3,237
1	02	06	02			Proc - Pumps, Varion Ion Pumps #9191115	11-Apr-05	5-Jul-05		L	SL_MSEG	$$		33,300		36,297	36,297
1	02	06	02			Proc - Gauges, MKS422 Cold Cathode Gauge	11-Apr-05	6-Jun-05		L	SL_MSEG	$$		3,000		3,270	3,270
1	02	06	02			Proc - Gauges, MKS317 Enhanced Convection Pirani	11-Apr-05	6-Jun-05		L	SL_MSEG	$$		1,280		1,395	1,395
1	02	06	02			Proc - Granville-Phillips Stabil-Ion Gauge	11-Apr-05	6-Jun-05		L	SL_MSEG	$$		1,935		2,109	2,109
1	02	06	02			Proc - Granville-Phillips Convection Gauge	11-Apr-05	6-Jun-05		L	SL_MSEG	$$		165		180	180
1	02	06	02			Proc - Misc UHV hdwe (flanges, gaskets, etc.)	11-Apr-05	14-Jul-06		L	SL_MSEG	$$		17,000		18,845	18,845
1	**02**	**06**	**03**			**Injector Vacuum Special Chambers**							**-**	**110,000**	**-**	**120,560**	**120,560**
1	02	06	03			Proc - GTL Pumping and Optics Chamber	17-Aug-05	12-Oct-05		L	SL_MSEG	$$		10,000		10,960	10,960
1	02	06	03			Proc - L0-1TL0-2 Vacuum Components	17-Aug-05	12-Oct-05		L	SL_MSEG	$$		30,000		32,880	32,880
1	02	06	03			Proc - DL1 Vacuum Chamber	17-Aug-05	12-Oct-05		L	SL_MSEG	$$		20,000		21,920	21,920
1	02	06	03			Proc - DL1TL Vacuum Components	17-Aug-05	12-Oct-05		L	SL_MSEG	$$		20,000		21,920	21,920
1	02	06	03			Proc - SAB Vacuum Chamber and Components	17-Aug-05	12-Oct-05		L	SL_MSEG	$$		30,000		32,880	32,880
1	**02**	**06**	**04**			**Injector Vacuum Supports Engineering**							**1,248**	**-**	**92,561**	**-**	**92,561**
1	02	06	04			Define GS Vacuum Support Requirements	26-Oct-05	26-Oct-05		C	SL_ME	Hrs	8		869		869
1	02	06	04			Design GS Vacuum Support	27-Oct-05	23-Nov-05		C	SL_ME	Hrs	8		869		869
1	02	06	04			Design GS Vacuum Support	27-Oct-05	23-Nov-05		C	SL_MDD	Hrs	80		5,159		5,159
1	02	06	04			Define Special RF Vauum Valve Supprt Requirement	18-Oct-05	18-Oct-05		C	SL_ME	Hrs	8		869		869
1	02	06	04			Design Special RF Vacuum Valve Supports	19-Oct-05	25-Oct-05		C	SL_ME	Hrs	8		869		869
1	02	06	04			Design Special RF Vacuum Valve Supports	19-Oct-05	25-Oct-05		C	SL_MDD	Hrs	40		2,580		2,580
1	02	06	04			Define GTL Vacuum Supports Requirements	10-Oct-05	10-Oct-05		C	SL_ME	Hrs	8		869		869
1	02	06	04			Design GTL Vacuum Supports	11-Oct-05	17-Oct-05		C	SL_ME	Hrs	8		869		869
1	02	06	04			Design GTL Vacuum Supports	11-Oct-05	17-Oct-05		C	SL_MDD	Hrs	40		2,580		2,580
1	02	06	04			Define L0-1TL0-2 Vacuum Support Requirements	23-Sep-05	23-Sep-05		L	SL_ME	Hrs	8		846		846

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	02	06	04			Design L0-1TL0-2 Vacuum Supports	26-Sep-05	7-Oct-05		L	SL_ME	Hrs	40		4,288		4,288
1	02	06	04			Design L0-1TL0-2 Vacuum Supports	26-Sep-05	7-Oct-05		L	SL_MDD	Hrs	80		5,089		5,089
1	02	06	04			Define LTDL1 Vacuum Support Requirements	17-Aug-05	17-Aug-05		L	SL_ME	Hrs	8		846		846
1	02	06	04			Design LTDL1 Vacuum Supports	18-Aug-05	22-Sep-05		L	SL_ME	Hrs	40		4,228		4,228
1	02	06	04			Design LTDL1 Vacuum Supports	18-Aug-05	22-Sep-05		L	SL_MDD	Hrs	200		12,548		12,548
1	02	06	04			Define DL1 Vacuum Supports Requirements	28-Nov-05	28-Nov-05		C	SL_ME	Hrs	8		869		869
1	02	06	04			Design DL1 Vacuum Supports	29-Nov-05	4-Jan-06		C	SL_ME	Hrs	40		4,347		4,347
1	02	06	04			Design DL1 Vacuum Supports	29-Nov-05	4-Jan-06		C	SL_MDD	Hrs	200		12,898		12,898
1	02	06	04			Define DL1TL Vacuum Support Requirements	5-Jan-06	5-Jan-06		C	SL_ME	Hrs	8		869		869
1	02	06	04			Design DL1TL Vacuum Supports	6-Jan-06	27-Jan-06		C	SL_ME	Hrs	40		4,347		4,347
1	02	06	04			Design DL1TL Vacuum Supports	6-Jan-06	27-Jan-06		C	SL_MDD	Hrs	120		7,739		7,739
1	02	06	04			Define SAB Vacuum Support Requirements	30-Jan-06	30-Jan-06		C	SL_ME	Hrs	8		869		869
1	02	06	04			Design SAB Vacuum Supports	31-Jan-06	7-Mar-06		C	SL_ME	Hrs	40		4,347		4,347
1	02	06	04			Design SAB Vacuum Supports	31-Jan-06	7-Mar-06		C	SL_MDD	Hrs	200		12,898		12,898
1	**02**	**06**	**05**			**Injector Vacuum Supports Components**							**-**	**60,500**	**-**	**67,720**	**67,720**
1	02	06	05			Proc - GS Support Material	28-Nov-05	25-Jan-06		C	SL_MSEG	$$		2,000		2,240	2,240
1	02	06	05			Proc - Special Beam Pump/Spool Support Material	26-Oct-05	22-Dec-05		C	SL_MSEG	$$		2,500		2,800	2,800
1	02	06	05			Proc - GTL Supports	18-Oct-05	14-Dec-05		C	SL_MSEG	$$		18,000		20,160	20,160
1	02	06	05			Proc L0-1TL0-2 Minor Tube Support Materials	10-Oct-05	6-Dec-05		C	SL_MSEG	$$		4,000		4,480	4,480
1	02	06	05			Proc - DL1 Support Structure Materials	5-Jan-06	3-Mar-06		C	SL_MSEG	$$		12,500		14,000	14,000
1	02	06	05			Proc - LTDL1 Support Structure Materials	23-Sep-05	17-Nov-05		L	SL_MSEG	$$		4,000		4,462	4,462
1	02	06	05			Proc - DL1TL Support Structure Materials	30-Jan-06	27-Mar-06		C	SL_MSEG	$$		2,500		2,800	2,800
1	02	06	05			Proc - SAB Supports	8-Mar-06	2-May-06		C	SL_MSEG	$$		10,000		11,200	11,200
1	02	06	05			Proc - Misc Support Hardware (bolts, nuts, etc.)	23-Sep-05	17-Nov-05		L	SL_MSEG	$$		5,000		5,578	5,578
1	**02**	**06**	**06**			**L0-1TL0-2 Major tube support structure**											
1	**02**	**06**	**07**			**LTDL1 Minor Tube Supports**											
1	**02**	**06**	**08**			**DL1 Vacuum Chamber**											
1	**02**	**06**	**09**			**DL1 Supports**											
1	**02**	**06**	**10**			**DL1TL Vacuum Components**											
1	**02**	**06**	**11**			**SAB Vacuum Chamber and Components**											
1	**02**	**06**	**12**			**SAB Supports**											
1	**02**	**07**				**Injector Diagnostics**							**6,295**	**708,000**	**505,493**	**782,235**	**1,287,728**
1	**02**	**07**	**01**			**Beam Position Monitors**							**1,674**	**153,000**	**141,866**	**167,235**	**309,101**
1	**02**	**07**	**01**	**01**		**Large Aperture Injector BPM**							**677**	**31,000**	**58,188**	**34,255**	**92,443**
1	02	07	01	01		Define LA BPM Physics Requirements	1-Apr-05	14-Apr-05		L	SL_PHSS	Hrs	16		1,483		1,483
1	02	07	01	01		Define LA Linac BPM Engineering Requirements	1-Apr-05	14-Apr-05		L	SL_ME	Hrs	8		846		846
1	02	07	01	01		Design LA Linac BPM	13-Jun-05	8-Aug-05		L	SL_ME	Hrs	72		7,611		7,611
1	02	07	01	01		Design LA Linac BPM	13-Jun-05	8-Aug-05		L	SL_MDD	Hrs	160		10,038		10,038
1	02	07	01	01		Prep Bid Pack for LA Linac BPM	9-Aug-05	22-Aug-05		L	SL_ME	Hrs	40		4,228		4,228
1	02	07	01	01		Evaluate Proposals for LA Linac BPM	1-Sep-05	15-Sep-05		L	SL_ME	Hrs	16		1,691		1,691
1	02	07	01	01		Vendor Fab LA Linac BPM	19-Sep-05	14-Oct-05		L	SA_MSSC	$$		31,000		34,255	34,255
1	02	07	01	01		In House Assemble LA BPM	17-Oct-05	28-Oct-05		C	SL_MFAT	Hrs	80		6,733		6,733
