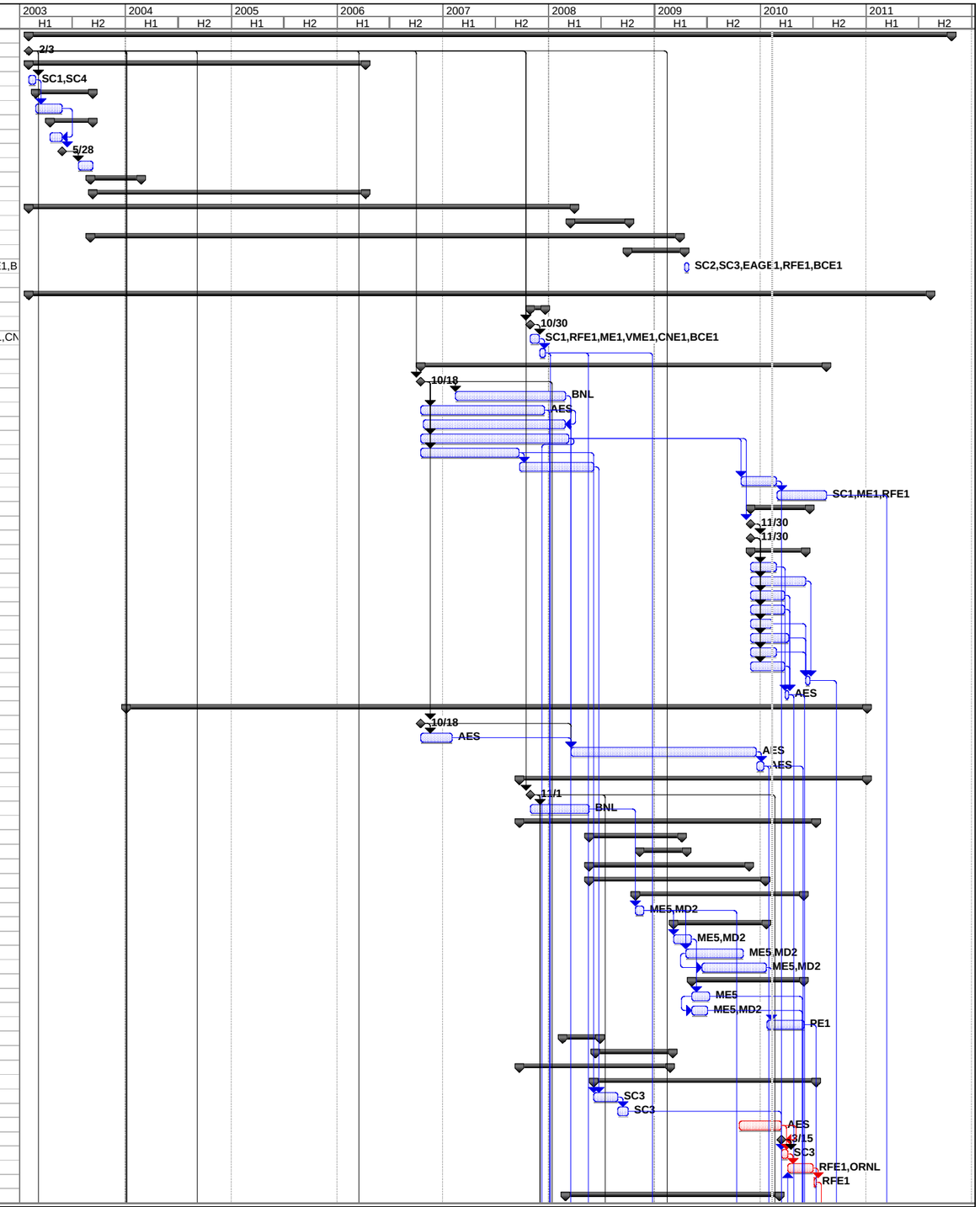
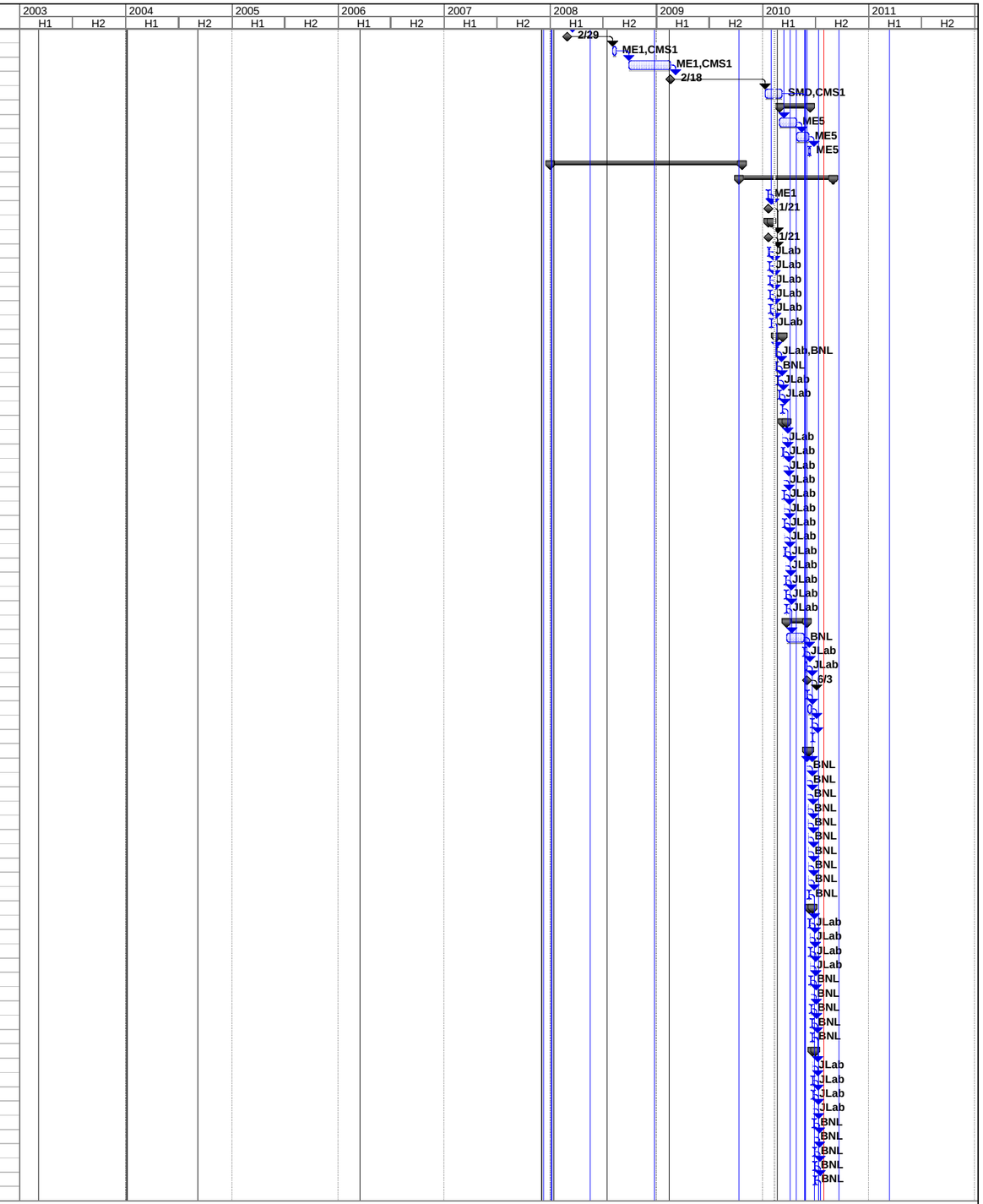
ID	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1	**Gun thru 5-Cell Cavity (G-5) Test/ ERL Project**	**2192 days?**	**Mon 2/3/03**	**Mon 10/24/11**		
2	Project Start	0 days	Mon 2/3/03	Mon 2/3/03		
3	**Develop & Procure the 5-cell cavity**	**802 days**	**Mon 2/3/03**	**Mon 4/10/06**		
4	Develop cavity: research & computations	18 days	Mon 2/3/03	Wed 2/26/03	2	SC1,SC4
5	**Cavity / Cryomodule Procurement Cycle**	**141 days**	**Thu 2/27/03**	**Thu 9/11/03**		
6	Write Technical Specification and SOW for Cavity / Cryomodule	65 days	Thu 2/27/03	Wed 5/28/03	4	
7	**Prepare purchase order**	**106 days**	**Thu 4/17/03**	**Thu 9/11/03**		
8	Prepare documentation package	30 days	Thu 4/17/03	Wed 5/28/03	6FF	
9	Complete PO package	0 days	Wed 5/28/03	Wed 5/28/03	8	
10	Award Cryomodule engineering & fabrication	36 days	Thu 7/24/03	Thu 9/11/03	9	
11	**Phase 1 Procurement**	**116 days**	**Thu 9/4/03**	**Wed 2/25/04**		
17	**Phase 2 Procurement**	**643 days**	**Fri 9/12/03**	**Mon 4/10/06**		
28	**5-Cell Cavity Preparation & String Assembly** (1)	**1293 days**	**Mon 2/3/03**	**Mon 3/31/08**		
230	**Cavity Mechanical Installation**	**141 days**	**Tue 3/18/08**	**Mon 10/6/08**		
268	**Required SCRF Cavity Components**	**1391 days**	**Thu 9/4/03**	**Mon 3/30/09**		
309	**Assemble SRf Cavity & Associated Components**	**136 days**	**Wed 10/1/08**	**Wed 4/15/09**		
320	Cavity SystemsTesting & Cold Emissions Testing (2)	10 days	Thu 4/16/09	Wed 4/29/09	311,312,314,315,316,310,308,319	SC2,SC3,EAGE1,RFE1,B
321						
322	**Gun-thru-5-cell (G5) Test**	**2142 days?**	**Mon 2/3/03**	**Fri 8/12/11**		
323	**G5 Test Planning**	**35 days**	**Tue 10/30/07**	**Fri 12/21/07**		
324	G-5 Test Altenative determined	0 days	Tue 10/30/07	Tue 10/30/07	2	ME1
325	Determine test paramaters	20 days	Wed 10/31/07	Fri 11/30/07	324	SC1,RFE1,ME1,VME1,CN
326	Determine equipment requirements for test	15 days	Mon 12/3/07	Fri 12/21/07	325	
327	**SC Electron Gun Procurement**	**961 days**	**Wed 10/18/06**	**Wed 8/18/10**		
328	Funding available Contract awarded	0 days	Wed 10/18/06	Wed 10/18/06	2	AES
329	Hi-Temp SC Solenoid drawings complete & released	259 days	Thu 2/15/07	Fri 2/29/08	328	BNL
330	Design RF gun cavity & tuner complete	290 days	Wed 10/18/06	Tue 12/18/07	328	AES
331	Design of Helium Vessel and Cavity String complete	330 days	Fri 10/27/06	Thu 2/28/08	330FF+47 days	
332	Design of Cryomodule complete	345 days	Wed 10/18/06	Tue 3/11/08	328	
333	Design of Gun FPC (Phase 1) complete	231 days	Wed 10/18/06	Fri 9/21/07	328	
334	Design of Gun FPC (Phase 2) complete	175 days	Mon 9/24/07	Thu 6/5/08	333	
335	Design of Gun String Shipping Fixture	80 days	Wed 10/28/09	Fri 2/26/10	332FS+120 days	
336	Preparation of Safety Documentation/SOP for RF Gun/Photocathode, incl. Revie	120 days	Mon 3/1/10	Wed 8/18/10	335	SC1,ME1,RFE1
337	**Fabrication/ Procurement of Cryomodule**	**140 days**	**Mon 11/30/09**	**Mon 6/21/10**		
338	Drawing package complete	0 days	Mon 11/30/09	Mon 11/30/09	332	AES
339	Cryomodule component funding available	0 days	Mon 11/30/09	Mon 11/30/09	338	BNL
340	**Component procurement/ fabrication (AES)**	**130 days**	**Mon 11/30/09**	**Mon 6/7/10**		**AES**
341	Cryomodule Internal Components procurement	60 days	Mon 11/30/09	Fri 2/26/10	339	
342	Cryomodule Vacuum Vessel procurement	130 days	Mon 11/30/09	Mon 6/7/10	339	
343	Space Frame procurement	80 days	Mon 11/30/09	Fri 3/26/10	339	
344	Helium Vessel procurement	80 days	Mon 11/30/09	Fri 3/26/10	339	
