

Project Database Users Guide
S-OM-M-151
Rev A

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Revision History

#	Rev	Date	Description of Changes
1	A1	7/31/09	Basic
2	A2	8/6/09	Hinterman rev of 1.0, inputs for 5.0, 5.1, 5.2, 5.6
3	A3	9/10/09	Updates after beta testing
4	A4	9/17/09	Navigation and meeting prep was added
5	A5	9/23/09	Publishing edited document
6	A6	9/24/09	Fianl edits before release

Terms

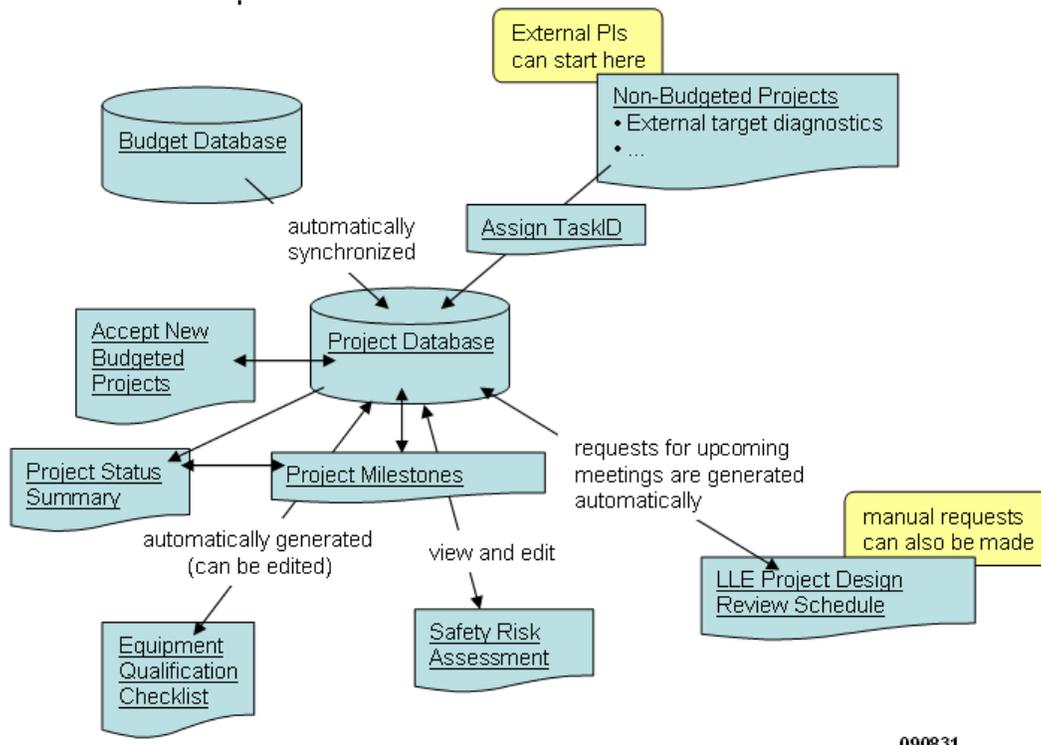
DBA: Database Administer
EQC: Equipment Qualification Checklist
LSE: Lead System Engineer
MC: Meeting Coordinator
PA: Project Assistant
PBR: Project Budget Request
PI: Project Investigator
SE: System Engineer
SRA: Safety Risk Assessment

1 Summary

LLE System Engineering provides the project coordination required for successful and safe integration of equipment at LLE’s facility as specified by LLE Instruction 7700F. To this end, a project management database and a set of web-based interactive tools have been developed to enhance information exchange and to facilitate design review and information tracking. The web interfaces allow persons involved with the project to check project status in one central location. The appropriate team members have edit privileges. The Lead System Engineer (LSE) and the database administrator (DBA) will also have edit privileges as a backup to the assigned System Engineer (SE). The aggregate database and web interfaces are referred to as WEBEQC.

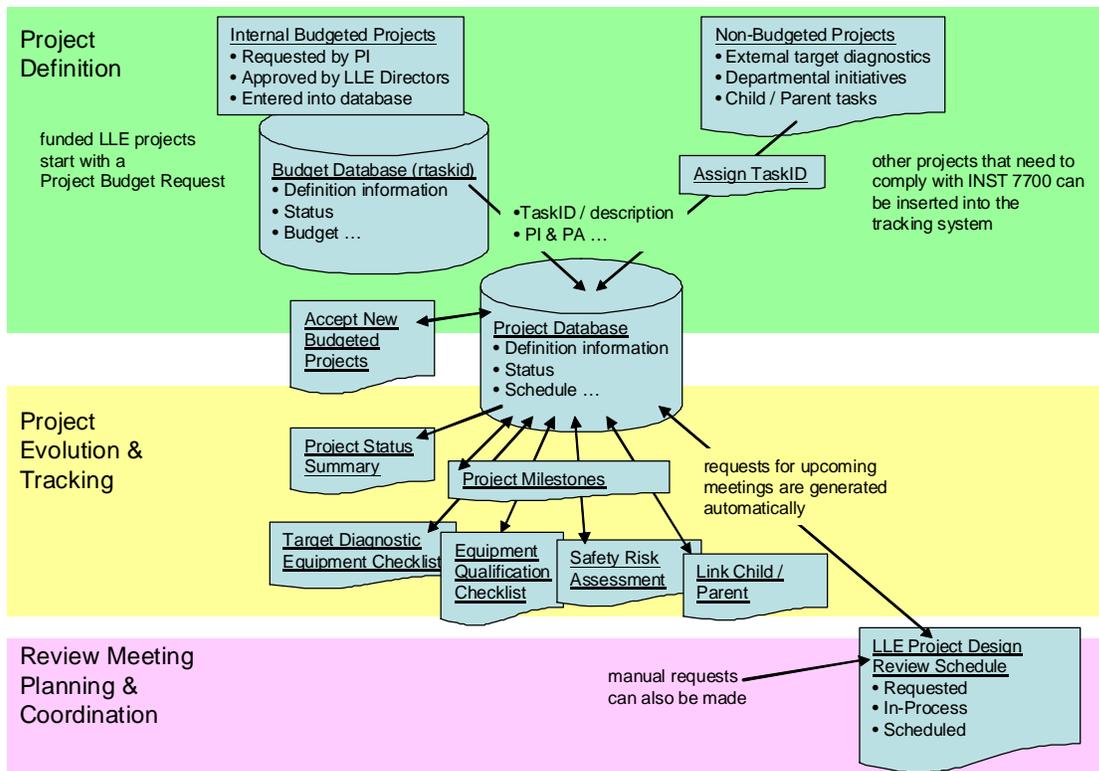
The web interface structure contains report pages, access to editable forms, and command buttons to print the forms required by LLE Instruction 7700F. An overview of the system is shown in **Fig. 1.1**. Additional details are provided in **Fig. 1.2**. Some key enhancements are as follows:

- Auto-generation of the Equipment Qualification Checklist (EQC)
- Auto-generation of meeting requests based on the EQC
- Safety Risk Assessment (SRA) is now in a database table with a pdf report as the output
- External Project Investigators (PI’s) have a project creation page
- Upper-level reports have been enhanced with relevant information, query, and sorting tools
- Emails are automatically generated when projects are accepted and meetings requested



090831

Figure 1.1: The WEBEQC application helps External PI’s to start projects that comply with LLE’s review and schedule requirements.



