Ron Strykowsky

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Sent: Wednesday, March 12, 2003 11:54 AM
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Subject: NCSX Cost and Schedule Re-baseline exercise


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CONTINGENCY PLAN.doc


WBS wasis.xls


NCSX FWP BASE.pdf

Folks,

As part of the Preliminary Design Review (PDR), we will present an updated and more detailed cost and schedule estimate which will document the project's official cost and schedule baseline. The PDR will emphasize the Stellarator Core Systems, specifically the Vacuum Vessel (WBS 12) and Modular Coils (WBS 14), however ALL WBS elements will be updated to reflect technical progress made since the CDR. This estimate will be reviewed by an independent review panel formed by DOE to validate the project's plans, estimates and technical baseline prior to approval of CD-2.

Attached are guidelines and reference materials to be used in preparing your updated estimates. The approach being taken is to review and revise existing CDR cost/schedule material along with explanations of changes that have occurred over the last year. As is indicated in the guidelines you are to submit a description of scope, cost estimate, contingency rationale, and schedule for each WBS element you're responsible for even if there are no changes (indicate by marking "No Changes" on each input form).

Your input should be sent back to me no later than April 11,2003.

Thanks, Ron Strykowsky

Blanchard
- 21 Fueling Systems
- 22 Torus Vacuum Pumping System
- 23 Wall Conditioning Systems
- 24 ICH System NA

Williamson
- 14 Modular Coils
- 141 Winding Forms
- 16 Coil Services

Chrzanowski
- 142 Windings and Assembly
- 18 Field Period Assembly

Dudek
- 61 Water Cooling Systems
- 63 Utilities Systems Dudek
- 65 Facility Systems Integration

Feder
- 15 Structures

Gettelfinger
- 17 Cryostat and Base Support Structure
- 62 Cryogenic Systems

Goranson
- 11 In-Vessel Components
- 12 Vacuum Vessel Systems

Johnson
3 Diagnostics
Kalish
113 Internal Trim Coils
13 Conventional Coils
64 Helium Bakeout System
Levine
83 Environmental and Safety/QA Management
Neilson
81 Project Management and Control
9 Preparations for Operations
Nelson
19 Stellarator Core Management and Integration
Oliaro
5 Centrall&C Systems
Perry
7 Test Cell Preparation and Machine Assembly
Ramakrisnnan
4 Electrical Power Systems
Reiersen
82 Project Engineering
Stevenson
25 Neutral Beam Injection System
Zarnstorff
84 Project Physics

NCSX
Preliminary Design Cost and Schedule Estimate Update
Overall Guidance

Background *(or what is this all about)*

As part of the Preliminary Design Review (PDR), we will present an updated and more detailed cost and schedule estimate which will document the project's official cost and schedule baseline. The PDR will emphasize the Stellarator Core Systems specifically, the Vacuum Vessel (WBS 12) and Modular Coils (WBS 14), however ALL WBS elements will be updated to reflect technical progress made since the CDR This estimate will be reviewed by an independent review panel formed by DOE to validate the project's plans, estimates and technical baseline prior to approval of CD-2.

The purpose of this document is to provide an overview of what is needed from you to update our project's cost and schedule estimate. The overall approach of this exercise is to "re-visit" the CDR estimates prepared one year ago and provide updates and revisions where appropriate. Once accepted by DOE these estimates would become the "official" baseline against which the entire project will be measured and will be placed under formal configuration control. As such it behooves you to ensure that your scope, cost, and schedule estimates are complete and sufficiently detailed to withstand audit scrutiny.

Project Definition *(or what is the scope and schedule I should work toward)*

A. Scope

The NCSX estimate will needed to be divided into three subprojects:.

1. The NCSX Fabrication Project defined by the Total Estimated Costs (TEC) – the TEC commences with start of Preliminary Design (Title I) on **April 1, 2003** and will end with first plasma June 2007. Refer to the Project GRD.
http://www.pppl.gov/me/NCSX_Engineering/Requirements/GRD/NCSX-GRD-00_dF.doc .

For purposes of this estimate, the TEC activities will commence on **APRIL 1, 2003**. However, in addition all systems and components needed to complete the next phase of operations (Initial Ohmic Heating or Phase III), including 3MW of neutral beams installed and tested should be estimated and included in the TEC. These activities will include all the design, fabrication, installation, and testing efforts needed to bring the NCSX device to operations. The TEC will include the following:

- Title I (Preliminary), Title II (Final), and Title III (Fabrication/Assembly Support) design, project engineering (WBS 82), and management and oversight (WBS 81);
- Physics Analyses/Requirements Development in support of the design process (project physics); and
- Equipment fabrication, assembly, installation, construction/fabrication management, and testing activities.

2. Manufacturing development and R&D (vacuum vessel prototype program, and Modular Coil Prototype and winding development.)

3. Non- Project Costs in Support of NCSX Operations – as indicated above, costs incurred in support of the NCSX Operations will be separately funded. Per current DOE guidance, the following fall into this category:

- Research Prep activities being accomplished in parallel with the fabrication project will need to be separately funded, but are NOT in the TEC => this is primarily activities under WBS 91 and some physics activities under WBS 84 that are not in direct support of the project design and fabrication activities; and
- Operational spares (WBS 93).

B. Key Project Milestones (per the FWP) *(or what are my key dates to work to)*

NCSX

Preliminary Design Cost and Schedule Estimate Update

Overall Guidance

Milestone	Schedule
Start Preliminary Design (Title I)	April 2003
Award Prototype Contract(s) for Modular Coils Winding Forms	March 2003
Award Prototype Contract(s) for Vacuum Vessel	March 2003
Preliminary Design Review of the Vacuum Vessel and Modular Coil	June 2003
DOE External Independent Review	July 2003
Complete CD-2 Milestone	August 2003
Complete Final Design Review for Modular Coils Winding Forms	December 2003
Complete CD-3 Milestone for Procurement and Fabrication of Components	February 2004
Award Production Contract for Modular Coils Winding Forms	March 2004
Complete Final Design Review for Vacuum Vessel	January 2004
Award Production Contract for TF Coils	October 2004
Award Production Contract for PF Coils	October 2004
First Modular Coil Winding Forms Delivered	June 2004
Complete First Modular Coil Fabrication	September 2004
Complete Delivery of TF Coils	September 2005
1st Period of Vacuum Vessel Shell Delivered	March 2005
Begin Assembly of First Field Period	August 2005
Last Modular Coil Winding Form Delivered	June 2005
Last Field Period Assembled	May 2006
Pump Down of Vacuum Vessel	August 2006
Complete Operational Readiness Assessment	May 2007
Complete CD-4 Milestone (First Plasma and Completion of MIE Project)	June 2007

Guidelines *(or what YOU need to do)*

Your estimates should reflect work scope commencing **April 1,2003**.

You must reconcile (explain and quantify) differences from your CDR estimate so DOE may understand cost increases/decreases.

All laboratory labor estimates should be reported in **manhours, type of labor** *and* name of preferred individual if known. (e.g., EAEM, EADM, EASM, EATB, ORNL Engineers, ORNLDesigners, ORNL scientists, etc.). We will put in fully loaded labor rates for PPPL and ORNL and will let the scheduling system (Primavera) price up the costs. For Subcontracts (labor or materials) at PPPL, only the direct estimates are required. For Subcontracts placed by ORNL, we will need the fully loaded value to be input.

NCSX
Preliminary Design Cost and Schedule Estimate Update
Overall Guidance

You are asked to document the basis for your cost and schedule estimate (e.g., engineering judgment/scaling, vendor quotes if available, quantity takeoffs, unit pricing, etc.).

NCSX will be built on in the PBX/PLT Test Cell and with use of existing PPPL and other fusion program equipment. In your estimating, identify the existing equipment and/or facilities that will be used by NCSX.

There are three separate forms that will need to be submitted to document the cost and schedule estimate. A brief description of each follows and each is provided as a separate attachment. Each attachment contains some basic guidelines for completing the forms and identifies the key assumptions to be followed. In addition to completing these forms, additional supporting backup documentation in any format (Word, Excel, PDF, PowerPoint, etc.) should also be provided electronically to identify the basis of the estimate.

- **SUMMARY DESCRIPTION-(blank form and directions attached if needed- attachment 1A)** -(WORD format) This is the vehicle for describing the work, equipment to be re-used and modifications to existing facilities. This should be prepared for each level of WBS you estimate. Please revise/update the CDR material shown in http://www.pppl.gov/ncsx/Project_Control/project_control.html under "WBS details" (note user name and password is ***ncsxcdr***. *NOTE; The WBS Groupings have changed since the CDR. Refer to attached CDR to Current WBS cross reference.*
- **ESTIMATING FORM -(blank form attached if needed-attachment 1C)** (EXCEL format) This vehicle for tabulating your detailed cost and schedule estimates. Note that this workbook is broken into several worksheets. Please revise/update the cost AND schedule dates shown in http://www.pppl.gov/ncsx/Project_Control/project_control.html under "WBS details" /"BACKUP"(note user name and password is ***ncsxcdr***. Also, please identify significant prerequisites to your tasks that would preclude them from starting or finishing. You may submit a linked schedule to supplement your estimates & schedule) (Refer to attached CDR to Current WBS cross reference)
- **CONTINGENCY PLAN (blank form attached if needed-attachment 2) –** (WORD format) This is the format for defining your contingency rational. Please revise/update the CDR material shown in http://www.pppl.gov/ncsx/Project_Control/project_control.html under "WBS details" (note user name and password is ***ncsxcdr***. (Refer to attached CDR to Current WBS cross reference)

Reference Material *(or material that could help)*

- **Project WBS Dictionary** http://www.pppl.gov/me/NCSX_Engineering/WBS/WBS_PageOne.pdf
- **Project Level II Resource Loaded Schedule** (see attached NCSX FWP BASE) NOTE; This should be used as a starting point for establishing your schedule dates. As this schedule has been adjusted consistent with funding guidance and logic changes since the last CDR you will need to verify relative relationship between tasks as well as consistency with the projects milestones given above. This level II schedule will be revised to reflect your cost and schedule input and will form the NEW BASELINE YOU WILL BE MEASURED AGAINST.

NOTE: You must re-submit all documentation even if you are not changing the scope, cost or estimate. Mark "NO Changes" on each sheet.

SCHEDULE YOU ARE ASKED TO PROVIDE YOUR INPUT NO LATER THAN APRIL 11,2003.

Please let me know ASAP of any issues or questions. Ron Strykowsky 609-243-2674

NCSX Preliminary Design Cost Estimate
Description Summary Form
Attachment 1A

Form and Directions

The required content and format of the subsystem cost estimate which is to be submitted to the NCSX Project costing team at PPPL for integration into the overall NCSX preliminary cost estimate has been designed to be consistent with the reporting requirements of DOE. This structure and format will facilitate efficient integration of the subsystem cost data into the NCSX Cost Estimate and will provide traceability of cost from the NCSX Project level down through component level. This summary document provides the following information:

- General Description of the Work to be Performed. This should be a brief (several paragraphs at the most) description of the overall scope of work to be performed, including description of major activities to be accomplished.
- Description of Existing Equipment/Facilities to be Reused. Identify any major existing (either at PPPL or from other fusion laboratories) that you intend to reuse.
- Description of Major Modifications Required to Existing Equipment/Facilities. If major modifications are required of this existing equipment you intend to reuse, or if existing equipment and/or facilities need to be removed to facilitate installation of your sub-system, you should briefly identify this in your estimate.

The next page provides the form for your use in Word format.

NCSX Preliminary Design Cost Estimate
Description Summary Form
Attachment 1A
SUMMARY DESCRIPTION

WBS Number:	**Title:**
Originator:	
Description General Description of Work to be Performed: Description of Existing Equipment/Facilities to be Reused: Description of Major Modifications Required to Existing Equipment/Facilities:	

Date:

NCSX Fabrication Project Cost and Schedule Estimating Form
(Attachment 1c - FAB)

WBS: 121

Activity Title	Manhours	FY2003 $$	Labor Type	Start Date Month/Year	End Date Month/Year	Comments
Labor						
Preliminary Design (Title I)						
			EAEM			*SAMPLE - Put in specific labor type*
			EASM			*SAMPLE - Put in specific labor type*
			EADM			*SAMPLE - Put in specific labor type*
			ORNL Eng			*SAMPLE - Put in specific labor type*
			ORNL Physics			*SAMPLE - Put in specific labor type*
			RMRM2			*SAMPLE - Put in specific labor type*
Final Design (Title II)						
			EMEM			*SAMPLE - Put in specific labor type*
			EMSM			*SAMPLE - Put in specific labor type*
			EMTB			*SAMPLE - Put in specific labor type*
Lab Fab/Assembly/Installation (Title III)						
			EEEM			*SAMPLE - Title III Engineering*
			EESM			*SAMPLE - Put in specific labor type*
			EESM			*SAMPLE - Put in specific labor type*
			EETB			*SAMPLE - Put in specific labor type*
Level of Effort						
FY2003						
			RMRM3			*SAMPLE - Put in specific labor type*
			FCEM			*SAMPLE - Put in specific labor type*
FY2004						
FY2005						
FY2006						
FY2007						

NCSX Fabrication Project Cost and Schedule Estimating Form
(Attachment 1c - FAB)

WBS: 121

Activity Title	Manhours	FY2003 $$	Labor Type	Start Date Month/Year	End Date Month/Year	Comments
M&S Costs						
Manufacturing Development						
Purchased Design Services						
Procured Hardware/Material						*Include any M&S carried over from FY2002*
						Identify each procurement over $100K individually
Procured Hardware/Material						
Purchased Design Services						
Procured Installation/Assembly Costs						
Other Costs						
Travel						
Allocations (WBS 81 only)						

NCSX Fabrication Project Cost and Schedule Estimating Form
(Attachment 1c - FAB)

WBS: 121

Activity Title	Manhours	FY2003 $$	Labor Type	Start Date Month/Year	End Date Month/Year	Comments

Instructions for Completing Form

(1) One form for each 3 digit WBS element (e.g., 111, 121, 452, etc.) => if no 3 digit WBS, use 2 digit WBS (e.g., 81, 82, 84)
(2) For Lab labor, provide estimate in manhours => provide estimate by specific labor type.
(3) For M&S, provide estimate in FY2003 direct dollars if procured by PPPL, or in fully loaded dollars if procured by ORNL
(4) Start and end date provided in month/year format => March/2003

NCSX Preliminary Design Cost Estimate
Guidelines and Form for Estimating Contingency
Attachment 2

Cost Contingency Overview

Contingency is the amount of additional money, above and beyond the base cost, that is required to ensure the project's success from a cost perspective.