345	Cryomodule Magnetic Shields procurement	50 days	Mon 11/30/09	Thu 2/11/10	339	
346	Thermal Shield procurement	90 days	Mon 11/30/09	Fri 4/9/10	339	
347	Ballast Tank procurement	60 days	Mon 11/30/09	Fri 2/26/10	339	
348	RF-Sheilded Gate Valve Procurement (2)	80 days	Mon 11/30/09	Fri 3/26/10	339	
349	Component delivery and inspection of non-string components	10 days	Tue 6/8/10	Mon 6/21/10	342,346,345,347	
350	Component delivery and inspection string components	10 days	Mon 3/29/10	Fri 4/9/10	348,343,341,344	AES
351	**Fabrication of Gun Cavity**	**1757 days**	**Mon 1/5/04**	**Wed 1/5/11**		
352	Niobium procured & in-house at AES	0 days	Wed 10/18/06	Wed 10/18/06	328	AES
353	Weld Qual testing developed-samples made & tests executed	71 days	Wed 10/18/06	Fri 2/2/07	352	AES
354	Cavity & Helium Vessel Fabricated	445 days	Thu 3/20/08	Fri 12/18/09	330,352FS+20 days,353,331	AES
355	Receipt & inspection of gun cavity	15 days	Mon 12/21/09	Wed 1/13/10	354	AES
356	**Procure & Install SRF gun system**	**825 days**	**Mon 9/24/07**	**Wed 1/5/11**		
357	Funding FY08 restructured	0 days	Thu 11/1/07	Thu 11/1/07	2	BNL
358	Determine where gun cavity is processed	136 days	Thu 11/1/07	Tue 5/20/08	357	BNL
359	**Design of location-specific Gun process tooling**	**704 days**	**Mon 9/24/07**	**Tue 7/13/10**		
360	**Cavity Cage Assembly - BCP / VTA / Transport**	**220 days**	**Wed 5/21/08**	**Mon 4/6/09**		
367	**Vacuum VTA Flanges and Seals**	**112 days**	**Wed 11/12/08**	**Wed 4/22/09**		
374	**High Pressure Rinse Equipment**	**385 days**	**Wed 5/21/08**	**Tue 11/24/09**		
381	**Weld Fixture for Helium Vessel-to-Cavity weld**	**419 days**	**Wed 5/21/08**	**Tue 1/19/10**		
387	**Cavity String Assembly Tooling**	**402 days**	**Tue 10/28/08**	**Tue 6/1/10**		
388	Develop concept for process tooling	20 days	Tue 10/28/08	Tue 11/25/08	358FS+110 days	ME5,MD2
389	**Design Gun Cavity String Assembly tooling**	**223 days**	**Mon 3/9/09**	**Fri 1/22/10**		
390	Strong back and component clamps	45 days	Mon 3/9/09	Fri 5/8/09	388	ME5,MD2
391	Roll-around cart & lifting support	142 days	Mon 4/20/09	Tue 11/3/09	388	ME5,MD2
392	String Assembly Carts / Platform & VTA adapters	153 days	Mon 6/15/09	Fri 1/22/10	391SS+40 days	ME5,MD2
393	**Fabricate components & test**	**268 days**	**Mon 5/11/09**	**Tue 6/1/10**		
394	Strong back and component clamps	45 days	Mon 5/11/09	Fri 7/10/09	390	ME5
395	Rolling or lifting support	40 days	Mon 5/11/09	Fri 7/3/09	394SS	ME5,MD2
396	String Assembly Carts / Platform & VTA adapters	90 days	Mon 1/25/10	Tue 6/1/10	392	PE1
397	**Pick-up Probe & Hardware**	**92 days**	**Wed 2/20/08**	**Fri 6/27/08**		
399	**Cavity String Vacuum Components Required at processing locati**	**183 days**	**Thu 6/12/08**	**Thu 3/5/09**		
403	**Procurement of Gun FPCs**	**355 days**	**Mon 9/24/07**	**Tue 2/24/09**		
407	**Conditioning Of Fundamental Mode Coupler**	**529 days**	**Fri 6/6/08**	**Tue 7/13/10**		
408	Design of gun FPC condiitioning adapters	57 days	Fri 6/6/08	Wed 8/27/08	333,334	SC3
409	Fabricate/order gun conditioning adapters	25 days	Thu 8/28/08	Thu 10/2/08	408	SC3
410	Receive FPCs from AES	95 days	Thu 10/22/09	Mon 3/15/10	406	AES
411	Receive FPC Conditioning Cart from AES	0 days	Mon 3/15/10	Mon 3/15/10	410FF	
412	FPCs cleaned & mounted to cart	16 days	Tue 3/16/10	Tue 4/6/10	409,411,410	SC3
413	FPC Conditioned	62 days	Wed 4/7/10	Fri 7/2/10	412,634	RFE1,ORNL
414	Receive FPC at processing location for installation	5 days	Wed 7/7/10	Tue 7/13/10	413	RFE1
415	**High Temperature SC Solenoid Assembly**	**510 days**	**Fri 2/29/08**	**Tue 3/9/10**		