1	02	07	01	01		Vacuum Process LA Linac BPM	31-Oct-05	18-Nov-05		C	SL_MVE	Hrs	120		13,040		13,040
1	02	07	01	01		Perform Lab Tests on LA Linac BPM Assembly	21-Nov-05	13-Dec-05		C	SL_MES	Hrs	70		6,501		6,501
1	02	07	01	01		Perform Lab Tests on LA Linac BPM Assembly	21-Nov-05	13-Dec-05		C	SL_CT	Hrs	95		6,017		6,017
1	**02**	**07**	**01**	**02**		**Small Aperture Injector BPM**							**997**	**122,000**	**83,678**	**132,980**	**216,658**
1	02	07	01	02		Define SA BPM Requirements	1-Apr-05	14-Apr-05		L	SL_PHSS	Hrs	16		1,483		1,483
1	02	07	01	02		Define SA Linac BPM Requirements	1-Apr-05	14-Apr-05		L	SL_ME	Hrs	8		846		846
1	02	07	01	02		Design SA Linac BPM	15-Apr-05	10-Jun-05		L	SL_ME	Hrs	72		7,611		7,611
1	02	07	01	02		Design SA Linac BPM	15-Apr-05	10-Jun-05		L	SL_MDD	Hrs	160		10,038		10,038
1	02	07	01	02		Prep Bid Pack for SA Linac BPM	13-Jun-05	24-Jun-05		L	SL_ME	Hrs	40		4,228		4,228
1	02	07	01	02		Evaluate Proposals for SA Linac BPM	7-Jul-05	20-Jul-05		L	SL_ME	Hrs	16		1,691		1,691
1	02	07	01	02		Vendor Fab SA Linac BPM	22-Jul-05	18-Aug-05		L	SA_MSSC	$$		122,000		132,980	132,980
1	02	07	01	02		In House Assemble SA Linac BPM	19-Aug-05	16-Sep-05		L	SL_MFAT	Hrs	400		32,748		32,748
1	02	07	01	02		Vacuum Process SA Linac BPM	19-Sep-05	23-Sep-05		L	SL_MVE	Hrs	120		12,685		12,685
1	02	07	01	02		Perform Lab Tests on SA Linac BPM Assembly	26-Sep-05	7-Oct-05		L	SL_MES	Hrs	70		6,412		6,412
1	02	07	01	02		Perform Lab Tests on SA Linac BPM Assembly	26-Sep-05	7-Oct-05		L	SL_CT	Hrs	95		5,936		5,936
1	**02**	**07**	**01**	**03**		**L0-1TL0-2 BPMs (2)**											
1	**02**	**07**	**01**	**04**		**LTDL1 BPMs (5)**											
1	**02**	**07**	**01**	**05**		**DL1TL BPMs (2)**											
1	**02**	**07**	**01**	**06**		**SAB BPM (1)**											
1	**02**	**07**	**02**			**Current Monitors**							**536**	**80,000**	**45,822**	**87,200**	**133,022**
1	**02**	**07**	**02**	**01**		**Current Monitors (Torroids)**							**536**	**80,000**	**45,822**	**87,200**	**133,022**
1	02	07	02	01		Define Current Monitor Physics Specifications	1-Apr-05	7-Apr-05		L	SL_PHSS	Hrs	40		3,707		3,707

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	02	07	02	01		Design Current Monitor	8-Apr-05	3-Jun-05		L	SL_ME	Hrs	80		8,457		8,457
1	02	07	02	01		Design Current Monitor	8-Apr-05	3-Jun-05		L	SL_MDD	Hrs	120		7,529		7,529
1	02	07	02	01		Prep Bid Pack for Current Monitor	6-Jun-05	17-Jun-05		L	SL_ME	Hrs	40		4,228		4,228
1	02	07	02	01		Evaluate Proposals for Current Monitor	29-Jun-05	6-Jul-05		L	SL_ME	Hrs	16		1,691		1,691
1	02	07	02	01		Vendor Fab Current Monitor	8-Jul-05	30-Sep-05		L	SA_MSSC	$$		80,000		87,200	87,200
1	02	07	02	01		Vacuum Process Current Monitor	3-Oct-05	14-Oct-05		C	SL_MVE	Hrs	80		8,694		8,694
1	02	07	02	01		Perform Lab Tests on Current Monitor	17-Oct-05	4-Nov-05		C	SL_PHS	Hrs	120		8,982		8,982
1	02	07	02	01		Perform Lab Tests on Current Monitor	17-Oct-05	4-Nov-05		C	SL_CT	Hrs	40		2,534		2,534
1	**02**	**07**	**02**	**02**		**GS Current Monitor (CM2)**											
1	**02**	**07**	**02**	**03**		**L0-1TL0-2 Current Monitor (1)**											
1	**02**	**07**	**02**	**04**		**LTDL1 Current Monitors (3)**											
1	**02**	**07**	**02**	**05**		**DL1TL Current Monitor ( )**											
1	**02**	**07**	**02**	**06**		**SAB Current Monitor (1)**											
1	**02**	**07**	**03**			**Bunch Length Monitors**							**1,317**	**110,000**	**98,833**	**123,200**	**222,033**
1	**02**	**07**	**03**	**01**		**Bunch Length Monitors**							**1,317**	**110,000**	**98,833**	**123,200**	**222,033**
1	02	07	03	01		Define EO BLM Physics Requirements	1-Aug-05	5-Aug-05		L	SL_PHSS	Hrs	20		1,853		1,853
1	02	07	03	01		Define EO BLM Requirements	8-Aug-05	12-Aug-05		L	SL_ME	Hrs	16		1,691		1,691
1	02	07	03	01		Design EO BLM	15-Aug-05	6-Feb-06		L	SL_ME	Hrs	56		6,039		6,039
1	02	07	03	01		Design EO BLM	15-Aug-05	6-Feb-06		L	SL_MDD	Hrs	750		47,996		47,996
1	02	07	03	01		Procure EO BLM Materials	7-Feb-06	21-Feb-06		C	SL_MSSC	$$		70,000		78,400	78,400
1	02	07	03	01		Procure EO BLM Materials	7-Feb-06	21-Feb-06		C	SL_MSEG	$$		40,000		44,800	44,800
1	02	07	03	01		Fabricate EO BLM	22-Feb-06	21-Mar-06		C	SL_MFMS	Hrs	100		10,320		10,320
1	02	07	03	01		Assemble EO BLM	22-Mar-06	18-Apr-06		C	SL_MFAT	Hrs	160		13,466		13,466
1	02	07	03	01		Measure EO BLM Assembly	19-Apr-06	25-Apr-06		C	SL_MES	Hrs	35		3,250		3,250
1	02	07	03	01		Perform Lab Tests on EO BLM Assembly	26-Apr-06	16-May-06		C	SL_PHS	Hrs	100		7,485		7,485
1	02	07	03	01		Perform Lab Tests on EO BLM Assembly	26-Apr-06	16-May-06		C	SL_MFAT	Hrs	80		6,733		6,733
1	**02**	**07**	**03**	**02**		**LTDL1 E/O EO2**											
1	**02**	**07**	**03**	**03**		**DL1TL EO3**											
1	**02**	**07**	**04**			**Profile Monitors**							**2,260**	**325,000**	**178,679**	**361,000**	**539,679**
1	**02**	**07**	**04**	**01**		**Profile Monitors**							**2,260**	**325,000**	**178,679**	**361,000**	**539,679**
1	02	07	04	01		Define Profile Monitor Physics Requirements	1-Feb-05	15-Mar-05		L	SL_PHS	Hrs	8		582		582
1	02	07	04	01		Define Profile Monitor Engineering Requirements	1-Feb-05	29-Mar-05		L	SL_ME	Hrs	100		10,571		10,571
1	02	07	04	01		Design Profile Monitors	1-Feb-05	11-Nov-05		L	SL_ME	Hrs	400		42,462		42,462
1	02	07	04	01		Design Profile Monitors	1-Feb-05	11-Nov-05		L	SL_MDD	Hrs	1,000		63,003		63,003
1	02	07	04	01		Prep Bid Pack for Profile Monitor	14-Nov-05	29-Nov-05		C	SL_ME	Hrs	40		4,347		4,347
1	02	07	04	01		Evaluate Proposals for Profile Monitor	9-Dec-05	22-Dec-05		C	SL_ME	Hrs	16		1,739		1,739
1	02	07	04	01		Vendor Fab Profile Monitor	27-Dec-05	23-Feb-06		C	SL_MSSC	$$		225,000		252,000	252,000
1	02	07	04	01		In House Assembly	24-Feb-06	9-Mar-06		C	SL_MFAT	Hrs	260		21,882		21,882
1	02	07	04	01		Perform Lab Test On Profile Monitors	10-Mar-06	6-Apr-06		C	SL_MFAT	Hrs	50		4,208		4,208
1	02	07	04	01		Perform Lab Test On Profile Monitors	10-Mar-06	6-Apr-06		C	SL_CT	Hrs	110		6,967		6,967
1	02	07	04	01		Prep Bid Pack for Profile Monitor (OTR 1-3)	30-Mar-05	12-Apr-05		L	SL_ME	Hrs	40		4,228		4,228
1	02	07	04	01		Evaluate Proposals for Profile Monitor (OTR 1-3	21-Apr-05	4-May-05		L	SL_ME	Hrs	16		1,691		1,691
1	02	07	04	01		Vendor Fab Profile Monitor (OTR 1-3)	6-May-05	1-Jul-05		L	SA_MSSC	$$		100,000		109,000	109,000
1	02	07	04	01		In House Assembly (OTR 1-3)	5-Jul-05	5-Jul-05		L	SL_MFAT	Hrs	140		11,462		11,462