090804

Figure 1.2: The WEBEQC application supports INST 7700: “Design and Installation of Equipment” Process.

The components are introduced here. Where the component is a web page, its URL reference is included.

Projects and Project Definition

Administration Database: This is the accounting database that tracks budget and expenditures by project. LLE internal projects are generally proposed on a Project Budget Request (PBR) and approved as part of the Laboratory’s annual budget cycle. Projects may be proposed and considered for approval by LLE directors whenever the circumstances warrant. Each project will have a task identification acronym, budget, System Engineer (SE), Principal Investigator (PI), and Project Assistant (PA).

The Administration Database is maintained by the LLE Administration Division in a table called “rtaskid.” When new projects are approved or the status of an existing project is changed, key information in “rtaskid” is transferred to the Project Database.

Project Database: This database is comprised of Project Budget Request (PBR) projects inserted from the Administration Database, internal departmental non-budgeted projects, and external lab projects. All information stored and reported by WEBEQC is maintained in this database. The Project Database consists of the following individual tables:

- eqc_new_project
- critical_equipment_check (the main SE table)

- ceqc_request (XOPS)
- safety_risk_checklist
- equipment_qual_checklist
- design_review_meetings
- design_review_topics

New Budgeted Projects (ceqcNew): When new projects are approved, the Lead System Engineer reviews them, assigns a System Engineer as required, and accepts the project.

Non-Budgeted Project Request (ceqcNon): Projects that are not in the LLE Administration Database are created here. This module will be used by External PI's to initiate new projects. This page is also used to create project records that can be used to track internal projects that are not defined on a Project Budget Request (PBR). In addition to external target diagnostics, non-budgeted projects can include

- Equipment items funded from departmental budgets
- Software projects
- Sub-elements (children) of larger projects that warrant separate design reviews

Project and schedule information must be entered to successfully submit a new non-budgeted project.

Assign Task ID (ceqcAssign): The non-budget requests are populated in a table where they are reviewed by the Lead SE and assigned a task ID. Once the task ID is assigned, the project information is transferred to the Project Database.

Project Evolution and Tracking

Project Status Summary (ceqcReport): This report provides a view of the overall status of all projects at LLE. Filters and sort buttons are provided. The user can click on a given project link to view the Project Milestone page, which gives a detailed report of an individual project.

Project Milestone (ceqcAdmin): This page gives detailed information for one project. An editable version allows System Engineers and Project Assistants to edit virtually all of the project information as the project progresses. In addition, the Safety Risk Assessment and Equipment Qualification Checklist reports can be accessed from this page.

Safety Risk Assessment (SRA): The Safety Risk Assessment form is a checklist that summarizes any safety concerns. The PI, PA, SE, and LSE have edit privileges on this page.

Equipment Qualification Checklist (EQC): This checklist summarizes the key project tasks and the associated dates. For external projects, the dates are auto-generated upon creation of the project. For internal projects, a tool is provided to auto-populate the dates. The dates will be manually updated as required and after each review.

Child-Parent Definition (ceqcFamily): Budget line items sometime encompass multiple sub-projects that must have their own sets of design reviews. In this case, non-budgeted "children" can be created (via **ceqcNon**) and then associated to a parent project. Experiment tests (one-day installations) can also be tracked via a non-budgeted project and associated with the parent

project. This page allows linkages to be created so that the project relationships are depicted on the appropriate Project Milestone pages.

Meeting Planning and Coordination

Meeting Request (desRev): Requests for Design Review meetings are automatically requested via a script that scans the EQC weekly. The meetings transition through three states: (1) The new request is reviewed (agenda and attendees) and accepted by System Engineering. (2) The Meeting Coordinator (MC) contacts the PI to confirm readiness and schedules the meeting; if the MC identifies scheduling issues, the requested meeting is “kicked back” to System Engineering. (3) The meeting is scheduled (see Sec. 4.1 for more details).

2 System Navigation – General

The Project Database Users' Guide is accessed from the Equipment Project Status page; this page (the Equipment Projects web page) is accessed from the OMEGA Operations page shown below.

[LLE home](#) **OMEGA Operations Page** [EP Operations](#)
[C&TF Operations](#)

Facility	Shot Related	Operations
<ul style="list-style-type: none"> • Weekly Schedule (Schedule Editor (restricted)) • Quarterly Schedule • Facility Watchbill • Facility Status 9/23/2008 • Diagnostic Status <ul style="list-style-type: none"> ◦ Editor (Restricted) • Training Schedule 6/11/2009 • LLE Phonebook • Paging System 	<ul style="list-style-type: none"> • Proposal Template <ul style="list-style-type: none"> ◦ Reports ◦ Approval (Restricted) • Shot Request Form <ul style="list-style-type: none"> ◦ Reports (Station) ◦ Auditor ◦ Unlock (Restricted) • Shot Images and Reports • Target Request Form • Film Digitization Request • Pulse Shape <ul style="list-style-type: none"> ◦ Request New ◦ Pulse Shape Request Status • Experimental Effectiveness Assessment <ul style="list-style-type: none"> ◦ Editor (restricted) ◦ Detailed Effectiveness Ratings • Equivalent Target Plane Images <ul style="list-style-type: none"> ◦ Upload Images (Restricted) 	<ul style="list-style-type: none"> • Drivers • XOPS • Opto-Mech • Power Conditioning • Laser Amplifiers • PCO Balance Log • OMEGA Hardware Timing • Laboratory Hardware Timing • OMEGA Program Logs • Charged Particles
Administrative	Documentation	
<ul style="list-style-type: none"> • Design Review Meeting Schedule • OMEGA Availability • Flashlamp <li style="border: 2px solid green; padding: 2px;">• Equipment Projects • Software Requests (New Bug , Change) 	<ul style="list-style-type: none"> • Operations Documents • Laser Facility Acronym List • LLE Documents • Software Documents • Database Schema 	

The equipment project status page displays the following:

- Check Lists and Instructions** – Specifications/instructions needed to complete design reviews
- Project Tracking and Scheduling Links** – Links associated with the Project Database
- Design Review Presentation Start Kits** – Shell Design Reviews that outline topics required for each review type – to be downloaded and then edited by the PI/PA

Resources > Engineering Services

OMEGA Laser System Equipment Projects

The design of new or substantially altered diagnostics developed either at LLE or externally for installation at LLE, is coordinated by the process defined in [LLEINST 7700](#). In general, all projects will be subjected to at least two formal reviews. As described in [LLEINST 7700](#), items considered to be critical to laboratory science operations are tracked in more detail by individual Critical Equipment Qualification Checklists (CEQC's).

[Revision F: Introduction to the most recent changes](#)

Checklists and Instructions

- [Failure Mode and Effects Analysis \(FMEA\)](#)
- [Pre-Operation Safety Inspection Checklist](#)

Project Tracking/Scheduling

- [Project Status Summary](#)
- [Design Review Schedule/Request a Review](#)
- [Non Budgeted Project Request](#)
- [Assign Task IDs](#)
- [New Projects List](#)

Design Review Presentation Starter Kits

- [CDR Shell](#) (.ppt file, 1.3 MB)
- [FDR Shell](#) (.ppt file, 2 MB)
- [ORR Shell](#) (.ppt file, 1.1 MB)

Design Review Shells

Service Requests

Request forms are used to facilitate efficient management of design, build and support services. These forms are required for LLE Equipment Projects and requests for shop resources.

