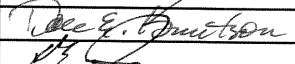
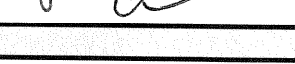
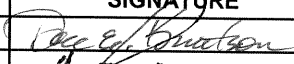
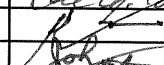


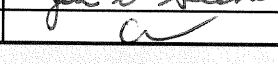
LCLS Directorate - Work Scope Authorization

WBS No:	2.1.1	WBS Title:	ASD Division Management				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$586	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		John Seeman		
Scope Definition:	This WBS covers the management staffing costs for the ASD Division. It includes the Assistant Laboratory Director for ASD, the Deputy Assistant Laboratory Director for ASD and Head of Accelerator Operations, and the Accelerator Systems Manager. The work includes managing the accelerator schedules for operations, maintenance, machine studies, and new installations. It also involves setting priorities for facility development work and allocation of resources. This work includes the effort to achieve the ASD strategic goals and milestones. For FY09, the ASD strategic milestones include commissioning of LCLS systems as they become available, development of operating configurations and processes for managing operations and maintenance, and management of AIP projects and upgrades.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	LCLS Accelerator Systems Division						
APPROVALS:							
	NAME		SIGNATURE		DATE		
LCLS Associate Laboratory Director	Dale Knutson				2-2-09		
LCLS Deputy Associate Laboratory Director	Mark Reichenadter				2/2/09		
WBS Manager	John Seeman				1/30/09		
Account Manager	John Seeman				1/30/09		
LCLS Business Manager	Cindy Lowe				2-2-09		

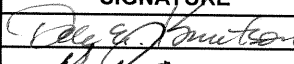
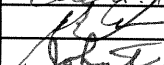
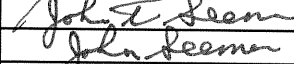
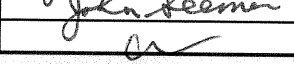
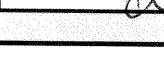
LCLS Directorate - Work Scope Authorization

WBS No:	2.1.2	WBS Title:	ASD Division Administrative Support				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$306	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		John Seeman		
Scope Definition:	This WBS covers the administrative staffing and office supplies costs for the ASD Division. It includes the Administrative Associates for the ASD Division Office and the Administrative Associate for Accelerator Operations. It also includes office supplies, desktop computers, and maintenance costs associated with buildings under ASD jurisdiction. This work includes the effort to provide administrative support for all ASD activities. These activities include procurements, personnel actions, time sheet processing, building management functions, key control, maintenance of office equipment and supplies, travel arrangements, vehicle and communications management, coordination of training activities and record-keeping, response to audit findings, periodic ES&H inspections and reports, and all other administrative functions necessary for smooth operation of the division.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	LCLS Accelerator Systems Division						
APPROVALS:							
	NAME	SIGNATURE	DATE				
LCLS Associate Laboratory Director	Dale Knutson		2-2-09				
LCLS Deputy Associate Laboratory Director	Mark Reichanadter		2/2/09				
WBS Manager	John Seeman		1/30/09				
Account Manager	John Seeman		1/30/09				
LCLS Business Manager	Cindy Lowe		2-2-09				

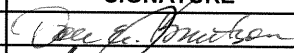
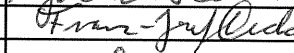
LCLS Directorate - Work Scope Authorization

WBS No:	2.1.3	WBS Title:	ASD Division Safety Office				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$555	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		John Seeman		
Scope Definition:	This WBS covers the staffing and materials costs of the Accelerator Division Safety Office. These include the Accelerator Division Safety Officer (ADSO) and a deputy ADSO (TBD). It also includes supplies and equipment needed by the ADSO to carry out these responsibilities. The ADSO acts as the representative and advocate for the Accelerator Systems Division in negotiations, meetings, and other communications with Radiation Physics and other ES&H units, and with the various safety officers and citizen safety committees. The ADSO collects and interprets ES&H-related requirements, develops implementation plans and procedures as needed, and brings them to the attention of the ASD management. The ADSO monitors all safety aspects of accelerator operations and has signature authority over Beam Authorization Sheets, Radiation Safety Work Control Forms, and other safety-critical operations procedures and checklists. The ADSO also provides advisory, writing, reviewing, and implementation services for various safety procedures and checklists as needed by the Operations staff.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	LCLS Accelerator Systems Division, OPS Environmental Safety & Health						
APPROVALS:							
	NAME		SIGNATURE		DATE		
LCLS Associate Laboratory Director	Dale Knutson				2-2-09		
LCLS Deputy Associate Laboratory Director	Mark Reichenadter				2/2/09		
WBS Manager	John Seeman				1/30/09		
Account Manager	John Seeman				1/30/09		
LCLS Business Manager	Cindy Lowe				2-2-09		