1	02	07	04	01		Perform Lab Test On Profile Monitors (OTR 1-3)	6-Jul-05	2-Aug-05		L	SL_MFAT	Hrs	30		2,456		2,456
1	02	07	04	01		Perform Lab Test On Profile Monitors (OTR 1-3)	6-Jul-05	2-Aug-05		L	SL_CT	Hrs	50		3,081		3,081
1	**02**	**07**	**04**	**02**		**GTL Alignment Laser Mirror**											
1	**02**	**07**	**04**	**03**		**GS Faraday Cup/YAG2**											
1	**02**	**07**	**04**	**04**		**GS Dump Shielding**											
1	**02**	**07**	**04**	**05**		**L0-1TL0-2 OTR/YAG (1)**											
1	**02**	**07**	**04**	**06**		**DL1 OTR/YAG**											
1	**02**	**07**	**04**	**07**		**DL1TL OTR/YAG**											
1	**02**	**07**	**04**	**08**		**LTDL1 OTR/YAG (6)**											
1	**02**	**07**	**04**	**09**		**SAB OTR/YAG (1)**											
1	**02**	**07**	**04**	**10**		**SAB Beam Dump and Shielding**											
1	**02**	**07**	**05**			**Wire Scanners**											
1	**02**	**07**	**05**	**01**		**LTDL1 Wire Scanners (3)**											
1	**02**	**07**	**05**	**02**		**DL1 Wire Scanner**											
1	**02**	**07**	**06**			**LSR HTR - Electron Beam Diagnostics**											
1	**02**	**07**	**07**			**PPS Stopper**							**508**	**40,000**	**40,293**	**43,600**	**83,893**
1	02	07	07			Define PPS Stopper Physics Specifications	1-Apr-05	4-Apr-05		L	SL_PHSS	Hrs	16		1,483		1,483
1	02	07	07			Define PPS Stopper Engineering Specs	5-Apr-05	6-Apr-05		L	SL_ME	Hrs	16		1,691		1,691
1	02	07	07			Design PPS Stopper	7-Apr-05	2-Jun-05		L	SL_ME	Hrs	20		2,114		2,114
1	02	07	07			Design PPS Stopper	7-Apr-05	2-Jun-05		L	SL_MDD	Hrs	280		17,567		17,567

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	02	07	07			Prep Bid Pack for PPS Stopper	3-Jun-05	16-Jun-05		L	SL_ME	Hrs	40		4,228		4,228
1	02	07	07			Evaluate Proposals for PPS Stopper	28-Jun-05	5-Jul-05		L	SL_ME	Hrs	16		1,691		1,691
1	02	07	07			Vendor Fab PPS Stopper	7-Jul-05	3-Aug-05		L	SA_MSSC	$$		40,000		43,600	43,600
1	02	07	07			In House Fab PPS Stopper	4-Aug-05	31-Aug-05		L	SL_MFMS	Hrs	40		4,016		4,016
1	02	07	07			Assemble PPS Stopper	1-Sep-05	15-Sep-05		L	SL_MFAT	Hrs	40		3,275		3,275
1	02	07	07			Vacuum Process PPS Stopper	16-Sep-05	29-Sep-05		L	SL_MVE	Hrs	40		4,228		4,228
1	**02**	**17**				**Injector Installation & Alignment**							**10,282**	**67,650**	**924,736**	**74,478**	**999,214**
1	**02**	**17**	**01**			**Injector Infrastructure Installation**							**6,818**	**67,650**	**645,897**	**74,478**	**720,375**
1	02	17	01			Design Local Network	1-Apr-05	14-Apr-05	S	L	SL_MES	Hrs	80		7,227		7,227
1	02	17	01			Install Local Network	27-May-05	3-Jun-05	S	L	SL_MES	Hrs	40		3,614		3,614
1	02	17	01			Measure Network	6-Jun-05	1-Jul-05	S	L	SL_MES	Hrs	160		14,454		14,454
1	02	17	01			Re-Measure Network	5-Jul-05	1-Aug-05	S	L	SL_MES	Hrs	160		14,454		14,454
1	02	17	01			Evaluate Data	2-Aug-05	29-Aug-05	S	L	SL_MES	Hrs	160		14,454		14,454
1	02	17	01			Quality Control of Network	30-Aug-05	13-Sep-05	S	L	SL_MES	Hrs	80		7,227		7,227
1	02	17	01			ED&I Engineering, Develop Installation Plan	1-Apr-05	26-May-05	S	L	SL_MES	Hrs	320		28,909		28,909
1	02	17	01			Quality Control of Support Bolts	5-Oct-05	11-Oct-05	S	L	SL_MES	Hrs	40		3,715		3,715
1	02	17	01			Fiducialize Components	12-Oct-05	23-Jan-06	S	L	SL_MES	Hrs	800		74,296		74,296
1	02	17	01			Procure Alignment Parts	15-Apr-05	26-May-05	S	L	SL_MSEG	$$		43,000		46,870	46,870
1	02	17	01			Pre-Align Supports	24-Jan-06	30-Jan-06	S	C	SL_MES	Hrs	40		3,715		3,715
1	02	17	01			Align Gun	31-Jan-06	6-Feb-06	S	C	SL_MES	Hrs	40		3,715		3,715
1	02	17	01			Mark Floor Support Bolts	21-Sep-05	4-Oct-05	S	L	SL_MES	Hrs	80		7,268		7,268
1	02	17	01			Align Dipoles & Quads	7-Feb-06	7-Mar-06	S	C	SL_MES	Hrs	160		14,859		14,859
1	02	17	01			Align Diagnostics	8-Mar-06	4-Apr-06	S	C	SL_MES	Hrs	160		14,859		14,859
1	02	17	01			QC of Gun, Dipoles, Quads, & Diagnostics	5-Apr-06	18-Apr-06	S	C	SL_MES	Hrs	80		7,430		7,430
1	02	17	01			Compute Layout Parameters	14-Sep-05	20-Sep-05	S	L	SL_MES	Hrs	40		3,614		3,614
1	02	17	01			Engineering Support for Cable Plant	4-Aug-05	31-Aug-05	S	L	SL_PCE	Hrs	120		13,501		13,501
1	02	17	01			UTR Support for Cable Plant	5-Aug-05	14-Oct-05	S	L	SL_PCCA	Hrs	320		21,087		21,087
1	02	17	01			Install Cableplant, Integ Cntrls&Pwr Conv Racks	27-Jul-06	25-Sep-06	S	C	SL_TMUE	Hrs	3,506		347,094		347,094
1	02	17	01			Install LCW systems	27-Jul-06	25-Sep-06	S	C	SL_TMUP	Hrs	240		22,754		22,754
1	02	17	01			Install Thermocouples (60)/Isoplanes	27-Jul-06	9-Aug-06	S	C	SL_MSEG	$$		24,650		27,608	27,608
1	02	17	01			Align Systems	2-Oct-06	27-Oct-06	S	C	SL_MES	Hrs	120		11,434		11,434
1	02	17	01			Pump Down and Leak Check	30-Oct-06	17-Nov-06	S	C	SL_MFAT	Hrs	72		6,217		6,217
1	**02**	**17**	**02**			**Injector Controls Subsystem Install & Align**											
1	**02**	**17**	**03**			**Injector Lasers Install & Align**							**400**	**-**	**31,407**	**-**	**31,407**
1	02	17	03			Install Laser Bay Optical Tables/Alignment Laser	2-Oct-06	13-Oct-06	S	C	SL_OT	Hrs	40		2,600		2,600
1	02	17	03			Install vertical optical paths	23-Jan-06	10-Feb-06	S	C	SL_MFAT	Hrs	80		6,733		6,733
1	02	17	03			Install laser heater optical path	23-Jan-06	10-Feb-06	S	C	SL_MFAT	Hrs	80		6,733		6,733
1	02	17	03			Install EO optical paths	20-Nov-06	12-Dec-06	S	C	SL_MFAT	Hrs	80		6,908		6,908
1	02	17	03			Install Synch Light Tube/Light Path for Strk Cam	23-Jan-06	10-Feb-06	S	C	SL_OT	Hrs	80		5,067		5,067
1	02	17	03			Install Synch Light Tube/Light Path for Strk Cam	23-Jan-06	10-Feb-06	S	C	SL_MFAT	Hrs	40		3,366		3,366
1	**02**	**17**	**04**			**Gun Area Integration**							**560**	**-**	**45,778**	**-**	**45,778**
1	02	17	04			Install RF Gun Support Assy	7-Apr-06	20-Apr-06	S	L	SL_TMUI	Hrs	48		3,755		3,755
1	02	17	04			Install RF Gun Assembly	3-May-06	9-May-06	S	C	SL_MFAT	Hrs	48		4,040		4,040
1	02	17	04			Install Load Lock Support Assy	16-Jul-08	22-Jul-08	S	C	SL_TMUI	Hrs	24		1,976		1,976
1	02	17	04			Install Gun Load Lock Assembly	16-Oct-08	22-Oct-08	S	C	SL_MFAT	Hrs	24		2,181		2,181
1	02	17	04			Install Gun Sol Support Assembly	7-Apr-06	13-Apr-06	S	L	SL_TMUI	Hrs	24		1,877		1,877
1	02	17	04			Install Gun Solenoid	7-Apr-06	13-Apr-06	S	L	SL_MFAT	Hrs	24		2,020		2,020
1	02	17	04			Install Corrector Supt Assembly	7-Apr-06	13-Apr-06	S	L	SL_TMUI	Hrs	16		1,252		1,252
1	02	17	04			Install Corrector Assembly	7-Apr-06	13-Apr-06	S	L	SL_MFAT	Hrs	16		1,347		1,347