Prjt:SCRFoverallFY08 G-5 Adjustment 021710_2
Date: Tue 2/9/10, 7:06 PM

Task | Progress | Summary | Rolled Up Critical Task | Rolled Up Progress | External Tasks | Group By SummTask
Critical Task | Milestone | Rolled Up Task | Rolled Up Milestone | Split | Project Summary | Critical Task

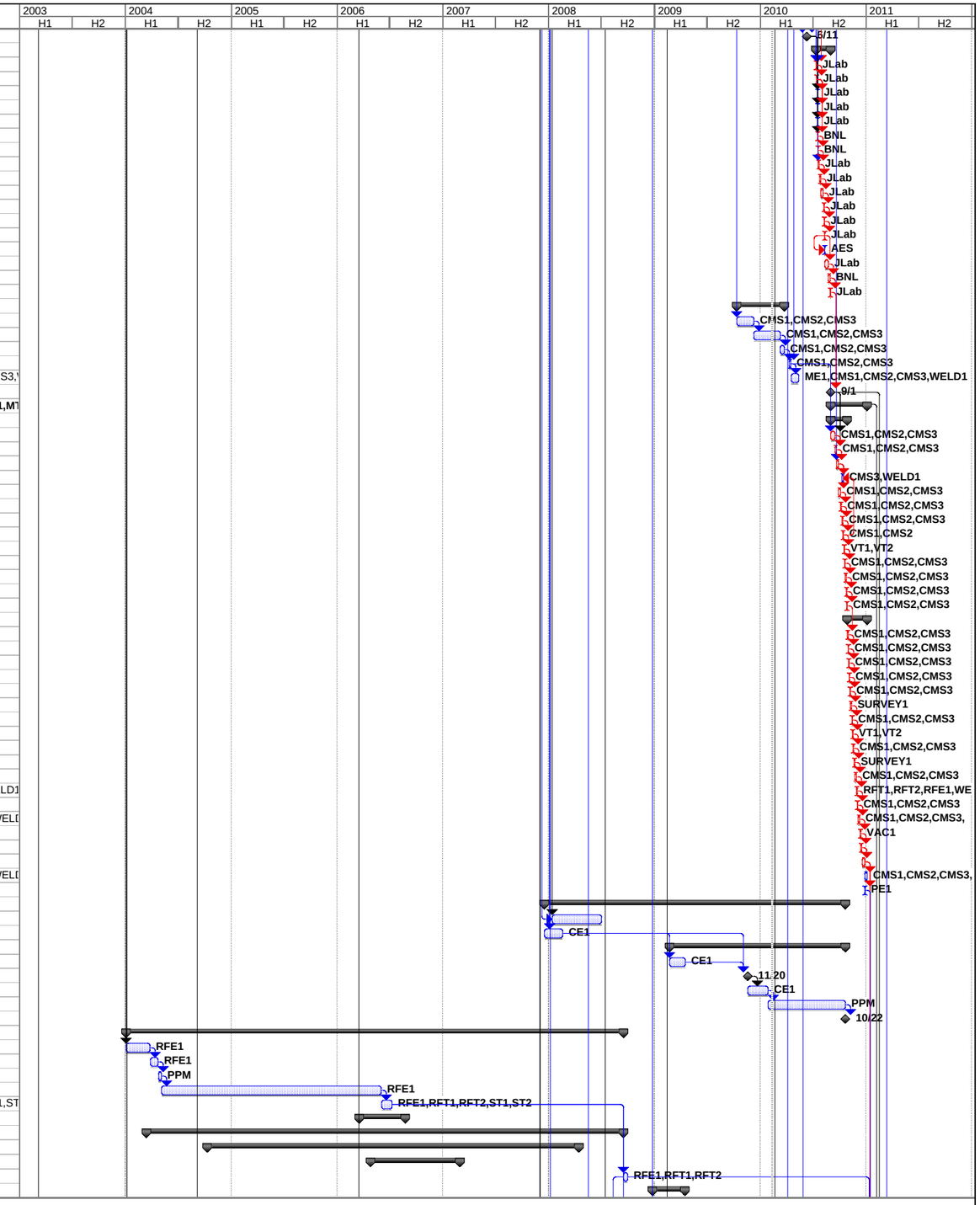
ID	Task Name	Duration	Start	Finish	Predecessors	Resource Names
416	Design complete & drawings released	0 days	Fri 2/29/08	Fri 2/29/08	329	ME1,CMS1
417	Fabrication RFQ written & submitted	10 days	Mon 8/4/08	Fri 8/15/08	416	ME1,CMS1
418	Fabrication of Hi-Temp SC Solenoid components & test	98 days	Mon 9/29/08	Wed 2/18/09	417	ME1,CMS1
419	Delivery of Hi-Temp SC Solenoid	0 days	Wed 2/18/09	Wed 2/18/09	418	ME1,CMS1
420	T est assembly with coils and test (5A)	40 days	Mon 1/11/10	Tue 3/9/10	419	SMD,CMS1
421	**Fabrication of Gun String Shipping Fixture**	**75 days**	**Mon 3/1/10**	**Mon 6/14/10**		
422	Fabricate fixture components	43 days	Mon 3/1/10	Wed 4/28/10	335	ME5
423	Assembly shipping fixture & fit-test	29 days	Thu 4/29/10	Wed 6/9/10	422	ME5
424	Available to ship to process location	3 days	Thu 6/10/10	Mon 6/14/10	423	ME5
425	**Vertical Test Facility**	**461 days**	**Wed 1/2/08**	**Thu 10/22/09**		
438	**Cavity BCP Cleaning**	**221 days**	**Tue 10/13/09**	**Wed 9/1/10**		
439	Receive 1st Shipment from BNL	2 days	Wed 1/20/10	Thu 1/21/10	366,380,386,373	ME1
440	Receive cavity from BNL	0 days	Thu 1/21/10	Thu 1/21/10	439,355	AES,ME1
441	**Intial Bulk chemistry on cavity**	**7 days**	**Thu 1/21/10**	**Mon 2/1/10**		
442	Cage, HPR, BCP tooling received from BNL (4A)	0 days	Thu 1/21/10	Thu 1/21/10	373,440	ME1
443	CMM inspection	2 days	Fri 1/22/10	Mon 1/25/10	442	JLab
444	RF measurements & bead pulls, adjust Input & field coupling	1 day	Tue 1/26/10	Tue 1/26/10	443	JLab
445	Degrease cavity (ultra sonic tank)	1 day	Wed 1/27/10	Wed 1/27/10	444	JLab
446	Remove 100 microns	1 day	Thu 1/28/10	Thu 1/28/10	445	JLab
447	HPR of cavity	1 day	Fri 1/29/10	Fri 1/29/10	446	JLab
448	Dry & bag in class 10 cleanroom & transport to furnace	1 day	Mon 2/1/10	Mon 2/1/10	447	JLab
449	**Heat treat Cavity (600 C)**	**17 days**	**Wed 2/17/10**	**Thu 3/11/10**		
450	After transport, Insert into furnace	1 day	Wed 2/17/10	Wed 2/17/10	448FS+10 days	JLab,BNL
451	Heat-treat @ 600 C for 40 hours	2 days	Thu 2/18/10	Fri 2/19/10	450	BNL
452	Check RF tuning	1 day	Wed 2/24/10	Wed 2/24/10	451FS+2 days	JLab
453	Recheck dimensions on CMM	1 day	Mon 3/1/10	Mon 3/1/10	452FS+2 days	JLab
454	2nd BCP, remove 100 microns	1 day	Thu 3/11/10	Thu 3/11/10	453FS+7 days	
455	**Qualify Cavity (VTA 1)**	**10 days**	**Fri 3/12/10**	**Thu 3/25/10**		
456	Degrease cavity (ultra sonic tank)	0.5 days	Fri 3/12/10	Fri 3/12/10	454	JLab
457	Perform 2nd BCP (50 microns) on cavity	1 day	Fri 3/12/10	Mon 3/15/10	456	JLab
458	HPR of cavity	0.5 days	Mon 3/15/10	Mon 3/15/10	457	JLab
459	Transfer to roll-cart, dry in Class 10	0.5 days	Tue 3/16/10	Tue 3/16/10	458	JLab
460	Assemble input probe, field probe & end flange	1 day	Tue 3/16/10	Wed 3/17/10	459	JLab
461	HPR of cavity	0.5 days	Wed 3/17/10	Wed 3/17/10	460	JLab
462	Assemble vacuum pumpout port	1 day	Thu 3/18/10	Thu 3/18/10	461	JLab
463	Evacuate cavity and pump over night	0.5 days	Fri 3/19/10	Fri 3/19/10	462	JLab
464	Perform leak test on cavity, transport to VTA	1 day	Fri 3/19/10	Mon 3/22/10	463,437	JLab
465	Insert into teststand	0.5 days	Mon 3/22/10	Mon 3/22/10	464	JLab
466	Insert into dewar & cooldown	1 day	Tue 3/23/10	Tue 3/23/10	465	JLab
467	Fill & pump to 2K	1 day	Wed 3/24/10	Wed 3/24/10	466	JLab
468	Perform RF test & warm up	1 day	Thu 3/25/10	Thu 3/25/10	467	JLab
469	**Qualify Cavity (VTA 2 & 3)**	**49 days**	**Fri 3/26/10**	**Thu 6/3/10**		
470	Repeat Qualify Cavity (VTA1)	42 days	Fri 3/26/10	Mon 5/24/10	468	BNL
471	Disassemble & measure frequency & field flatness	2 days	Tue 5/25/10	Wed 5/26/10	470	JLab
472	Qualify Cavity (VTA 3)	5 days	Thu 5/27/10	Thu 6/3/10	471	JLab
473	Repeat Qualify Cavity (VTA)	0 days	Thu 6/3/10	Thu 6/3/10	472	JLab
474	Degrease cavity (ultra sonic tank)	1 day	Fri 6/4/10	Fri 6/4/10	473	
475	Design & construct Ti cover	10 days	Mon 6/7/10	Fri 6/18/10	474	
476	HPR of cavity	2 days	Mon 6/21/10	Tue 6/22/10	475	
477	Transfer to roll-cart, dry in Class 10	1 day	Wed 6/23/10	Wed 6/23/10	476	
478	**Weld Helium Vessel**	**5.5 days**	**Fri 6/4/10**	**Fri 6/11/10**		
479	QA helium vessel components & mock fitup	0.5 days	Fri 6/4/10	Fri 6/4/10	472,350	BNL
480	Transport to tuning area	0.5 days	Fri 6/4/10	Fri 6/4/10	479	BNL
481	Seal cavity with argon gas	0.5 days	Mon 6/7/10	Mon 6/7/10	480	BNL
482	Assemble and align cavity in tooling	0.5 days	Mon 6/7/10	Mon 6/7/10	481	BNL
483	Assemble instrumentation to cavity	0.5 days	Tue 6/8/10	Tue 6/8/10	482	BNL
484	Tack weld assembly	0.5 days	Tue 6/8/10	Tue 6/8/10	483	BNL
485	Check field flatness, perform RF bead pull	0.5 days	Wed 6/9/10	Wed 6/9/10	484	BNL
486	Complete welds	0.5 days	Wed 6/9/10	Wed 6/9/10	485	BNL
487	CMM inspection	0.5 days	Thu 6/10/10	Thu 6/10/10	486	BNL
488	Leak Check Helium Vessel (Helium Circuit)	1 day	Thu 6/10/10	Fri 6/11/10	487	BNL
489	**Qualify Cavity with Helium Vessel**	**7.5 days**	**Fri 6/11/10**	**Tue 6/22/10**		
490	Assemble input probe, field probe & end flange	1 day	Fri 6/11/10	Mon 6/14/10	488	JLab
491	HPR of cavity	0.5 days	Mon 6/14/10	Mon 6/14/10	490	JLab
492	Assemble vacuum pumpout port to cavity	1 day	Tue 6/15/10	Tue 6/15/10	491	JLab
493	Evacuate cavity and pump over night	0.5 days	Wed 6/16/10	Wed 6/16/10	492	JLab
494	Perform leak test on cavity, transport to VTA	1 day	Wed 6/16/10	Thu 6/17/10	493	BNL
495	Insert into teststand	0.5 days	Thu 6/17/10	Thu 6/17/10	494	BNL
496	Insert into dewar & cooldown	1 day	Fri 6/18/10	Fri 6/18/10	495	BNL
497	Fill & pump to 2K	1 day	Mon 6/21/10	Mon 6/21/10	496	BNL
498	Perform RF test & warm up	1 day	Tue 6/22/10	Tue 6/22/10	497	BNL
499	**Qualify the VTA Cathode**	**7.5 days**	**Wed 6/23/10**	**Fri 7/2/10**		
500	HPR of cavity	0.5 days	Wed 6/23/10	Wed 6/23/10	498	JLab
501	Assemble input probe, field probe & Nb cathode into cavity	1 day	Wed 6/23/10	Thu 6/24/10	500	JLab
502	Assemble vacuum pumpout port to cavity	1 day	Thu 6/24/10	Fri 6/25/10	501	JLab
503	Evacuate cavity and pump over night	0.5 days	Fri 6/25/10	Fri 6/25/10	502	JLab
504	Perform leak test on cavity, transport to VTA	1 day	Mon 6/28/10	Mon 6/28/10	503	BNL
505	Insert into teststand	0.5 days	Tue 6/29/10	Tue 6/29/10	504	BNL
506	Insert into dewar & cooldown	1 day	Tue 6/29/10	Wed 6/30/10	505	BNL
507	Fill & pump to 2K	1 day	Wed 6/30/10	Thu 7/1/10	506	BNL
508	Perform RF test & warm up	1 day	Thu 7/1/10	Fri 7/2/10	507	BNL
509						



Prjt:SCRFoverallFY08 G-5 Adjustment 021710_2
Date: Tue 2/9/10, 7:06 PM

Task | Critical Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Critical Task | Rolled Up Milestone | Rolled Up Progress | Split | External Tasks | Project Summary | Group By SummTask | Critical Task