Contingency Estimating Procedure

The contingency estimate is developed by assessing risk and weighting factors in three areas; technical, schedule, and cost. Although the suggested procedure for determining the appropriate percentage of contingency is outlined below, each WBS Manager has the option to modify it as appropriate to reach a more appropriate level of contingency for his sub-system. The following procedure should be utilized as a starting point in determining your contingency:

- Compare the conceptual state of the subsystem with the descriptions contained in **Table 2-1**. There are three factors to consider:
  - A Technical Risk Factor is assigned based on the current state and level of the design;
  - A Schedule Risk Factor is identified based on that subsystem's criticality to the overall schedule;
  - A Cost Risk Factor is assigned based on the overall estimating methodology used to arrive at the cost estimate for that subsystem.

- Compare the potential risk within a subsystem with **Table 2-2** to determine the appropriate weighting factor. A Technical Weight Factor is assigned based on the overall level of engineering and manufacturing difficulty for the subsystem. Often times it is not known if a certain design will be feasible, but is simple to manufacture. Conversely, an item/subsystem may be engineered quite easily, but has never been built. Some items/subsystems may even be pushing the state-of-the-art with uncertainty in the producibility of the design. Depending on the scenario between engineering and manufacturing, different Technical Weighting Factors may be applied.

  A **standardized** Schedule Weighting Factor of 1% has been assigned for the NCSX conceptual Cost Estimate.

  Cost Weighting Factors are assigned based on whether that subsystem is primarily composed of assembly items, therefore having only possible labor rate impacts, or if material costs are also included meaning raw material prices, vendor estimates, and labor rates may affect the estimate, thus requiring a larger Cost Weighting Factor.

- Once the Risk Factor and Weighting Factor is determined for each of the three areas (technical, schedule, and cost), multiply the individual risk factors by the appropriate weighting factors and then sum to determine the contingency percentage for each area.

  Example: If the technical risk factor is 4 and the technical weighting factor is 4%, the total technical contingency component would be 4 x 4% = 16%. If the schedule risk factor is 4 and the schedule weighting factor is 1% (Standardized), the total schedule contingency component would be 4 x 1% = 4%. If the cost risk factor is 3 and the cost weighting factor is 2%, then the total cost contingency component would be 3 x 2% = 6%. The total calculated contingency would thus be 16% + 4% + 6% = 26%.

- Sum the contingency percentages for each area to arrive at a composite contingency percentage. The dollar amount of contingency will be determined by the NCSX Project Costing Team at PPPL by multiplying the base estimate (MIE + OPEX) by the calculated composite contingency percentage.

NCSX Preliminary Design Cost Estimate
Guidelines and Form for Estimating Contingency
Attachment 2

Table 2-1
Technical, Schedule, & Cost Risk Factors

Risk Factor	*Technical*	*Schedule*	*Cost*
1	Existing Design and Off the Shelf H/W	*Not Used*	Off the Shelf or Catalog Item
2	Minor Modifications to an Existing design	No Schedule Impact on Any Other Subsystem	Vendor Quote from Established Drawings
3	Extensive Modification to an Existing Design	*Not Used*	Vendor Quote with Some Sketches
4	New Design, but Nothing Exotic	Delays Completion of Non-Critical Path Subsystem Activity	In-House Estimate Based on Previous Similar Experience
6	New Design, Different from Established Design or Existing Technology	*Not Used*	In-House Estimate with Minimal Experience, but Related to Existing Capabilities
8	New Design that Requires Some R&D, but Does Not Advance the State-of-the Art	Delays Completion of Critical Subsystem Activity	In-House Estimate with Minimal Experience and In-House Capabilities
10	New Design Development of New Technology which Advances the State-of-the Art	*Not Used*	Top-down Estimate Based on Experience from Analogous Programs
15	New Design, Way Beyond the Current State-of-the-Art	*Not Used*	Engineering Judgment

Table 2-2
Technical, Schedule & Cost Weighting Factors

Area	Condition	Risk %
Technical	Design OR Manufacturing Uncertainties	2%
	Design AND Manufacturing Uncertainties	4%
Schedule	Same for All Cases	1%
Cost	Material Cost OR Labor Rate Uncertainties	1%
	Material Cost AND Labor Rate Uncertainties	2%

NCSX Preliminary Design Cost Estimate
Guidelines and Form for Estimating Contingency
Attachment 2

Contingency Specification Rationale Worksheet

WBS Level 4 Identifier:		Title:		
Originator:		Date:		
	Technical	Schedule	Cost	Total
Risk Factor (Table 2-1):				
Weighting Factor (Table 2-2):				
Percent				

Recommended Contingency Allowance (%):

Rationale for Selection of Contingency Allowance:

Date:

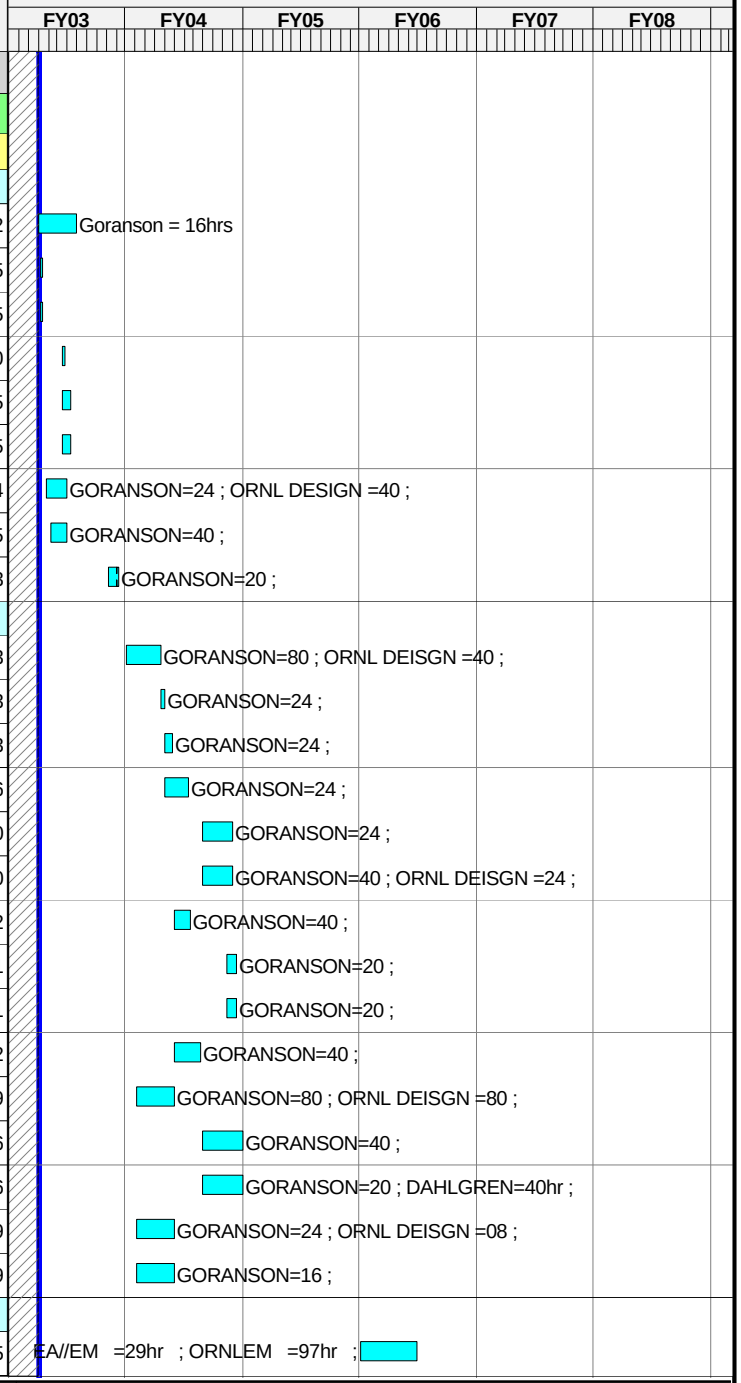
NCSX WBS CROSS REFERENCE
SORT

OLD WBS	CURRENT WBS	WBS MANGE
1 Stellarator Core Systems	1 Stellarator Core Systems	Nelson
11 Plasma Facing Components	11 In-Vessel Components	Goranson
111 First Wall Panels	111 Limiters	Goranson
116 PFC Locall&C	111 Limiters	Goranson
112 Support Ribs	112 Internal Liner	Goranson
113 PFC Heating and Cooling Distribution System	11 In-Vessel Components	Goranson
114 Divertor Plenum Baffles	12 In-Vessel Components	Goranson
115 Divertor Plenum Pumping System	13 In-Vessel Components	Goranson
12 Vacuum Vessel Systems	12 Vacuum Vessel Systems	Goranson
121 Vacuum Vessel Assembly	121 Assembly	Goranson
122 Vacuum Vessel Thermal Insulation	122 Thermal Insulation	Goranson
123 Vacuum Vessel Heating and Cooling Distribution System	123 Heating and Cooling Distribution System	Goranson
124 Vacuum Vessel Supports	124 Supports	Goranson
125 Vacuum Vessel Local I&C	125 Local I&C	Goranson
13 TF Coils	13 Conventional Coils	Kalish
131 TF Windings	131 TF Coils	Kalish
132 TF Leads	131 TF Coils	Kalish
133 TFI&C	134 Locall&C	Kalish
14 PF Coils	132 PF Coils	Kalish
141 Central Solenoid Assembly (PF1, PF2, and CS Structure)	152 Central Solenoid (CS) Support Structures	Feder
142 PF3 Windings	132 PF Coils	Kalish
143 PF4 Windings	132 PF Coils	Kalish
144 PF5 Windings	132 PF Coils	Kalish
145 PF6 Windings	132 PF Coils	Kalish
146 PF Leads	132 PF Coils	Kalish
147 PF I&C	134 Locall&C	Kalish
15 Cryostat	17 Cryostat and Base Support Structure	Gettelfinger
151 Cryostat Shell and Structure	171 Cryostat	Gettelfinger
151 Cryostat Shell and Structure	172 Base Support Structure	Gettelfinger
152 Cryostat Thermal Insulation	171 Cryostat	Gettelfinger
153 W /Cryostat Boots	171 Cryostat	Gettelfinger
154 Cryostat Temperature Control/Heating Systems	171 Cryostat	Gettelfinger
155 Cryostat Locall&C	171 Cryostat	Gettelfinger
16 Support Structure	15 Coil Support Structures	Feder
161 Machine Base Assembly	15 Coil Support Structures	Feder
162 Coil Support Structure {incl shelves, crowns, PF6support ring, and TF	151 Coil Suppport Structure	Feder
163 Support Structure I&C	153 Locall&C	Feder
17 Modular Coils	14 Modular Coils	Williamson
171 Modular Coil Windings and Coil Assembjy	142 Windings and Assembly	Chrzanowski
172 Modular Coil Winding Form/Structure	141 Winding Forms	Williamson
173 Modular Coil Leads	162 Electrical Leads	Williamson
174 Modular Coil!&C	143 Local I&C	Williamson
18 Trim Coils		
181 Extemal Trim Coils	133 External Trim Coils	Kalish
182 Internal Trim Coils	113 Internal Trim Coils	Kalish
183 Leads	162 Electrical Leads	
184 Locall&C		
19 LN2 Distribution System (includes manifolds, piping, and cooling I&C)	16 Coil Services	Williamson
191 Manifolds and Piping	161 LN2 Distribution System	Williamson
192 Flow Control	161 LN2 Distribution System	Williamson
193 Locall&C	161 LN2 Distribution System	Williamson
	163 Coil Protection System	Williamson
	19 Stellarator Core Management and Integration	Nelson
2 Auxiliary Systems Kugel	2 Auxiliary Systems	Dudek
21 Fueling Systems	21 Fueling Systems	Blanchard
211 Gas Fueling Systems	211 Gas Fueling Systems	Blanchard
212 Pellet Injection Fueling Systems	212 Pellet Inject!on Fueling Systems	Blanchard
22 Torus Vacuum Pumping System	22 Torus Vacuum Pumping System	Blanchard
23 Wall Conditioning Systems	23 Wall Conditioning Systems	Blanchard
231 Glow Discharge Cleaning System	231 Glow Discharge Cleaning System	Blanchard
232 Boranization System	232 Boranization System	Blanchard
233 Lithiumization System	233 Lithiumization System	Blanchard
24 ICH System	24 ICH System NA	Blanchard
25 Neutral Beam Injection System	25 Neutral Beam Injection System	Stevenson
251 NB Systems Recommissioning	251 NB Systems Recommissioning	Stevenson
252 NB Installation and Testing	252 NB Installation and Testing	Stevenson
3 Diagnostics Johnson	3 Diagnostics	Johnson
31 Magnetic Diagnostics	31 Magnetic Diagnostics	Johnson
32 Fast Particle Diagnostics	32 Fast Particle Olagnoslics	Johnson
33 Impurity Diagnostics	33 Impurity Diagnoslics	Johnson
34 MHD Diagnostics	34 MHO D!agnoslics	Johnson
35 Profile Diagnostics	35 Profile Diagnostics	Johnson
36 Edge and Divertor Diagnostics	36 Edge and Divertor Diagnostics	Johnson
37 Turbulence Diagnostics	31 Turbulence Diagnostics	Johnson
38 Electron Beam (EB) Mapping	38 Electron Beam (EB) Mapping	Johnson
39 Diagnostics Integration	39 Diagnostics IntegratlQn	Johnson

