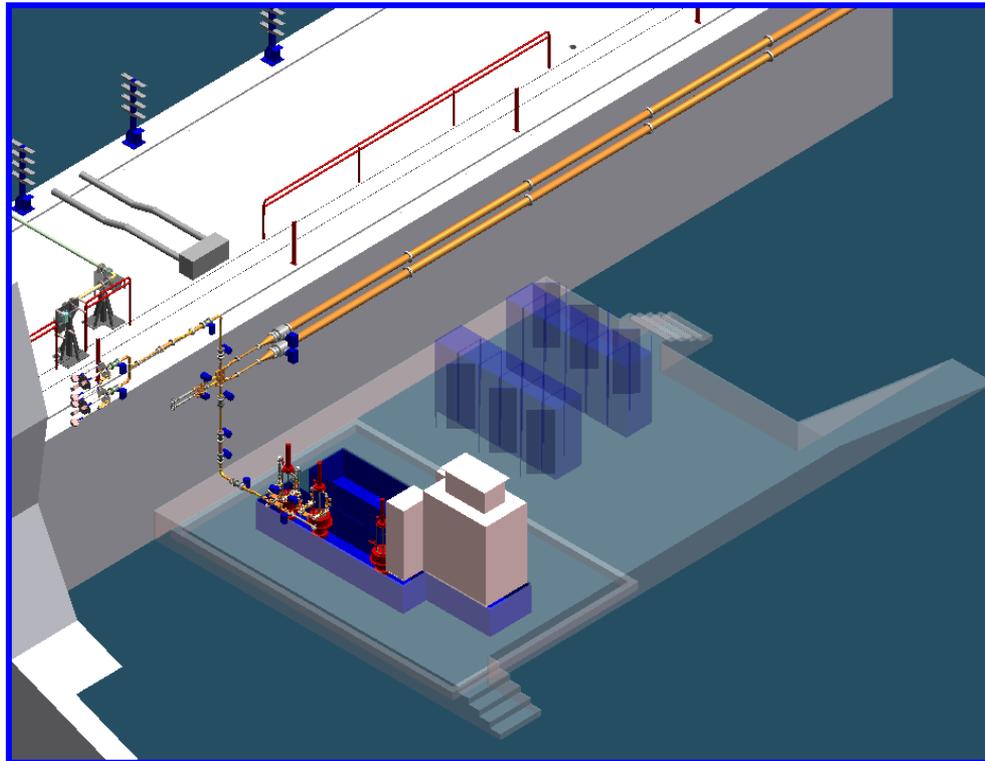


The 8-Pack Project at NLCTA

An overview of the schedule and budget for the project

Dennis Atkinson



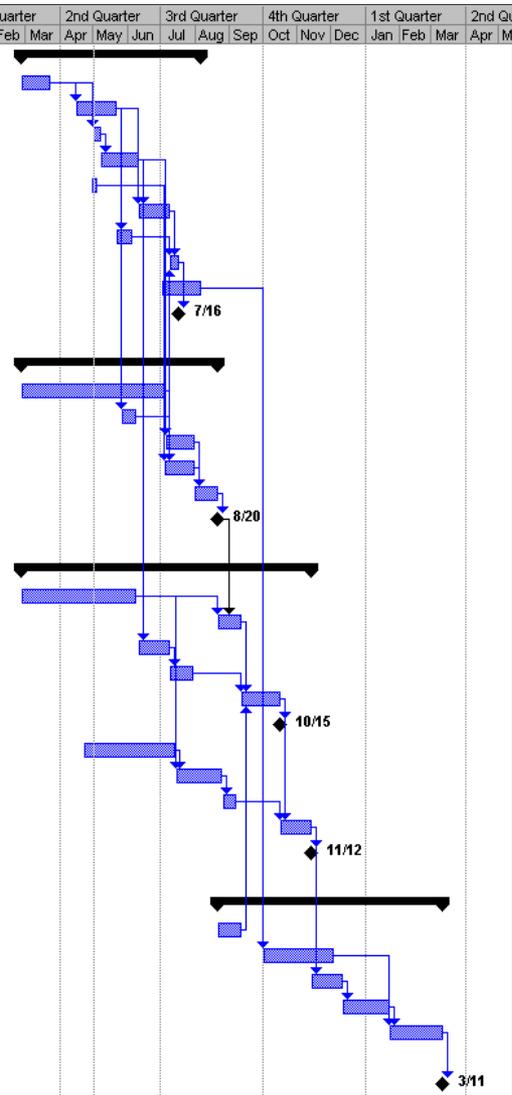
Phase 1 SLED layout



Phase 1 Top Level Schedule

8-Pack Project

Task ID	Task Name	Duration	Start	Finish	Free Slack	1st Quarter		2nd Quarter			3rd Quarter			4th Quarter			1st Quarter			2nd Qu
						Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
1	Infrastructure	116 days	Mon 2/25/02	Mon 8/5/02	36 days															
2	Prepare under floor	20 days	Mon 2/25/02	Fri 3/22/02	15 days															
3	Install electrical, LCVV, cables PH1	27 days	Mon 4/15/02	Tue 5/21/02	0 days															
4	Install rack supports	5 days	Wed 5/1/02	Tue 5/7/02	0 days															
5	Install racks & power	24 days	Wed 5/8/02	Mon 6/10/02	0 days															
6	Install 100KW power supply	4 days	Tue 4/30/02	Fri 5/3/02	17 days															
7	Install electrical, LCVV, cables PH2	20 days	Tue 6/11/02	Mon 7/8/02	0 days															
8	Install raised floor PH1	10 days	Wed 5/22/02	Tue 6/4/02	24 days															
9	Install raised floor PH2	6 days	Tue 7/9/02	Tue 7/16/02	0 days															
10	Install SLED line supports	25 days	Tue 7/2/02	Mon 8/5/02	40 days															
11	Infrastructure ready for RF components	0 days	Tue 7/16/02	Tue 7/16/02	170 days															
12																				
13	Modulator	126 days	Tue 2/26/02	Tue 8/20/02	0 days															
14	Test 4-dog modulator at full power in B15	92 days	Tue 2/26/02	Wed 7/3/02	0 days															
15	Install tank and stand	10 days	Mon 5/27/02	Fri 6/7/02	18 days															
16	Install modulator controls and interlocks	18 days	Fri 7/5/02	Tue 7/30/02	0 days															
17	Move and install 4-dog modulator	19 days	Thu 7/4/02	Tue 7/30/02	0 days															
18	Test 4-Dog Modulator	15 days	Wed 7/31/02	Tue 8/20/02	0 days															
19	4-dog Modulator ready for Klystrons	0 days	Tue 8/20/02	Tue 8/20/02	0 days															