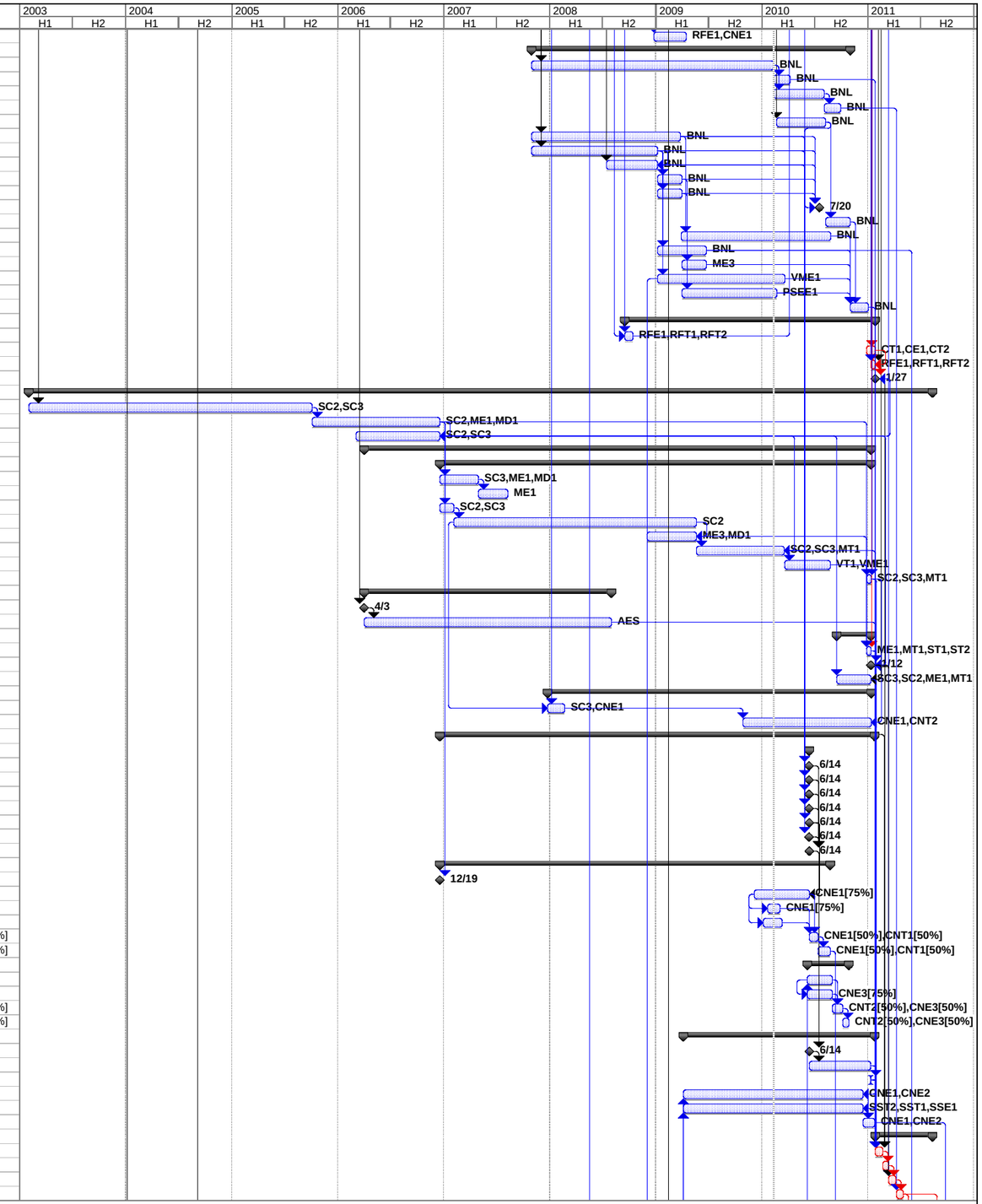
ID	Task Name	Duration	Start	Finish	Predecessors	Resource Names
510	Receive second (final) equipment shipment from BNL	0 days	Fri 6/11/10	Fri 6/11/10	394,395,402,420,488,398	JLab
511	**Gun String Assembly (includes Mock-up & Shipping)**	**36 days**	**Wed 7/14/10**	**Wed 9/1/10**		
512	Inspect string assembly equipment	1 day	Wed 7/14/10	Wed 7/14/10	398,414,498,508,396	JLab
513	Build-up tooling & bring into cleanroom	2 days	Thu 7/15/10	Fri 7/16/10	512	JLab
514	Receive & inspect valves, BT transitions (4), ferrite dampers seals	1 day	Mon 7/19/10	Mon 7/19/10	510,513	JLab
515	Clean gate valves	1 day	Mon 7/19/10	Mon 7/19/10	510,513	JLab
516	Clean beam line components	1 day	Mon 7/19/10	Mon 7/19/10	510,513	JLab
517	Receive & inspect couplers (SNS), clean exterior, transfer to clear	1 day	Mon 7/19/10	Mon 7/19/10	510,513	BNL
518	Assemble field probe	1 day	Tue 7/20/10	Tue 7/20/10	517	BNL
519	Mock-up of line components	3 days	Wed 7/21/10	Fri 7/23/10	518,508	JLab
520	Assemble couplers (2) to cavity	4 days	Mon 7/26/10	Thu 7/29/10	519	JLab
521	Assemble beamline components to rail	6 days	Fri 7/30/10	Fri 8/6/10	520	JLab
522	Evacuate string and pump over night	2 days	Mon 8/9/10	Tue 8/10/10	521	JLab
523	Perform leak check & establish vacuum	1 day	Wed 8/11/10	Wed 8/11/10	522	JLab
524	Transfer to "cryomodule" group for shipping	1 day	Thu 8/12/10	Thu 8/12/10	523	JLab
525	Clean Cleanroom	1 day	Thu 8/12/10	Thu 8/12/10	524SS	AES
526	Prepare string for shipping	8 days	Fri 8/13/10	Tue 8/24/10	524	JLab
527	Arrival of shipping fixture	4 days	Wed 8/25/10	Mon 8/30/10	526	BNL
528	Shipping of gun cavitystring to BNL	2 days	Tue 8/31/10	Wed 9/1/10	527	JLab
529	**Gun Cryomodule Installation Assembly Tooling**	**110 days**	**Tue 10/13/09**	**Thu 3/25/10**		
530	Develop / design tooling	40 days	Tue 10/13/09	Thu 12/10/09	388	CMS1,CMS2,CMS3
531	Buy / fabricate components	60 days	Fri 12/11/09	Thu 3/11/10	530	CMS1,CMS2,CMS3
532	Inspect & assemble components	10 days	Fri 3/12/10	Thu 3/25/10	531	CMS1,CMS2,CMS3
533	Cryomodule components pre-assembly inspection & mock-up	5 days	Mon 4/12/10	Fri 4/16/10	350,532	CMS1,CMS2,CMS3
534	Preliminary assembly of Gun cryomodule at BNL	20 days	Mon 4/19/10	Fri 5/14/10	533	ME1,CMS1,CMS2,CMS3,\
535	Gun cavity string delivered to e-CX (5)	0 days	Wed 9/1/10	Wed 9/1/10	528	ME1,SC7,AES
536	**Gun installed in BLG 912**	**85 days**	**Thu 9/2/10**	**Wed 1/5/11**		**SC3,ME1,EAGE1,MT1,MT**
537	**Construction of SCRF Gun Cavity thru vacuum vessel installation**	**40 days**	**Thu 9/2/10**	**Thu 10/28/10**		
538	Set-up ballast tank/top plate assembly on assembly stand	10 days	Thu 9/2/10	Thu 9/16/10	535,533	CMS1,CMS2,CMS3
539	Move string into position under assembly stand	3 days	Fri 9/17/10	Tue 9/21/10	538,535	CMS1,CMS2,CMS3
540	Survey cavity string into position relative to top plate	5 days	Wed 9/22/10	Tue 9/28/10	539,349	
541	Weld SST extension to helium vessel & ballast tank	5 days	Mon 10/11/10	Fri 10/15/10	545FF,540	CMS3,WELD1
542	Install tuner & test	5 days	Wed 9/29/10	Tue 10/5/10	540	CMS1,CMS2,CMS3
543	Install inner magnetic shield & 5K He lines - insulate	3 days	Wed 10/6/10	Fri 10/8/10	542	CMS1,CMS2,CMS3
544	Install heatshield in space frame	3 days	Mon 10/11/10	Wed 10/13/10	543	CMS1,CMS2,CMS3
545	Install LN2 line in SF/HS assembly	2 days	Thu 10/14/10	Fri 10/15/10	544	CMS1,CMS2
546	Leak check all cryo-lines and SST extension	2 days	Mon 10/18/10	Tue 10/19/10	545	VT1,VT2
547	Insulate H/S with MLI	2 days	Wed 10/20/10	Thu 10/21/10	546	CMS1,CMS2,CMS3
548	Place SF/HS with external supports around cavity	2 days	Fri 10/22/10	Mon 10/25/10	547	CMS1,CMS2,CMS3
549	Mount support rods between cavity & SF	2 days	Tue 10/26/10	Wed 10/27/10	548	CMS1,CMS2,CMS3
550	Secure cavity to rods	1 day	Thu 10/28/10	Thu 10/28/10	549	CMS1,CMS2,CMS3
551	**Construction of SCRF Cavity thru closing vacuum vessel**	**45 days**	**Fri 10/29/10**	**Wed 1/5/11**		
552	Mount H/S end caps & bottom of H/S	2 days	Fri 10/29/10	Mon 11/1/10	550	CMS1,CMS2,CMS3
553	Mount outer magnetic shield	1 day	Tue 11/2/10	Tue 11/2/10	552	CMS1,CMS2,CMS3
554	Position vacuum vessel lower shell & align penetrations	2 days	Wed 11/3/10	Thu 11/4/10	553	CMS1,CMS2,CMS3
555	Inspect all sealing surfaces	1 day	Fri 11/5/10	Fri 11/5/10	554	CMS1,CMS2,CMS3
556	Crane string assembly into vacuum vessel	1 day	Mon 11/8/10	Mon 11/8/10	555	CMS1,CMS2,CMS3
557	Survey cavity & vessel into position & adjust	3 days	Tue 11/9/10	Fri 11/12/10	556	SURVEY1
558	Check sealing alignment of all ports	1 day	Mon 11/15/10	Mon 11/15/10	557	CMS1,CMS2,CMS3
559	Leak check all cryo-lines and feedthroughs	2 days	Tue 11/16/10	Wed 11/17/10	558	VT1,VT2
560	Assemble remaining magnetic shield components	2 days	Thu 11/18/10	Fri 11/19/10	559	CMS1,CMS2,CMS3
561	Verify survey position of cavity prior to mounting tophats	3 days	Mon 11/22/10	Wed 11/24/10	560	SURVEY1
562	Mount Tophats for beamline components	3 days	Thu 11/25/10	Mon 11/29/10	561	CMS1,CMS2,CMS3
563	Mount FPC port tophats	3 days	Tue 11/30/10	Thu 12/2/10	562	RFT1,RFT2,RFE1,WELD1
564	Release vacuum load restraints to vacuum vessel	1 day	Fri 12/3/10	Fri 12/3/10	563	CMS1,CMS2,CMS3
565	Assemble remaining vacuum vessel components	5 days	Mon 12/6/10	Fri 12/10/10	564	CMS1,CMS2,CMS3,WELD
566	Leak check & repair vacuum vessel	2 days	Mon 12/13/10	Tue 12/14/10	565	VAC1
567	Move gun cryomodule assembly into position	3 days	Wed 12/15/10	Fri 12/17/10	566	
568	Survey cryomodule into place (5B)	5 days	Mon 12/20/10	Tue 12/28/10	567	
569	Attach all cryo-lines to feedthroughs	5 days	Wed 12/29/10	Wed 1/5/11	568	CMS1,CMS2,CMS3,WELD
570	Have stands grouted	1 day	Wed 12/29/10	Wed 12/29/10	568	PE1
571	**SRF gun cryo system**	**717 days**	**Wed 12/19/07**	**Fri 10/22/10**		
572	Development of Gun Cryogenic System	120 days	Tue 1/15/08	Wed 7/2/08	328,332FS-40 days	
573	Development of RF gun's cryo system	40 days	Wed 12/19/07	Tue 2/19/08	330	CE1
574	**Procure e-Gun Cryo Transfer Lines**	**423 days**	**Mon 2/23/09**	**Fri 10/22/10**		
575	Design/determine transfer lines & valves required	40 days	Mon 2/23/09	Fri 4/17/09	573	CE1
576	Design review of transfer lines / valving complete	0 days	Fri 11/20/09	Fri 11/20/09	573,575	CE1
577	Specifications & SOWs written for X-fer lines & valves	44 days	Fri 11/20/09	Thu 1/28/10	576	CE1
578	Procure transfer lines & valves	186 days	Fri 1/29/10	Fri 10/22/10	577	PPM
579	Receive & inspect X-fer lines & valves	0 days	Fri 10/22/10	Fri 10/22/10	578	CE1,CT1,CT2
580	**Procure 1MW Klystron, Power Supply & Waveguide**	**1177 days**	**Mon 1/5/04**	**Tue 9/16/08**		
581	Write specification & SOW	58 days	Mon 1/5/04	Fri 3/26/04	2	RFE1
582	Bidding cycle	20 days	Mon 3/29/04	Fri 4/23/04	581	RFE1
583	PO awarded	8 days	Mon 4/26/04	Wed 5/5/04	582	PPM
584	Receipt of Klystron	521 days	Thu 5/6/04	Fri 6/2/06	583	RFE1
585	Install klystron	24 days	Mon 6/5/06	Mon 7/10/06	584	RFE1,RFT1,RFT2,ST1,ST
586	**Klystron Lead Enclosure**	**112 days**	**Mon 3/20/06**	**Fri 8/25/06**		
590	**Procure 1MW Klystron X-mitter & Power Supply**	**1129 days**	**Mon 3/15/04**	**Tue 9/16/08**		
599	**Procure 1MW Dummy Load**	**875 days**	**Mon 10/11/04**	**Tue 4/15/08**		
605	**Procure 1MW Circulator**	**208 days**	**Fri 4/28/06**	**Thu 3/1/07**		
611	Connect circulator, anode PS, etc. to klystron & test	10 days	Wed 9/17/08	Tue 9/30/08	609,603,589,585,610,598	RFE1,RFT1,RFT2
612	**G-5 Straight Thru Test Rf Controls**	**80 days**	**Fri 12/26/08**	**Thu 4/16/09**		