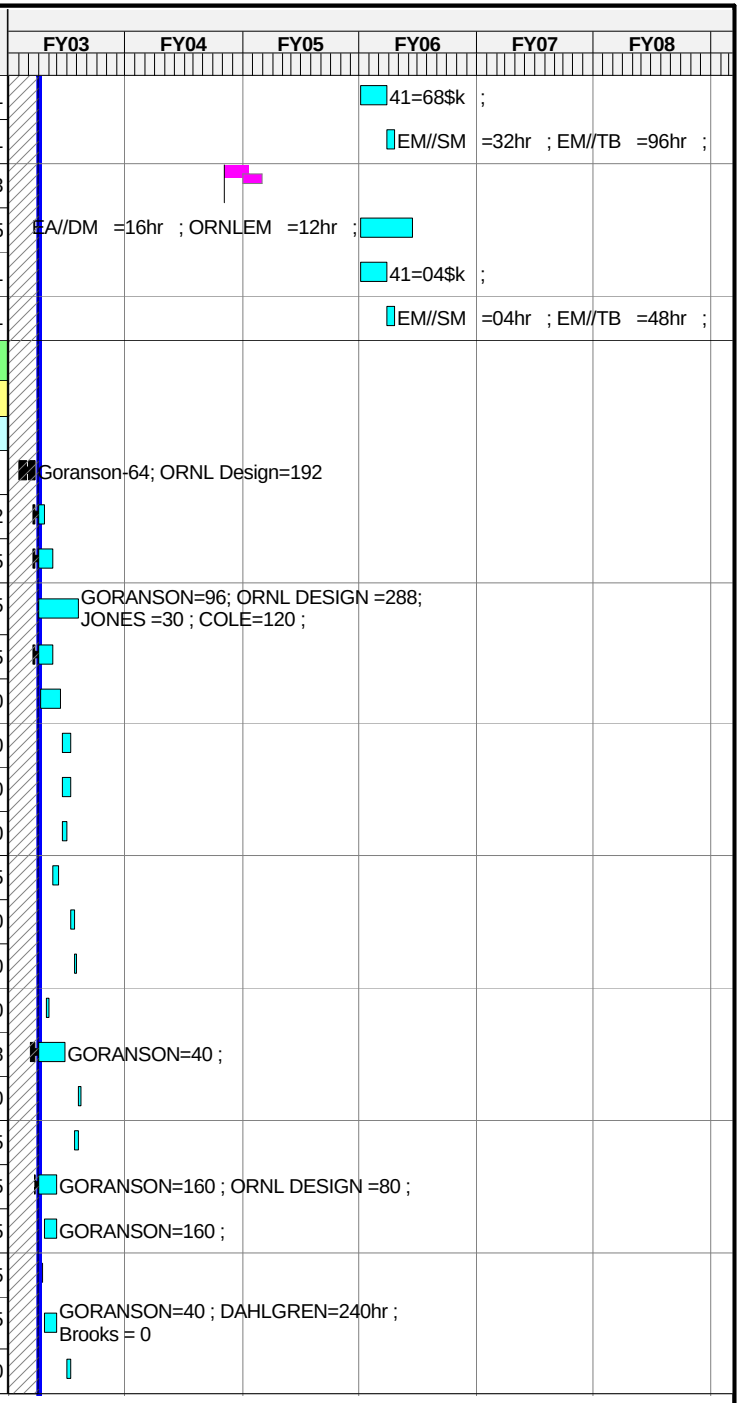
NCSX WBS CROSS REFERENCE
SORT

OLD WBS	CURRENT WBS	WBS MANGE
4 Electrical Power Systems	4 Electrical Power Svstems	Ramakrisnnan
41 AC Power	41 AC Power	Ramakrisnnan
411 Auxiliary AC Power Systems	411 Auxiliary AC Power Systems	Ramakrisnnan
412 Experimental AC Power Systems	412 Experimental AC Power Systems	Ramakrisnnan
42 AC/DC Converters	42 AC/DC Converters	Ramakrisnnan
421 C-Site AC/DC Converters	421 C-Site AC/DC Converters	Ramakrisnnan
422 D-Site AC/DC Converters	422 D-Site AC/DC Converters	Ramakrisnnan
43 DC Systems	43 DC Systems	Ramakrisnnan
431 C-Site DC Systems	431 C-Site DC Systems	Ramakrisnnan
432 D-to-C Site DC Systems	432 D-to-C Site DC Systems	Ramakrisnnan
433 D Site DC Systems	433 D Site DC Systems	Ramakrisnnan
44 Control and Protection Systems	44 Control and Protection Systems	Ramakrisnnan
441 Electrical Interlock Systems	441 ElectricalInterfock Systems	Ramakrisnnan
442 Kirk Key Interlocks	442 Kirk Key Interlocks	Ramakrisnnan
443 Real Time Control Systems	443 Rea! Time Control Systems	Ramakrisnnan
444 Instrumentation Systems	444 .instrumentation Systems	Ramakrisnnan
445 Coil Protection Systems	445 Coif Protection Systems	Ramakrisnnan
446 Ground Fault Monitoring Systems	446 Ground Fault Monitoring Systems	Ramakrisnnan
45 Power System Design and Integration	45 Power System Design and Integration	Ramakrisnnan
451 System Design and Interfaces	451 System Design and Interfaces	Ramakrisnnan
452 Electrical Systems Support	452 Electrical Systems Support	Ramakrisnnan
453 System Testing (PTPs)	453 System Testing (PTPs)	Ramakrisnnan
	46 FCPC Building Modifications	Ramakrisnnan
5 Central I&C Systems Oliaro	5 Centrall&C Systems	Oliaro
51 TCP/IP Infrastructure Systems	51 TCP/IP Infrastructure Systems	Oliaro
52 Central Instrumentation and Control Systems	52 Central Instrumentation and Control Systems	Oliaro
53 Data Acquisition & Facility Computing Systems	53 Data Acquisition & Facility Computing Systems	Oliaro
54 Facility Timing and Synchronization Systems	54 Facility Timing and Synchronization Systems	Oliaro
55 Real Time Plasma and Power Supply Control Systems	55 Real Time Plasma and Power Supply Control System	Oliaro
56 Central Safety Interlock Systems	56 Central Safety Interlock Systems	Oliaro
57 Control Room Facility	57 Control Room Facility	Oliaro
	58 Central I&C Management and Integration	Oliaro
6 Site and Facilities Dudek	6 Facility Systems	Dudek
61 Facility Modifications and Test Cell Preparations	7 Test Cell Preparation and Machine Assembly	Perry
611 Facility Modifications Outside the Test Cell	72 Control Room Refurbishment TBD	Perry
613 Seismic Modifications to the Test Cell Walls	71Shield Wall Reconfiguration TBD	Perry
62 Water Cooling Systems	61 Wwater Cooling Systems	Dudek
622 Neutral Beam Water Cooling System	611 Neutral Beam Water Cooling System	Dudek
623 Vacuum Pumping Water Cooling System	612 Vacuum Pumping Water Cooling System	Dudek
624 Bakeout Water System	613 Bakeout Water System	Dudek
625 Diagnostic Water Cooling System	614 Diagnostic Water Cooling System	Dudek
63 Cryogenic Systems	62 Cryogenic Systems	Gettelfinger
631 LN2-LHe Supply System	621 LN2-LHe Supply System	Gettelfinger
632 LN2 Coil Cooling Supply System	622 LN2 Coil Cooling Supply System	Gettelfinger
633 GN2 Cryostat Cooling System	623 GN2 Cryostat Cooling System	Gettelfinger
64 Utility Systems	63 Utilities Systems Dudek	Dudek
65 Helium Bakeout System	64 Helium Bakeout System	Kalish
66 Facility Systems Integration	65 Facility Systems Integration	Dudek
7 Machine Assembly Chrzanowski		
71 Assembly Planning and Oversight Operations	74 Machine Assembly Planning and Oversight	Perry
711 Planning Activities	741 Planning Prior to Machine Assembly	Perry
711 Planning Activities	181 Planning and Oversight	Chrzanowski
712 Construction Management	742 Construction Management	Perry
713 Tooling Design & Fabrication	186 Tooling Design and Fabrication	Chrzanowski
714 Construction Management	742 Construction Management	Perry
72 On-Site Pre-Assembly Operations		
721 Preparation of Pre-Assembly Area	182 Preparation of the TFTR Test Cell	Chrzanowski
722 Receive, Inspect, and Test Coils	183 Receipt, Insepction, and Testing of Coils	Chrzanowski
724 Receive, Inspect, and Test Vacuum Vessel	184 Receipt, Inspection, and Testing of Vacuum Vessel	Chrzanowski
725 Assemble Field Periods	18 Field Period Assembly	Chrzanowski
725 Assemble Field Periods	185 Field Pe!iod Assembly	Chrzanowski
73 Test Cell and Basement Assembly Operations	75 Test Cell and Basement Assembly Operations	Perry
74 Measurement Systems	78 Measurement Systems	Perry
74 Measurement Systems	187 Measurement Systems	Chrzanowski
75 NCSX Platform Design and Fabrication	73 Platform Design and Fabrication TBD	Perry
76 Tooling Design and Fabrication	77 Tooling Design and Fabrication	Perry
8 Project Management and Integration	8 Project Oversight and Support	Neilson
81 Project Management and Control	81 Project Management and Control	Neilson
82 Project Engineering	82 Project Engineering	Reiersen
83 Environmental and Safety/QA Management	83 Environmental and Safety/QA Management	Levine
84 Project Physics	84 Project Physics	Zarnstorff
9 Preparations for Operations	9 Preparations for Operations	Neilson
91 Pre-Operational Planning and Operations Staff Buildup	91 Pre-Operational Planning and Operations Staff Build	Neilson
92 Pre-Operational and Integrated Systems Testing	76 Integrated Systems Testing	Perry
	92 Operational Spares	Neilson

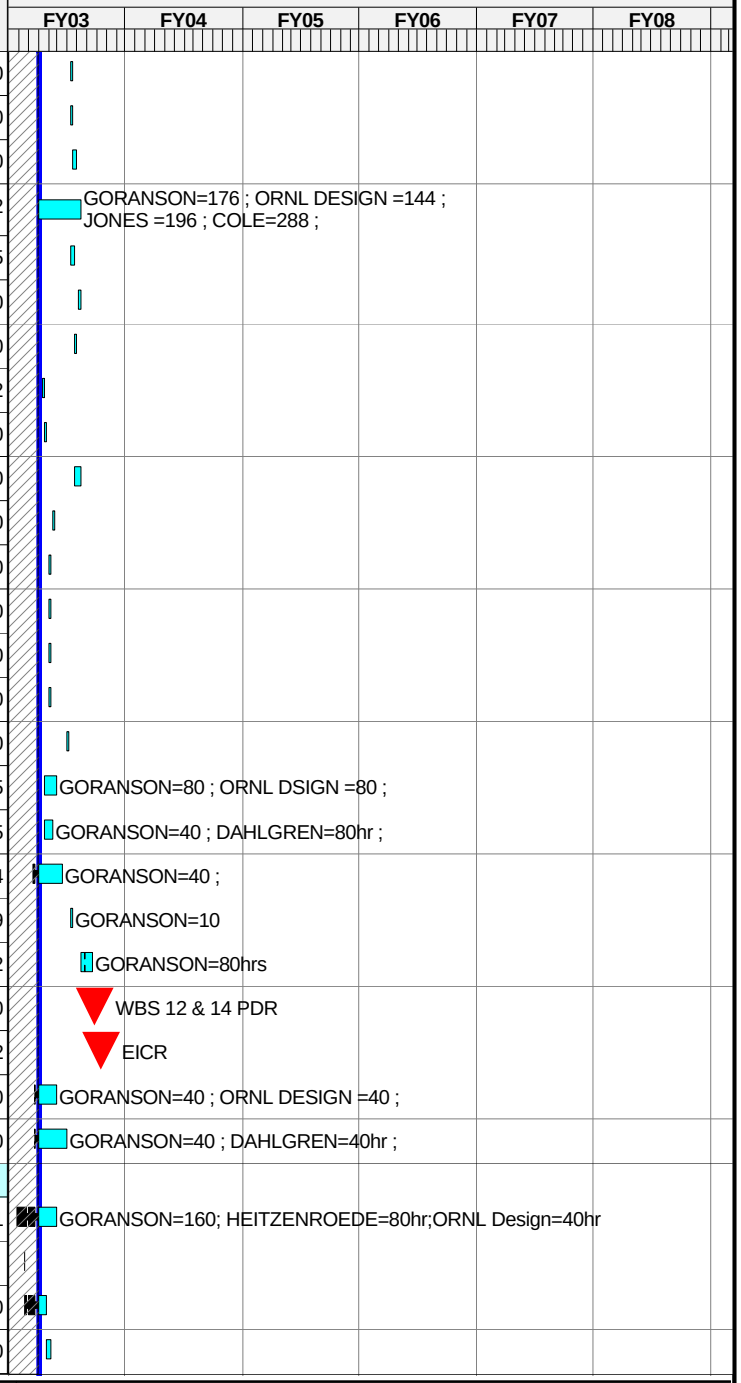
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
1 - Stellarator Core Systems						
11 - In-Vessel Components						
111 - Limiters						
Job: 1101 - Limiter Adv Concep Design-GORANSON						
111-2-01	Update Concep Dsn for limiter	02JAN03*	85*	30APR03	2,160.00	12
L4-035	Incorporate radiation shields in FW panels (if r	06JAN03*	10*	17JAN03	0.00	45
L4-036	Calculate bakeout heat loads on VV and in-vessel	06JAN03*	10*	17JAN03	0.00	55
L4-037	Update design of initial limiter configuration	17MAR03*	5	21MAR03	0.00	30
L4-038	Perform design studies for CFC liner with divert	17MAR03*	20	11APR03	0.00	15
L4-039	Perform design studies for flowing Li divertor,	17MAR03*	20	11APR03	0.00	15
111-2-1	Interface control documents for invessel compnts	30JAN03*	43*	31MAR03	7,640.00	34
111-3-1	Update cost estimate for Limiter	11FEB03*	34	28MAR03	5,400.00	35
111-3-2	Update planning for FY-04	12AUG03*	20	09SEP03	2,700.00	2,363
Job: 1102 - Limiter Prelim&Final Design-GORANSON						
111-1-1	CAD models and drawings of limiter dsn	03OCT03*	75*	15JAN04	15,200.00	2,243
111-1-2	Thermal analysis of limiters	16JAN04	11	30JAN04	3,240.00	2,243
111-1-3	Stress analysis of limiters	02FEB04	17	24FEB04	3,240.00	2,243
111-1-4	Assembly plan for limiters	30JAN04*	55*	15APR04	3,240.00	2,206
111-2-2	Interface control document for diagnostics	31MAY04*	65*	27AUG04	3,240.00	2,110
111-2-3	Interface control document for Utilities	31MAY04*	65*	27AUG04	8,040.00	2,110
111-4-1	Design-to specification	05MAR04*	34*	21APR04	5,400.00	2,202
111-4-2	Draft Build-to (manufacturing) specification for	12AUG04*	21*	09SEP04	2,700.00	2,101
111-4-3	Final Build-to (manufacturing) specification for	12AUG04*	21*	09SEP04	2,700.00	2,101
111-5-1	Demonstrate installation feasibility	05MAR04*	54*	19MAY04	5,400.00	2,182
111-6-1	CAD models and drawings of limiter final design,	03NOV03*	86*	01MAR04	19,600.00	2,239
111-6-2	Final thermal analysis of limiters	01JUN04*	88*	30SEP04	5,400.00	2,086
111-6-3	Final stress analysis of vessel lmiters	01JUN04*	88*	30SEP04	9,210.00	2,086
114-1-1	Sensor specification and schematics of sensor pl	03NOV03*	86*	01MAR04	4,120.00	2,239
114-1-2	Interface and cost data input for tasks 111-2, 1	03NOV03*	86*	01MAR04	2,160.00	2,239
111-031	Title III engr	03OCT05*	130	31MAR06	18,408.91	1,695