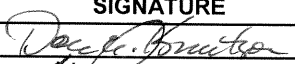
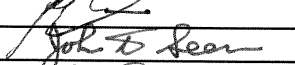
LCLS Directorate - Work Scope Authorization

WBS No:	2.1.4	WBS Title:	Accelerator Configuration and Machine Studies				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$122	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		John Seeman		
Scope Definition:	This WBS covers the staffing costs associated with coordinating the development and optimization of accelerator running parameters, developing new configurations, managing machine studies, preparing standard operating procedures, and specifying the requirements for new hardware and software to improve the performance of the accelerator facilities. This work includes monitoring the machine performance on a day-by-day basis, planning and analyzing machine studies, and coordinating the implementation of new hardware and software. Effective and reproducible machine configuration files, parameter lists, and tuning procedures sufficient to enable the control room operators to deliver reliable, high quality beams to the users. Efficiently managed machine studies programs to improve the performance of the facility.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	LCLS Accelerator Systems Division						
APPROVALS:							
	NAME		SIGNATURE		DATE		
LCLS Associate Laboratory Director	Dale Knutson				2-2-09		
LCLS Deputy Associate Laboratory Director	Mark Reichenadter				2/2/09		
WBS Manager	John Seeman				1/30/09		
Account Manager	John Seeman				1/30/09		
LCLS Business Manager	Cindy Lowe				2-2-09		

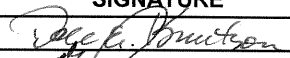
LCLS Directorate - Work Scope Authorization

WBS No:	2.2.1	WBS Title:	Min Maint State: Linac Sectors 0-20				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$4,960	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		Franz-Josef Decker		
Scope Definition:	This WBS covers the staffing, materials, and services necessary to preserve Sectors 0 through 20 of the Linear Accelerator Facility and all associated supporting equipment in a minimum maintenance state. This state will be preserved in a condition to permit resumption of operations with no major refurbishment costs. Periodic walkthroughs by the area manager will be conducted, and maintenance work and periodic testing will be conducted as needed. Preservation of Sectors 0 through 20 of the Linear Accelerator Facility in a minimum maintenance state.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	LCLS Accelerator Systems Division, LCLS Engineering and Physics, OPS Facilities, ETS Controls, ETS Klystron, ETS Mechanical Fabrication, ETS Metrology, ETS Power Conversion						
APPROVALS:							
	NAME		SIGNATURE		DATE		
LCLS Associate Laboratory Director	Dale Knutson				2-2-09		
LCLS Deputy Associate Laboratory Director	Mark Reichenadter				2/2/09		
WBS Manager	John Seeman				1/30/09		
Account Manager	Franz-Josef Decker				2/2/09		
LCLS Business Manager	Cindy Lowe				2-2-09		

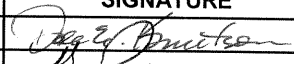
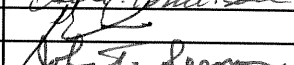
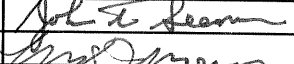
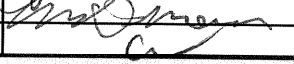
LCLS Directorate - Work Scope Authorization

WBS No:	2.3.1	WBS Title:	Beam Delivery Operations: Injectors				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$2,731	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		Axel Brachmann		
Scope Definition:	This WBS covers the staffing costs and materials needed to optimize the performance of the LCLS injector system and associated laser system. This involves working closely with the control room staff to identify problems, develop tuning procedures, prepare written documentation, and train operators. It often requires monitoring system performance on a day-by-day basis and assisting as appropriate to ensure optimum system performance. It also requires ongoing surveillance and work control activities to ensure that the integrity of the facility and associated equipment is maintained and that work is done in compliance with applicable regulations and good work practices. This work includes the effort to maintain the LCLS injector laser systems and includes routine maintenance, repairs, and installations as necessary. It also includes the staffing and materials costs for preserving the CID injector systems in a minimum maintenance state and ensuring that they can be restored to operation without major repair work. The goal is high availability of the LCLS injector system and preservation of the CID injector systems in a minimum maintenance state.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	PPA Accelerator Research, LCLS Accelerator Systems Division, LCLS Engineering and Physics, OPS Facilities, ETS Controls, ETS Klystron, ETS Mechanical Design, ETS Mechanical Fabrication, ETS Metrology, ETS Power Conversion						
APPROVALS:							
	NAME	SIGNATURE	DATE				
LCLS Associate Laboratory Director	Dale Knutson		2-2-09				
LCLS Deputy Associate Laboratory Director	Mark Reichenadter		2/2/09				
WBS Manager	John Seeman		1/30/09				
Account Manager	Axel Brachmann		2/11/09				
LCLS Business Manager	Cindy Lowe		2-2-09				