- [Electronics and Controls](#)
Use this form for electronic engineering requests, including PLC and embedded processor implementation, circuit design and analysis, component fabrication, and cables and installation.
- [Mechanical Engineering](#)
Use this form for mechanical engineering requests, including design and fabrication of mechanical components and subsystems, structural analysis, installation layout, and physical envelope review and clearance.
- [Software Development Group](#)
Use this form for software change and bug fix requests.

Project Status Summary link brings up the “Master” page for the Project Database Users’ Guide, from this page all relevant pages can be accessed:

Project Status Summary

Thu Sep 17 08:59:56 2009

Select one or more criteria:

[Non-Budgeted project Request](#)

[Assign Task IDs](#)

[New projects List](#)

[Design Review](#)

[Schedule/Request a Review](#)

PI:

PA:

SE:

Proj. Type:

- Priority**
- 1 -- Must have to continue operations
 - 2 -- Required for research goals or critical sparing
 - 3 -- Desired capabilities or improvements
 - No priority assigned

- Project Status**
- Working
 - NA
 - Deferred
 - Pending
 - Cancelled
 - Closed
- Admin Status**
- n/a
 - Active
 - Deferred
 - Pending
 - Suspended
 - Cancelled
 - Closed

Task Title	Task ID	PI	PA	SE	Admin Status	Project Status	LLE Priority	Next R
nTOF 3mLARD-2.8mCVD	3MLARD-2.8MCVD	Glebov, Vladimir	Duffy, Timothy	Duffy, Timothy	n/a	Working	No priority assigned	FDR 04/
4WPROBE	4WPROBE	Okishev	Brown	Duffy, Timothy	Active	Working	No priority assigned	FDR 02/
Liquid Scintillator in LaCave	6X8NTOF-LC	Theobald, Wolfgang	Stoeckl, Christian	Duffy, Timothy	n/a	Working	No priority assigned	CDR 04/
ASBO on EP	ASBO-EP	Boehly	Boni	Hinterman, Thomas	Active	Working	2 -- Required for research goals or critical	

3 Non-Budgeted Project Request (External PI)

Projects that are not in the LLE Administration Database are created via the Non-Budgeted Project Request page. This page is accessed from the Project Status Summary page, shown in Fig. 3.1.

Figure 3.1: The Non-Budgeted Project Request page is accessed from the Project Status Summary page.

This page (Fig. 3.2) allows external PI's to request new projects. It is also used internally at LLE to create non-budgeted projects (children, one-day installations, projects funded by departments).

Non-Budgeted Project Request

Figure 3.2: Non-Budgeted Project Request Page.

The following provides a description of the data required:

Internal/External: External means AWE, CEA, LANL, LLNL, or any organization outside of LLE; Internal is for LLE projects.

Project Title: Title of the project (used on the SRA and EQC forms).

PI: External—This is a list of all qualified external PI's; Internal—list of all qualified LLE personnel.

PA: Project Assistant; can be left blank for external PI's.

Task Description: Provide an overview/summary of the project. This will be used on all project minutes.

Calculate: Use this button to test your time parameters; if there is an issue with your proposed time parameters, the CDR data will appear in red.

Time Parameters: The entries here are used to auto-generate a strawman EQC checklist. There are minimum time frames allowed as an entry. Checks are made to ensure that the first-use data is not in jeopardy. These parameters are used to automatically fill out the EQC. *If a time-frame issue is detected then a message is generated advising the PI to contact system engineering—this project will require immediate allocation of resources to ensure the proper reviews/checks are completed and the first-use date is satisfied.*

Concept Development: Enter the time required to prepare the requirements and develop concept designs to create the CDR presentation. (Less than three weeks is not a valid entry—contact System Engineering if this is a fast-track project).

Design Process: The amount of time to complete the design process, complete the draft procedures, and prepare the CDR. (Less than two weeks is not a valid entry—contact System Engineering if this is a fast-track project).

Fabrication: The amount of time to order/receive parts and fabricate materials (Less than two weeks is not a valid entry—contact System Engineering if this is a fast-track project).

Calculate: This button takes the time parameters and displays the three minimally required meeting dates for this project. If the CDR date is less than two weeks into the future, then it will be shown in red (**Fig. 3.3**). Modify the time parameters—either reduce times or extend the first-use date—until the CDR is at least three weeks into the future. *If the system will not accept the first-use date you desire, then enter the minimum allowable time parameters, submit the project, and contact System Engineering—this project will require immediate allocation of resources to ensure the proper reviews/checks are completed and the first-use date is satisfied.*

Calculation Complete

Non-Budgeted Project Request

Internal/External Proj Type Target Diagnostic Other

Project Title

PI PA

PBR? Admin Status: n/a Project Status: Pending

Task Description

Concept Development weeks (Min: 3) ends at CDR

Design Process weeks (Min: 2) ends at FDR

Fabrication, Test & Installation weeks (Min: 2) ends at ORR

First Use Date

CDR

FDR

ORR

Calculated CDR Date must be at least 3 weeks in the future.

Enter a comma-delimited list of E-Mail nicknames

Design Review Invite List

[Project](#)

Figure 3.3: The Calculate button will show the Design Review dates based on the time parameters entered; if there is an issue with the dates, the CDR will be displayed in red.

Design Review Invitee List: The PI enters the email address of all external people that must be informed of a scheduled design review.

Submit: When pressed, the entries are checked for completeness and time-frame entries are validated; if an issue is detected, a red error message appears at the top of the page. If the entry is accepted, an entry is made in the new project table. The LSE will review the project and assign a Task ID and SE to the project. The project is then accepted and a new entry is made in the project database, the EQC strawman form (with initial dates) is created, and a blank SRA form is created. The PI can view/save/print the EQC and **edit**/view/save/print the SRA from the Project Milestones page.

3.1 Non-Budgeted Project Acceptance (Lead SE)

The non-budget requests are populated in a table (**Fig. 3.4**) where they are reviewed by the Lead SE and assigned a task ID. The Task_ID is a unique identifier used to identify and track the project. Upon acceptance the request is transferred to the project database and the EQC strawman form (with initial dates) is created and a blank SRA form is created.

Assign Task IDs

Task Title	PI	PA	Task Description	First Use	SE	Task ID		
NSTAR	Duffy, Thomas	Duffy, Timothy	Scintillator Diagnostic from U of R	11/18/09	<input type="text"/>	<input type="text"/>	Assign	Cancel
EXTERNAL TARGET	Hinterman, Thomas	Wilson, Timothy	Another test project	01/01/10	<input type="text"/>	<input type="text"/>	Assign	Cancel

[Non-budgeted Project Request](#)

[Project Status Summary](#)

Figure 3.4: Non-Budgeted Projects must be assigned a Task ID prior to acceptance. SE's may also be assigned at the time of acceptance.