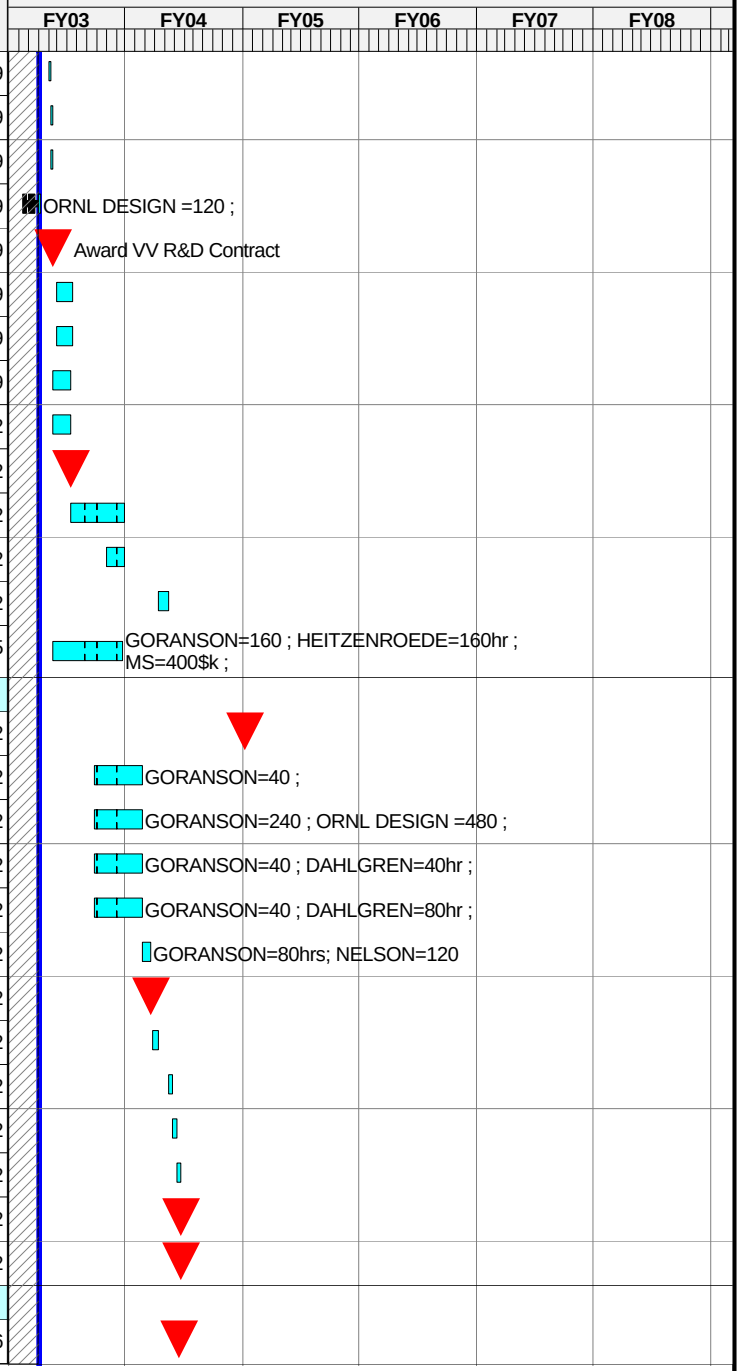
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
111-037	First Wall Panels Procurement	03OCT05*	60	23DEC05	89,390.95	251
111-041	In-house Fab/assy	26DEC05	20	20JAN06	11,681.60	251
116-012	FDR Limiters WBS 111 and 116		0	29SEP04	0.00	493
116-031	Title III engr	03OCT05*	120	17MAR06	3,459.56	1,705
116-037	PFC Local I&C Procurement	03OCT05*	60	23DEC05	4,808.51	231
116-041	In-house Fab/assy	26DEC05	20	20JAN06	4,473.76	231
12 - Vacuum Vessel Systems						
121 - Vacuum Vessel Assembly						
Job: 1201 - Vacuum Vessel Dsn-GORANSON						
L4-001	Reconstruct conceptual design of stellarator cor	01NOV02A	47	18DEC02A	29,760.00	
L4-002	Define modular coil winding geometry	16DEC02A	20*	22JAN03	0.00	82
L4-003	Define VV shell and FW geometry	16DEC02A	37*	14FEB03	0.00	15
L4-041	Design of VV	02JAN03*	92	09MAY03	64,470.00	5
L4-042	Establish final port geometry	16DEC02A	37*	14FEB03	0.00	25
L4-043	Develop design of bolted angled joint	06JAN03*	50*	14MAR03	0.00	0
L4-044	Build geometric mock-up to demo feasibility	17MAR03*	20	11APR03	0.00	0
L4-045	Establish feasibility of swiping vac seals	17MAR03*	20	11APR03	0.00	0
L4-046	Resolve interference with VV supports	17MAR03*	10	28MAR03	0.00	0
L4-047	Establish envelopes & locations in vsl cmpnts	17FEB03*	15	07MAR03	0.00	25
L4-048	Establish port allocations	14APR03*	10	25APR03	0.00	0
L4-049	Perform FMECA	28APR03*	5	02MAY03	0.00	0
L4-050	Establish instrumentation requirements	27JAN03*	5	31JAN03	0.00	70
L4-053.5	Prepare performance (design-to) specification fo	09DEC02A	69*	25MAR03	5,400.00	28
L4-052	Evaluate design versus performance reqmnts	05MAY03*	10	16MAY03	0.00	0
L4-053	Review and promote models/drawings	28APR03*	10	09MAY03	0.00	5
L4-071.5	Develop design for VV insulation & attachments	19DEC02A	44*	28FEB03	30,400.00	55
L4-069	Perform thermal analysis of VV	22JAN03*	28*	28FEB03	21,600.00	55
L4-071	Calculate Heat leakage to cold mass	13JAN03*	5	17JAN03	0.00	75
L4-064	Perform EM & Stress Analysis of VV	22JAN03*	28*	28FEB03	42,014.40	45
L4-065	Develop FEA model incl supports	31MAR03*	10	11APR03	0.00	0



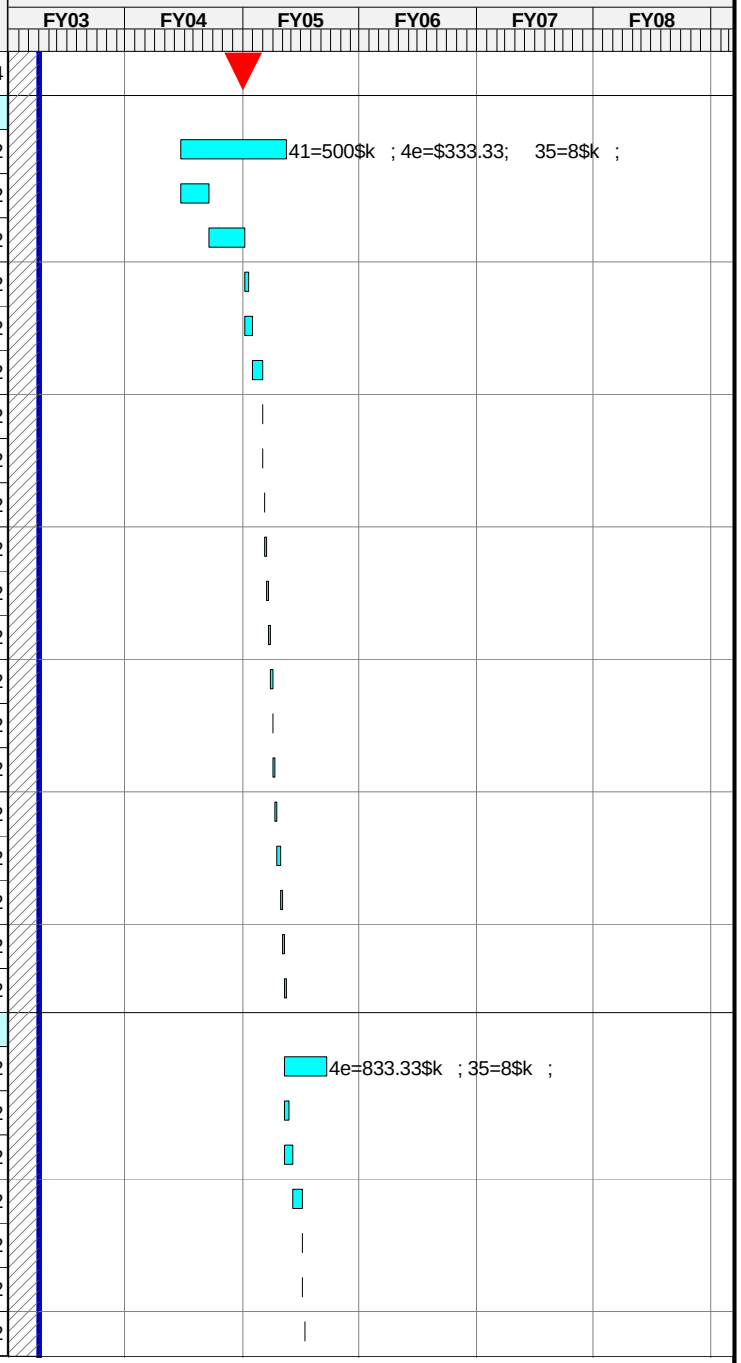
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
L4-066	Calc. buckling FOS &stresses under atmosp	14APR03*	5	18APR03	0.00	0
L4-067	Calculate disruption loads	14APR03*	5	18APR03	0.00	0
L4-068	Calculate stresses under combined loads	21APR03*	10	02MAY03	0.00	0
L4-054	Develop Interfaces	02JAN03*	95*	14MAY03	97,902.00	2
L4-055	Prepare Scope sheet items PFC's (WBS 12/11)	14APR03*	10	25APR03	0.00	15
L4-056	Prepare Scope sheet items (WBS 12/14)	05MAY03*	10	16MAY03	0.00	0
L4-057	Prepare Scope sheet items 12/21-23	28APR03*	5	02MAY03	0.00	10
L4-058	Prepare Scope sheet items ICH (WBS12/24)	16JAN03*	5	22JAN03	0.00	82
L4-059	Prepare Scope sheet items NB (WBS 12/25)	20JAN03*	5	24JAN03	0.00	80
L4-060	Prepare Scope sheet items diag (WBS 12/3)	28APR03*	15	16MAY03	0.00	0
L4-061	Prepare Scope sheet item grounding (WBS 12/4)	17FEB03*	5	21FEB03	0.00	60
L4-062	Prepare Scope sheet items I&C (WBS 12/5)	03FEB03*	5	07FEB03	0.00	70
L4-062.2	Prepare Scope sheet items (WBS 12/13)	03FEB03*	5	07FEB03	0.00	70
L4-062.4	Prepare Scope sheet items (WBS 12/17)	03FEB03*	5	07FEB03	0.00	70
L4-062.6	Prepare Scope sheet items (WBS 12/18)	03FEB03*	5	07FEB03	0.00	70
L4-063	Prepare Scope sheet VV Htg/Clng (WBS 12/6)	31MAR03*	5	04APR03	0.00	30
124-1-1	Support Syst-CAD models,assly dwgs, Interfaces	22JAN03*	28*	28FEB03	19,600.00	55
124-1-2	Support Syst-Stress analysis	20JAN03*	20*	14FEB03	17,604.80	65
124-1-3	Support Syst-Thermal analysis	16DEC02A	58*	17MAR03	5,400.00	44
L4-079	Finalize budgetary cost and schedule (WBS 12	15APR03*	5	21APR03	1,350.00	19
121-4-15	PDR Preparation	15MAY03	25	19JUN03	10,800.00	2
125-1-PDR	Vacuum Vessel and Modular Coil Prelim Dsn Review		0	23JUN03*	0.00	0
125-1-ICR	NCSX External Independent Cost Review		0	15JUL03*	0.00	2,402
123-1-1	Schematics and CAD assembly drawing of piping	19DEC02A	44*	28FEB03	9,800.00	50
123-1-2	Flow analysis	19DEC02A	64*	28MAR03	11,502.40	30
Job: 1202 - Vacuum Vessel R&D-GORANSON						
121-5-1	Procurement Oversight and Support	24OCT02A	78*	24FEB03	38,204.80	2,501
121-5-12	Develop and Issue RFP	18NOV02A	0	18NOV02A	0.00	
121-5-14	Proposal Prep by subcontractors	19NOV02A	39*	24JAN03	0.00	20
121-5-16	Evaluate Proposals	27JAN03	10	07FEB03	0.00	20



Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
121-5-17	Update Documentation (SOW,spec,dwgs)	03FEB03	6	10FEB03	0.00	19
121-5-18	Finalize Contract	11FEB03	5	17FEB03	0.00	19
121-5-19	DOE Approval	11FEB03	5	17FEB03	0.00	19
121-5-2	Update CAD models, drawings and specifications	15NOV02A	27*	06JAN03	13,200.00	49
121-5-25	Award 2 VV R&D ContractS		0	17FEB03	0.00	19
L4-076	Report on mfg methods	25FEB03*	40	21APR03	0.00	19
L4-077	Preliminary MIT and QA Plans for VVSA	25FEB03	40	21APR03	0.00	19
L4-077.1	Budgetary and cost estimates from R&D Vendors	18FEB03	40	14APR03	0.00	19
L4-077.2	MIT and QA plan for PVVS	18FEB03	40	14APR03	0.00	102
L4-077.3	Relaese fo Prototype Fabrication		0	14APR03	0.00	102
L4-78	Vendor design/Fab prototype	15APR03	116	26SEP03	0.00	102
L4-79	Report on add'l manufacturing activities	01AUG03	40	26SEP03	0.00	102
L4-80	Vendors Prep Final plans & firm fixed price est	12JAN04	21	09FEB04	0.00	82
121-5-3	VV R&D and oversight	18FEB03	153	23SEP03	574,009.60	125
Job: 1203 - Vacuum Vessel Final Dsn-GORANSON						
121-36-9.2	Release for Fabrication		0	04OCT04	0.00	82
121-4-3	Build-to (manufacturing) specification for	24JUN03*	107	21NOV03	5,400.00	82
121-6-1	CAD models and drawings of vessel final design,	24JUN03*	107	21NOV03	85,200.00	82
121-6-2	Final thermal analysis of vessel assembly	24JUN03*	107	21NOV03	11,647.16	82
121-6-3	Final stress analysis of vessel assembly	24JUN03*	107	21NOV03	17,894.31	82
121-6-4	FDR Prep	24NOV03*	20	19DEC03	0.00	82
121-6-5	FDR		0	19DEC03	0.00	82
121-6-6	Finalize tech Doc package & Resolve chits	22DEC03	15	09JAN04	0.00	82
121-6-8	Evaluate and Select VV Production Vendor	10FEB04	10	23FEB04	0.00	82
121-6-83	Negotiate with vendor	24FEB04	10	08MAR04	0.00	82
121-6-85	DOE Approve VV Selection & contract	09MAR04	10	22MAR04	0.00	82
121-6-9	Award VV Production Vendor (Phase funded)		0	22MAR04	0.00	82
121-6-9.1	Release for Engr/design/tooling/fixtures		0	22MAR04	0.00	82
Design						
121-039.1	Release for Engr/Tooling	17MAR04	0		0.00	86



Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
121-100.1	Release for Fabrication	01OCT04*	0		0.00	84
Period #1						
121-039	VV vendor phase funding 1 (E/A F/B)	23MAR04	235*	14FEB05	1,037,881.56	82
121-100	Mfg Planning/Design tooling & fixturing	23MAR04	60	14JUN04	0.00	82
121-110	Procure raw material ,purchased components&fixt	15JUN04	80	04OCT04	0.00	82
121-120	Form Panels	05OCT04	10	18OCT04	0.00	82
121-125	Fabricate & pre-machine port flanges	05OCT04	20	01NOV04	0.00	82
121-130	Fabricate 60* periods	02NOV04	20	29NOV04	0.00	82
121-140	Inspect profile	30NOV04	2	01DEC04	0.00	82
121-150	Stress relieve anneal	02DEC04	2	03DEC04	0.00	82
121-160	Sand blast smooth	06DEC04	2	07DEC04	0.00	82
121-170	Electro Polish surfaces	08DEC04	7	16DEC04	0.00	82
121-180	Weld 120* periods	17DEC04	5	23DEC04	0.00	82
121-190	Inspect Profile	24DEC04	2	27DEC04	0.00	82
121-200	Machine Port openings	28DEC04	5	03JAN05	0.00	82
121-210	Thermal cycle vessel	04JAN05	2	05JAN05	0.00	82
121-220	Perform vacuum test at 150C	06JAN05	2	07JAN05	0.00	82
121-230	Perform final dimensional inspection	10JAN05	5	14JAN05	0.00	82
121-240	Touch-up polish inside surfaces & cleanup ext	17JAN05	9	27JAN05	0.00	82
121-250	Clean part per cleaning procedure	28JAN05	5	03FEB05	0.00	82
121-260	Final visual inspection/PPPL source witness	04FEB05	2	07FEB05	0.00	82
121-270	Ship Period 1 Vac Vsl to PPPL	08FEB05	5	14FEB05	0.00	82
Period #2						
121-040	VV vendor phase funding 2 (1/A)	08FEB05	95*	20JUN05	898,728.13	82
121-120-3	Form Panels	08FEB05	10	21FEB05	0.00	82
121-125-3	Fabricate & pre-machine port flanges	08FEB05	20	07MAR05	0.00	82
121-130-3	Fabricate 60* periods	08MAR05	20	04APR05	0.00	82
121-140-3	Inspect profile	05APR05	2	06APR05	0.00	82
121-150-3	Stress relieve anneal	07APR05	2	08APR05	0.00	82
121-160-3	Sand blast smooth	11APR05	2	12APR05	0.00	82



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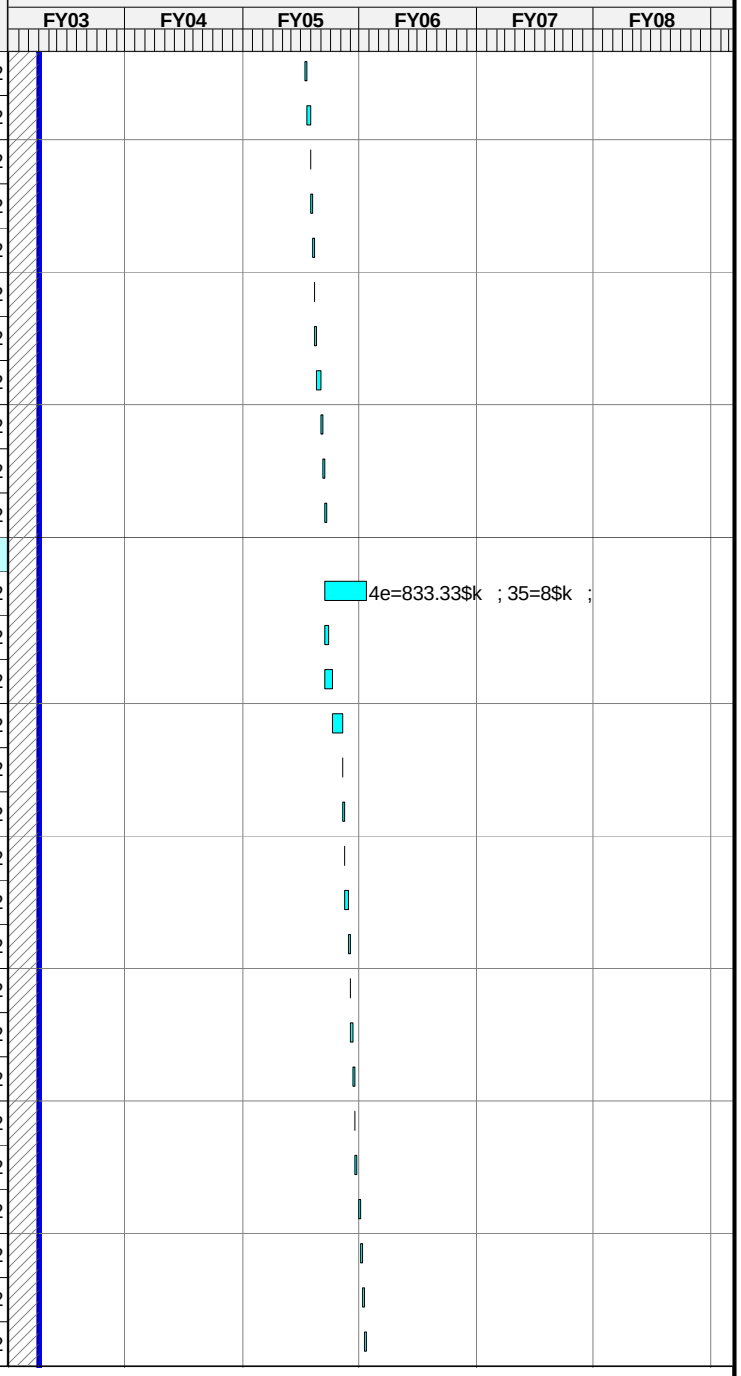
Early Bar
Progress Bar
Critical Activity

021Z

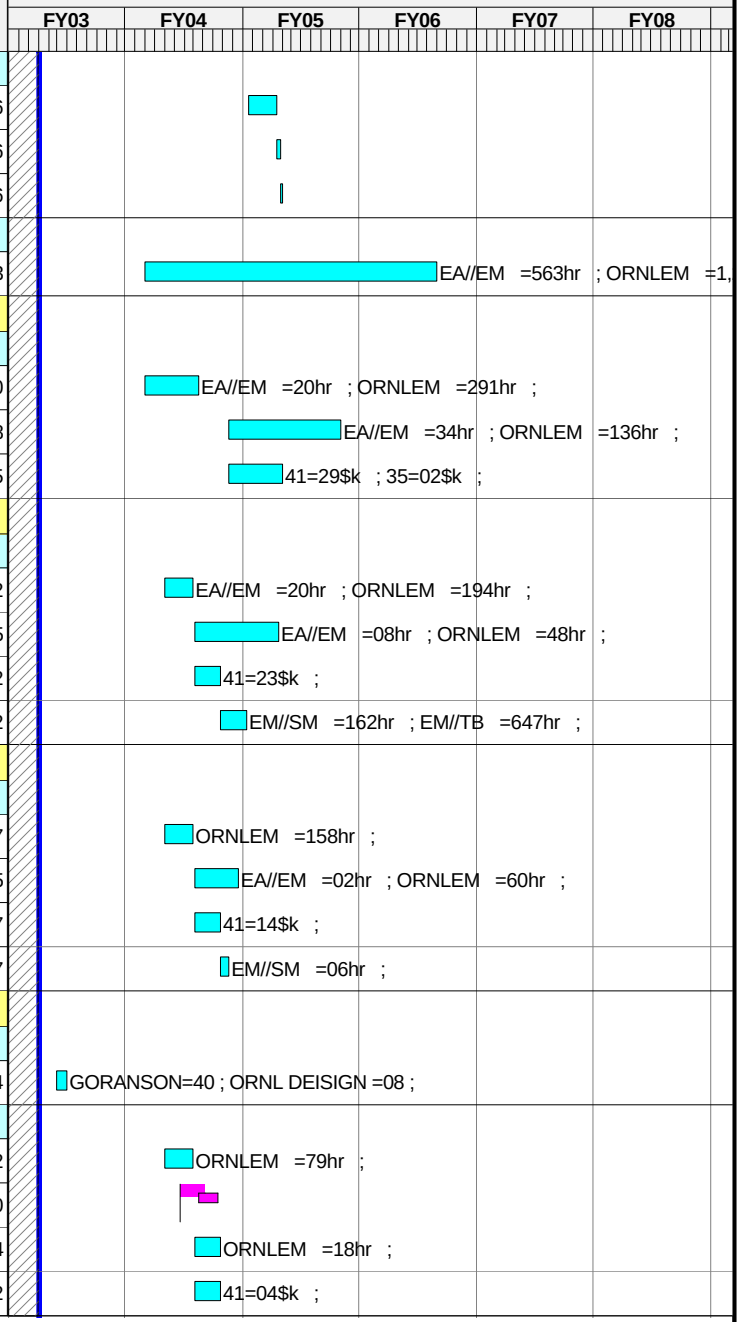
NCSX
FY04/05 FWP

MIE & R&D Project

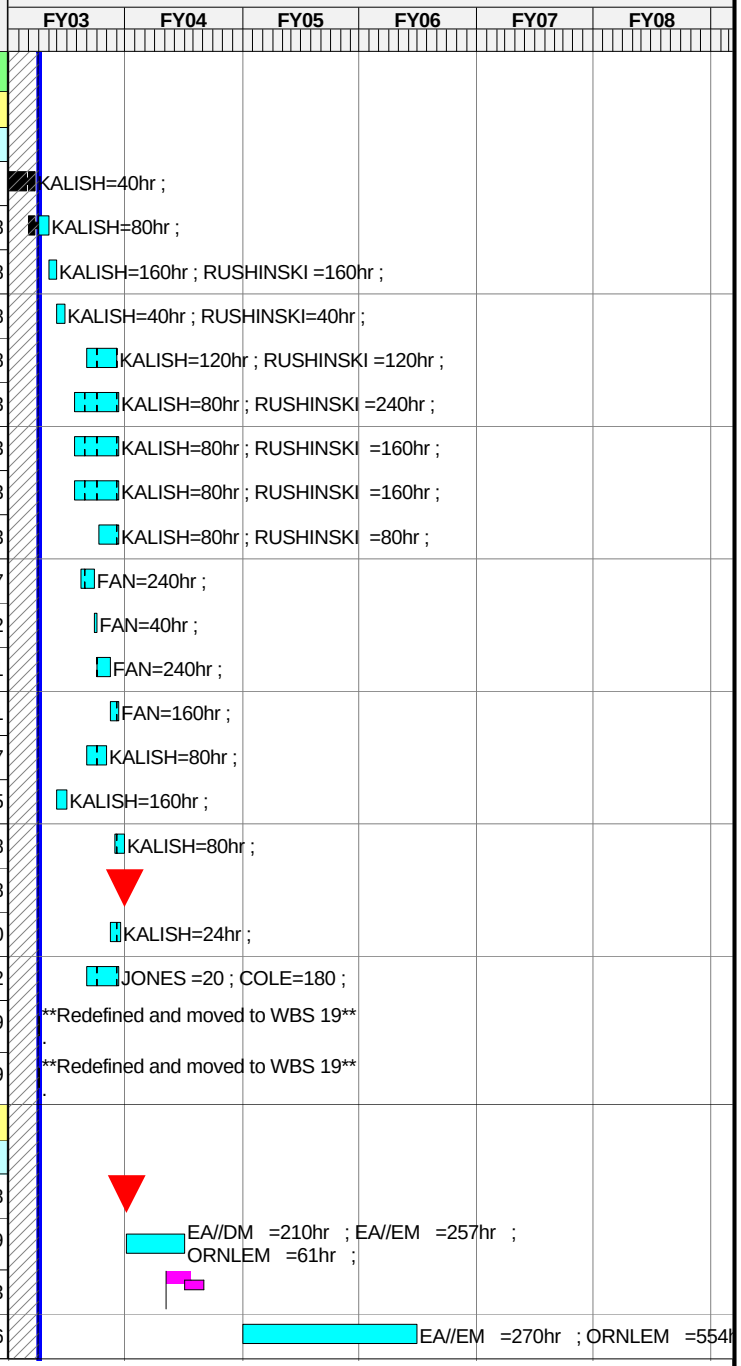
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
121-170-3	Electro Polish surfaces	13APR05	7	21APR05	0.00	82
121-180-3	Weld 120* periods	22APR05	5	28APR05	0.00	82
121-190-3	Inspect Profile	29APR05	2	02MAY05	0.00	82
121-200-3	Machine Port openings	03MAY05	5	09MAY05	0.00	82
121-210-3	Thermal cycle vessel	10MAY05	2	11MAY05	0.00	82
121-220-3	Perform vacuum test at 150C	12MAY05	2	13MAY05	0.00	82
121-230-3	Perform final dimensional inspection	16MAY05	5	20MAY05	0.00	82
121-240-3	Touch-up polish inside surfaces & cleanup ext	23MAY05	9	02JUN05	0.00	82
121-250-3	Clean part per cleaning procedure	03JUN05	5	09JUN05	0.00	82
121-260-3	Final visual inspection/PPPL source witness	10JUN05	2	13JUN05	0.00	82
121-270-3	Ship Period 2 Vac Vsl to PPPL	14JUN05	5	20JUN05	0.00	82
Period #3						
121-041	VV vendor phase funding 3 (1/A)	14JUN05	95*	24OCT05	898,708.23	82
121-120-2	Form Panels	14JUN05	10	27JUN05	0.00	82
121-125-2	Fabricate & pre-machine port flanges	14JUN05	20	11JUL05	0.00	82
121-130-2	Fabricate 60* periods	12JUL05	20	08AUG05	0.00	82
121-140-2	Inspect profile	09AUG05	2	10AUG05	0.00	82
121-150-2	Stress relieve anneal	11AUG05	2	12AUG05	0.00	82
121-160-2	Sand blast smooth	15AUG05	2	16AUG05	0.00	82
121-170-2	Electro Polish surfaces	17AUG05	7	25AUG05	0.00	82
121-180-2	Weld 120* periods	26AUG05	5	01SEP05	0.00	82
121-190-2	Inspect Profile	02SEP05	2	05SEP05	0.00	82
121-200-2	Machine Port openings	06SEP05	5	12SEP05	0.00	82
121-210-2	Thermal cycle vessel	13SEP05	2	14SEP05	0.00	82
121-220-2	Perform vacuum test at 150C	15SEP05	2	16SEP05	0.00	82
121-230-2	Perform final dimensional inspection	19SEP05	5	23SEP05	0.00	82
121-240-2	Touch-up polish inside surfaces & cleanup ext	26SEP05	9	06OCT05	0.00	82
121-250-2	Clean part per cleaning procedure	07OCT05	5	13OCT05	0.00	82
121-260-2	Final visual inspection/PPPL source witness	14OCT05	2	17OCT05	0.00	82
121-270-2	Ship Perido 3 Vac Vsl to PPPL	18OCT05	5	24OCT05	0.00	82