20																				
21	Klystrons	187 days	Mon 2/25/02	Tue 11/12/02	52 days															
22	Lab test Klystron 1	75 days	Mon 2/25/02	Fri 6/7/02	25 days															
23	Install Klystron 1	15 days	Wed 8/21/02	Tue 9/10/02	0 days															
24	Install LLRF	20 days	Tue 6/11/02	Mon 7/8/02	0 days															
25	Install TWTA	15 days	Tue 7/9/02	Mon 7/29/02	31 days															
26	HV test Klystron 1	25 days	Wed 9/11/02	Tue 10/15/02	0 days															
27	First HV tests complete	0 days	Tue 10/15/02	Tue 10/15/02	105 days															
28	Build Klystron 2	60 days	Mon 4/22/02	Fri 7/12/02	0 days															
29	Lab test Klystron 2	30 days	Mon 7/15/02	Fri 8/23/02	0 days															
30	Install Klystron 2	10 days	Mon 8/26/02	Fri 9/6/02	27 days															
31	HV test Klystron 2	20 days	Wed 10/16/02	Tue 11/12/02	0 days															
32	HV test Klys 1-2	0 days	Tue 11/12/02	Tue 11/12/02	85 days															
33																				
34	SLED II RF Distribution	145 days	Wed 8/21/02	Tue 3/11/03	0 days															
35	Install Modulator commissioning system	15 days	Wed 8/21/02	Tue 9/10/02	0 days															
36	Install SLED lines	45 days	Tue 10/1/02	Mon 12/2/02	36 days															
37	Install SLED commissioning system	20 days	Wed 11/13/02	Tue 12/10/02	0 days															
38	Commission SLED system	30 days	Wed 12/11/02	Tue 1/21/03	0 days															
39	Install complete SLED II dual-mode system	35 days	Wed 1/22/03	Tue 3/11/03	0 days															
40																				
41	Phase 1 complete, ready for full SLED test	0 days	Tue 3/11/03	Tue 3/11/03	0 days															





Phase 1 schedule overview

- Held system design review 2/22
- Civil and infrastructure complete 7/16
- Modulator commissioned at NLCTA 8/20
- First klystron power to loads 9/16
- Two klystrons at full power into loads 11/12
- SLEDII system installation begins 10/1
- Pump down SLEDII 12/10
- Note: Need to integrate activities of NLCTA and Fermilab with 8-Pack*