LCLS Directorate - Work Scope Authorization

WBS No:	2.3.2	WBS Title:	Beam Delivery Operations: Sectors 21 - BSY				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$8,892	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		Franz-Josef Decker		
Scope Definition:	This WBS covers the staffing costs and materials needed to optimize the performance of the Linac Sectors 21-BSY systems. This involves working closely with the control room staff to identify problems, develop tuning procedures, prepare written documentation, and train operators. It often requires monitoring system performance on a day-by-day basis and assisting as appropriate to ensure optimum system performance. It also requires ongoing surveillance and work control activities to ensure that the integrity of the facility and associated equipment is maintained and that work is done in compliance with applicable regulations and good work practices. This work includes the effort to maintain these systems and includes routine maintenance, repairs, and installations as necessary. Reliable accelerator beam performance that continues to improve with time.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	PPA Accelerator Research, LCLS Accelerator Systems Division, LCLS Engineering and Physics, OPS Facilities, ETS Controls, ETS Klystron, ETS Mechanical Design, ETS Mechanical Fabrication, ETS Metrology, ETS Power Conversion						
APPROVALS:							
	NAME		SIGNATURE		DATE		
LCLS Associate Laboratory Director	Dale Knutson				2-2-09		
LCLS Deputy Associate Laboratory Director	Mark Reichenadter				2/2/09		
WBS Manager	John Seeman				1/30/09		
Account Manager	Franz-Josef Decker				2/2/09		
LCLS Business Manager	Cindy Lowe				2-2-09		

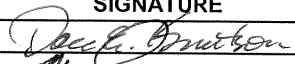
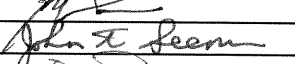
LCLS Directorate - Work Scope Authorization

WBS No:	2.3.3	WBS Title:	BSY-FEE				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$2,454	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		Richard Iverson		
Scope Definition:	This WBS covers the staffing costs and materials needed to optimize the performance of the BSY-FEE systems. This involves working closely with the control room staff to identify problems, develop tuning procedures, prepare written documentation, and train operators. It often requires monitoring system performance on a day-by-day basis and assisting as appropriate to ensure optimum system performance. It also requires ongoing surveillance and work control activities to ensure that the integrity of the facility and associated equipment is maintained and that work is done in compliance with applicable regulations and good work practices. This work includes the effort to maintain these systems and includes routine maintenance, repairs, and installations as necessary. Reliable accelerator beam performance that continues to improve with time.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	LCLS Accelerator Systems Division, LCLS Engineering and Physics, OPS Facilities, ETS Controls, ETS Klystron, ETS Mechanical Design, ETS Mechanical Fabrication, ETS Metrology, ETS Power Conversion						
APPROVALS:							
	NAME		SIGNATURE		DATE		
LCLS Associate Laboratory Director	Dale Knutson				2-2-09		
LCLS Deputy Associate Laboratory Director	Mark Reichenadter				2/2/09		
WBS Manager	John Seeman				1/30/09		
Account Manager	Richard Iverson				2/2/09		
LCLS Business Manager	Cindy Lowe				2-2-09		

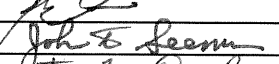
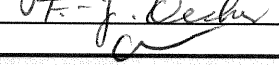
LCLS Directorate - Work Scope Authorization

WBS No:	2.3.4	WBS Title:	Beam Delivery Operations - Undulators				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$3,890	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		Heinz-Dieter Nuhn		
Scope Definition:	This WBS covers the staffing costs and materials needed to optimize the performance of the LCLS Undulator systems. This involves working closely with the control room staff to identify problems, develop tuning procedures, prepare written documentation, and train operators. It often requires monitoring system performance on a day-by-day basis and assisting as appropriate to ensure optimum system performance. It also requires ongoing surveillance and work control activities to ensure that the integrity of the facility and associated equipment is maintained and that work is done in compliance with applicable regulations and good work practices. This work includes the effort to maintain these systems and includes routine maintenance, repairs, and installations as necessary. This work includes the effort to achieve the Undulators section strategic goals and milestones for Beam Delivery Operations. For FY09, the LCLS strategic milestones are: (1) Installation phase I (2) Pre-Beam Checkouts (3) Commissioning Phase I [Beam Transport] (4) Installation phase II [Undulator Segments] (5) Commissioning Phase II [Undulators] (6) Commissioning Phase III (9) Dosimeter Exchange Program (10) FEL User Operations						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	PPA Accelerator Research, LCLS Engineering and Physics, OPS Facilities, ETS Controls, ETS Klystron, ETS Mechanical Design, ETS Mechanical Fabrication, ETS Metrology, ETS Power Conversion						
APPROVALS:							
		NAME	SIGNATURE	DATE			
		LCLS Associate Laboratory Director	Dale Knutson	2-2-09			
		LCLS Deputy Associate Laboratory Director	Mark Reichenadter	2/2/09			
		WBS Manager	John Seeman	1/30/09			
		Account Manager	Heinz-Dieter Nuhn	2/3/09			
		LCLS Business Manager	Cindy Lowe	2-2-09			