4 Budgeted Project Acceptance (Lead SE)

The Accounting database automatically populates the “New Project Database” when the budget process is updated (**Fig. 4.1**). The new projects are buffered in the “New Project List” table. The Lead System Engineer reviews the projects, assigns the appropriate project status and a System Engineer (if required/available), and accepts the project. The project is then transferred to the Project Database; at that time, a blank EQC and SRA form is created for this project.

New Projects List

Task ID	Task Title	PI	PA	Task Description	Admin Status	Status	SE	
3MNTOF	3-M NTOF RELOCATION	V. GLEBOV	S. ROBERTS		n/a	Pending CDR		Accept
AWE AD	AWE ACTIVATION DIAGNOSTIC	Simons, Andrew	Mastrosimone, Dino		n/a	Pending CDR		Accept
CCDUG	VACUUM CCD UPGRADE	Keck, Robert			n/a	Pending CDR		Accept

Figure 4.1: New Budgeted Projects must be accepted by the Lead SE; the SE may also be assigned at the time of acceptance.

In general the following convention will be used to assign task ID's:

Lab-Diag-Series-Laser

Where:

Lab => LLNL, LANL, LLE, CEA, AWE

Diag => GRH, TAD ect

Series => I, II, III (Generation-Redesign) or ModI,2,3 (Modification/Upgrade) or 1,2, 3 (ie XRFC1, XRFC2)

Laser => O (Omega) or E (EP)

5 Design Review Scheduling

The meetings are not automatically requested. The meetings transition through three states (Fig. 5.1):

1. The new request is reviewed (agenda and attendees) and accepted by System Engineering (viewed by selecting “Request” radio button in Fig. 5.2)
2. The MC contacts the PI to confirm readiness and schedules the meeting (viewed by selecting “In Process” radio button in Fig. 5.2). If the MC identifies scheduling issues the requested meeting is “kicked back” to System Engineering (viewed again by selecting “Request” radio button in Fig. 5.2). The project is now listed in red font.
3. Scheduled meetings are viewed by selecting “Scheduled” radio button in Fig. 5.2.

Meeting State Flow Diagram

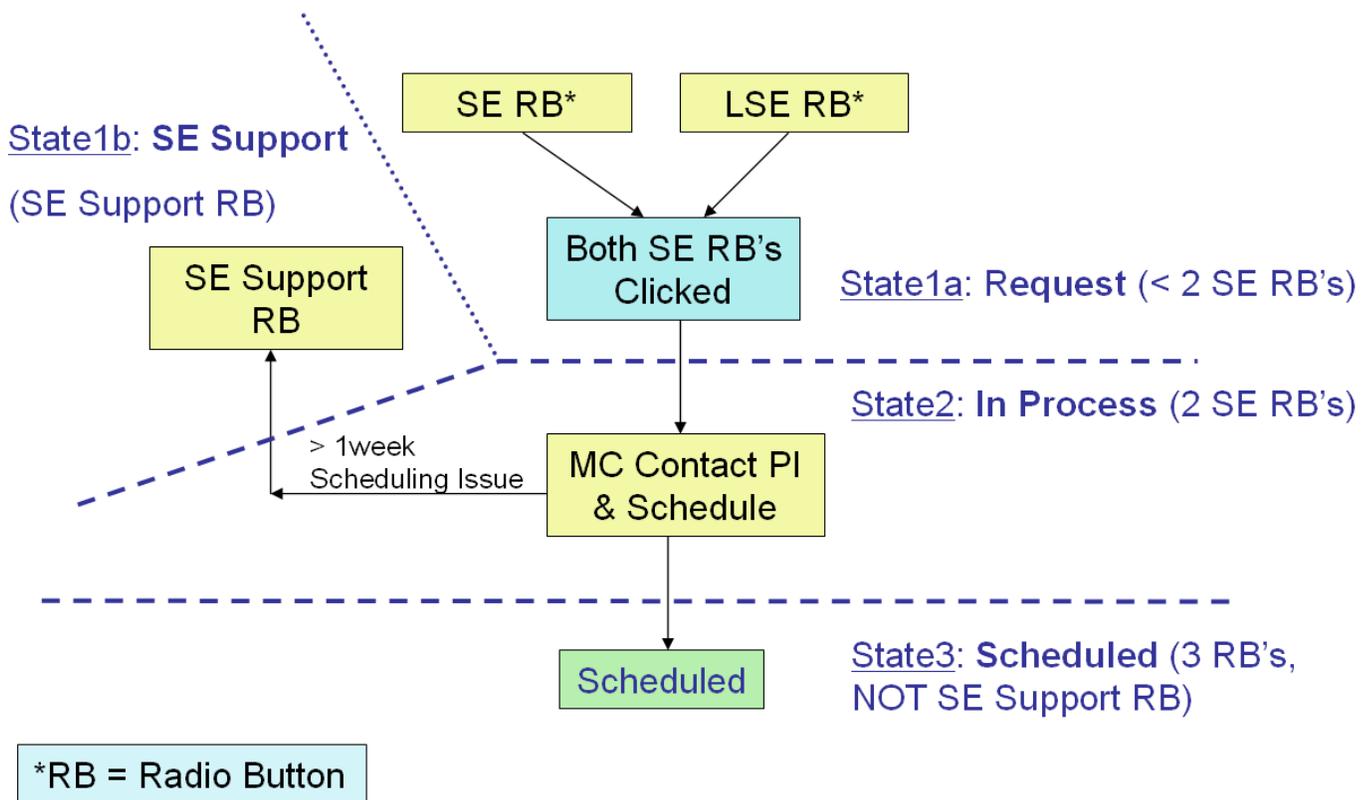


Figure 5.1 The meeting state-flow diagram shows the three state processes used to schedule the meetings.

5.1 Requested Meetings (SE-Review)

Meetings are automatically requested via a script that scans the EQC dates and generates meeting requests within two weeks in advance of a required meeting. These meeting requests (viewed by selecting the “Request” radio button in **Fig. 5.2**) are reviewed by the SE when the agenda and attendees are completed. These fields are accessed by clicking the “Edit” field (**Fig. 5.3**). The SE and LSE approve the meeting request by clicking the LSE and SE radio buttons (see **Fig. 5.3**).