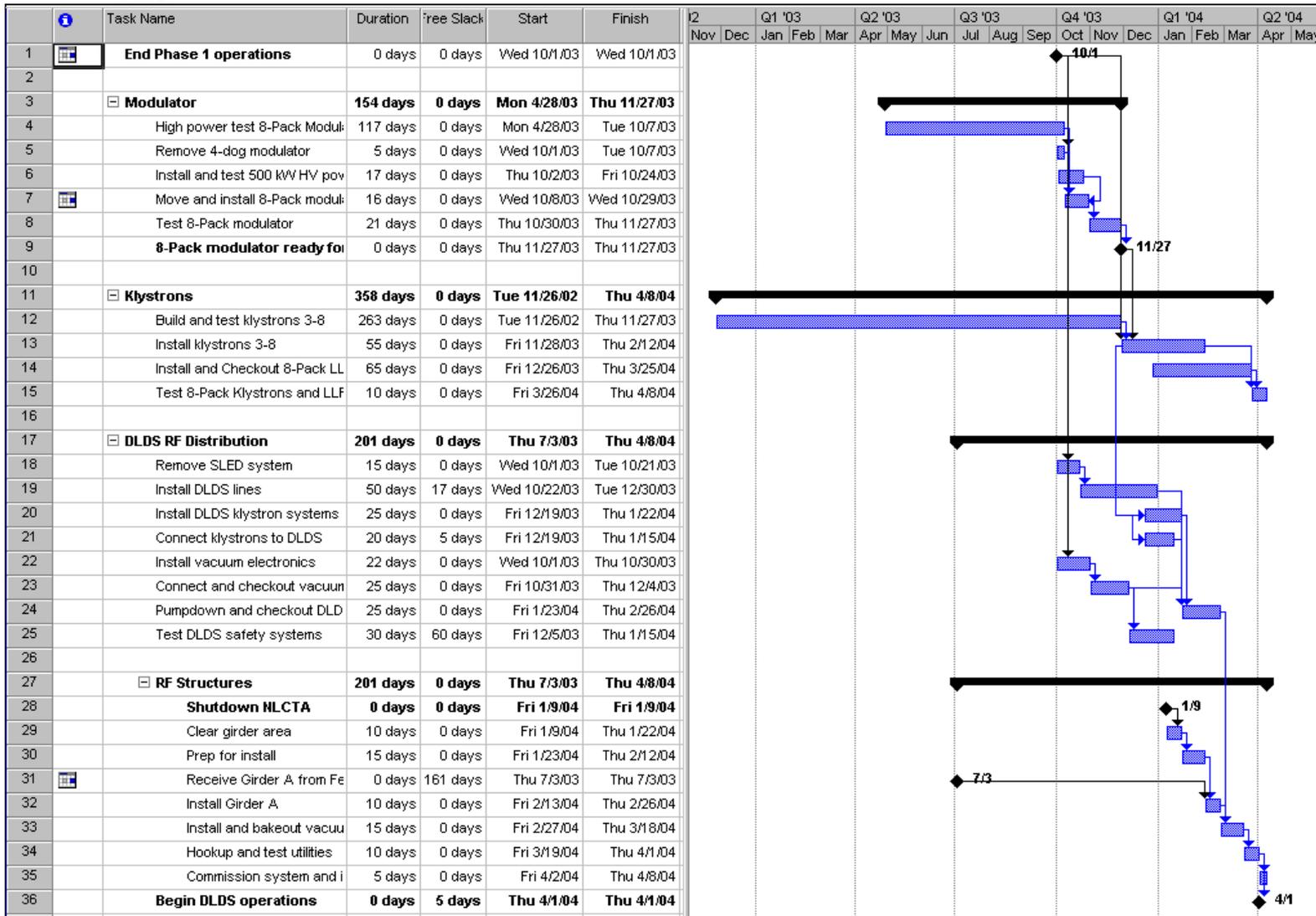


Phase 2 Top Level Schedule

Next Linear Collider



8-Pack Project



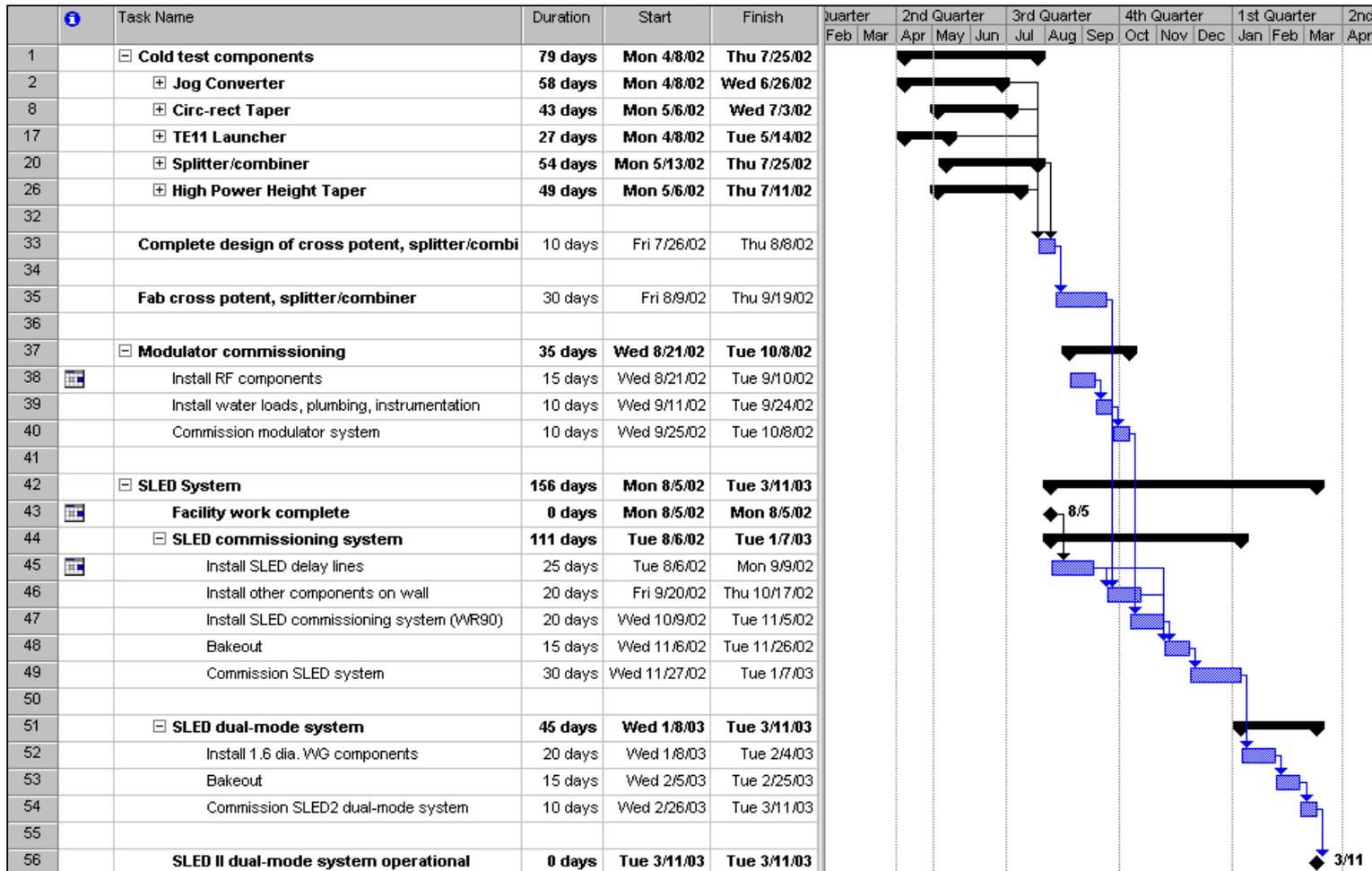


Phase 2 schedule overview

- Begin DLDS design during FY'02
- High-power test DLDS components April-October 2003
- Remaining klystron parts fabricated in FY'03
- Install remainder of klystrons January-February 2004
- First structure girders delivered to NLCTA July 3, 2003
 - Before we need it
- DLDS system with controls installed June 2004
- DLDS testing begins July 2004
- Integrated operation with NLCTA begins August 2004



RF Distribution Schedule including component testing





8-pack project spending needs in direct dollars (escalated)

System	Phase 1: 4-Pack and SLED	Phase 2: 8-Pack and DLDS	
	FY'02	FY'03	FY'04
System Eng. & Admin.	\$513k	\$529k	\$545k
Infrastructure	754	309	448
Modulator	92	33	75
Klystrons	263	2381	1031
RF Component Testing	174	210	162
RF distribution	1698	2360	1605
Controls & DAQ	1007	978	581
Total	\$4,401k	\$6,800k	\$4,448k

In FY'02, ~\$2.4M spent by NLC for R&D in klystrons, modulators, and SLEDII/DLDS component development - hardware used in 8-Pack Phase 1.

In Phase 2 the 8-Pack project must pick this up and purchase remaining hardware, including 7 klystrons and DLDS system



Issues and Comments on the 8-Pack Project (Remember, this is an R&D project)

Little contingency in plan, either cost or schedule

In Phase 2, Project must purchase all remaining hardware

Klystrons fabrication pushed out of '02 by budget

DLDS fabrication and testing

Must compete for SLAC services with PEP-II, SPEAR 3, LCLS, & NLC structures development

Currently in the process of resource loading the schedule

Costs and tasks may shift when complete

Will utilize LLNL for some of DLDS design and fabrication