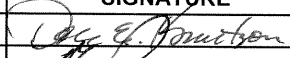
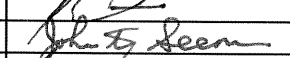
LCLS Directorate - Work Scope Authorization

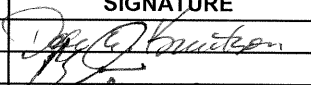
WBS No:	2.4.1	WBS Title:	Beam Delivery Upgrades: Injectors				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$1,941	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		Axel Brachmann		
Scope Definition:	This WBS covers the staffing and materials costs for upgrading the LCLS and CID Injector systems. It includes physicists, engineers, area manager, technicians and other support personnel. This work includes activities that are related to developing, designing, engineering, installing, and commissioning equipment and features of the injector systems beyond those included in the initial construction project. The specific plans will evolve as we gain experience with these systems, but are likely to include upgrades and enhancements to beam diagnostic instruments and to the source laser system.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	PPA Accelerator Research, LCLS Accelerator Systems Division, LCLS Engineering and Physics, OPS Facilities, ETS Controls, ETS Klystron, ETS Mechanical Design, ETS Mechanical Fabrication, ETS Metrology, ETS Power Conversion						
APPROVALS:							
		NAME	SIGNATURE	DATE			
LCLS Associate Laboratory Director		Dale Knutson		2-2-09			
LCLS Deputy Associate Laboratory Director		Mark Reichanadter		2/2/09			
WBS Manager		John Seeman		1/20/09			
Account Manager		Axel Brachmann		2/1/09			
LCLS Business Manager		Cindy Lowe		2-2-09			

LCLS Directorate - Work Scope Authorization

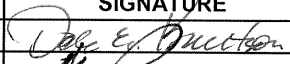
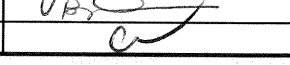
WBS No:	2.4.2	WBS Title:	Beam Delivery Upgrades: Sectors 21 - BSY				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$8,436	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		Franz-Josef Decker		
Scope Definition:	This WBS covers the staffing and materials costs for upgrading linac Sectors 21 - BSY and associated systems. It includes physicists, engineers, area manager, technicians and other support personnel. This work includes activities that are related to developing, designing, engineering, installing, and commissioning equipment and features of the linac Sectors 21 - BSY and associated systems beyond those included in the initial construction project. The specific plans will evolve as we gain experience with these systems, but are likely to include upgrades and enhancements to the control system, to beam diagnostic instruments, and to the various utilities.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	LCLS Accelerator Systems Division, LCLS Engineering and Physics, OPS Facilities, ETS Controls, ETS Klystron, ETS Mechanical Design, ETS Mechanical Fabrication, ETS Metrology, ETS Power Conversion						
APPROVALS:							
		NAME	SIGNATURE	DATE			
LCLS Associate Laboratory Director		Dale Knutson		2-2-09			
LCLS Deputy Associate Laboratory Director		Mark Reichenadter		2/2/09			
WBS Manager		John Seeman		1/30/09			
Account Manager		Franz-Josef Decker		2/2/09			
LCLS Business Manager		Cindy Lowe		2-2-09			

LCLS Directorate - Work Scope Authorization

WBS No:	2.4.3	WBS Title:	Beam Delivery Upgrades: BSY-FEE				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$1,639	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		Richard Iverson		
Scope Definition:	This WBS covers the staffing and materials costs for upgrading the BSY-FEE area and associated systems. It includes physicists, engineers, area manager, technicians and other support personnel. This work includes activities that are related to developing, designing, engineering, installing, and commissioning equipment and features of the BSY-FEE area and associated systems beyond those included in the initial construction project. The specific plans will evolve as we gain experience with these systems, but are likely to include upgrades and enhancements to the control system, to beam diagnostic instruments, and to the various utilities.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	OPS Facilities, ETS Controls, ETS Klystron, ETS Mechanical Design, ETS Mechanical Fabrication, ETS Metrology, ETS Power Conversion						
APPROVALS:							
	NAME		SIGNATURE		DATE		
LCLS Associate Laboratory Director	Dale Knutson				2-2-09		
LCLS Deputy Associate Laboratory Director	Mark Reichenadter				2/2/09		
WBS Manager	John Seeman				1/30/09		
Account Manager	Richard Iverson				2/2/09		
LCLS Business Manager	Cindy Lowe				2-2-09		