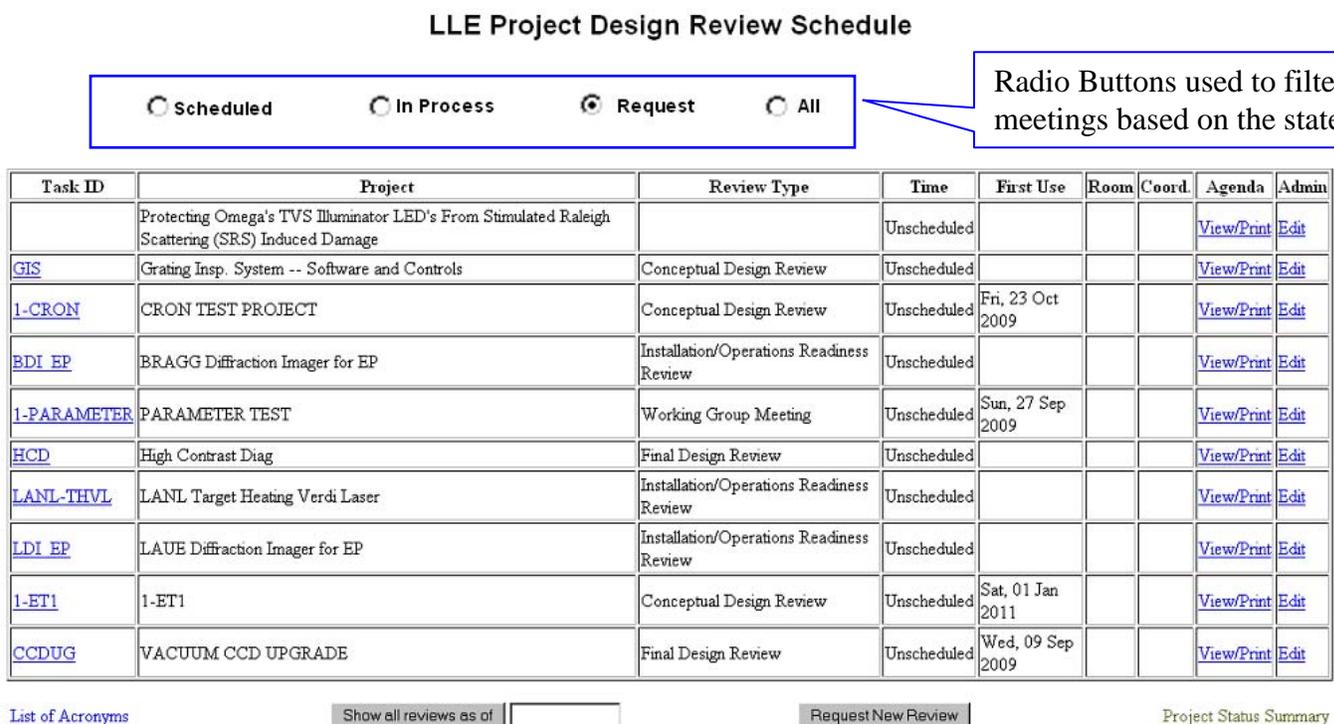


Figure 5.2: The meetings are viewed in the summary table. The radio buttons control what meetings are displayed based on the state.

Initiated By: Creation Date: 23-Jul-2009 11:26

Scheduled Date: to

Room: Meeting Coordinator:

- Meeting Coordinator Approval
- SE Support Required
- System Engineering Approval
- Lead System Engineer Approval

Task ID:	1-ET1
Project Title:	1-ET1
Principal Investigator(s):	Hinterman, Thomas
Project Assistant:	Wilson, Timothy
System Engineer:	Wilson, Timothy
Review Type:	CDR: Conceptual Design Review
Expected Meeting Length:	1 Hour(s)

Radio Buttons used to manage meeting status

Attendees

Enter a comma-delimited list of E-Mail nicknames

Required	<input type="text" value="thin, twil"/>	Select a Name Here. <input type="text"/>
Desired	<input type="text"/>	Select a Name Here. <input type="text"/>
Copy to	<input type="text" value="jste, sbod, ddm, sshi, thin, mbarry, kley, jlab, tkli"/>	Select a Name Here. <input type="text"/>

	Agenda Items	Presenter	E-Mail
1	Project description & scope	Timothy Wilson	twil
2	Requirements		
3	Conceptual Design		
4	Risks & Concerns		
5	SRA & EQC		
6	Schedule, Project Team & Budget		
7			
8			

Figure 5.3: Design Review attendees, attendees, and approval status are managed from the Design Review Detail page.

5.2 *In-Process Meetings (MC Scheduling)*

The “In-Process” status implies meetings (select “In Process” radio button seen in **Fig. 5.1**) that have been approved by System Engineering (both LSE and SE radio buttons are checked) but not approved by the MC (MC radio button is not checked). Prior to approving an In-Process meeting, the MC performs the following tasks:

1. Contacts the PI and confirms that the PI is prepared for the design review
2. Establishes with the PI the potential time slots for the review
3. Upon readiness confirmation and schedule availability, the MC schedules the meeting

If the PI indicates that the project is not ready for the design review or there is a schedule conflict for the desired meeting availability window, the MC will check the SE support radio button; the meeting status will change back to “Requested”—this meeting request will be displayed in red.

5.3 *Design Review Scheduled (PI, PA, PC, SE, Managers)*

The Design Review agenda can be accessed by selecting the view/print button.

Installation/Operations Readiness Review 4 w Probe Beam (Phase I) in DTL

Coliseum

20-Aug-2009

0900-1000

Topic

Presenter

System - Overview
Safety Controls
Operations - Procedures
SRA - FMEA
EQC

Required attendees

T. Duffy, R. Brown, J. Zuegel, D. Weiner, A. Okishev, M. Shoup, D. Jacobs-Perkins, K. Thorp, L. Folsbee, T. Flannery, J. Puth, R. Peck, C. Stoeckl, T. Buczek

Desired attendees

T. Hinterman, D. Coppenbarger, T. Wilson, W. Seka, W. Theobald, D. Meyerhofer, S. Morse, D. Canning, R. Kidder, R. Brannon

6 Project Evolution and Tracking

This section introduces the tools that support rapid access to project status information at both the overview and the project detail level. The provisions for editing the information to reflect progress and changes that arise as the design process progresses are also discussed.

6.1 Project Status Summary

The (ceqcReport) page (**Fig. 6.1**) provides a view of the overall status of all projects at LLE. Each row provides key information for a specific project. Filters and sort buttons are provided. The user can click on a given project to view the Project Milestones page, which shows a detailed report of an individual project.

Project Status Summary

Thu Sep 10 13:20:07 2009

Select one or more criteria:

[Non-Budgeted project Request](#)

[Assign Task IDs](#)

[New projects List](#)

[Design Review Schedule/Request a Review](#)

PI:

PA:

SE:

Proj. Type:

Priority

1 -- Must have to continue operations

2 -- Required for research goals or critical sparing

3 -- Desired capabilities or improvements

No priority assigned

Project Status

Working

NA

Deferred

Pending

Cancelled

Closed

Admin Status

n/a

Active

Deferred

Pending

Suspended

Cancelled

Closed

Task Title	Task ID	PI	PA	SE	Admin Status	Project Status	LLE Priority	Next Review	First Use
nTOF 3mLARD-2.8mCVD	3MLARD-2.8MCVD	Glebov, Vladimir	Duffy, Timothy	Duffy, Timothy	n/a	Working	No priority assigned	FDR 04/01/2009	
4WPROBE	4WPROBE	Okishev, Andrey	Brown, Richard	Duffy, Timothy	Active	Working	No priority assigned	FDR 02/01/2009	
Liquid Scintillator in LaCave	6X8NTOF-LC	Theobald, Wolfgang	Stoeckl, Christian	Duffy, Timothy	n/a	Working	No priority assigned	CDR 04/03/2009	
ASBO on EP	ASBO-EP	Boehly, Thomas	Boni, Robert	Hinterman, Thomas	Active	Working	2 -- Required for research goals or critical sparing		
A-Split Shear Diagno	ASHEAR	Gasal, Nermina	Dean, Richard	Hinterman, Thomas	Deferred	Deferred	No priority assigned		
Automate ASBO	AUTOASBO	Boehly, Thomas	Cruz, Miguel		Pending	Pending	3 -- Desired capabilities or improvements		
BRAGG Diffraction Imager for EP	BDI EP	Park, Hye-Sook	Mastrosimone, Dino	Brannon, R. Bruce	n/a	Working	No priority assigned	FDR 06/15/2009	
Carbon Activation fo	CACT	Sangster, Craig	Duffy, Timothy	Duffy, Timothy	Active	Working	1 -- Must have to continue operations		
CEA NIS APERTURE UPGRADE	CEA-NIS-AP-UG	Landoas, Olivier	Landoas, Olivier		Active	Working	No priority assigned		
		Znepel		Wilson			No priority		

Figure 6.1: The Project Status Summary provides an overview of all active projects in the LLE project database.