Prjt:SCRFoverallFY08 G-5 Adjustment 021710_2
Date: Tue 2/9/10, 7:06 PM

Task | Progress | Summary | Rolled Up Critical Task | Rolled Up Progress | External Tasks | Group By SummTask
Critical Task | Milestone | Rolled Up Task | Rolled Up Milestone | Split | Project Summary | Critical Task

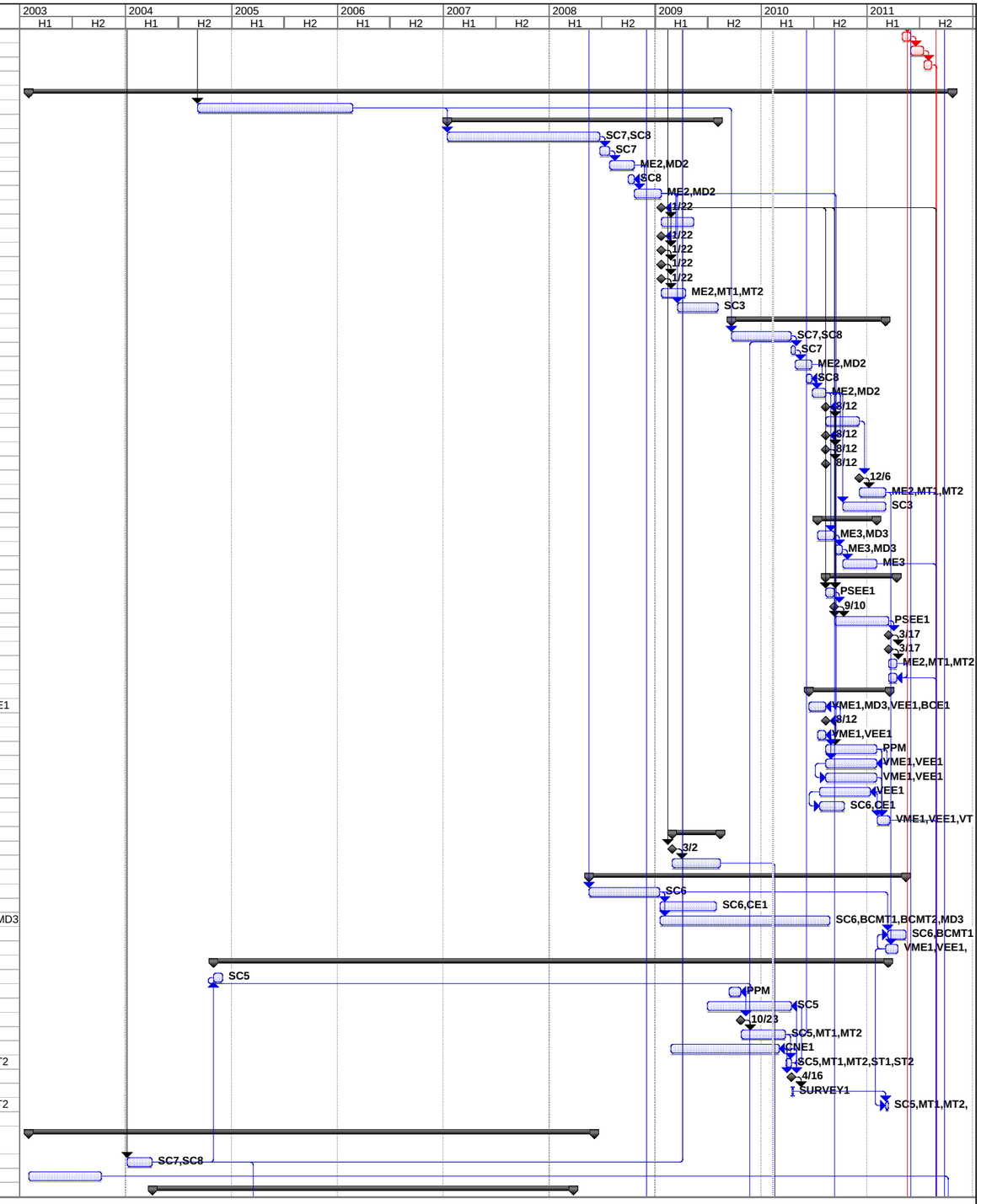
ID	Task Name	Duration	Start	Finish	Predecessors	Resource Names
613	G-5 Rf Controls requirements determined	80 days	Fri 12/26/08	Thu 4/16/09	326	RFE1,CNE1
614	**G-5 Test Components**	**755 days**	**Thu 11/1/07**	**Tue 11/2/10**		
615	Development / Design of G-5 metal test cathode	572 days	Thu 11/1/07	Thu 2/11/10	357	BNL
616	Delivery of G-5 metal test cathode	40 days	Fri 2/12/10	Fri 4/9/10	615	BNL
617	Development / Design of G-5 multi-alkaline test cathode	120 days	Fri 2/12/10	Wed 8/4/10	615	BNL
618	Delivery of G-5 multi-alkaline test cathode	40 days	Thu 8/5/10	Thu 9/30/10	617	BNL
619	Development / Design of G-5 Faraday Cup/Dump	118 days	Mon 2/22/10	Mon 8/9/10	357	BNL
620	Development / Design of G-5 Instrumentation package	350 days	Thu 11/1/07	Fri 3/27/09	357	BNL
621	Development / Design of G-5 Magnets	293 days	Thu 11/1/07	Wed 1/7/09	357	BNL
622	Development / Design of G-5 Vacuum Chambers	120 days	Wed 7/16/08	Wed 1/7/09	357,621FF	BNL
623	Development / Design of G-5 Magnet Stands	60 days	Thu 1/8/09	Wed 4/1/09	621	BNL
624	Development / Design of G-5 Magnet Power Supplies	60 days	Thu 1/8/09	Wed 4/1/09	621	BNL
625	Review of G-5 Vacuum, Magnet, Cryogenic and Instrumentation Systems	0 days	Tue 7/20/10	Tue 7/20/10	619FS-15 days,620,621,622,623,624	
626	Fabrication of G-5 Faraday Cup/Dump	60 days	Tue 8/10/10	Tue 11/2/10	619	BNL
627	Fabrication of G-5 Instrumentation package	358 days	Mon 3/30/09	Thu 8/26/10	620	BNL
628	Fabrication of G-5 Magnets	120 days	Thu 1/8/09	Wed 6/24/09	621	BNL
629	Fabrication of G-5 Magnet Stands	60 days	Thu 4/2/09	Wed 6/24/09	623	ME3
630	Fabrication of G-5 Vacuum Chambers	305 days	Thu 1/8/09	Mon 3/22/10	622	VME1
631	Procurement of G-5 Magnet Power Supplies	225 days	Thu 4/2/09	Mon 2/22/10	624	PSEE1
632	Installation and test of G-5 Vacuum, Magnet and Instrumentation Systems	40 days	Wed 11/3/10	Mon 1/3/11	626,627,628,630,631,629	BNL
633	**Assemble & Test of Rf Gun & Associated Systems**	**595 days**	**Wed 9/17/08**	**Thu 1/27/11**		
634	Assemble & test 1MW Klystron & associated systems to gun	20 days	Wed 9/17/08	Tue 10/14/08	603,596,585,611SS	RFE1,RFT1,RFT2
635	Install Gun cryo system connections & test	20 days	Wed 12/29/10	Thu 1/27/11	568	CT1,CE1,CT2
636	Connection of Rf to e-gun with PC system	10 days	Thu 1/13/11	Thu 1/27/11	536,611,635FF,568	RFE1,RFT1,RFT2
637	Receive approval to run	0 days	Thu 1/27/11	Thu 1/27/11	641FF,636	
638	**Photocathode System Development & Procurement**	**2142 days?**	**Mon 2/3/03**	**Fri 8/12/11**		
639	PC Deposition chamber/ gun interface development	676 days	Mon 2/3/03	Wed 10/5/05	2	SC2,SC3
640	System / Interface design / develop bid pkg (redone)	300 days	Thu 10/6/05	Tue 12/19/06	639	SC2,ME1,MD1
641	Preparation of Safety Documentation/SOP for Photocathode, incl. Reviews	200 days	Mon 3/6/06	Tue 12/19/06	640FF	SC2,SC3
642	**Photocathode Laser System**	**1200 days**	**Mon 4/3/06**	**Thu 1/13/11**		
643	**Procure Components**	**1020 days**	**Wed 12/20/06**	**Thu 1/13/11**		
644	Design fabricated components	90 days	Wed 12/20/06	Tue 5/1/07	640	SC3,ME1,MD1
645	Fabricate Components	70 days	Wed 5/2/07	Fri 8/10/07	644	ME1
646	Determine laser, & assoc. component, initiate bid cycle	30 days	Wed 12/20/06	Mon 2/5/07	640	SC2,SC3
647	Procure laser (3)	576 days	Tue 2/6/07	Thu 5/21/09	646	SC2
648	Design and build laser mirror holder	120 days	Wed 12/3/08	Thu 5/21/09	647FF	ME3,MD1
649	Assemble & test (4)	208 days	Fri 5/22/09	Fri 3/19/10	641FF,648	SC2,SC3,MT1
650	Install laser port chamber, pumpdown & prepare for laser testing	110 days	Mon 3/22/10	Wed 8/25/10	649	VT1,VME1
651	Align laser with gun	10 days	Thu 12/30/10	Thu 1/13/11	570,650	SC2,SC3,MT1