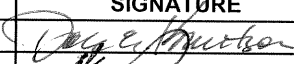
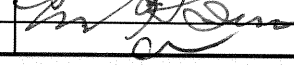
LCLS Directorate - Work Scope Authorization							
WBS No:	2.4.4	WBS Title:	Beam Delivery Upgrades - Undulators				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$1,737	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		Heinz-Dieter Nuhn		
Scope Definition:	This WBS covers the staffing and materials costs for upgrading the undulator system. It includes physicists, engineers, area manager, technicians and other support personnel. This work includes activities that are related to developing, designing, engineering, installing, and commissioning equipment and features of the undulator systems beyond those included in the initial construction project. The specific plans will evolve as we gain experience with these systems, but are likely to include upgrades and enhancements to the control system and to beam diagnostic instruments.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	PPA Accelerator Research, LCLS Engineering and Physics, OPS Facilities, ETS Controls, ETS Mechanical Design, ETS Mechanical Fabrication, ETS Metrology, ETS Power Conversion						
APPROVALS:							
		NAME	SIGNATURE	DATE			
LCLS Associate Laboratory Director		Dale Knutson		2-2-09			
LCLS Deputy Associate Laboratory Director		Mark Reichenadter		2/2/09			
WBS Manager		John Seeman		1/30/09			
Account Manager		Heinz-Dieter Nuhn		2/2/09			
LCLS Business Manager		Cindy Lowe		2-2-09			

LCLS Directorate - Work Scope Authorization

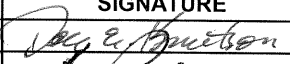
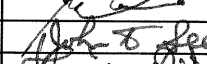
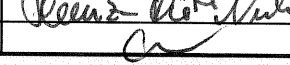
WBS No:	2.5.1	WBS Title:	Beam Delivery Non-routine Repairs: Injectors				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$1,046	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		Axel Brachmann		
Scope Definition:	This WBS covers the staffing and materials costs necessary to carry out repairs to the injector systems not covered by the routine maintenance and repair policies and procedures of WBS 2.3. These non-routine repairs include those that involve major interruptions to the scheduled program, or require special ad hoc review and approval processes because of the unusual or particularly hazardous or expensive procedures. These are repairs that can not be safely or efficiently dispatched and managed through the normal procedures and approval processes. This WBS category also includes repair-related activities involving special work orders, such as for manufacturing replacement parts or replenishing spares inventories. The key milestone is high operational availability of injector systems.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	PPA Accelerator Research, LCLS Engineering and Physics, OPS Facilities, ETS Controls, ETS Klystron, ETS Mechanical Design, ETS Mechanical Fabrication, ETS Metrology, ETS Power Conversion						
APPROVALS:							
		NAME	SIGNATURE	DATE			
LCLS Associate Laboratory Director		Dale Knutson		2-2-09			
LCLS Deputy Associate Laboratory Director		Mark Reichenadter		2/2/09			
WBS Manager		John Seeman		1/20/01			
Account Manager		Axel Brachmann		2/1/09			
LCLS Business Manager		Cindy Lowe		2-2-09			

LCLS Directorate - Work Scope Authorization

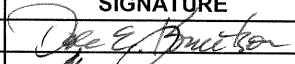
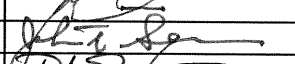
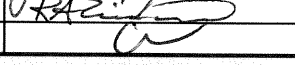
WBS No:	2.5.2	WBS Title:	Beam Delivery Non-routine Repairs: Sectors 21 - BSY				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$2,082	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		Franz-Josef Decker		
Scope Definition:	This WBS covers the staffing and materials costs necessary to carry out repairs to the linac Sectors 21 - BSY and associated systems not covered by the routine maintenance and repair policies and procedures of WBS 2.3. These non-routine repairs include those that involve major interruptions to the scheduled program, or require special ad hoc review and approval processes because of the unusual or particularly hazardous or expensive procedures. These are repairs that can not be safely or efficiently dispatched and managed through the normal procedures and approval processes. This WBS category also includes repair-related activities involving special work orders, such as for manufacturing replacement parts or replenishing spares inventories. The key milestone is high operational availability of linac Sectors 21 - BSY and associated systems.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	LCLS Accelerator Systems Division, LCLS Engineering and Physics, OPS Facilities, ETS Controls, ETS Klystron, ETS Mechanical Design, ETS Mechanical Fabrication, ETS Metrology, ETS Power Conversion						
APPROVALS:							
		NAME	SIGNATURE	DATE			
		LCLS Associate Laboratory Director	Dale Knutson	2-2-09			
		LCLS Deputy Associate Laboratory Director	Mark Reichenadter	2/2/09			
		WBS Manager	John Seeman	1/30/09			
		Account Manager	Franz-Josef Decker	2/2/09			
		LCLS Business Manager	Cindy Lowe	2-2-09			