The fields and check boxes at the top center and right (**Fig. 6.2**) can be used to filter the project listing and display a subset of projects based on the criteria configured. The buttons at the top of each column can be used to sort the rows according to the contents of the column (**Fig. 6.3**).

Project Status Summary

Thu Sep 10 13:20:07 2009

Select one or more criteria:

Enter desired pattern to filter on

PI:

PA:

SE:

Proj. Type:

Filter based on priority

Priority

1 -- Must have to continue operations

2 -- Required for research goals or critical sparing

3 -- Desired capabilities or improvements

No priority assigned

Project Status

Working

NA

Deferred

Pending

Cancelled

Closed

Admin Status

n/a

Active

Deferred

Pending

Suspended

Cancelled

Closed

Entering "ffv" will display all projects assigned to Tim Duffy

Filter based on Status

Figure 6.2: Setting filters for the Project Summary display.

Click on Column header to sort

Task Title	Task ID	PI	PA	SE	Proj. Type	Status	LLE Priority	Next Review	First Use
------------	---------	----	----	----	------------	--------	--------------	-------------	-----------

Figure 6.3: Sorting the projects based on column content.

6.2 Project Status Codes Handling

Introduction

WEBEQC tracks two kinds of project status. One is used by the Admin Division in their budget and cost-tracking process. (This applies only to “budgeted” projects.) The other is used by SE to portray gross status of both PBR and “non-budgeted” projects.

The information used and maintained by Admin is in a table called “RTaskID;” the status is coded in a column called: “Closed?” The CEQC table used by SE includes a duplicate column called “Status” that is used to portray the Admin status on the Project Milestones and now the **ceqcReport**) page. The values in this column are periodically synchronized with “Closed?”

The CEQC table used by SE also includes a “Project Status” column that is intended to allow useful filtering of projects for display on the “Project Status Summary” spreadsheet page.

Admin Project Status Codes

“Closed?” Code	Term	Charges?	Comment
N	Open – currently Active	Y	The term “Active” will not be used in our context.
Y	Closed – Complete	N	Money is spent. Equipment is commissioned. Property tag installed.
D	Deferred	N	LLE intends to do this, cannot apply resources at this time.
X	Cancelled – Incomplete	N	
P	Pending CDR	N	
S	Suspended	N	Negative funds balance (not currently used by Admin.)
V	NA – this is a non-budgeted project	—	Row does not exist in RTaskID “V” is inserted into Status as a place keeper

- Be aware of:
 - P => projects will normally arrive at ceqcNew with this set
 - N => normal for continuing projects
 - D => might come to life; could get queries from stakeholders
 - Changes to the above

“Project Status” Codes

Code	Meaning/Display Text	Set By*/Comment
null	Parameter has not been set/“null”	New PBR projects will have this value until the LSE accepts on <i>ceqcNew</i> .
W	Project is being worked by SE/“Working”)	<u>PBR Project</u> : One of four picks for LSE on <i>ceqcNew</i> . <u>Non-Budgeted Project</u> : Set when LSE clicks “Assign” on <i>ceqcAssign</i> .
U	INST 7700 does not apply/“NA”	<u>PBR Project</u> : One of four picks for LSE on <i>ceqcNew</i> . (Like replacing amplifier connectors)
D	Deferred in RTaskID/“Deferred”	<u>PBR Project</u> : One of four picks for LSE on <i>ceqcNew</i> .
P	Pending CDR & not being worked by SE/“Pending”	<u>PBR Project</u> : One of four picks for LSE on <i>ceqcNew</i> .
C	SE Closed (Implemented)/“Closed”	LLE Project Milestones /intended project scope is completed, integrated, de-bugged, trained, commissioned. Any additional effort will be a new project.
Z	Cancelled/“Cancelled”	<u>Non-Budgeted Project</u> : LLE Project Milestones / intended project scope will not be completed.

* All can also be set on the **LLE Project Milestones** page.

New PBR Projects:

Project Status is initially null. LSE will set on *ceqcNew*:

- Working – If the task is assigned and actively being worked
- Pending – If the task will remain on the back burner for awhile
- NA (see “U” above)
- Deferred – Deferred in Admin and not actively being worked

Revising on LLE Project Milestones:

- When the task is actively being worked => Working
- When the task is completed => Closed
- When the task is cancelled in Admin and not actively being worked => Cancelled

Summary Comparison

Admin Status ("Closed?")	Project Status	Comment
N (Active)	W (Working) or U (NA)	
Y (Closed)	W (Working) or C (Closed)	Money is spent, but efforts may continue and must be tracked
D	D (Deferred) or W (Working)	May advance requirements or concepts without expending capital
X (Cancelled)	W (Working) or	Continue tracking while winding down
	C (Closed) or	Project was completed?
	Z (Cancelled)	Echo of Admin
P (Pending CDR)	W (Working) or P (Pending)	

6.3 Project Milestones Report

The LLE Project Milestones page (ceqcAdmin; **Fig. 6.4**) provides a detailed report of an individual project. Most of the information on the page can be edited by qualified users by clicking on the “Edit” button at the bottom.

LLE Project Milestones

Task ID ASBO-EP	Project Title ASBO on EP
PI Boehly, Thomas	PA Boni, Robert
SE Duffy, Timothy	Project Type Other
Origination Internal	PBR? Y
Admin Status Active as of 06/30/09	
Project Status Working	Concept Development 3 weeks
Parent Project Title n/a	Design Process 2 weeks
Parent Task ID n/a	Fabrication, Test & Installation 2 weeks

Children

Title

Updated: 05/15/09 By: thin

Task Description: Replicate the OEMGA ASBO system on EP. Duplicate with minor modifications/corrections the telescope and the optical table. Use the existing ASBO laser in OMEGA transported to EP via fiber optic.