1	02	17	04			Install BPMs Supt Assy	7-Apr-06	13-Apr-06	S	L	SL_MFAT	Hrs	8		673		673
1	02	17	04			Install BPMs Assy	7-Apr-06	13-Apr-06	S	L	SL_MFAT	Hrs	8		673		673
1	02	17	04			Install Faraday Cups Supt Assy	7-Apr-06	13-Apr-06	S	L	SL_TMUI	Hrs	8		626		626
1	02	17	04			Install Faraday Cups Assy	7-Apr-06	13-Apr-06	S	L	SL_MFAT	Hrs	16		1,347		1,347
1	02	17	04			Install Gun E-Spect Support Assy	7-Apr-06	13-Apr-06	S	L	SL_TMUI	Hrs	16		1,252		1,252
1	02	17	04			Install Dipoles Supt Assembly Ready for Install	7-Apr-06	13-Apr-06	S	L	SL_TMUI	Hrs	8		626		626
1	02	17	04			Install Dipoles Assembly	7-Apr-06	13-Apr-06	S	C	SL_MFAT	Hrs	8		673		673
1	02	17	04			Install GTL BPMs	7-Apr-06	20-Apr-06	S	L	SL_MFAT	Hrs	32		2,693		2,693
1	02	17	04			Install GTL YAG1	7-Apr-06	13-Apr-06	S	C	SL_MFAT	Hrs	16		1,347		1,347
1	02	17	04			Install GTL Current Monitors (CM1)	7-Apr-06	13-Apr-06	S	C	SL_MFAT	Hrs	8		673		673
1	02	17	04			Install GTL E/O (EO1) BL Monitor/Opt Tables	7-Apr-06	13-Apr-06	S	C	SL_MFAT	Hrs	16		1,347		1,347
1	02	17	04			Install GTL RF Phase Cavity	7-Apr-06	20-Apr-06	S	L	SL_MFAT	Hrs	32		2,693		2,693
1	02	17	04			Install GTL Steering Coils	7-Apr-06	13-Apr-06	S	L	SL_TMUI	Hrs	8		626		626
1	02	17	04			Install GTL Vacuum Components	7-Apr-06	20-Apr-06	S	C	SL_TMUI	Hrs	32		2,503		2,503
1	02	17	04			Install GS Supports	7-Apr-06	13-Apr-06	S	C	SL_TMUI	Hrs	16		1,252		1,252

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	02	17	04			Install GS Dipole	7-Apr-06	13-Apr-06	S	L	SL_TMUI	Hrs	16		1,252		1,252
1	02	17	04			Install GS Current Monitor (CM2)	7-Apr-06	13-Apr-06	S	L	SL_MFAT	Hrs	8		673		673
1	02	17	04			Install GS BPM (2)	7-Apr-06	13-Apr-06	S	L	SL_MFAT	Hrs	8		673		673
1	02	17	04			Install GS Faraday Cup/YAG2	7-Apr-06	13-Apr-06	S	L	SL_MFAT	Hrs	16		1,347		1,347
1	02	17	04			Install GS Quad Supports (3)	7-Apr-06	13-Apr-06	S	L	SL_TMUI	Hrs	16		1,252		1,252
1	02	17	04			Install GS Quad (3)	7-Apr-06	13-Apr-06	S	L	SL_TMUI	Hrs	24		1,877		1,877
1	02	17	04			Install GS Dump Shielding	7-Apr-06	13-Apr-06	S	L	SL_TMUI	Hrs	16		1,252		1,252
1	**02**	**17**	**06**			**Accelerator Area Integration**							**352**	**-**	**29,055**	**-**	**29,055**
1	02	17	06			Install supports	7-Apr-06	4-May-06	S	L	SL_TMUI	Hrs	72		5,632		5,632
1	02	17	06			Install LO-1 structure	7-Apr-06	13-Apr-06	S	C	SL_MFAT	Hrs	24		2,020		2,020
1	02	17	06			AVAIL: LO-1 structures installed	12-May-06	18-May-06	S	C	SL_MFAT	Hrs	24		2,020		2,020
1	02	17	06			Install LO-2 structure	7-Apr-06	13-Apr-06	S	C	SL_MFAT	Hrs	24		2,020		2,020
1	02	17	06			Install Loads	7-Apr-06	13-Apr-06	S	L	SL_MFAT	Hrs	16		1,347		1,347
1	02	17	06			Install Linac Solenoid Support	7-Apr-06	13-Apr-06	S	C	SL_TMUI	Hrs	24		1,877		1,877
1	02	17	06			Install Linac Solenoid	7-Apr-06	20-Apr-06	S	C	SL_MFAT	Hrs	48		4,040		4,040
1	02	17	06			Install Plumbing	7-Apr-06	11-May-06	S	L	SL_MFAT	Hrs	120		10,099		10,099
1	**02**	**17**	**07**			**Heater Area Integration**							**136**	**-**	**11,302**	**-**	**11,302**
1	02	17	07			Install RF Phase Cavity	15-Feb-06	22-Feb-06	S	L	SL_TMUI	Hrs	16		1,252		1,252
1	02	17	07			Install Quads	15-Feb-06	22-Feb-06	S	L	SL_TMUI	Hrs	16		1,252		1,252
1	02	17	07			Install BPM (2)	15-Feb-06	22-Feb-06	S	L	SL_MFAT	Hrs	16		1,347		1,347
1	02	17	07			Install Steering Coil (4)	15-Feb-06	22-Feb-06	S	L	SL_TMUI	Hrs	16		1,252		1,252
1	02	17	07			Install YAG (1)	15-Feb-06	22-Feb-06	S	C	SL_MFAT	Hrs	8		673		673
1	02	17	07			Install Vacuum components	15-Feb-06	22-Feb-06	S	L	SL_MFAT	Hrs	16		1,347		1,347
1	02	17	07			Install Current Monitor (1)	15-Feb-06	22-Feb-06	S	L	SL_MFAT	Hrs	8		673		673
1	02	17	07			Install tube support structure	15-Feb-06	22-Feb-06	S	L	SL_MFAT	Hrs	24		2,020		2,020
1	02	17	07			Final Alignment	23-Feb-06	1-Mar-06	S	C	SL_MES	Hrs	16		1,486		1,486
1	**02**	**17**	**08**			**Wall Area Integration**							**260**	**-**	**21,143**	**-**	**21,143**
1	02	17	08			Install supports to VACV N	20-Oct-05	26-Oct-05	S	L	SL_TMUI	Hrs	24		1,877		1,877
1	02	17	08			Install Quads (4)	20-Oct-05	2-Nov-05	S	L	SL_TMUI	Hrs	32		2,503		2,503
1	02	17	08			Install RF Kicker	21-Mar-06	3-Apr-06	S	C	SL_MFAT	Hrs	32		2,693		2,693
1	02	17	08			Install Current Monitors	20-Oct-05	26-Oct-05	S	L	SL_MFAT	Hrs	8		673		673
1	02	17	08			Install BPMs (4)	20-Oct-05	26-Oct-05	S	L	SL_MFAT	Hrs	8		673		673
1	02	17	08			Install Steering Coil (1)	20-Oct-05	26-Oct-05	S	L	SL_MFAT	Hrs	8		673		673
1	02	17	08			Install EO2	20-Oct-05	26-Oct-05	S	C	SL_MFAT	Hrs	8		673		673
1	02	17	08			Final Alignment	3-Nov-05	4-Nov-05	S	C	SL_MFAT	Hrs	40		3,366		3,366
1	02	17	08			Install supports	20-Oct-05	26-Oct-05	S	C	SL_TMUI	Hrs	24		1,877		1,877
1	02	17	08			Install PPS Stopper	20-Oct-05	26-Oct-05	S	L	SL_TMUI	Hrs	16		1,252		1,252
1	02	17	08			Install Quads (2)	20-Oct-05	26-Oct-05	S	L	SL_TMUI	Hrs	16		1,252		1,252
1	02	17	08			Install BPM	20-Oct-05	26-Oct-05	S	L	SL_MFAT	Hrs	8		673		673
1	02	17	08			Install Steering Coil (3)	20-Oct-05	26-Oct-05	S	L	SL_TMUI	Hrs	12		939		939
1	02	17	08			Install OTR (2)	20-Oct-05	26-Oct-05	S	C	SL_MFAT	Hrs	8		673		673
1	02	17	08			Install BPM (6)	20-Oct-05	26-Oct-05	S	L	SL_MFAT	Hrs	8		673		673
1	02	17	08			Install Current Monitor	20-Oct-05	26-Oct-05	S	L	SL_MFAT	Hrs	8		673		673
1	**02**	**17**	**09**			**Insertion Area Integration**							**308**	**-**	**24,756**	**-**	**24,756**
1	02	17	09			Install DL1 Vacuum Chamber	1-Aug-06	1-Aug-06	S	C	SL_MFAT	Hrs	8		673		673
1	02	17	09			AVAIL: DL1 Vacuum Chamber installed	1-Aug-06	1-Aug-06	S	C	SL_MFAT	Hrs	8		673		673
1	02	17	09			Install supports	2-Aug-06	15-Aug-06	S	C	SL_TMUI	Hrs	48		3,755		3,755
1	02	17	09			Install supports	2-Aug-06	15-Aug-06	S	C	SL_MFAT	Hrs	8		673		673
1	02	17	09			Install Dipoles (2) (B01-B02)	1-Aug-06	7-Aug-06	S	C	SL_TMUI	Hrs	48		3,755		3,755
1	02	17	09			Install Quads (3)	1-Aug-06	14-Aug-06	S	C	SL_TMUI	Hrs	24		1,877		1,877
1	02	17	09			Install BPM (1)	1-Aug-06	7-Aug-06	S	C	SL_MFAT	Hrs	8		673		673
1	02	17	09			Install Steering Coil (1)	1-Aug-06	7-Aug-06	S	C	SL_TMUI	Hrs	4		313		313
1	02	17	09			Install OTR (1)	1-Aug-06	7-Aug-06	S	C	SL_MFAT	Hrs	8		673		673
1	02	17	09			Install Toroid	1-Aug-06	7-Aug-06	S	C	SL_MFAT	Hrs	8		673		673
1	02	17	09			Install supports	1-Aug-06	14-Aug-06	S	C	SL_TMUI	Hrs	48		3,755		3,755
1	02	17	09			Install Quads (2)	1-Aug-06	7-Aug-06	S	C	SL_TMUI	Hrs	16		1,252		1,252
1	02	17	09			Install BPM (1)	8-Aug-06	14-Aug-06	S	C	SL_MFAT	Hrs	8		673		673