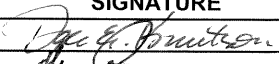
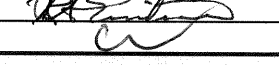
LCLS Directorate - Work Scope Authorization							
WBS No:	2.5.3	WBS Title:	Beam Delivery Non-routine Repairs: BSY-FEE				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$1,016	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		Richard Iverson		
Scope Definition:	This WBS covers the staffing and materials costs necessary to carry out repairs to the BSY-FEE area not covered by the routine maintenance and repair policies and procedures of WBS 2.3. These non-routine repairs include those that involve major interruptions to the scheduled program, or require special ad hoc review and approval processes because of the unusual or particularly hazardous or expensive procedures. These are repairs that can not be safely or efficiently dispatched and managed through the normal procedures and approval processes. This WBS category also includes repair-related activities involving special work orders, such as for manufacturing replacement parts or replenishing spares inventories. The key milestone is high operational availability of the BSY-FEE area.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	OPS Facilities, ETS Controls, ETS Klystron, ETS Mechanical Design, ETS Mechanical Fabrication, ETS Metrology, ETS Power Conversion						
APPROVALS:							
	NAME		SIGNATURE		DATE		
LCLS Associate Laboratory Director	Dale Knutson				2-2-09		
LCLS Deputy Associate Laboratory Director	Mark Reichenadter				2/2/09		
WBS Manager	John Seeman				1/30/09		
Account Manager	Richard Iverson				2/2/09		
LCLS Business Manager	Cindy Lowe				2-2-09		

LCLS Directorate - Work Scope Authorization

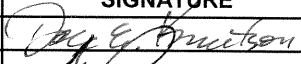
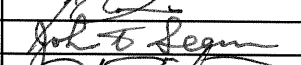
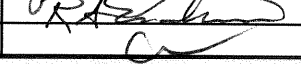
WBS No:	2.5.4	WBS Title:	Beam Delivery Trouble and Response - Undulators				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$1,357	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		Heinz-Dieter Nuhn		
Scope Definition:	This WBS covers the staffing and materials costs necessary to carry out repairs to the undulator system not covered by the routine maintenance and repair policies and procedures of WBS 2.3. These non-routine repairs include those that involve major interruptions to the scheduled program, or require special ad hoc review and approval processes because of the unusual or particularly hazardous or expensive procedures. These are repairs that can not be safely or efficiently dispatched and managed through the normal procedures and approval processes. This WBS category also includes repair-related activities involving special work orders, such as for manufacturing replacement parts or replenishing spares inventories. The key milestone is high operational availability of the undulator systems.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	OPS Facilities, ETS Controls, ETS Mechanical Design, ETS Mechanical Fabrication, ETS Metrology, ETS Power Conversion						
APPROVALS:							
	NAME		SIGNATURE		DATE		
LCLS Associate Laboratory Director	Dale Knutson				2-2-09		
LCLS Deputy Associate Laboratory Director	Mark Reichenadter				2/2/09		
WBS Manager	John Seeman				1/30/09		
Account Manager	Heinz-Dieter Nuhn				2/2/09		
LCLS Business Manager	Cindy Lowe				2-2-09		

LCLS Directorate - Work Scope Authorization

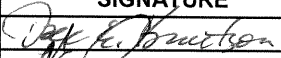
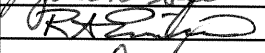
WBS No:	2.6.1	WBS Title:	Accelerator Systems Operators				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$2,245	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		Roger Erickson		
Scope Definition:	This WBS covers the staffing and training costs for the Accelerator Systems Operators and their supervisor in the Accelerator Systems Division. Qualified operators must be on duty whenever the accelerator systems are running. The specific requirements are described in the Accelerator Division Operations Directives, and in other subsidiary documents referred to there.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	LCLS Accelerator Systems Division						
APPROVALS:							
	NAME		SIGNATURE		DATE		
LCLS Associate Laboratory Director	Dale Knutson				2-2-09		
LCLS Deputy Associate Laboratory Director	Mark Reichenadter				2/2/09		
WBS Manager	John Seeman				1/30/09		
Account Manager	Roger Erickson				1/30/09		
LCLS Business Manager	Cindy Lowe				2-2-09		

LCLS Directorate - Work Scope Authorization							
WBS No:	2.6.2	WBS Title:	EOICs				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$1,324	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		Roger Erickson		
Scope Definition:	This WBS covers the staffing and training costs for the Operations Engineers who serve as Engineer-Operator-in-Charge, along with their supervisor in the Accelerator Systems Division. The EOIC has the authority and responsibility to direct activities in the MCC control room to carry out the scheduled program when he or she is on shift. A qualified EOIC must be on duty whenever the accelerator systems are running. The specific requirements are described in the Accelerator Division Operations Directives, and in other subsidiary documents referred to there.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	LCLS Accelerator Systems Division						
APPROVALS:							
	NAME		SIGNATURE		DATE		
LCLS Associate Laboratory Director	Dale Knutson				2-2-09		
LCLS Deputy Associate Laboratory Director	Mark Reichanadter				2/2/09		
WBS Manager	John Seeman				1/30/09		
Account Manager	Roger Erickson				1/30/09		
LCLS Business Manager	Cindy Lowe				2-2-09		