LLE Priority: 2 -- Required for research goals or critical sparing

Design Review Milestones

Item	Scheduled Comp. Date	Actual Comp. Date
Project Requirements Review (PRR)		
Conceptual Design Review (CDR)		02/13/08
Preliminary Design Review (PDR)	04/01/08	07/09/08
Control Requirements Review (CRR)		
Final Design Review (FDR)	05/15/08	10/08/08
System Installation Complete	02/01/09	
System Testing Complete		
Installation/Operational Readiness Review (ORR)		
First Use Date		

Completion dates are auto-populated based on the design review database table

[EOC](#) [SRA](#)

Notes:

Project Materials

Folder	\\Sequoia\Design_Reviews\ASBOEP
PDM Series	D-AS-

Project Team

Principal Investigator	Boehly, Thomas
Principal Assistant	Boni, Robert
System Engineering	Duffy, Timothy
Mechanical Engineering	Pruyne, Adam
Electronics & Controls	
Optical Manufacturing	
Software Development	
Optical Engineering	Weiner, David
Customer/User	

Resource Requirements

Functional Group	PBR	Request Submitted
Mechanical Engineering	x	
Electronics & Controls	x	
Software Development	x	
Optical Manufacturing		
Optical Engineering		

[Create a non-budgeted project](#)

Edit

[To Report Page](#)

Figure 6.4: LLE Project Milestones page.

The header includes project definition, project origination, and the core responsible individuals. In addition to the status of the project within this management system, the status, if any, in the LLE Administrative Division Administration Database is also shown.

Where applicable, the relationship of the project to other projects is shown (**Fig. 6.5**).

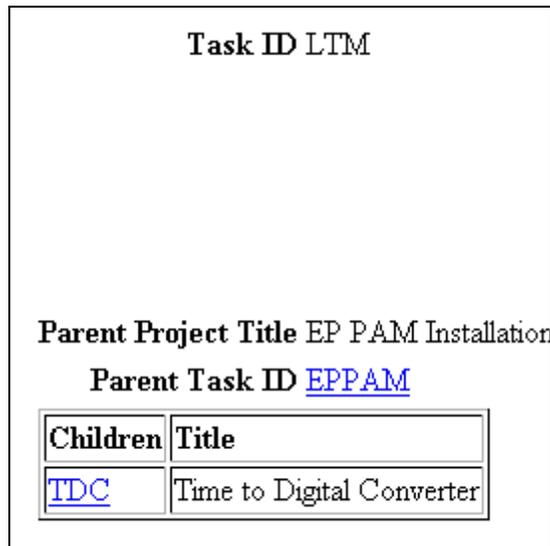


Figure 6.5: Parent/Child project relationships.

The scheduled and actual Design Review Milestone dates indicate that the milestone has been approved or waived as part of the tailoring process. The Scheduled Completion Dates are from the EQC report page as described in Sec. 5.4. The Actual Completion Dates are from the Design Review Meeting records and are automatically populated.

Links to the EQC page and the SRA are provided, and the members of the team assembled to complete that project are listed. The status of the LLE Shop Work requests is also indicated.

6.3.1 Editing Project Milestones Page

The Project Milestone editable fields can be seen in **Fig. 6.6**.

LLE Project Milestones

Task ID 1-CRON
PI Wilson, Timothy
SE Wilson, Timothy
Origination Internal
Admin Status n/a as of
Project Status Active
Parent Project Title n/a
Parent Project

Project Title CRON TEST PROJECT
PA Wilson, Timothy
Project Type Other
PBR? N
Concept Development 3 (in weeks)
Design Process 2 (in weeks)
Fabrication, Test & Installation 2 (in weeks)
First Use Date 10/23/09
Calculate

Children Title
[To Parent/Child Task Definition](#) Updated: By: twl

Task Description
This project is designed to test the cron email distribution for desRev.

LLE Priority: No priority assigned

Design Review Milestones

Item	Scheduled Comp. Date	Actual Comp. Date
Project Requirements Review (PRR)		
Conceptual Design Review (CDR)	07/29/09	
Preliminary Design Review (PDR)		
Control Requirements Review (CRR)		
Final Design Review (FDR)	09/08/09	
System Installation Complete	09/25/09	
System Testing Complete	10/02/09	
Installation/Operational Readiness Review (ORR)	10/02/09	
First Use Date	10/23/09	

EQC/SRA Pages Links

EQC SRA
Project Material

Folder
PDM Series

Project Team

Principal Investigator	Wilson, Timothy
Principal Assistant	Wilson, Timothy
System Engineering	Wilson, Timothy
Mechanical Engineering	
Electronics & Controls	
Optical Manufacturing	
Software Development	
Optical Engineering	
Customer/User	

Resource Requirements

Functional Group	PBR	Request Submitted
Mechanical Engineering		<input type="checkbox"/>
Electronics & Controls		<input type="checkbox"/>
Software Development		<input type="checkbox"/>
Optical Engineering		<input type="checkbox"/>
Optical Manufacturing		<input type="checkbox"/>

Non-Budgeted Project Request
Save Data
To Report Page

Figure 6.6: The editable fields are highlighted in blue and the EQC Configuration tool is highlighted in green.

A tool for configuring the EQC dates (**Fig. 6.6**, highlighted in green) is provided; this EQC tool operates as follows:

- Enter the project time parameters
- Select Calculate => the Schedule Completion Dates for the design reviews are re-calculated and displayed
- Select Save Data => the new calculated dates are saved to the EQC table

6.4 Safety Risk Assessment (SRA) Report Page

The Safety Risk Assessment Report page (**Fig. 6.7**) can be *viewed/saved/printed* from the LLE Project Milestones page.

13 January 2009

Safety Risk Assessment Checklist

Project TASKID CACT

Item	Associated Risk *		Line #'s of related entries in FMEA spreadsheet
	None (= 0)	Some ** (> 0)	
Mechanical			
Elevated Weight	0		
Vacuum/Pressure Vessel	0		
Operator Access (weight, size, reach)		1	Reach into measurement cavity
Personnel Hazard (head, trip, moving parts, noise, ...)	0		
Other Structural/Loading	0		
Hot/Cold Surfaces	0		
Rigging (installation, normal use)		1	Lower Vertical end caps require jack platform
Alternate Configurations	0		
Chemical			
Fuel or Oxidizer	0		
Asphyxiant	0		
Toxic Material	0		
Reactive/Corrosive	0		
Beryllium	0		
Electrical			
High Voltage		1	HV but low current
Unprotected Leads	0		
Overheating	0		
Stored Energy	0		
Lasers			
Eye Hazard – During Operation	0		
Eye Hazard – Alignment Only	0		
Open Focus Spot	0		
Ionizing Radiation			
Radioactive Liquid		1	activated samples - nano Ci
Radioactive Solid	0		
Radioactive Gas	0		
Loose Surface Radioactivity	0		
Can Become Activated	0		

Figure 6.7: SRA Report.

6.4.1 Editing SRA Report Page (PI, SE, PA)

If the user has edit privileges (PI, SE, PA), the SRA will appear in the editable format (**Fig. 6.8**). The user can edit the page and then select the **Save and Print** button to *view/save/print* the report.