652	**Cathode Development Project (AES)**	**583 days**	**Mon 4/3/06**	**Fri 8/1/08**		
653	Project funded	0 days	Mon 4/3/06	Mon 4/3/06	2	AES
654	Expected delivery of PC delivery system	583 days	Mon 4/3/06	Fri 8/1/08	653	AES
655	**PC System / Interface Installation**	**80 days**	**Fri 9/17/10**	**Wed 1/12/11**		
656	Receipt & Installation of Photocathode Delivery System / Gun Interface	10 days	Wed 12/29/10	Wed 1/12/11	640,648,568	ME1,MT1,ST1,ST2
657	Receive approval to run	0 days	Wed 1/12/11	Wed 1/12/11	656,641FF	
658	Acceptance test & install PC system & gun interface	80 days	Fri 9/17/10	Wed 1/12/11	535FF,657FF,641	SC3,SC2,ME1,MT1
659	**G-5 Photocathode / Laser Controls**	**769 days**	**Wed 12/26/07**	**Thu 1/13/11**		
660	G-5 PC/Laser Controls requirement determined	40 days	Wed 12/26/07	Fri 2/22/08	326,647SS	SC3,CNE1
661	Controls developed, built & installed	300 days	Thu 10/29/09	Thu 1/13/11	660,651FF	CNE1,CNT2
662	**G-5 / Injection System Controls (Machine Protection System - MPS)**	**1027 days?**	**Tue 12/19/06**	**Tue 1/25/11**		
663	**Controls Integration**	**1 day**	**Mon 6/14/10**	**Mon 6/14/10**		
664	Input from Vacuum Group due to Controls Group	0 days	Mon 6/14/10	Mon 6/14/10	622	CNE1,CNE2
665	Input from RF Group due to Controls Group	0 days	Mon 6/14/10	Mon 6/14/10	355	CNE1,CNE2
666	Input from Magnet Engineer due to Controls Group	0 days	Mon 6/14/10	Mon 6/14/10	621	CNE1,CNE2
667	Input from Magnet P.S. Engineer due to Controls Group	0 days	Mon 6/14/10	Mon 6/14/10	631	CNE1,CNE2
668	Input from PC / Laser Group due to Controls Group	0 days	Mon 6/14/10	Mon 6/14/10	649FS+60 days	CNE1,CNE2
669	Input from Beam Instrumentation Engineer due to Controls Group	0 days	Mon 6/14/10	Mon 6/14/10	620	CNE1,CNE2
670	All controls input received	0 days	Mon 6/14/10	Mon 6/14/10	664,665,666,667,668,669	
671	**Photocathode Controls**	**924 days**	**Tue 12/19/06**	**Wed 8/25/10**		
672	Input from Photocathode / Laser Group due to Controls Group	0 days	Tue 12/19/06	Tue 12/19/06	640	
673	Develop Photocathode Controls	130 days	Mon 12/7/09	Mon 6/14/10	668FF	CNE1[75%]
674	Software development & Database	30 days	Fri 1/22/10	Fri 3/5/10	673SS+30 days	CNE1[75%]
675	Components delivery	45 days	Thu 1/7/10	Fri 3/12/10	673SS+20 days	
676	Configure & test	20 days	Tue 6/15/10	Wed 7/14/10	673,674,675	CNE1[50%],CNT1[50%]
677	Install cryo control system & test	30 days	Thu 7/15/10	Wed 8/25/10	676	CNE1[50%],CNT1[50%]
678	**Beam Dump Controls**	**100 days**	**Tue 6/8/10**	**Thu 10/28/10**		
679	Order beam dump control components	60 days	Tue 6/8/10	Wed 9/1/10	765FS+50 days	
680	Software development & Database	60 days	Tue 6/8/10	Wed 9/1/10	679SS	CNE3[75%]
681	Configure & test	25 days	Thu 9/2/10	Thu 10/7/10	679,680	CNT2[50%],CNE3[50%]
682	Install & test system	15 days	Fri 10/8/10	Thu 10/28/10	681	CNT2[50%],CNE3[50%]
683	**System Controls**	**454 days?**	**Tue 4/7/09**	**Tue 1/25/11**		
684	Receive sub-system inputs for MPS	0 days	Mon 6/14/10	Mon 6/14/10	670	
685	MPS development including hardware purchase	144 days	Tue 6/15/10	Tue 1/11/11	684	
686	System integration & checkout	1 day?	Wed 1/12/11	Wed 1/12/11	685	
687	Component controls complete	430 days	Tue 4/7/09	Thu 12/16/10	773FS+200 days,686FF-16 days	CNE1,CNE2
688	Safety Systems re-certification	430 days	Tue 4/7/09	Thu 12/16/10	773FS+200 days,686FF-16 days	SST2,SST1,SSE1
689	Control Room installation complete & tested	24 days	Fri 12/17/10	Tue 1/25/11	687,688	CNE1,CNE2
690	**G-5 Testing**	**137 days**	**Fri 1/28/11**	**Fri 8/12/11**		
691	Sub system interfacing (6)	17 days	Fri 1/28/11	Tue 2/22/11	632,649,654,658,637,616,651,662	
692	Check out G-5 beamtube, magnets, PSs, MPS and instrumentation	14 days	Wed 2/23/11	Mon 3/14/11	691	
693	Gun to 5-cell Cavity Cold testing with metal cathode (7)	19 days	Tue 3/15/11	Fri 4/8/11	657,336,692	
694	Powered G5 Testing Starts with multi-Alk cathode (8)	17 days	Mon 4/11/11	Tue 5/3/11	693,618	