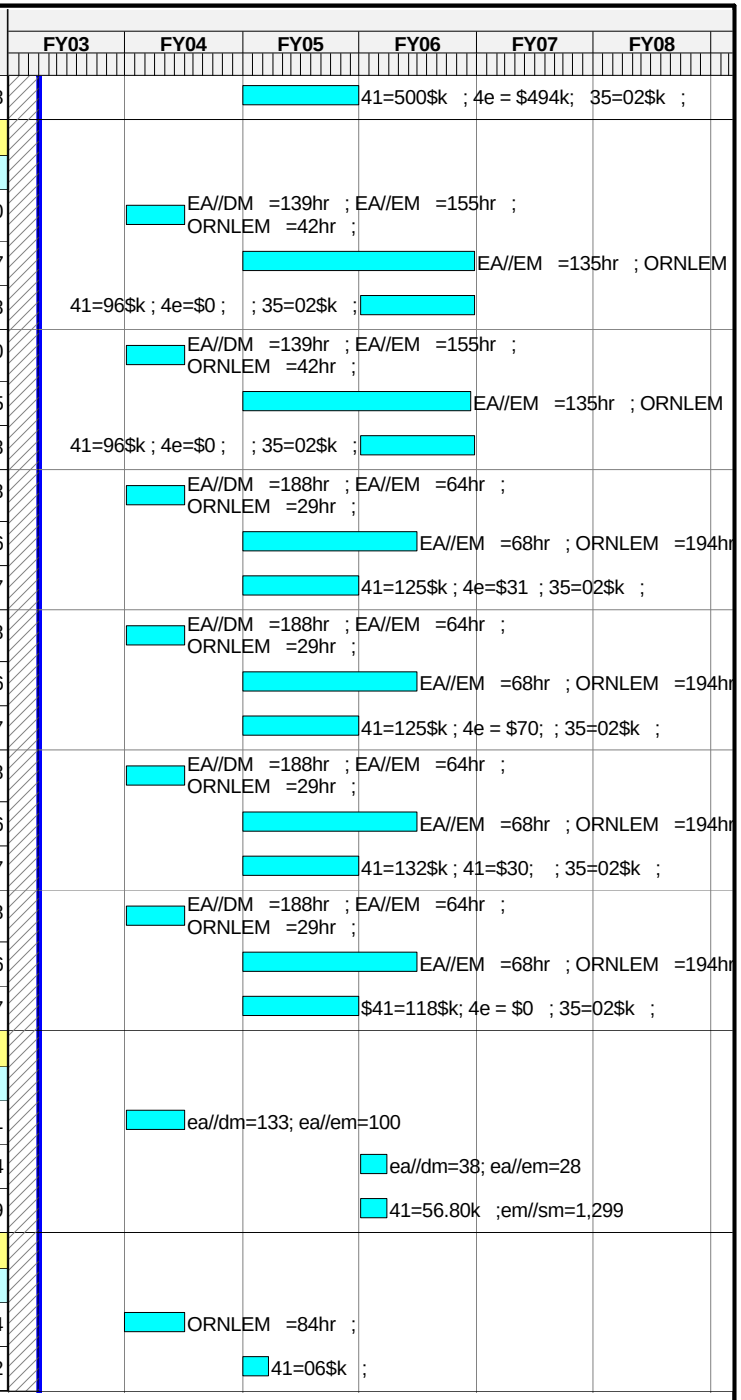
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
VV Ports						
121-280	Ports- Fabricate Port ext subassy & NB port assy	19OCT04*	65	17JAN05	0.00	246
121-290	Inspect/clean	18JAN05	5	24JAN05	0.00	246
121-300	Ship ports to PPPL	25JAN05	5	31JAN05	0.00	246
121-031	Title III engr	03DEC03	650	30MAY06	258,978.82	1,653
122 - Vacuum Vessel Thermal Insulation						
122-011	Title II design WBS 122 Thermal insulation	03DEC03	120	18MAY04	39,286.62	260
122-031	Title III engr	18AUG04*	250	02AUG05	23,435.61	1,868
122-037	VV Insulation Procurement	18AUG04*	120	01FEB05	43,037.95	195
123 - Vacuum Vessel Heating and Cooling Distrib						
123-011	Title II design WBS 123 Htg/Cooling	02FEB04*	65	30APR04	27,276.08	272
123-031	Title III engr	03MAY04*	190	21JAN05	7,418.14	2,005
123-037	VV Heating/Cooling Distr Procurement	03MAY04*	60	23JUL04	30,553.89	272
123-041	VV Heating/Cooling Fab/assy	26JUL04	60	15OCT04	69,631.00	272
124 - Vacuum Vessel Supports						
124-011	Title II design WBS 124 VV supports	02FEB04*	65	30APR04	19,613.09	327
124-031	Title III engr	03MAY04*	100	17SEP04	7,754.70	2,095
124-037	VV Supports Procurement	03MAY04*	60	23JUL04	18,212.78	327
124-041	VV Supports Fab/assy	26JUL04	20	20AUG04	650.94	327
125 - Vacuum Vessel Local I&C						
Job: 1201 - Vacuum Vessel Dsn-GORANSON						
125-1-1	Sensor specification,locations,interface w/vv	03MAR03*	21	31MAR03	6,280.00	34
125-011	Title II design WBS 125 local I&C	02FEB04*	65	30APR04	9,806.54	382
125-012	WBS 122-125 FDR		0	18MAY04	0.00	370
125-015	Title III design	03MAY04	61	26JUL04	2,228.76	2,134
125-037	Procurement	03MAY04	60	23JUL04	4,941.76	382



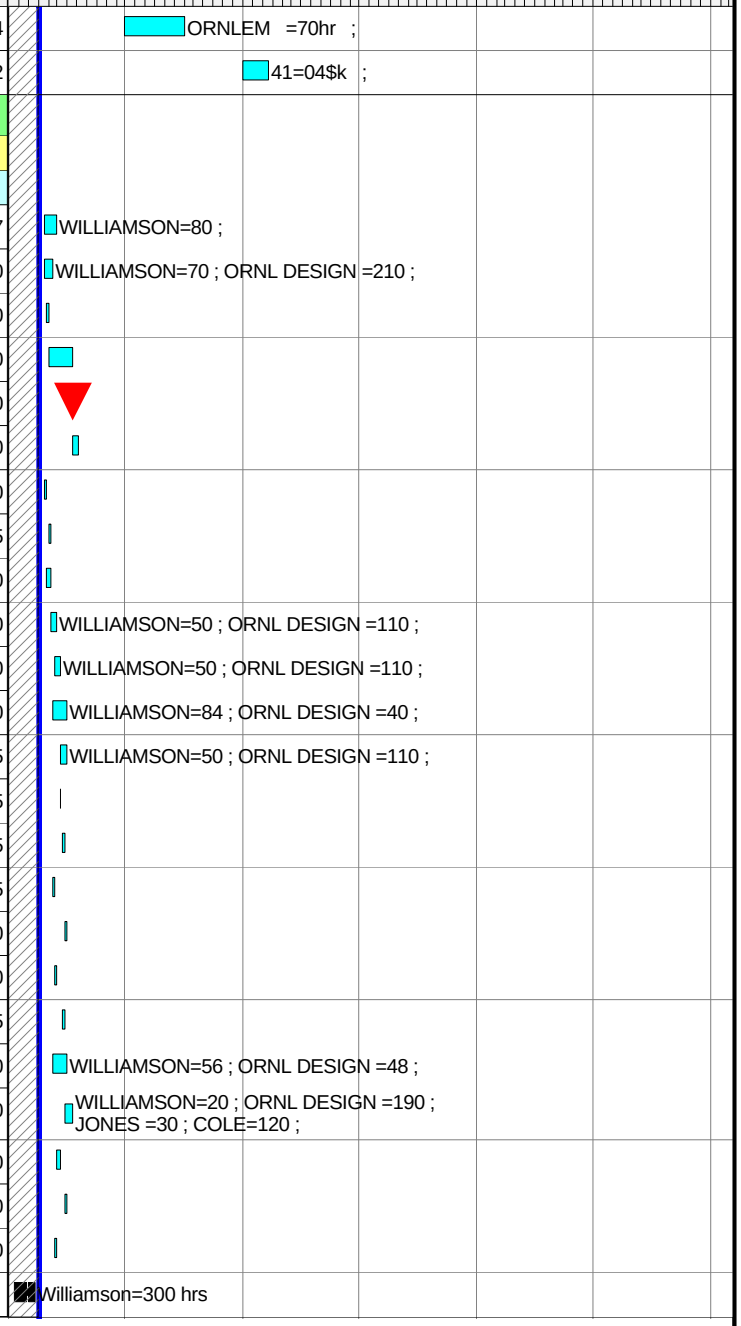
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
13 - Conventional Coils						
130						
Job: 1301 - Convential Coils Design-KALISH						
130-1-01	Update Conceptual design	01OCT02A	70	20DEC02A	6,102.40	
130-1-1	Draft of 1) SRD, and 2) SDD Section III - Requir	02DEC02A	36*	30JAN03	12,204.80	2,518
130-1-2	General arrangement models and drawings	31JAN03*	20	27FEB03	48,819.20	2,498
130-1-3	Interface control document input for modular coi	28FEB03*	20	27MAR03	12,204.80	2,478
130-1-4	Interface control document for Conventional Coil	02JUN03*	65*	02SEP03	36,614.40	2,368
130-2-1	PF Coil drawings, models, SDD Sect IV text	28APR03*	94*	09SEP03	48,819.20	2,363
130-2-2	TF Coil drawings, models, SDD Sect IV text	28APR03*	94*	09SEP03	36,614.40	2,363
130-2-3	External Trim Coil drawings, models, SDD Sect IV	28APR03*	94*	09SEP03	36,614.40	2,363
130-2-4	Coils I&C	10JUL03*	43*	09SEP03	24,409.60	2,363
130-3-1	Develop thermal/structural FEA models of cols, i	12MAY03*	30*	23JUN03	36,614.40	2,417
130-3-2	Incorporate EM loads and load cases from global	24JUN03*	5*	30JUN03	6,102.40	2,412
130-3-3	Evaluate stress/deflection due to EM / gravity /	01JUL03*	31*	13AUG03	36,614.40	2,381
130-3-4	Prepare analysis reports, SDD analysis summary,	14AUG03*	20*	11SEP03	24,409.60	2,361
130-4-1	Document fabrication and assembly options for co	02JUN03*	46*	05AUG03	12,204.80	2,387
130-4-2	Prepare cost and schedule estimates WBS 13	03MAR03*	22*	01APR03	24,409.60	2,475
130-4-3	Prepare PDR documentation WBS 13	28AUG03*	23*	30SEP03	12,204.80	2,348
130-4-3.1	Conventional Coils and Structure PDR (WBS 13&15)		0	30SEP03	0.00	2,348
130-4-4	Prepare FY04 workplans	15AUG03*	20*	12SEP03	3,661.44	2,360
192-1-2-13	Self consistent models/dwgs Conv coil/strct PDR	02JUN03*	71*	10SEP03	13,220.00	2,362
192-2-1-13	Coil geometry tolerance guidance (wbs 13)	02JAN03*	0*	20DEC02	0.00	2,539
192-2-3-13	Eddy current analysis&struct time constant wbs13	02JAN03*	0*	20DEC02	0.00	2,539
131 - TF Coils						
131-002	WBS 13 and 15 concurrent PDR IB		0	01OCT03	0.00	398
131-011	Title II design WBS 131 TF coils	02OCT03*	130	31MAR04	71,777.14	299
131-012	WBS 13 TF/PF/Trim coil FDR		0	31MAR04	0.00	713
131-031	Title III engr	01OCT04*	390	30MAR06	119,887.38	1,696



Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
131-037	TF Coil Procurement (E/A F/B)	01OCT04*	260	29SEP05	1,220,325.24	168
132 - PF Coils						
141-011	Title II design WBS 1321 PF1 coils	02OCT03*	130	31MAR04	45,241.31	510
141-031	Title III engr	01OCT04*	519	27SEP06	63,562.37	1,567
141-037	PF OH Solenoid Procurement (E/A F/B)	03OCT05*	259	28SEP06	129,692.76	118
141B-011	Title II design WBS 1322 PF2 coils	02OCT03*	130	31MAR04	45,241.31	510
141B-031	Title III engr	01OCT04*	511	15SEP06	63,542.51	1,575
141B-037	PF OH Solenoid Procurement (E/A F/B)	03OCT05*	259	28SEP06	129,692.76	118
142-011	Title II design WBS 1323 PF3 coils	02OCT03*	130	31MAR04	34,136.80	418
142-031	Title III engr	01OCT04*	390	30MAR06	37,453.35	1,696
142-037	PF 3 Procurement (E/A F/B)	01OCT04*	260	29SEP05	209,617.51	287
143-011	Title II design WBS 1324 PF4 coils	02OCT03*	130	31MAR04	34,136.80	418
143-031	Title III engr	01OCT04*	390	30MAR06	37,453.35	1,696
143-037	PF 4 Procurement (E/A F/B)	01OCT04*	260	29SEP05	251,004.70	287
144-011	Title II design WBS 1325 PF5 coils	02OCT03*	130	31MAR04	34,136.80	418
144-031	Title III engr	01OCT04*	390	30MAR06	37,453.35	1,696
144-037	PF 5 Procurement (E/A F/B)	01OCT04*	260	29SEP05	218,251.16	287
145-011	Title II design WBS 1326 PF6 coils	02OCT03*	130	31MAR04	34,136.80	418
145-031	Title III engr	01OCT04*	390	30MAR06	37,453.35	1,696
145-037	PF 6 Procurement (E/A F/B)	01OCT04*	260	29SEP05	167,025.14	287
133 - External Trim Coils						
184-011	Title II design WBS 133 Ext trim coils	02OCT03*	130	31MAR04	30,450.14	711
184-015	Title III design	03OCT05*	61	26DEC05	9,079.10	1,764
184-037	External Trim Coil Procurement/Fab	03OCT05*	60	23DEC05	222,605.92	319
134 - Conventional Coil Local I&C						
133-011	Title II design WBS 1341 TF I&C	01OCT03*	130	30MAR04	10,351.35	624
133-037	TF I&C Procurement	01OCT04*	60	23DEC04	7,728.19	492



Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
147-011	Title II design WBS 1342 pf I&C	01OCT03*	130	30MAR04	8,714.45	714
147-037	PF Local I&C Procurement	01OCT04*	60	23DEC04	5,152.13	582
14 - Modular Coils						
141 - Modular Coil Winding Form						
Job: 1401 - Mod Coil Dsn -WILLIAMSON						
140-1-1	Design-to specification (SRD)	22JAN03*	26*	26FEB03	11,520.00	47
140-5-11	Develop detailed ProE models of winding forms	22JAN03*	18*	14FEB03	33,180.00	10
142-9-0	Dev SOW for cladding R&D	27JAN03*	5	31JAN03	0.00	0
142-9-1	Internal R&D for cladding	03FEB03*	55	18APR03	0.00	0
142-9-2	Choose cladding method		0	18APR03	0.00	0
142-9-3	Update performance spec/dwgs for cladding f/PDR	21APR03	15	09MAY03	0.00	0
L4-093	Incorporate features to resolve issue of multipl	22JAN03*	5	28JAN03	0.00	10
L4-094	Incorporate final port geometry into shell cutou	03FEB03*	5	07FEB03	0.00	45
L4-098	Develop design of wings, including structural at	29JAN03*	10	11FEB03	0.00	10
140-5-12	Develop detailed ProE models winding packs&leads	12FEB03*	13	28FEB03	19,300.00	10
L4-097	Develop detailed ProE models clamps&cooling sys	24FEB03*	15	14MAR03	19,300.00	10
140-2-1	Develop ICD for conv coils.vessel,structure	17FEB03*	30*	28MAR03	16,496.00	30
L4-091.1	Develop assy models,incl bolts,insul,	10MAR03*	15	28MAR03	19,300.00	15
L4-092	Develop design of insulating, bolted joints at f	10MAR03*	5	14MAR03	0.00	15
L4-095	Incorporate feature to support the VV	17MAR03*	5	21MAR03	0.00	15
L4-105	Develop ICD with conventional coils (WBS 12)	17FEB03*	5	21FEB03	0.00	55
L4-096	Incorporate features required for FP and final a	24MAR03*	5	28MAR03	0.00	30
L4-106	Develop ICD with coil structures (WBS 13)	24FEB03*	5	28FEB03	0.00	50
L4-107	Develop ICD with diagnostics (WBS 15)	17MAR03*	5	21MAR03	0.00	35
140-2-3	Develop ICD with cryo,power, I&C	17FEB03*	30*	28MAR03	13,344.00	30
140-5-2	Prepare Preliminary Design Drawings	24MAR03*	20	18APR03	43,610.00	20
L4-108	Develop ICD with WBS 4, including grounding and	03MAR03*	10	14MAR03	0.00	40
L4-109	Develop ICD with I&C (WBS 5)	24MAR03*	5	28MAR03	0.00	30
L4-110	Develop ICD with cryogenic systems (WBS 62)	24FEB03*	5	28FEB03	0.00	50
140-1-01	Update CDR models and drawings	21OCT02A	56*	20DEC02A	43,200.00	



Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
140-1-02	Revise ProE conceptual-level models	16DEC02A	20*	22JAN03	15,602.40	37
140-1-2	Develop build-to specifications	05MAY03*	10*	16MAY03	11,520.00	25
140-3-1	Develop cost and schedule estimates	21APR03*	20*	16MAY03	23,040.00	20
140-5-3	Prepare Design Review Documentation	12MAY03*	30	23JUN03	0.00	0
140-5-4	Procure STL models for asm verification	23JAN03	17*	14FEB03	16,080.00	60
140-PDR	WBS 14 & 12 pdr		0	23JUN03*	0.00	0
143-1-1	Develop Instrumentation Drawings	14APR03*	5*	18APR03	10,160.00	20
L4-004	Define geometry of modular coil winding forms	23JAN03*	10	05FEB03	0.00	37
L4-012	Resolve issue of final fit-up of multiple mating	23JAN03*	15	12FEB03	0.00	2,453
L4-014	Define geometry of SLA model	20JAN03*	10	31JAN03	0.00	2,461
L4-015	Order/fabricate model	13FEB03	16	06MAR03	0.00	2,453
L4-100	Prepare FMEA	24MAR03*	20	18APR03	0.00	15
L4-102	Evaluate design versus performance requirements	21APR03*	25	23MAY03	0.00	15
Job: 1402 - Mod.Coil Analyses-WILLIAMSON						
140-4-01	Update conceptual design analysis	01OCT02A	67*	13DEC02A	85,891.28	
140-4-2	Update 2D/3D thermal analysis incl insulation	16DEC02A	37*	14FEB03	18,307.20	56
L4-160	Perform cooldown analysis following a pulse	27JAN03*	10	07FEB03	0.00	41
140-4-1	Develop FE models and perform EM &struc analysis	22JAN03*	18*	14FEB03	12,033.60	39
L4-155	Calculate EM loads, identify critical load cases	10FEB03*	15	28FEB03	18,307.20	16
L4-156	Update material properties based on R&D results	03MAR03*	5*	07MAR03	11,862.40	16
140-4-3	Perform stress analysis for critical cases	03MAR03*	28*	09APR03	48,648.00	16
140-4-4	Prepare local models& stress analysis	17MAR03*	25*	18APR03	18,136.00	16
L4-159	Model cooldown from ambient	21APR03*	15*	09MAY03	18,136.00	16
L4-159.1	Prepare Design Review Documentation f/analyses	12MAY03*	14*	30MAY03	18,136.00	16
Job: 1403 - Mod. Coil Final Design-WILLIAMSON						
140-1-3	Final Build-to (manufacturing) specification for	24JUN03*	55*	10SEP03	29,484.80	89
140-3-5	Update planning for FY-04	11AUG03*	20*	08SEP03	2,880.00	91
140-4-5	Re-assess all analysis for final design and upda	24JUN03*	66*	25SEP03	109,158.40	78
140-6-1	CAD models of modular coil assembly final design	24JUN03*	49*	02SEP03	109,200.00	95
140-6-2	CAD drawings of all parts, subassemblies, interf	01JUL03*	61*	25SEP03	66,000.00	78

Run Date 11MAR03 15:46

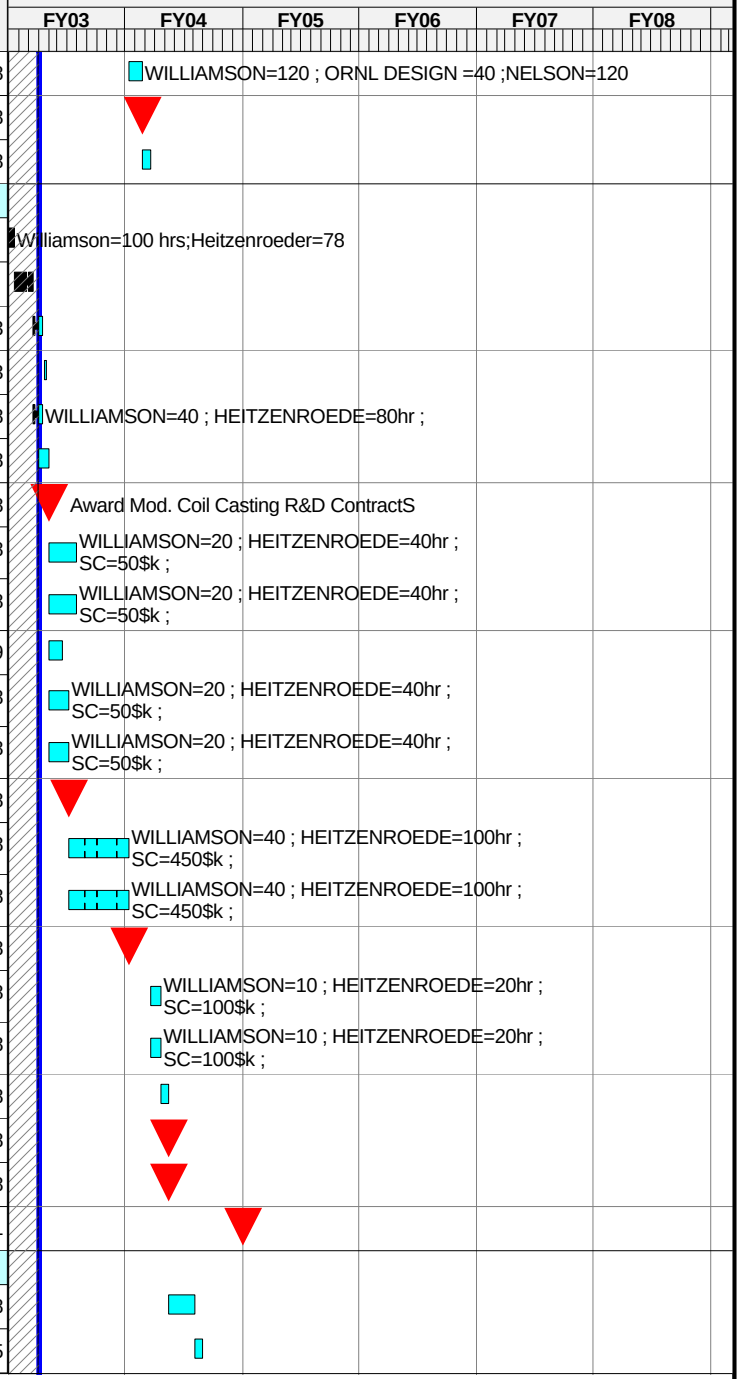
Early Bar
Progress Bar
Critical Activity

021Z

NCSX
FY04/05 FWP

MIE & R&D Project

Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
140-6-3	Final design review documentation prep	10OCT03	30	20NOV03	41,360.00	68
140-6-3.1	FDR Modular Coils		0	20NOV03	0.00	68
140-6-4	Disposition FDR Chits and finalize procurmnt pkg	21NOV03	20	18DEC03	0.00	68
Job:1404-Mod Coil Winding Form R&D-HEITZENROEDER						
142-1-05	Pre Documentation and Issue RFP	01OCT02A	0*	18OCT02A	26,299.68	
142-1-06	Vendors Prep Proposals	21OCT02A	38	16DEC02A	0.00	
142-1-07	Evaluate & Negotiate Proposals w/vendors	17DEC02A	16*	17JAN03	0.00	13
142-1-08	DOE Review & Approve	20JAN03	5	24JAN03	0.00	13
142-1-1	Answer bidder questions, eval bids,select vendrs	17DEC02A	16*	17JAN03	17,964.80	18
142-1-10	Proj UpdateTech Pkg (remove cladding)	02JAN03	22	31JAN03	0.00	8
142-1-15	Award Mod. Coil Casting R&D ContractS		0	31JAN03*	0.00	8
142-1-2A	Phase I -MIT Plan/cost for production articles A	03FEB03*	62	29APR03	74,982.40	8
142-1-2B	Phase I -MIT Plan/cost for production articles B	03FEB03*	62	29APR03	74,982.40	8
142-10.1	Proj UpdateTech Pkg (M50 coils,cooling,VPI)	03FEB03	31	17MAR03	0.00	9
142-1-2AP	Phase I -MIT plan for prototype Vndr A	04FEB03*	45	07APR03	74,982.40	68
142-1-2BP	Phase I -MIT plan for prototype Vndr B	04FEB03*	45	07APR03	74,982.40	68
142-1-30	RELEASE FOR PROTOTYPE FABRICATION		0	07APR03	0.00	68
142-1-3A	Phase II - Fabricate Prototype- VNDR A	08APR03*	130	09OCT03	747,070.87	68
142-1-3B	Phase II - Fabricate Prototype- VNDR B	08APR03*	130	09OCT03	747,070.87	68
C-061	Castings-R&D Casting Reports		0	09OCT03	0.00	68
142-1-4A	Phase III - Final MIT plans, detailed est-VNDR A	19DEC03*	20	15JAN04	4,695.00	68
142-1-4B	Phase III - Final MIT plans, detailed est-VNDR B	19DEC03*	20	15JAN04	4,695.00	68
C-071	Project eval R&D cost proposals & select vendor	16JAN04	20	12FEB04	0.00	68
C-081	Castings-Award Mfg contract (phase funded)	13FEB04	0		0.00	68
C-082	Castings-Release f/ engr/tooling&1st 9 castings	13FEB04	0		0.00	68
C-083	Castings-Release for last 9 castings	01OCT04*	0		0.00	221
Type 1 Casting Fab						
C-121	Castings-BA-1-1	13FEB04	60	06MAY04	0.00	68
C-181	Castings-BA-4-1	07MAY04	17	31MAY04	0.00	85