1	02	17	09			Install Steering Coil (2)	8-Aug-06	14-Aug-06	S	C	SL_TMUI	Hrs	8		626		626
1	02	17	09			Install OTR (1)	8-Aug-06	14-Aug-06	S	C	SL_MFAT	Hrs	8		673		673
1	02	17	09			Install Current Monitor (1)	8-Aug-06	14-Aug-06	S	C	SL_MFAT	Hrs	8		673		673
1	02	17	09			Final Alignment	15-Aug-06	28-Aug-06	S	C	SL_MFAT	Hrs	40		3,366		3,366
1	**02**	**17**	**11**			**Spectrometer Area Integration**							**144**	**-**	**11,453**	**-**	**11,453**
1	02	17	11			Install SAB Spectrometer Dipole	1-Aug-06	7-Aug-06	S	C	SL_TMUI	Hrs	8		626		626
1	02	17	11			Install SAB Quadrupoles (3)	1-Aug-06	14-Aug-06	S	C	SL_TMUI	Hrs	24		1,877		1,877

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
1	02	17	11			Install SAB Current Monitor (1)	1-Aug-06	7-Aug-06	S	C	SL_MFAT	Hrs	8		673		673
1	02	17	11			Install SAB BPM (1)	1-Aug-06	7-Aug-06	S	C	SL_MFAT	Hrs	8		673		673
1	02	17	11			Install SAB OTR/YAG (1)	1-Aug-06	7-Aug-06	S	C	SL_MFAT	Hrs	8		673		673
1	02	17	11			Install SAB Vacuum Chamber and Components	1-Aug-06	7-Aug-06	S	C	SL_MFAT	Hrs	8		673		673
1	02	17	11			Install SAB Beam Dump and Shielding	1-Aug-06	14-Aug-06	S	C	SL_TMUI	Hrs	36		2,816		2,816
1	02	17	11			Install SAB Supports	1-Aug-06	14-Aug-06	S	C	SL_TMUI	Hrs	36		2,816		2,816
1	02	17	11			Install Steering Coils (2)	1-Aug-06	7-Aug-06	S	C	SL_TMUI	Hrs	8		626		626
1	**02**	**17**	**12**			**Injector RF High Power System Install & Align**							**560**	**-**	**47,128**	**-**	**47,128**
1	02	17	12			Install Vertical Drop Waveguide	17-Oct-05	25-Oct-05	S	C	SL_MFAT	Hrs	140		11,782		11,782
1	02	17	12			Install Klystron Housing Waveguide	2-Dec-05	12-Dec-05	S	C	SL_MFAT	Hrs	140		11,782		11,782
1	02	17	12			Install Injector Housing Waveguide	16-Feb-06	27-Feb-06	S	C	SL_MFAT	Hrs	140		11,782		11,782
1	02	17	12			Install Transverse Kicker Waveguide	1-Aug-06	9-Aug-06	S	C	SL_MFAT	Hrs	140		11,782		11,782
1	**02**	**17**	**13**			**Injector RF Low Level Install & Align**											
1	**02**	**17**	**14**			**Cathode and Load Lock Install & Align**							**168**	**-**	**14,214**	**-**	**14,214**
1	02	17	14			Install CP Cathode Assembly	29-Mar-07	18-Apr-07	S	C	SL_MFAT	Hrs	48		4,145		4,145
1	02	17	14			Install CP Load Lock Supports Ready for Install	12-Dec-06	17-Jan-07	S	C	SL_TMUI	Hrs	48		3,852		3,852
1	02	17	14			Install CP Load Lock	3-Apr-07	23-Apr-07	S	C	SL_MFAT	Hrs	24		2,072		2,072
1	02	17	14			Install CP Station	16-Aug-07	6-Sep-07	S	C	SL_MFAT	Hrs	48		4,145		4,145
1	**02**	**17**	**15**			**Injector Laser Heater Subsystem Install & Align**							**172**	**-**	**14,751**	**-**	**14,751**
1	02	17	15			Install Enclosures,Tubes&Supports	8-Nov-07	21-Nov-07	S	C	SL_MFAT	Hrs	20		1,772		1,772
1	02	17	15			Install Magnet Supports	5-Sep-07	18-Sep-07	S	C	SL_TMUI	Hrs	24		1,926		1,926
1	02	17	15			Install Photon Diagnostics Supports	19-Sep-07	25-Sep-07	S	C	SL_MFAT	Hrs	8		691		691
1	02	17	15			Install Beampipe	5-Sep-07	18-Sep-07	S	C	SL_MFAT	Hrs	40		3,454		3,454
1	02	17	15			Install Undulator	5-Sep-07	25-Sep-07	S	C	SL_MFAT	Hrs	80		6,908		6,908
1	**02**	**17**	**16**			**FY04 Sector 20 Facility Preps**											
1	**02**	**17**	**17**			**Power Conversion Subsystem Installation**							**404**	**-**	**27,852**	**-**	**27,852**
1	02	17	17			Install Injector MCOR 1	30-Oct-06	3-Nov-06	S	C	SL_TMUE	Hrs	4		406		406
1	02	17	17			Install Injector MCOR 2	20-Mar-07	26-Mar-07	S	C	SL_TMUE	Hrs	4		406		406
1	02	17	17			Install Injector MCOR 3	30-Oct-06	3-Nov-06	S	C	SL_TMUE	Hrs	4		406		406
1	02	17	17			Install Injector MCOR 4	30-Oct-06	3-Nov-06	S	C	SL_TMUE	Hrs	4		406		406
1	02	17	17			Install Wiggler PS 15KW	30-Oct-06	3-Nov-06	S	C	SL_TMUE	Hrs	4		406		406
1	02	17	17			Install Injector Solenoid 1PS 15KW	31-Oct-06	6-Nov-06	S	C	SL_TMUE	Hrs	4		406		406
1	02	17	17			Install Injector Solenoid 2PS 30KW	30-Oct-06	3-Nov-06	S	C	SL_TMUE	Hrs	4		406		406
1	02	17	17			Install Injector B0.5 Spect PS 2KW	30-Oct-06	3-Nov-06	S	C	SL_TMUE	Hrs	4		406		406
1	02	17	17			Install Injector B1-2 PS 15KW	30-Oct-06	3-Nov-06	S	C	SL_TMUE	Hrs	4		406		406
1	02	17	17			Install Injector B3 Spect PS 15KW	30-Oct-06	3-Nov-06	S	C	SL_TMUE	Hrs	4		406		406
1	02	17	17			Install Injector MPS Equipment	12-Mar-07	16-Mar-07	S	C	SL_CT	Hrs	84		5,459		5,459
1	02	17	17			Install Injector PPS Equipment	26-Apr-07	2-May-07	S	C	SL_CT	Hrs	276		17,937		17,937
1	02	17	17			Install Laser Room PPS	6-Jul-06	12-Jul-06	S	C	SL_TMUE	Hrs	4		396		396
1	**02**	**17**	**18**			**Cathode Processing Center Installation**											
2	**02**					**INJECTOR SYSTEM (OPC)**							**40,007**	**1,717,200**	**3,991,530**	**1,976,994**	**5,968,523**
2	**02**	**01**				**Injector System Management & Integration**							**11,509**	**-**	**1,161,043**	**-**	**1,161,043**
2	02	01				Injector System Pre-Operations	23-Jul-07	31-Mar-09		X	SL_PHS	Hrs	8,631		774,194		774,194
2	02	01				Injector System Pre-Operations	23-Jul-07	31-Mar-09		X	SL_ME	Hrs	1,439		187,393		187,393
2	02	01				Injector System Pre-Operations	23-Jul-07	31-Mar-09		X	SL_EE	Hrs	1,439		199,456		199,456
2	**02**	**01**	**01**			**Injector System Integration Effort / M&S**											
2	**02**	**01**	**02**			**High level Application Software**											
2	**02**	**01**	**03**			**Feedback Software**											
2	**02**	**02**				**Injector Controls Subsystem**							**904**	**64,200**	**84,951**	**72,374**	**157,325**
2	**02**	**02**	**01**			**Personnel Protection System (PPS) R&D**							**904**	**50,000**	**84,951**	**55,921**	**140,872**
2	02	02	01			BSOIC Design	1-Jul-05	27-Jul-05		R	SL_CE	Hrs	8		1,020		1,020
2	02	02	01			BSOIC Design	1-Jul-05	27-Jul-05		R	SL_CCA	Hrs	260		19,310		19,310
2	02	02	01			Prep Bid Pak - BSOIC	28-Jul-05	10-Aug-05		R	SL_CE	Hrs	16		2,040		2,040
2	02	02	01			Evaluate Proposals - BSOIC	1-Sep-05	15-Sep-05		R	SL_CE	Hrs	16		2,040		2,040
2	02	02	01			Vendor Fab/Assy - BSOIC	12-Jul-06	28-Feb-07		X	SA_MSSC	$$		25,000		28,465	28,465
2	02	02	01			Fab and Pre Assemble Components (as required)	1-Mar-07	28-Mar-07		X	SL_PCEF	Hrs	308		22,686		22,686
2	02	02	01			Perform Pre-Install Qual Test on Injector PPS	29-Mar-07	25-Apr-07		X	SL_CE	Hrs	16		2,152		2,152
2	02	02	01			PLC PPS Design Evaluation	3-Jan-05	23-Feb-05		R	SL_MSPS	$$		25,000		27,456	27,456
2	02	02	01			PLC PPS Design Evaluation	3-Jan-05	23-Feb-05		R	SL_CE	Hrs	280		35,703		35,703
2	**02**	**02**	**02**			**Beam Containment Subsystem (BCS)**											