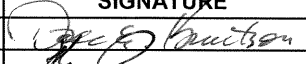
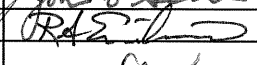
LCLS Directorate - Work Scope Authorization

WBS No:	2.6.3	WBS Title:	Maintenance Coordination, Statistics, and Analyses				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$222	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		Roger Erickson		
Scope Definition:	This WBS covers the staffing costs associated with coordinating all maintenance and repair activities associated with the accelerator systems. This includes collecting, compiling, analyzing, presenting, and archiving information related to accelerator performance and reliability, conducting frequent periodic maintenance meetings with representatives of all organizational units having maintenance responsibilities, and ensuring that all reported technical problems are dispatched and tracked. It also includes efforts and costs required to construct and maintain database systems, software tools, web pages, and related expenses. Key milestones include: Prompt dispatching and rigorous tracking to resolution of all problems that arise in connection with the operation of the accelerator facility. Efficient scheduling and coordination of installation and maintenance work needed to support the accelerator programs. Daily, weekly, quarterly, and annual reports, and ad hoc reports as requested to support reliability and machine performance studies. This also includes the development of searchable databases, logbooks, and related information, and web-page presentations of schedules and work planning information.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	LCLS Accelerator Systems Division						
APPROVALS:							
		NAME	SIGNATURE	DATE			
LCLS Associate Laboratory Director		Dale Knutson		2-2-09			
LCLS Deputy Associate Laboratory Director		Mark Reichenadter		2/2/09			
WBS Manager		John Seeman		1/30/09			
Account Manager		Roger Erickson		1/30/09			
LCLS Business Manager		Cindy Lowe		2-2-09			

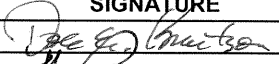
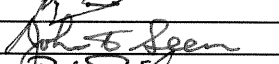
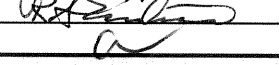
LCLS Directorate - Work Scope Authorization

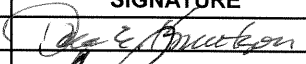
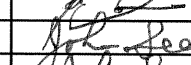
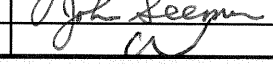
WBS No:	2.6.4	WBS Title:	MCC Systems				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$578	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		Roger Erickson		
Scope Definition:	This WBS covers the staffing costs and materials needed to maintain and upgrade the Main Control Center and the accelerator systems that are not associated with any single area of the facility. Among the systems included here are the controls, data processing, and network equipment in MCC, the communications equipment, alarm systems, control room console equipment, diagnostic instruments and test equipment, office equipment in MCC, motor vehicles and safety equipment used by the Operations staff, and other tools, materials and supplies used by the Operations staff to carry out the mission of the division. Key milestones include: A fully functional Main Control Center, complete with controls, instrumentation, and supplies as needed to carry out the scheduled accelerator program safely and efficiently.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	LCLS Accelerator Systems Division, ETS Controls						
APPROVALS:							
		NAME	SIGNATURE	DATE			
LCLS Associate Laboratory Director		Dale Knutson		2-2-09			
LCLS Deputy Associate Laboratory Director		Mark Reichenadter		2/2/09			
WBS Manager		John Seeman		1/20/09			
Account Manager		Roger Erickson		1/30/09			
LCLS Business Manager		Cindy Lowe		2-2-09			

LCLS Directorate - Work Scope Authorization

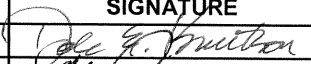
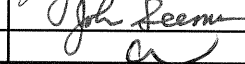
WBS No:	2.6.5	WBS Title:	MCC Document Control and Safety Compliance				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$205	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		Roger Erickson		
Scope Definition:	This WBS covers the staffing costs and materials needed to produce and maintain controlled documents that are accurate, up to date, auditable, and readily available for the control room operations staff in MCC. These documents are necessary to comply with safety requirements imposed from outside the LCLS Directorate, as well as requirements imposed by the line managers. This WBS includes document editing, production, revision control, and distribution of procedures, checklists, PPS logbooks, and similar materials, and immediate service and distribution when on-shift operators need documents to carry out the scheduled program, or when safety or programmatic requirements change on short notice. This also includes monitoring control room supplies of blank checklists and PPS logs, and archiving and restocking as needed. Also included in this WBS item are document editing, production, and control services for the Operations management staff and system physicists to produce operator training materials, technical operating and reference material, revisions to SLAC Guidelines for Operations, and various other lab-wide documents. Key milestones include: A hierarchical system of documented policies, procedures, checklists, and PPS logbooks to ensure compliance with all safety requirements during accelerator operations. Supplies of blank forms and checklists with accurate, reviewed, and approved lists of requirements, readily available to the control room operators when needed. Immediate editing and production services when requirements change on short notice. Auditable records of safety procedures and checklists, approval processes, and operator training summaries. Technical operating procedures and reference material as needed.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	LCLS Accelerator Systems Division, LCLS Engineering and Physics						
APPROVALS:							
		NAME	SIGNATURE	DATE			
LCLS Associate Laboratory Director		Dale Knutson		2-2-09			
LCLS Deputy Associate Laboratory Director		Mark Reichenadter		2/2/09			
WBS Manager		John Seeman		1/30/09			
Account Manager		Roger Erickson		1/30/09			
LCLS Business Manager		Cindy Lowe		2-2-09			