Prjt:SCRFoverallFY08 G-5 Adjustment 021710_2
Date: Tue 2/9/10, 7:06 PM

Task | Progress | Summary | Rolled Up Critical Task | Rolled Up Progress | External Tasks | Group By SummTask
Critical Task | Milestone | Rolled Up Task | Rolled Up Milestone | Split | Project Summary | Critical Task

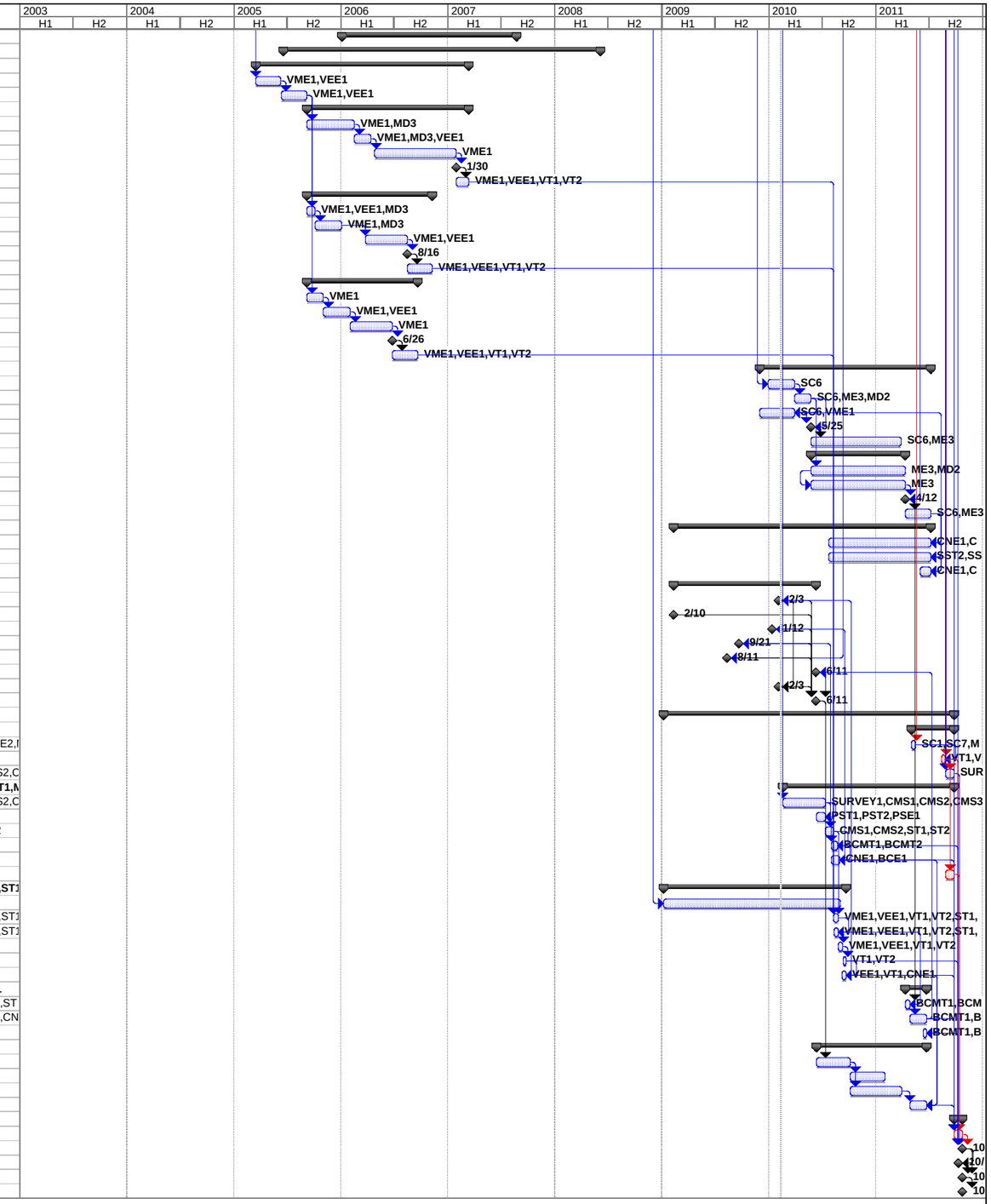
ID	Task Name	Duration	Start	Finish	Predecessors	Resource Names
695	Remove G5 line components (11)	20 days	Wed 5/4/11	Wed 6/1/11	694	
696	Install ERL Injection line (Zig-Zag) components	30 days	Thu 6/2/11	Fri 7/15/11	695	
697	Powered G-5 Testing with Injection (Zig-Zag) Line	20 days	Mon 7/18/11	Fri 8/12/11	696	
698						
699	**ERL Magnets, Power Supplies & Stands**	**2192 days**	**Mon 2/3/03**	**Mon 10/24/11**		
700	Develop ERL lattice & test requirements	365 days	Tue 9/7/04	Thu 2/23/06	2	
701	**ERL Injection Magnets**	**646 days**	**Tue 1/16/07**	**Thu 8/6/09**		
702	Define injection system	362 days	Tue 1/16/07	Tue 6/24/08	700	SC7,SC8
703	Complete physics analysis	22 days	Wed 6/25/08	Mon 7/28/08	702	SC7
704	Initial magnet design & development	60 days	Tue 7/29/08	Tue 10/21/08	703	ME2,MD2
705	Magnet analysis	15 days	Wed 10/1/08	Tue 10/21/08	704FF	SC8
706	Final design of magnet, check & approve	62 days	Wed 10/22/08	Thu 1/22/09	705	ME2,MD2
707	Reviews of all injection magnets' design complete	0 days	Thu 1/22/09	Thu 1/22/09	706FF	ME2
708	Magnets fabricated in-house	80 days	Fri 1/23/09	Thu 5/14/09	707	
709	Write specification & SOW	0 days	Thu 1/22/09	Thu 1/22/09	706FF	ME2
710	Bidding cycle	0 days	Thu 1/22/09	Thu 1/22/09	707,709	PPM
711	PO awarded	0 days	Thu 1/22/09	Thu 1/22/09	710	PPM
712	Receipt of magnets	0 days	Thu 1/22/09	Thu 1/22/09	711	ME2,MT1,MT2
713	Acceptance testing	60 days	Fri 1/23/09	Thu 4/16/09	712	ME2,MT1,MT2
714	Develop survey data	100 days	Fri 3/20/09	Thu 8/6/09	706FS+40 days	SC3
715	**ERL Dump Magnets**	**362 days**	**Tue 9/22/09**	**Mon 3/7/11**		
716	Define dump system	140 days	Tue 9/22/09	Thu 4/15/10	700FS+200 days	SC7,SC8
717	Complete physics analysis	10 days	Fri 4/16/10	Thu 4/29/10	716	SC7
718	Initial magnet design & development	40 days	Fri 4/30/10	Fri 6/25/10	717	ME2,MD2
719	Magnet analysis	15 days	Mon 6/7/10	Fri 6/25/10	718FF	SC8
720	Final design of magnet, check & approve	32 days	Mon 6/28/10	Thu 8/12/10	719,781	ME2,MD2
721	Reviews of all dump magnets design complete	0 days	Thu 8/12/10	Thu 8/12/10	720FF	ME2
722	Magnets fabricated in-house	80 days	Fri 8/13/10	Mon 12/6/10	721	
723	Write specification & SOW	0 days	Thu 8/12/10	Thu 8/12/10	720FF	ME2
724	Bidding cycle	0 days	Thu 8/12/10	Thu 8/12/10	721,723	PPM
725	PO awarded	0 days	Thu 8/12/10	Thu 8/12/10	724	PPM
726	Receipt of magnets	0 days	Mon 12/6/10	Mon 12/6/10	722	ME2,MT1,MT2
727	Acceptance testing	60 days	Tue 12/7/10	Mon 3/7/11	726	ME2,MT1,MT2
728	Develop survey data	100 days	Mon 10/11/10	Mon 3/7/11	720FS+40 days	SC3
729	**Injection & Dump Magnet Stands & Installation Development**	**140 days**	**Fri 7/16/10**	**Fri 2/4/11**		
730	Design magnet support system	40 days	Fri 7/16/10	Fri 9/10/10	720FS-20 days	ME3,MD3
731	Develop & finalize magnet installation & drawing set	20 days	Mon 9/13/10	Fri 10/8/10	730	ME3,MD3
732	Procure / build magnet support system	80 days	Mon 10/11/10	Fri 2/4/11	731	ME3
733	**ERL Injection & Dump Lines Magnet Power Supplies**	**168 days**	**Fri 8/13/10**	**Thu 4/14/11**		
734	Design magnet power supply system	20 days	Fri 8/13/10	Fri 9/10/10	721,707	PSEE1
735	Complete all power supply reviews	0 days	Fri 9/10/10	Fri 9/10/10	734	PSEE1
736	Procure power supplies and cabling	128 days	Mon 9/13/10	Thu 3/17/11	735,707	PSEE1
737	Final receipt of all components	0 days	Thu 3/17/11	Thu 3/17/11	736	PSEE1,PST1
738	P.S. controls complete	0 days	Thu 3/17/11	Thu 3/17/11	737	CNE1
739	Acceptance testing	20 days	Fri 3/18/11	Thu 4/14/11	738	ME2,MT1,MT2
740	Test PS (s) & software	20 days	Fri 3/18/11	Thu 4/14/11	739FF	
741	**Design & Procurement of Injection & Dump Vacuum System**	**190 days**	**Wed 6/16/10**	**Mon 3/21/11**		
742	Define & design Injection & Dump vaccuum systems	40 days	Wed 6/16/10	Thu 8/12/10	720FF,706FF	VME1,MD3,VEE1,BCE1
743	Reviews of vacuum system complete	0 days	Thu 8/12/10	Thu 8/12/10	742FF	VME1,VEE1
744	Specification of valves, pumps, chambers & gauging	20 days	Fri 7/16/10	Thu 8/12/10	742FF	VME1,VEE1
745	Procurement of valves	120 days	Fri 8/13/10	Fri 2/4/11	744,743	PPM
746	Procurement of pumps & controls	120 days	Fri 8/13/10	Fri 2/4/11	745FF-10 days,744	VME1,VEE1
747	Procurement of instrumentation chambers & beamtube	120 days	Fri 8/13/10	Fri 2/4/11	746SS	VME1,VEE1
748	Procurement of gauging	120 days	Fri 7/23/10	Thu 1/13/11	745FF-15 days	VEE1
749	Vacuum GtD controls determined & developed	60 days	Fri 7/23/10	Fri 10/15/10	748SS	SC6,CE1
750	Receipt & acceptance testing of components	30 days	Mon 2/7/11	Mon 3/21/11	746,745,747,748	VME1,VEE1,VT1,VT2
751	**Procurement of moveable ARC magnet support**	**120 days**	**Mon 3/2/09**	**Fri 8/14/09**		
752	Funding available	0 days	Mon 3/2/09	Mon 3/2/09	2	
753	Procure / fabricate M.A.S.	120 days	Mon 3/2/09	Fri 8/14/09	752	
754	**ERL Beam Instrumentation System**	**754 days**	**Mon 5/19/08**	**Mon 5/16/11**		
755	Determine instrumentation requirements of GtD testing	166 days	Mon 5/19/08	Fri 1/16/09	326FS+100 days	SC6
756	Beam Instrumentation controls determined & developed	140 days	Mon 1/19/09	Fri 7/31/09	755	SC6,CE1
757	Design,procure/build required instrumentation components	408 days	Mon 1/19/09	Thu 8/26/10	755	SC6,BCMT1,BCMT2,MD3
758	Installation of Beam Instrumentation	45 days	Tue 3/15/11	Mon 5/16/11	759SS+5 days,755	SC6,BCMT1,BCMT2
759	Installation of UHV vacuum system	30 days	Tue 3/8/11	Mon 4/18/11	727	VME1,VEE1,VT1,VT2
760	**Beam Dump Procurement**	**1594 days**	**Mon 11/1/04**	**Wed 3/16/11**		
761	Write specification & SOW	20 days	Mon 11/1/04	Wed 12/1/04	773	SC5
762	Bidding cycle	30 days	Mon 9/14/09	Fri 10/23/09	761SF	PPM
763	Preparation of Safety Documentation/SOP for Beam Dump, incl. Reviews	200 days	Wed 7/1/09	Fri 4/16/10	767FF	SC5
764	PO awarded	0 days	Fri 10/23/09	Fri 10/23/09	762	PPM
765	Receipt of dump	102 days	Mon 10/26/09	Fri 3/26/10	764	SC5,MT1,MT2
766	Beam Dump controls developed & complete	260 days	Wed 2/25/09	Fri 3/5/10	767FF-30 days	CNE1
767	Installation in ERL	15 days	Mon 3/29/10	Fri 4/16/10	765	SC5,MT1,MT2,ST1,ST2
768	Receive approval to run	0 days	Fri 4/16/10	Fri 4/16/10	763,766,767	SC5
769	Survey into place	4 days	Mon 4/19/10	Thu 4/22/10	768	SURVEY1
770	Connect to cooling system, beamline & test	7 days	Tue 3/8/11	Wed 3/16/11	769,759SS	SC5,MT1,MT2,VT1,VT2
771						
772	**Dev., Design & Procurement of ERL Magnets, PSs, Controls & Vacuum System**	**1340 days**	**Mon 2/3/03**	**Thu 6/5/08**		
773	Define the Energy Recovery Linac	60 days	Thu 1/8/04	Fri 4/2/04	2	SC7,SC8
774	Complete Safety Reviews of all ERL systems	180 days	Mon 2/3/03	Fri 10/10/03		
775	**ERL Loop Magnets**	**993 days**	**Mon 4/5/04**	**Tue 3/25/08**		



Prjt:SCRFoverallFY08 G-5 Adjustment 021710_2
Date: Tue 2/9/10, 7:06 PM

Task | Critical Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Critical Task | Rolled Up Milestone | Rolled Up Progress | Split | External Tasks | Project Summary | Group By Summ Task | Critical Task