2	**02**	**02**	**03**			**Machine Protection Subsystem (MPS)**											
2	**02**	**02**	**04**			**Power Conv (beamline pwr supp) Spares**							**-**	**14,200**	**-**	**16,453**	**16,453**
2	02	02	04			Procure 12 AMP MCOR Modules (2)-Spares	3-Oct-06	9-Apr-07		S	SL_MSEG	$$		3,600		4,171	4,171
2	02	02	04			Procure 30 AMP MCOR Modules (1)-Spares	3-Oct-06	9-Apr-07		S	SL_MSEG	$$		2,100		2,433	2,433

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
2	02	02	04			Procure 15KW Power Supply-Spares	3-Oct-06	9-Apr-07		S	SL_MSEG	$$		8,500		9,849	9,849
2	**02**	**02**	**04**	**01**		**Power Supply Controls**											
2	**02**	**02**	**05**			**LLRF Controls**											
2	**02**	**02**	**06**			**E-Beam Diagnostics Controls**											
2	**02**	**02**	**06**	**01**		**Controls - Wire Scanners**											
2	**02**	**02**	**06**	**02**		**Controls - BPM Processor Module**											
2	**02**	**02**	**06**	**03**		**Controls - Toroids**											
2	**02**	**02**	**06**	**05**		**Controls - Profile Monitors**											
2	**02**	**02**	**06**	**06**		**Control - EO Diagnostic**											
2	**02**	**02**	**06**	**14**		**Controls - Faraday Cup**											
2	**02**	**02**	**06**	**15**		**Controls - Tune-Up Dump**											
2	**02**	**02**	**08**			**Timing Controls**											
2	**02**	**02**	**09**			**Vacuum Controls**											
2	**02**	**02**	**10**			**Software & Controls Infrastructure**											
2	**02**	**02**	**11**			**EPICS VXI Control Modules**											
2	**02**	**02**	**12**			**Laser Controls**											
2	**02**	**02**	**13**			**Laser Heater Controls**											
2	**02**	**03**				**Injector Lasers**							**860**	**573,000**	**77,792**	**659,631**	**737,423**
2	**02**	**03**	**01**			**Drive Laser Prototyping**							**860**	**71,000**	**77,792**	**77,974**	**155,766**
2	02	03	01			Procure parts for ANL (UV conv)	3-Jan-05	29-Mar-05	S	R	SL_MSEG	$$		60,000		65,894	65,894
2	02	03	01			UV conversion tests	1-Mar-05	1-Nov-05	S	R	SL_PHSS	Hrs	50		5,270		5,270
2	02	03	01			UV conversion tests	1-Mar-05	1-Nov-05	S	R	SL_OE	Hrs	50		6,399		6,399
2	02	03	01			Analysis and final report (UV convers)	2-Nov-05	15-Nov-05	S	R	SL_PHSS	Hrs	40		4,319		4,319
2	02	03	01			Analysis and final report (UV convers)	2-Nov-05	15-Nov-05	S	R	SL_OE	Hrs	40		5,243		5,243
2	02	03	01			Pulse Shaper Test & E-Beam Studies (R&D)	3-Jan-05	31-Mar-05	S	R	SL_PHS	Hrs	640		52,811		52,811
2	02	03	01			Analysis and final report (Pulse Shaping)	1-Apr-05	14-Apr-05	S	R	SL_PHSS	Hrs	20		2,100		2,100
2	02	03	01			Analysis and final report (Pulse Shaping)	1-Apr-05	14-Apr-05	S	R	SL_PHS	Hrs	20		1,650		1,650
2	02	03	01			Pulse Shaping R&D M&S	3-Jan-05	31-Mar-05	S	R	SL_MSEG	$$		11,000		12,080	12,080
2	**02**	**03**	**02**			**Drive Laser System**							**-**	**500,000**	**-**	**579,340**	**579,340**
2	02	03	02			Drive Laser Spares	3-Oct-06	30-Aug-07	S	S	SL_MSEG	$$		500,000		579,340	579,340
2	**02**	**03**	**03**			**Drive Laser Diagnostics**											
2	**02**	**03**	**04**			**Timing Stability Monitoring**											
2	**02**	**03**	**05**			**Steering Stability Feedback & Msmts**											
2	**02**	**03**	**06**			**Pre Amp Low Power Comp**											
2	**02**	**03**	**07**			**Transport to Tunnel & Relay Optics**											
2	**02**	**03**	**08**			**UV Launch, Conditioning & Diagnostics**											
2	**02**	**03**	**09**			**Load Lock Transport System**											
2	**02**	**03**	**10**			**Visible Optical Transport & Optics**											
2	**02**	**03**	**11**			**LB Infrastructure & LB System Wide Items**											
2	**02**	**03**	**12**			**Alignment Laser**											
2	**02**	**03**	**13**			**Light path to Streak Camera**											
2	**02**	**03**	**14**			**LSR HTR - Beam Conditioning Optics (Laser Bay)**							**-**	**2,000**	**-**	**2,317**	**2,317**
2	02	03	14			Procure Laser Heater Optics Spares	3-Oct-06	31-Oct-06		S	SL_MSEG	$$		2,000		2,317	2,317
2	**02**	**03**	**15**			**LSR HTR - Transport Optics (Bay to Tunnel)**											
2	**02**	**03**	**16**			**LSR HTR - Photon Beam Diagnostics**											
2	**02**	**04**				**Injector RF Subsystem**							**3,790**	**620,000**	**333,746**	**711,996**	**1,045,743**
2	**02**	**04**	**01**			**RF Gun & Load Lock**							**3,790**	**300,000**	**333,746**	**341,219**	**674,965**
2	**02**	**04**	**01**	**01**		**RF Gun**							**3,710**	**120,000**	**325,692**	**132,657**	**458,348**
2	02	04	01	01		RF Gun R&D (GTF)	4-Oct-04	10-Mar-06		R	SL_PHSS	Hrs	1,050		111,179		111,179
2	02	04	01	01		RF Gun R&D (GTF)	4-Oct-04	10-Mar-06		R	SL_PHS	Hrs	2,130		177,199		177,199
2	02	04	01	01		RF Gun R&D (GTF)	4-Oct-04	10-Mar-06		R	SL_OT	Hrs	530		37,314		37,314
2	02	04	01	01		RF Gun R&D (GRF) Procurement	3-Jan-05	9-Mar-06		R	SL_MSEG	$$		120,000		132,657	132,657
2	**02**	**04**	**01**	**02**		**RF Gun Supports**							**80**	**80,000**	**8,055**	**92,694**	**100,749**
2	02	04	01	02		RF Gun Spares	3-Oct-06	30-Aug-07		S	SL_MSEG	$$		80,000		92,694	92,694
2	02	04	01	02		RF Gun Spares	3-Oct-06	30-Aug-07		S	SL_ME	Hrs	40		5,055		5,055
2	02	04	01	02		RF Gun Spares	3-Oct-06	30-Aug-07		S	SL_MDD	Hrs	40		3,000		3,000
2	**02**	**04**	**01**	**03**		**Gun Load Lock**							**-**	**100,000**	**-**	**115,868**	**115,868**
2	02	04	01	03		RF Gun Load Lock Spares	3-Oct-06	30-Aug-07		S	SL_MSEG	$$		100,000		115,868	115,868
2	**02**	**04**	**01**	**04**		**Gun Load Lock Supports**											
2	**02**	**04**	**01**	**05**		**Gun Solenoid**											
2	**02**	**04**	**01**	**06**		**Gun Solenoid Supports**											
2	**02**	**04**	**01**	**07**		**Gun RF Feed**											
2	**02**	**04**	**01**	**08**		**Gun RF Feed Supports**											
2	**02**	**04**	**02**			**Cathode Processing (CP) Station**							**-**	**100,000**	**-**	**115,868**	**115,868**

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
2	02	04	02	01		CP Cathode Assembly & Supports											
2	02	04	02	02		CP Load Lock							-	100,000	-	115,868	115,868
2	02	04	02	02		CP Spares	3-Oct-06	30-Aug-07		S	SL_MSEG	$$		100,000		115,868	115,868
2	02	04	02	03		CP Load Lock Supports											
2	02	04	02	04		CP Station											
2	02	04	02	05		Cathode Lab Infrastructure											
2	02	04	03			S-Band Low Level System											
2	02	04	03	01		S-Band LL Controls Timing System											
2	02	04	04			S-Band High Power System											