LCLS Directorate - Work Scope Authorization

WBS No:	2.7.1	WBS Title:	Electric Power				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$5,784	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		Roger Erickson		
Scope Definition:	This WBS covers the costs of managing and procuring electric power and ancillary services for SLAC and authorizing electric power procurements on behalf of SLAC. This includes preparation, review, and updating of long-term, mid-term, and short-term forecasts of SLAC's electric load, the corresponding cost estimates, and the division of costs among various accounts at SLAC. This also includes preparations and travel to meetings with the DOE Utilities Services Manager, representatives of the other two Northern California DOE labs, and the DOE's utilities consultants, and sometimes hosting such meetings, and occasional email and teleconference communications regarding power purchases. This work also includes preparation of hour-by-hour load forecasts and their transmission to WAPA for transmission to the CAISO. The goal of this effort is to procure electric power for SLAC at costs substantially less than could be obtained through conventional purchases from commercial utilities. This is done through large direct-access purchases for future delivery, arranged in collaboration with LBNL and LLNL, taking maximum advantage of federally owned CVP power sources and access rights to the COTP transmission system.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	LCLS Accelerator Systems Division, ETS Administration						
APPROVALS:							
		NAME	SIGNATURE	DATE			
LCLS Associate Laboratory Director		Dale Knutson		2-2-09			
LCLS Deputy Associate Laboratory Director		Mark Reichanadter		2/2/09			
WBS Manager		John Seeman		1/30/09			
Account Manager		Roger Erickson		1/30/09			
LCLS Business Manager		Cindy Lowe		2-2-09			

LCLS Directorate - Work Scope Authorization							
WBS No:	2.8.1	WBS Title:	Reliability				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$82	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		John Seeman		
Scope Definition:	This WBS covers the staffing costs and materials needed to analyze the causes of downtime, identify unreliable systems and components, and identify and assess the factors that impede prompt repairs and recovery. This WBS also includes resources to expedite repairs, such as spare parts, tools, pre-approved work control processes and procedures, and documentation to facilitate contacting experts. Accelerator systems reliability as high as reasonably achievable is a key milestone.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	LCLS Engineering and Physics						
APPROVALS:							
	NAME	SIGNATURE	DATE				
LCLS Associate Laboratory Director	Dale Knutson		2-2-09				
LCLS Deputy Associate Laboratory Director	Mark Reichanadter		2/2/09				
WBS Manager	John Seeman		1/30/09				
Account Manager	John Seeman		1/30/09				
LCLS Business Manager	Cindy Lowe		2-2-09				

LCLS Directorate - Work Scope Authorization

WBS No:	2.8.2	WBS Title:	Performance Enhancement				
Period of Performance:	10/1/08 - 9/30/09	Total Budget \$K:	\$10	Rev No:	0	Date Last Revised:	1/23/09
WBS Manager:	John Seeman		Account Manager:		John Seeman		
Scope Definition:	This WBS covers the staffing costs and materials needed to study, analyze, develop, implement, and commission technical improvements to the accelerator facilities, other than the upgrades covered under WBS 2.4. A key milestone is accelerator beam performance that continues to improve with time. These improvements could include enhanced or extended beam parameters (brightness, pulse length, energy, stability, reliability, etc.) or studies to gain new knowledge applicable to future upgrades.						
Profile of Fund Sources:	Linac Operations						
Profile of Performing Orgs:	Not Applicable - No SLAC Labor Charges						
APPROVALS:							
	NAME		SIGNATURE		DATE		
LCLS Associate Laboratory Director	Dale Knutson				2-2-09		
LCLS Deputy Associate Laboratory Director	Mark Reichenadter				2/2/09		
WBS Manager	John Seeman				1/30/09		
Account Manager	John Seeman				1/30/09		
LCLS Business Manager	Cindy Lowe				2-2-09		