Safety Risk Assessment Checklist (SRA)

Project Task ID: CACT

Item	Associated Risk *		Line #'s of Related entries in FMEA spreadsheet
Mechanical			
Elevated Weight	<input checked="" type="radio"/> None	<input type="radio"/> 1 <input type="radio"/> 2	
Vacuum Pressure vessel	<input checked="" type="radio"/> None	<input type="radio"/> 1 <input type="radio"/> 2	
Operator Access (weight, size, reach)	<input type="radio"/> None	<input checked="" type="radio"/> 1 <input type="radio"/> 2	Reach into measurement cavity
Personnel Hazard (head, trip, moving parts, noise, ...)	<input checked="" type="radio"/> None	<input type="radio"/> 1 <input type="radio"/> 2	
Other Structural/Loading	<input checked="" type="radio"/> None	<input type="radio"/> 1 <input type="radio"/> 2	
Hot/Cold Surfaces	<input checked="" type="radio"/> None	<input type="radio"/> 1 <input type="radio"/> 2	
Rigging (installation, normal use)	<input type="radio"/> None	<input checked="" type="radio"/> 1 <input type="radio"/> 2	Lower Vertical end caps require jack platform
Alternate Configurations	<input checked="" type="radio"/> None	<input type="radio"/> 1 <input type="radio"/> 2	
Chemical			
Fuel or Oxidizer	<input checked="" type="radio"/> None	<input type="radio"/> 1 <input type="radio"/> 2	
Asphyxiant	<input checked="" type="radio"/> None	<input type="radio"/> 1 <input type="radio"/> 2	
Toxic Material	<input checked="" type="radio"/> None	<input type="radio"/> 1 <input type="radio"/> 2	
Reactive/Corrosive	<input checked="" type="radio"/> None	<input type="radio"/> 1 <input type="radio"/> 2	
Beryllium	<input checked="" type="radio"/> None	<input type="radio"/> 1 <input type="radio"/> 2	
Electrical			
High Voltage	<input type="radio"/> None	<input checked="" type="radio"/> 1 <input type="radio"/> 2	HV but low current
Unprotected Leads	<input checked="" type="radio"/> None	<input type="radio"/> 1 <input type="radio"/> 2	
Overheating	<input checked="" type="radio"/> None	<input type="radio"/> 1 <input type="radio"/> 2	
Stored Energy	<input checked="" type="radio"/> None	<input type="radio"/> 1 <input type="radio"/> 2	
Lasers			
Eye Hazard - During Operation	<input checked="" type="radio"/> None	<input type="radio"/> 1 <input type="radio"/> 2	
Eye Hazard -- Alignment Only	<input checked="" type="radio"/> None	<input type="radio"/> 1 <input type="radio"/> 2	
Open Focus Spot	<input checked="" type="radio"/> None	<input type="radio"/> 1 <input type="radio"/> 2	
Ionizing Radiation			
Radioactive Liquid	<input type="radio"/> None	<input checked="" type="radio"/> 1 <input type="radio"/> 2	activated samples - nano Ci

Figure 6.8: SRA Edit page.

6.5 EQC Report Page

The Equipment Qualification Checklist (EQC) Report page (**Fig. 6.9**) can be *viewed/printed/saved* from the LLE Project Milestones page.

Equipment Qualification Checklist (EQC)

Title: Carbon Activation fo _____ **Project TASKID:** CACT _____
PI: _____ **PA** Duffy, Timothy _____
PSE: Duffy, Timothy _____ **Requested by:** 10/30/2009 _____
External Org.: n/a _____

To be tailored during by the Project System Engineer (PSE) during Conceptual Design,
Mark Req'd column blanks as Y or N:

Item	Req'd Y or N	Sched. Comp. Date	Actual Completion Signature/Date
Project Definition			
Requirements document	Y	08/11/09	
Draft shop service requests	Y	08/11/09	
Tailor EQC	Y	08/11/09	
Conceptual Design Review (CDR)			
CDR	Y	09/01/09	
Complete Safety Risk Assessment Checklist	Y	09/01/09	
CDR minutes published	Y	09/08/09	
CDR Action Items resolved	Y	09/15/09	
Prepare Software Request	Y	09/01/09	
Preliminary Design Review (PDR)			
PDR	N		
Update Safety Risk Assessment Checklist	Y		
PDR minutes published	Y		
PDR Action Items resolved	Y		
Software/Control Requirements Review (CRR)	N		
CRR minutes published	Y		
CRR Action Items resolved	Y		
Final Design Review (FDR)			
FDR	Y	09/15/09	
LLEINST 9800 Computer Identification Data Sheet initiated	Y	09/15/09	
Update Safety Risk Assessment Checklist	Y	09/15/09	
FDR minutes published	Y	09/22/09	
Physical envelope/space claim cleared	Y	09/15/09	

Figure 6.9: Equipment Qualification Checklist (EQC) Report page.

6.5.1 Editing EQC Report Page (SE, PA)

If the user has edit privileges (SE, PA), then the SRA will appear in the editable format shown in **Fig. 6.10**. The user can edit the page and then select the **Save and Print** button to *view/save/print* the report.

Title: Carbon Activation fo Project TASKID: CACT
 PI: PA: Duffy, Timothy
 PSE: Duffy, Timothy Requested by: 10/30/2009
 External Org: n/a

To be tailored by the Project System Engineer (PSE) during Conceptual Design.

Item	Req'd Y or N	Sched. Comp. Date	Actual Completion Signature/Date
Project Definition			
Requirements document	Y	08/11/09	
Draft shop service requests	Y	08/11/09	
Tailor EQC	Y	08/11/09	
Conceptual Design Review (CDR)			
CDR	Y	09/01/09	
Complete Safety Risk Assessment Checklist	Y	09/01/09	
CDR minutes published	Y	09/08/09	
CDR Action Items resolved	Y ▾	09/15/09	
Prepare Software Request	Y ▾	09/01/09	
Preliminary Design Review (CDR)			
PDR	N ▾		
Update Safety Risk Assessment Checklist	Y ▾		
PDR minutes published	Y ▾		
PDR Action Items resolved	Y ▾		
Software Control Requirements Review (CRR)			
CRR	N ▾		
CRR minutes published	Y ▾		
CRR Action Items resolved	Y ▾		
Final Design Review (FDR)			
FDR	Y	09/15/09	
LLEINST 9800 Computer Identification Data Sheet initiated	Y ▾	09/15/09	
Update Safety Risk Assessment Checklist	Y	09/15/09	

Figure 6.10: EQC Edit page.

6.6 Target Diagnostic Equipment Checklist (Future)

6.7 Child-Parent Project Assignments

The (ceqcFamily) allows users to establish hierarchical relationships between projects. This is used when an existing project consists of multiple project elements that must each be managed through the INST 7700 milestones. When this is the case, a “parent” or several “child” projects are created using the Non-Budgeted Project Request interface (ceqcNon) described in Sec. 2. The assigned TaskID(s) are then available on the pick lists on this page. Existing relationships can also be modified or dissolved.

Link Parents, Children for LTM -- Laser Timing Manager

Select Parent Task:

Add Child Project:

Remove Child Project:

Child Projects	Title
TDC	Time to Digital Converter

[To Milestones Page](#) [To Report Page](#)

7 Meeting Preparation (PI/PA)

Shell Design Review presentations have been created and should be a “starter kit” for preparing the reviews. The “starter kits” provide the framework outlining what topics should be covered and how to link SRA’s and EQC documents to the presentation. The following shells can be downloaded:

Design Reviews:

CDR Shell
CRR Shell
PDR Shell
FDR Shell
ORR Shell

Reference material related to Design Review preparation has also been provided; the following documents can be downloaded:

Reference Information:

Web EQC Manual
P&ID Tutorial: (Piping & Instrumentation Diagram).
FMEA Tutorial: (Failure Mode Analysis)
LLE TIM Users Specification