2	02	04	05			Injector RF Waveguide Subsystem							-	170,000	-	196,975	196,975
2	02	04	05	01		RF Waveguides											
2	02	04	05	02		RF Waveguide Supports							-	170,000	-	196,975	196,975
2	02	04	05	02		RF Waveguides Spares	3-Oct-06	30-Aug-07		S	SL_MSEG	$$		170,000		196,975	196,975
2	02	04	06			Injector Linac Structures							-	50,000	-	57,934	57,934
2	02	04	06	01		L0-1 Structure Assembly											
2	02	04	06	02		L0-2 Structure Assembly							-	50,000	-	57,934	57,934
2	02	04	06	02		Linac Spares	3-Oct-06	30-Aug-07		S	SL_MSEG	$$		50,000		57,934	57,934
2	02	04	06	03		Major Linac Support											
2	02	04	06	04		GTL RF Phase Cavity											
2	02	04	06	05		LTDL1 RF Kicker											
2	02	05				Injector Magnets & Supports							-	220,000	-	254,909	254,909
2	02	05	01			Injector Dipoles											
2	02	05	01	01		DL1 B01 & B02 Dipoles											
2	02	05	01	02		SAB Spectrometer Dipole											
2	02	05	01	03		Chicane											
2	02	05	02			Injector Quadrupoles							-	150,000	-	173,802	173,802
2	02	05	02	01		L0-1TL0-2 Quadrupoles ( )											
2	02	05	02	02		LTDL1 Quadrupoles ( )											
2	02	05	02	03		DL1 QB Quadrupole							-	50,000	-	57,934	57,934
2	02	05	02	03		DL1 Spares	3-Oct-06	30-Aug-07		S	SL_MSEG	$$		50,000		57,934	57,934
2	02	05	02	04		DL1TL Quadrupoles ( )											
2	02	05	02	05		SAB Quadrupoles ( )							-	100,000	-	115,868	115,868
2	02	05	02	05		SAB Spares	3-Oct-06	30-Aug-07		S	SL_MSEG	$$		100,000		115,868	115,868
2	02	05	03			Injector Steering Coils							-	70,000	-	81,108	81,108
2	02	05	03	01		GTL Steering Coils ( )X-Y (SC1)											
2	02	05	03	02		L0-1TL0-2 Linac Steering Coils ( )											
2	02	05	03	03		LTDL1 Steering Coils ( )X-Y											
2	02	05	03	04		DL1TL Steering Coils (X-Y Assys)							-	70,000	-	81,108	81,108
2	02	05	03	04		DL1 to Linac Spares	3-Oct-06	30-Aug-07		S	SL_MSEG	$$		70,000		81,108	81,108
2	02	05	03	05		SAB Steering Coils ( )											
2	02	05	04			Linac Solenoid & Supports											
2	02	05	05			Injector Laser Heater Subsystem											
2	02	05	05	01		System Design & Optimization											
2	02	05	05	02		Undulator											
2	02	06				Injector Vacuum & Supports											
2	02	06	01			GTL Vacuum Components											
2	02	06	02			GTL Supports											
2	02	06	03			GTL Pumping & Optic Chamber											
2	02	06	04			L0-1TL0-2 Vacuum Components											
2	02	06	05			L0-1TL0-2 Major tube support structure											
2	02	06	06			LTDL1 Minor Tube Supports											
2	02	06	07			DL1 Supports											
2	02	06	08			DL1 Vacuum Chamber											
2	02	06	09			DL1TL Vacuum Components											
2	02	06	10			SAB Vacuum Chamber and Components											
2	02	06	11			SAB Supports											
2	02	07				Injector Diagnostics							-	240,000	-	278,083	278,083
2	02	07	01			Injector Beam Position Monitors							-	140,000	-	162,215	162,215
2	02	07	01	01		GTL BPMs ( )											
2	02	07	01	02		Gun Spectrometer (GS) Assembly											
2	02	07	01	03		L0-1TL0-2 BPMs ( )							-	40,000	-	46,347	46,347
2	02	07	01	03		L0-1 to L0-2 Spares	3-Oct-06	30-Aug-07		S	SL_MSEG	$$		40,000		46,347	46,347
2	02	07	01	04		LTDL1 BPMs ( )							-	100,000	-	115,868	115,868
2	02	07	01	04		Linac to DL1 Spares	3-Oct-06	30-Aug-07		S	SL_MSEG	$$		100,000		115,868	115,868

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
2	02	07	01	05		DL1TL BPMs ( )											
2	02	07	01	06		SAB BPM ( )											
2	02	07	02			Injector Current Monitors											
2	02	07	02	01		GTL Current Monitors ( )											
2	02	07	02	02		L0-1TL0-2 Current Monitor ( )											
2	02	07	02	03		LTDL1 Current Monitors ( )											
2	02	07	02	04		DL1TL Current Monitor ( )											
2	02	07	02	05		SAB Current Monitor ( )											
2	02	07	03			Injector Bunch Length Monitors											
2	02	07	03	01		GTL E/O (EO1)											
2	02	07	03	02		LTDL1 E/O EO2											
2	02	07	03	03		DL1TL EO3											
2	02	07	04			Injector Profile Monitors							-	100,000	-	115,868	115,868
2	02	07	04	01		GTL Faraday Cup/YAG1							-	100,000	-	115,868	115,868
2	02	07	04	01		GTL Spares	3-Oct-06	30-Aug-07		S	SL_MSEG	$$		100,000		115,868	115,868
2	02	07	04	02		GTL YAG ( )											
2	02	07	04	03		L0-1TL0-2 OTR/YAG ( )											
2	02	07	04	04		LTDL1 OTR(5)/YAG ( )											
2	02	07	04	05		DL1 OTR											
2	02	07	04	06		DL1TL OTR											
2	02	07	04	07		SAB YAG											
2	02	07	04	08		SAB Beam Dump and Shielding											
2	02	07	05			Injector Wire Scanners											
2	02	07	05	01		LTDL1 Wire Scanners ( )											
2	02	07	05	02		DL1 Wire Scanner											
2	02	07	06			LSR HTR - Electron Beam Diagnostics											
2	02	07	07			PPS Stopper											
2	02	17				Injector System Commissioning							22,944	-	2,333,997	-	2,333,997
2	02	17	01			Controls Commissioning											
2	02	17	02			Drive Laser Commissioning							2,480	-	261,221	-	261,221
2	02	17	02			Integrate: Drive Laser	18-Aug-06	29-Sep-06	S	X	SL_PHSS	Hrs	100		10,797		10,797
2	02	17	02			Integrate: Drive Laser	18-Aug-06	29-Sep-06	S	X	SL_OT	Hrs	120		8,614		8,614
2	02	17	02			Integrate: Drive Laser	18-Aug-06	29-Sep-06	S	X	SL_OE	Hrs	160		20,973		20,973
2	02	17	02			Integrate: OSC Diagnostics	2-Oct-06	6-Oct-06	S	X	SL_OT	Hrs	30		2,210		2,210
2	02	17	02			Integrate: OSC Diagnostics	2-Oct-06	6-Oct-06	S	X	SL_OE	Hrs	10		1,345		1,345
2	02	17	02			Checkout & Integrate: Pre-Amp Diagnostics	9-Oct-06	27-Oct-06	S	X	SL_PHSS	Hrs	20		2,216		2,216
2	02	17	02			Checkout & Integrate: Pre-Amp Diagnostics	9-Oct-06	27-Oct-06	S	X	SL_OT	Hrs	40		2,947		2,947
2	02	17	02			Checkout & Integrate: Pre-Amp Diagnostics	9-Oct-06	27-Oct-06	S	X	SL_OE	Hrs	40		5,380		5,380
2	02	17	02			Checkout & Integrate: Low Power Compressor	9-Oct-06	20-Oct-06	S	X	SL_PHSS	Hrs	20		2,216		2,216
2	02	17	02			Checkout & Integrate: Low Power Compressor	9-Oct-06	20-Oct-06	S	X	SL_OT	Hrs	20		1,473		1,473
2	02	17	02			Checkout & Integrate: Low Power Compressor	9-Oct-06	20-Oct-06	S	X	SL_OE	Hrs	20		2,689		2,689
2	02	17	02			Checkout & Integrate: Final Amplifier diagnostic	23-Oct-06	17-Nov-06	S	X	SL_PHSS	Hrs	20		2,216		2,216
2	02	17	02			Checkout & Integrate: Final Amplifier diagnostic	23-Oct-06	17-Nov-06	S	X	SL_OT	Hrs	80		5,892		5,892
2	02	17	02			Checkout & Integrate: Final Amplifier diagnostic	23-Oct-06	17-Nov-06	S	X	SL_OE	Hrs	60		8,069		8,069
2	02	17	02			Checkout & Integrate:Timing stability monitoring	13-Dec-06	23-Feb-07	S	X	SL_PHSS	Hrs	100		11,077		11,077