ID	Task Name	Duration	Start	Finish	Predecessors	Resource Names
813	**Loop Magnet Stands & Installation Development**	**409 days**	**Fri 1/6/06**	**Fri 8/24/07**		
817	**Design & Procurement of Loop Magnet Power Supplies**	**739 days**	**Mon 6/20/05**	**Thu 6/5/08**		
823	**Dev., Design, & Procure ERL Loop Vacuum System**	**496 days**	**Fri 3/18/05**	**Wed 3/14/07**		
824	Define the Vacuum System of the RF Gun, Cavity, ERL, etc.	60 days	Fri 3/18/05	Fri 6/10/05	773,791,779	VME1,VEE1
825	Complete engineering analysis of system	60 days	Mon 6/13/05	Wed 9/7/05	824	VME1,VEE1
826	**UHV System Beamtube**	**376 days**	**Thu 9/8/05**	**Wed 3/14/07**		
827	Design beamtube system	110 days	Thu 9/8/05	Thu 2/16/06	825	VME1,MD3
828	Complete Design Reviews	40 days	Fri 2/17/06	Fri 4/14/06	827	VME1,MD3,VEE1
829	Procure "Buy" components	188 days	Thu 4/27/06	Tue 1/30/07	828FS+8 days	VME1
830	Final receipt of all components	0 days	Tue 1/30/07	Tue 1/30/07	829	VME1,VEE1
831	Perform require acceptance testing	30 days	Wed 1/31/07	Wed 3/14/07	830	VME1,VEE1,VT1,VT2
832	**UHV System Pumping & Gauging**	**295 days**	**Thu 9/8/05**	**Thu 11/9/06**		
833	Engineer Pumping & Gauging System & Assoc. Controls	20 days	Thu 9/8/05	Wed 10/5/05	825	VME1,VEE1,MD3
834	Design pumping tees, gauge trees, etc.	60 days	Thu 10/6/05	Wed 1/4/06	833	VME1,MD3
835	Procure components	100 days	Mon 3/27/06	Wed 8/16/06	834FS+55 days	VME1,VEE1
836	Final receipt of all components	0 days	Wed 8/16/06	Wed 8/16/06	835	VME1,VEE1
837	Perform require acceptance testing	60 days	Thu 8/17/06	Thu 11/9/06	836	VME1,VEE1,VT1,VT2
838	**UHV Valves**	**260 days**	**Thu 9/8/05**	**Thu 9/21/06**		
839	Determine valve requirements	40 days	Thu 9/8/05	Wed 11/2/05	825	VME1
840	Engineer Valve Control System	60 days	Thu 11/3/05	Thu 2/2/06	839	VME1,VEE1
841	Procure components	100 days	Fri 2/3/06	Mon 6/26/06	840	VME1
842	Final receipt of all components	0 days	Mon 6/26/06	Mon 6/26/06	841	VME1,VEE1,VT1,VT2
843	Perform require acceptance testing	60 days	Tue 6/27/06	Thu 9/21/06	842	VME1,VEE1,VT1,VT2
844	**Beam Instrumentation - Develop, Design & Procure**	**400 days**	**Wed 12/2/09**	**Fri 7/8/11**		
845	Define instrumentation requirements	62 days	Wed 12/30/09	Tue 3/30/10	716FS-74 days	SC6
846	Develop & design Beam Instrumentation concepts	40 days	Wed 3/31/10	Tue 5/25/10	845	SC6,ME3,MD2
847	BI device integrated with vacuum chambers	80 days	Wed 12/2/09	Tue 3/30/10	846FF-40 days	SC6,VME1
848	All reviews complete	0 days	Tue 5/25/10	Tue 5/25/10	846FF,847	SC6
849	Preparation of Safety Documentation/SOP for Beam Instrumentation	210 days	Wed 5/26/10	Tue 3/29/11	848	SC6,ME3
850	**Procurement of components**	**220 days**	**Wed 5/26/10**	**Tue 4/12/11**		
851	Fabricate "Make" Components	220 days	Wed 5/26/10	Tue 4/12/11	846	ME3,MD2
852	Order "Buy" components	220 days	Wed 5/26/10	Tue 4/12/11	851SS	ME3
853	Receive all components	0 days	Tue 4/12/11	Tue 4/12/11	852,628FF	ME3,MT1,MT2
854	Assemble, test and install instrumentation for ERL operations	60 days	Wed 4/13/11	Fri 7/8/11	853	SC6,ME3,MT1,MT2
855	**System Controls - Full ERL**	**607 days**	**Tue 2/10/09**	**Fri 7/8/11**		
856	Component controls complete	240 days	Mon 7/26/10	Fri 7/8/11	854FF,847FF	CNE1,CNE2
857	Safety Systems re-certification	240 days	Mon 7/26/10	Fri 7/8/11	854FF	SST2,SST1,SSE1
858	Control Room installation complete & tested	24 days	Fri 6/3/11	Fri 7/8/11	856FF,857FF	CNE1,CNE2
859	**Controls Integration**	**339 days**	**Tue 2/10/09**	**Fri 6/11/10**		
860	Input from Vacuum Group due to Controls Group	0 days	Wed 2/3/10	Wed 2/3/10	886FF-160 days	CNE1,CNE2
861	Input from RF Group due to Controls Group	0 days	Tue 2/10/09	Tue 2/10/09	598FS+100 days	CNE1,CNE2
862	Input from Magnet Engineer due to Controls Group	0 days	Tue 1/12/10	Tue 1/12/10	878FF-160 days	CNE1,CNE2
863	Input from Magnet P.S. Engineer due to Controls Group	0 days	Mon 9/21/09	Mon 9/21/09	875FF-200 days	CNE1,CNE2
864	Input from Photocathode Group due to Controls Group	0 days	Tue 8/11/09	Tue 8/11/09	677FF-260 days	CNE1,CNE2
865	Input from Beam Instrumentation Engineer due to Controls Group	0 days	Fri 6/11/10	Fri 6/11/10	889FF-260 days	CNE1,CNE2
866	Final Input for Beam Dump due to Controls Group	0 days	Wed 2/3/10	Wed 2/3/10	860FF	CNE1,CNE2
867	All controls input received	0 days	Fri 6/11/10	Fri 6/11/10	860,861,862,863,864,865,866	
868	**ERL Installation, All Systems**	**686 days**	**Thu 1/8/09**	**Mon 9/26/11**		
869	**Linac (PC Sys./Gun/Cavity/Dump) modifications**	**100 days**	**Wed 5/4/11**	**Mon 9/26/11**		
870	TBD during G-5 testing	10 days	Wed 5/4/11	Tue 5/17/11	694	SC1,SC7,ME1,ME3,ME2,I
871	Remove G5 "dump" components (11)	10 days	Mon 8/15/11	Fri 8/26/11	870FF,697	VT1,VT2
872	Install ERL extraction components	20 days	Mon 8/29/11	Mon 9/26/11	694,707,727,732,740,750,871	SURVEY1,CMS1,CMS2,C
873	**Loop Magnet Survey & Installation**	**403 days**	**Fri 2/19/10**	**Mon 9/26/11**		**ST2,ME1,ME3,ST1,MT1,M**
874	Loop survey & stand installation	100 days	Fri 2/19/10	Tue 7/13/10	787,799,816,753	SURVEY1,CMS1,CMS2,C
875	Installation of magnet power supplies	20 days	Mon 6/14/10	Tue 7/13/10	874FF,822FF+30 days	PST1,PST2,PSE1
876	Magnet placement & survey	20 days	Wed 7/14/10	Tue 8/10/10	787,799,874	CMS1,CMS2,ST1,ST2
877	Cabling & instrumentation of magnets	15 days	Wed 8/4/10	Tue 8/24/10	876FF+10 days,875	BCMT1,BCMT2
878	Integration with control system	20 days	Wed 8/4/10	Tue 8/31/10	877FF+5 days	CNE1,BCE1
879	Install M.A.S. & magnet assembly	20 days	Mon 8/29/11	Mon 9/26/11	871	
880	**Vacuum Component Survey & Installation**	**433 days**	**Thu 1/8/09**	**Wed 9/22/10**		**VME1,VEE1,VT1,VT2,ST1**
881	Development of low particulate installation	420 days	Thu 1/8/09	Thu 9/2/10	630SS	
882	Beamtube placement & survey	12 days	Wed 8/11/10	Thu 8/26/10	831,837,843,876	VME1,VEE1,VT1,VT2,ST1
883	Beam instrumentation placement & survey	10 days	Fri 8/13/10	Thu 8/26/10	882FF	VME1,VEE1,VT1,VT2,ST1
884	Installation of pumps, gauging & controls	10 days	Fri 8/27/10	Fri 9/10/10	883	VME1,VEE1,VT1,VT2
885	System leak checking	8 days	Mon 9/13/10	Wed 9/22/10	884	VT1,VT2
886	Integration with control system	10 days	Thu 9/9/10	Wed 9/22/10	885FF	VEE1,VT1,CNE1
887	**Beam Instrumentation Installation**	**52 days**	**Wed 4/13/11**	**Fri 6/24/11**		**BCMT1,BCMT2,BCE1**
888	In-beamtube-device placement & survey	12 days	Wed 4/13/11	Thu 4/28/11	883FF,853	BCMT1,BCMT2,BCE1,ST
889	Integration with control system	40 days	Fri 4/29/11	Fri 6/24/11	888	BCMT1,BCMT2,BCE1,CN
890	Device/system testing (9)	10 days	Mon 6/13/11	Fri 6/24/11	889FF	BCMT1,BCMT2,BCE1
891	**ERL Controls Installation & Test**	**260 days**	**Mon 6/14/10**	**Fri 6/24/11**		
892	Design controls system	80 days	Mon 6/14/10	Wed 10/6/10	867	
893	Procure controls hardware	80 days	Thu 10/7/10	Wed 2/2/11	892	
894	Software develop & test	120 days	Thu 10/7/10	Thu 3/31/11	892	
895	Controls integration	40 days	Fri 4/29/11	Fri 6/24/11	894FS-35 days,889FF,886FF,878FF	
896	**Systems Integration Complete**	**20 days**	**Tue 9/27/11**	**Mon 10/24/11**		
897	All controls integrated & system testing complete	20 days	Tue 9/27/11	Mon 10/24/11	886,889,878,895,689,879	
898	All systems installations complete (12)	0 days	Mon 10/24/11	Mon 10/24/11	871,885,890,877,897,774,872	
899	Receive approval to run	0 days	Mon 10/10/11	Mon 10/10/11	898FF-10 days	SC1
900	System Run & Testing Begins (12A)	0 days	Mon 10/24/11	Mon 10/24/11	898,899	
901	Project Complete	0 days	Mon 10/24/11	Mon 10/24/11	900	



Prjt:SCRFoverallFY08 G-5 Adjustment 021710_2
Date: Tue 2/9/10, 7:06 PM

Task | Progress | Summary | Rolled Up Critical Task | Rolled Up Progress | External Tasks | Group By SummTask
Critical Task | Milestone | Rolled Up Task | Rolled Up Milestone | Split | Project Summary | Critical Task