2	02	17	02			Checkout & Integrate:Timing stability monitoring	13-Dec-06	23-Feb-07	S	X	SL_OT	Hrs	130		9,576		9,576
2	02	17	02			Checkout & Integrate:Timing stability monitoring	13-Dec-06	23-Feb-07	S	X	SL_OE	Hrs	110		14,795		14,795
2	02	17	02			Checkout & Integrate: Beam relay & Encl	26-Feb-07	9-Mar-07	S	X	SL_OT	Hrs	40		2,947		2,947
2	02	17	02			Checkout & Integrate: Beam relay & Encl	26-Feb-07	9-Mar-07	S	X	SL_OE	Hrs	40		5,380		5,380
2	02	17	02			Checkout & Integrate: UV conversion diagnostics	20-Nov-06	12-Dec-06	S	X	SL_OT	Hrs	40		2,947		2,947
2	02	17	02			Checkout & Integrate: UV conversion diagnostics	20-Nov-06	12-Dec-06	S	X	SL_OE	Hrs	40		5,380		5,380
2	02	17	02			Checkout & Integrate: UV transport & launch Opt	12-Mar-07	20-Apr-07	S	X	SL_OT	Hrs	100		7,366		7,366
2	02	17	02			Checkout & Integrate: UV transport & launch Opt	12-Mar-07	20-Apr-07	S	X	SL_OE	Hrs	80		10,760		10,760
2	02	17	02			UV Conditioning	23-Apr-07	24-Aug-07	S	X	SL_PHSS	Hrs	60		6,646		6,646
2	02	17	02			UV Conditioning	23-Apr-07	24-Aug-07	S	X	SL_OT	Hrs	200		14,731		14,731
2	02	17	02			UV Conditioning	23-Apr-07	24-Aug-07	S	X	SL_OE	Hrs	220		29,588		29,588
2	02	17	02			Integration of the Drive Laser Controls	6-Dec-06	27-Apr-07	S	X	SL_PHSS	Hrs	100		11,077		11,077
2	02	17	02			Integration of the Drive Laser Controls	6-Dec-06	27-Apr-07	S	X	SL_OT	Hrs	100		7,366		7,366
2	02	17	02			Integration of the Drive Laser Controls	6-Dec-06	27-Apr-07	S	X	SL_OE	Hrs	200		26,899		26,899
2	02	17	02			C/O & Integ: Visible Beam transport & diag	13-Dec-06	8-Feb-07	S	X	SL_PHSS	Hrs	20		2,216		2,216
2	02	17	02			C/O & Integ: Visible Beam transport & diag	13-Dec-06	8-Feb-07	S	X	SL_OT	Hrs	80		5,892		5,892
2	02	17	02			C/O & Integ: Visible Beam transport & diag	13-Dec-06	8-Feb-07	S	X	SL_OE	Hrs	40		5,380		5,380
2	02	17	02			C/O & Integ: IR Beam transport & diag	9-Feb-07	2-Mar-07	S	X	SL_OT	Hrs	20		1,473		1,473
2	02	17	02			C/O & Integ: IR Beam transport & diag	9-Feb-07	2-Mar-07	S	X	SL_OE	Hrs	20		2,689		2,689

WBS Level						LCLA DCE March-2005	Early	Early	OBS	Fund	Res	Units	Budgeted Quantity		Fully Burdened and Escalated Cost		
Run Time: 4/2205 8:43am						Description	Start	Finish		Type	Code		Hours	$$	Labor	M&S	Total (No Conting)
1	2	3	4	5	6												
2	**02**	**17**	**03**			**RF Conditioning**							**1,080**	**-**	**101,449**	**-**	**101,449**
2	02	17	03			RF Conditioning	3-May-07	6-Jul-07		X	SL_KT	Hrs	720		53,032		53,032
2	02	17	03			RF Conditioning	3-May-07	6-Jul-07		X	SL_KE	Hrs	360		48,417		48,417
2	**02**	**17**	**04**			**RF Gun Operation with Beam**							**4,424**	**-**	**446,037**	**-**	**446,037**
2	02	17	04			RF Gun Operation with Beam	9-Jul-07	8-Oct-07		X	SL_PHSS	Hrs	520		57,740		57,740
2	02	17	04			RF Gun Operation with Beam	9-Jul-07	8-Oct-07		X	SL_PHS	Hrs	1,040		90,738		90,738
2	02	17	04			RF Gun Operation with Beam	9-Jul-07	8-Oct-07		X	SL_OT	Hrs	1,040		76,786		76,786
2	02	17	04			RF Gun Operation with Beam	9-Jul-07	8-Oct-07		X	SL_OE	Hrs	520		70,103		70,103
2	02	17	04			RF Gun Operation with Beam	9-Jul-07	8-Oct-07		X	SL_KE	Hrs	520		70,103		70,103
2	02	17	04			RF Gun Operation with Beam	9-Oct-07	26-Oct-07		X	SL_PHSS	Hrs	112		12,728		12,728
2	02	17	04			RF Gun Operation with Beam	9-Oct-07	26-Oct-07		X	SL_PHS	Hrs	224		20,002		20,002
2	02	17	04			RF Gun Operation with Beam	9-Oct-07	26-Oct-07		X	SL_OT	Hrs	224		16,927		16,927
2	02	17	04			RF Gun Operation with Beam	9-Oct-07	26-Oct-07		X	SL_OE	Hrs	112		15,454		15,454
2	02	17	04			RF Gun Operation with Beam	9-Oct-07	26-Oct-07		X	SL_KE	Hrs	112		15,454		15,454
2	**02**	**17**	**05**			**L0-1&L0-2 Commissioning**							**3,640**	**-**	**370,131**	**-**	**370,131**
2	02	17	05			L0-1 & L0-2 Commissioning	22-Aug-07	21-Nov-07		X	SL_PHSS	Hrs	520		58,477		58,477
2	02	17	05			L0-1 & L0-2 Commissioning	22-Aug-07	21-Nov-07		X	SL_PHS	Hrs	1,040		91,893		91,893
2	02	17	05			L0-1 & L0-2 Commissioning	22-Aug-07	21-Nov-07		X	SL_OT	Hrs	1,040		77,766		77,766
2	02	17	05			L0-1 & L0-2 Commissioning	22-Aug-07	21-Nov-07		X	SL_OE	Hrs	520		70,998		70,998
2	02	17	05			L0-1 & L0-2 Commissioning	22-Aug-07	21-Nov-07		X	SL_KE	Hrs	520		70,998		70,998
2	**02**	**17**	**06**			**L0&SAB Commissioning**							**3,640**	**-**	**374,062**	**-**	**374,062**
2	02	17	06			L0 & SAB Commissioning	8-Oct-07	8-Nov-07		X	SL_PHSS	Hrs	520		59,099		59,099
2	02	17	06			L0 & SAB Commissioning	8-Oct-07	8-Nov-07		X	SL_PHS	Hrs	1,040		92,868		92,868
2	02	17	06			L0 & SAB Commissioning	8-Oct-07	8-Nov-07		X	SL_OT	Hrs	1,040		78,593		78,593
2	02	17	06			L0 & SAB Commissioning	8-Oct-07	8-Nov-07		X	SL_OE	Hrs	520		71,751		71,751
2	02	17	06			L0 & SAB Commissioning	8-Oct-07	8-Nov-07		X	SL_KE	Hrs	520		71,751		71,751
2	**02**	**17**	**07**			**DL1 Commissioning**							**3,640**	**-**	**374,062**	**-**	**374,062**
2	02	17	07			DL1 Commissioning	9-Nov-07	7-Jan-08		X	SL_PHSS	Hrs	520		59,099		59,099
2	02	17	07			DL1 Commissioning	9-Nov-07	7-Jan-08		X	SL_PHS	Hrs	1,040		92,868		92,868
2	02	17	07			DL1 Commissioning	9-Nov-07	7-Jan-08		X	SL_OT	Hrs	1,040		78,593		78,593
2	02	17	07			DL1 Commissioning	9-Nov-07	7-Jan-08		X	SL_OE	Hrs	520		71,751		71,751
2	02	17	07			DL1 Commissioning	9-Nov-07	7-Jan-08		X	SL_KE	Hrs	520		71,751		71,751
2	**02**	**17**	**08**			**Injector Optimization**							**4,040**	**-**	**407,034**	**-**	**407,034**
2	02	17	08			Plan for Laser Heater commissioning	8-Jan-08	22-Jan-08		X	SL_PHS	Hrs	80		7,143		7,143
2	02	17	08			Commission Laser Heater Bay Optics	23-Jan-08	5-Feb-08		X	SL_OT	Hrs	80		6,045		6,045
2	02	17	08			Commission IR Optical Path to Laser Heater	12-Mar-08	18-Mar-08		X	SL_OT	Hrs	40		3,023		3,023
2	02	17	08			Match beam power and size for LH	19-Mar-08	1-Apr-08		X	SL_OT	Hrs	80		6,045		6,045
2	02	17	08			Setup LH electron energy spread measurement	2-Apr-08	15-Apr-08		X	SL_PHS	Hrs	80		7,143		7,143
2	02	17	08			Overlap LH electron and laser beams	16-Apr-08	22-Apr-08		X	SL_PHS	Hrs	40		3,572		3,572
2	02	17	08			Injector Optimization	8-Jan-08	24-Jun-08		X	SL_PHSS	Hrs	520		59,099		59,099
2	02	17	08			Injector Optimization	8-Jan-08	24-Jun-08		X	SL_PHS	Hrs	1,040		92,868		92,868
2	02	17	08			Injector Optimization	8-Jan-08	24-Jun-08		X	SL_OT	Hrs	1,040		78,593		78,593
2	02	17	08			Injector Optimization	8-Jan-08	24-Jun-08		X	SL_OE	Hrs	520		71,751		71,751
2	02	17	08			Injector Optimization	8-Jan-08	24-Jun-08		X	SL_KE	Hrs	520		71,751		71,751