Run Date 11MAR03 15:46

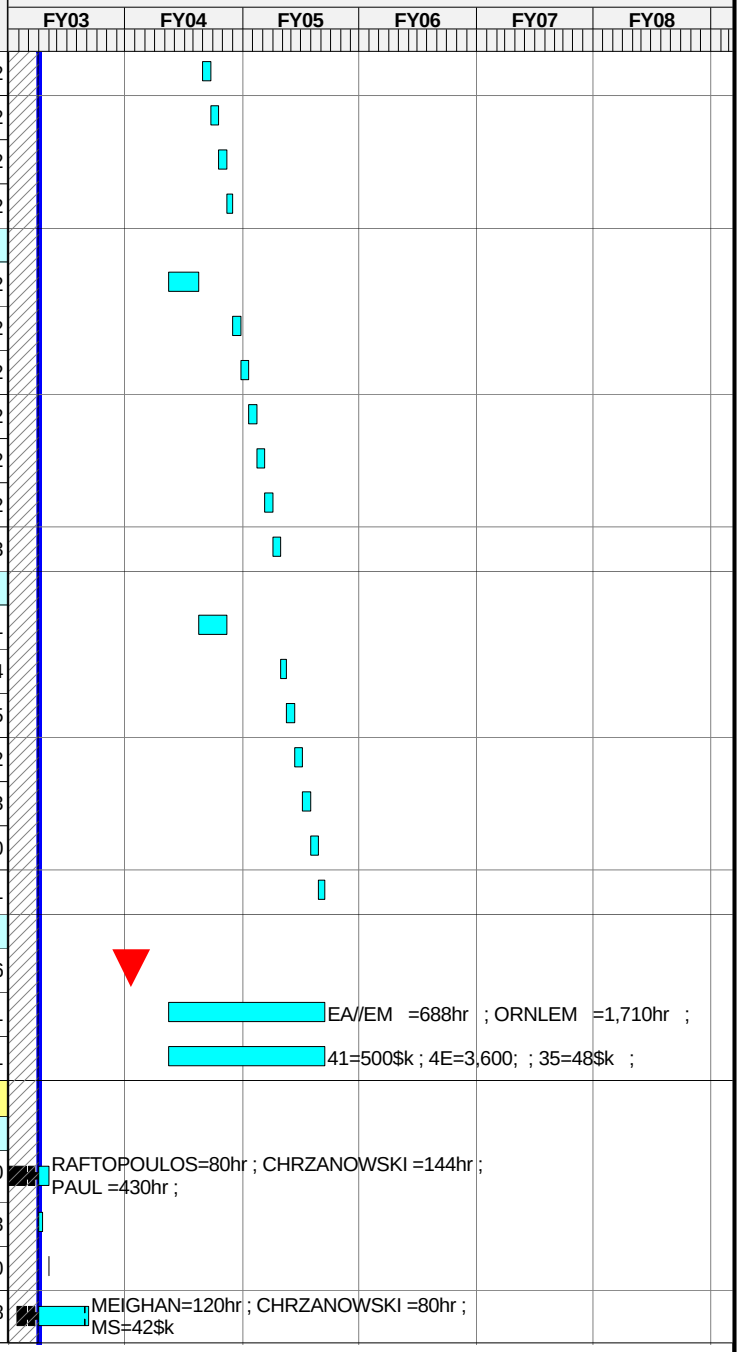
Early Bar
Progress Bar
Critical Activity

021Z

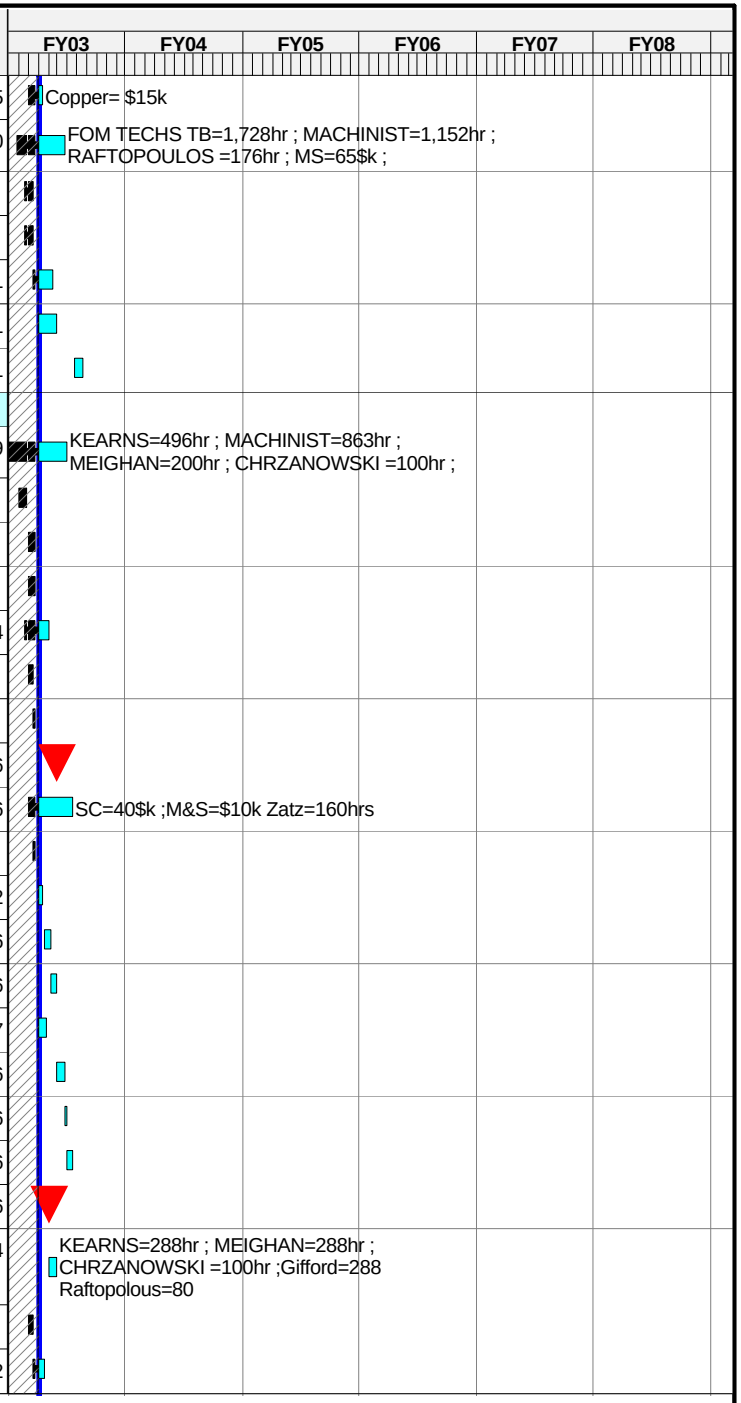
NCSX
FY04/05 FWP

MIE & R&D Project

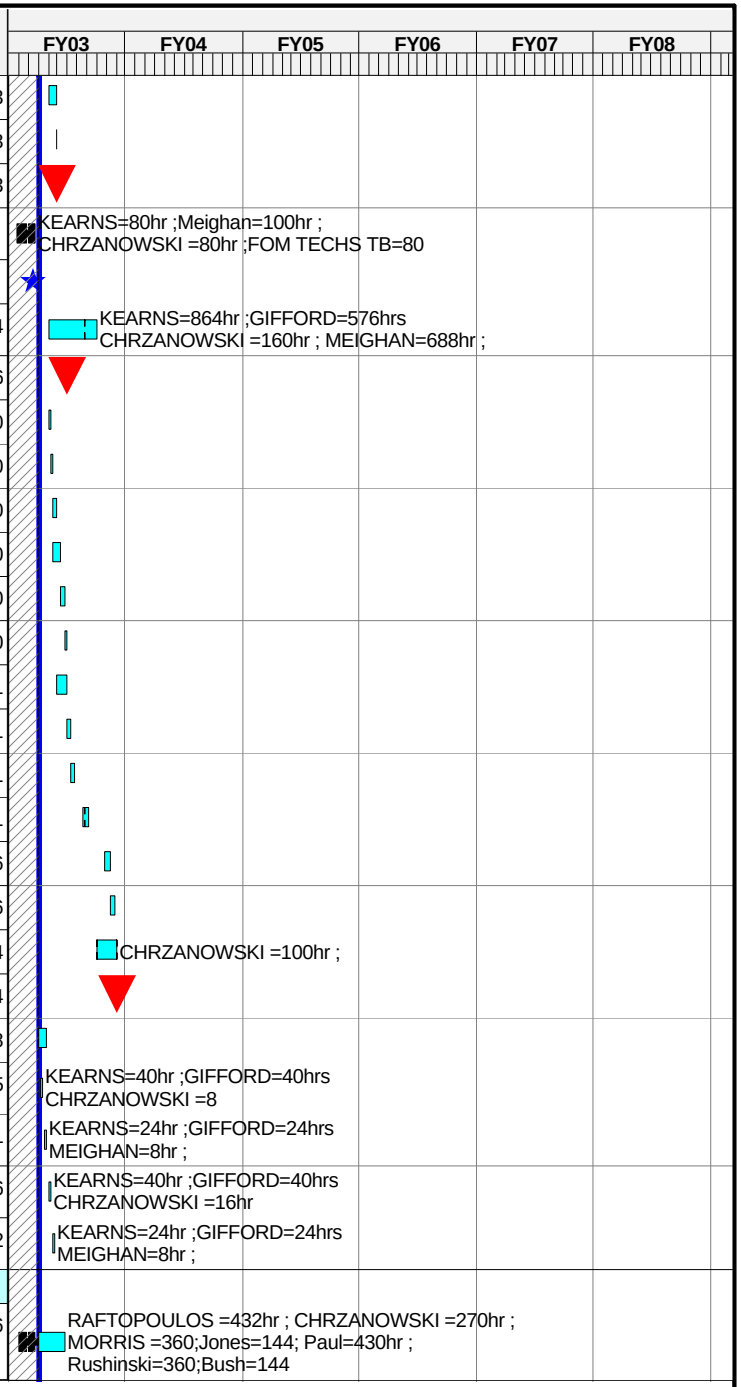
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
C-261	Castings-BA-7-2	01JUN04	17	23JUN04	0.00	92
C-321	Castings-BA-10-2	24JUN04	17	16JUL04	0.00	92
C-401	Castings-BA-13-3	19JUL04	17	10AUG04	0.00	92
C-461	Castings-BA-16-3	11AUG04	17	02SEP04	0.00	92
Type 2 Casting Fab						
C-101	Castings-Production casting tooling prep type MI	13FEB04	65	13MAY04	0.00	172
C-141	Castings-MI-2-1	03SEP04	17	27SEP04	0.00	92
C-201	Castings-MI-5-1	28SEP04	17	20OCT04	0.00	92
C-281	Castings-MI-8-2	21OCT04	17	12NOV04	0.00	92
C-341	Castings-MI-11-2	15NOV04	17	07DEC04	0.00	92
C-421	Castings-MI-14-3	08DEC04	17	30DEC04	0.00	92
C-481	Castings-MI-17-3	31DEC04	17	24JAN05	0.00	103
Type 3 Casting Fab						
C-102	Castings-Production casting tooling prep type BU	14MAY04	65	12AUG04	0.00	231
C-161B	Castings-BU-3-1	25JAN05	17	16FEB05	0.00	114
C-221B	Castings-BU-6-1	17FEB05	17	11MAR05	0.00	125
C-301B	Castings-BU-9-2	14MAR05	17	05APR05	0.00	132
C-361B	Castings-BU-12-2	06APR05	17	28APR05	0.00	143
C-441B	Castings-BU-15-3	29APR05	17	23MAY05	0.00	150
C-501B	Castings-BU-18-3	24MAY05	17	15JUN05	0.00	161
172-012	WBS 14 Modular Coil FDR		0	16OCT03	0.00	2,336
172-031	Title III engr	13FEB04	349*	15JUN05	332,633.58	161
172-037	Procurement vendor cost (A/A 1/C)	13FEB04	349*	15JUN05	4,447,954.10	161
142 - Modular Coil Windings and Assembly						
Job: 1405-Mod Coil Winding R&D Prep-CHRZANOWSKI						
141-1-1	Design Prototypes for R&D Activities	01OCT02A	80*	03FEB03	77,121.84	180
L4-141	Develop process design	02JAN03*	10*	15JAN03	0.00	193
L4-142	Peer review process design	03FEB03	1	03FEB03	0.00	180
141-1-2	Procure supplies/equip. for R&D Trials	28OCT02A	149*	06JUN03	79,643.60	2,428



Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
141-1-2.1	Procure copper	02DEC02A	23*	13JAN03	19,800.00	195
141-1-3	Fabricate winding forms/molds for trials	28OCT02A	99*	27MAR03	353,896.64	200
L4-139	Fabricate 1st (straight) winding form at PPPL	18NOV02A	20	17DEC02A	0.00	
L4-140	Place contract for 2nd and 3rd winding forms	18NOV02A	20	17DEC02A	0.00	
L4-146	Fab and Deliver 2nd winding form	18DEC02A	35*	14FEB03	0.00	181
L4-149.1	Fab & Deliver 3rd winding form	02JAN03*	42*	28FEB03	0.00	161
L4-152	Fab and deliver 4th winding form	28APR03	18	21MAY03	0.00	161
Job: 1406 - Mod. Coil Winding R&D-CHRZANOWSKI						
141-2-1	Develop VPI mold & impregnation techniques	01OCT02A	120*	31MAR03	157,728.57	189
L4-129	Prepare TFTR basement for winding R&D, set up eq	04NOV02A	1	27NOV02A	0.00	
L4-130	Select epoxy resin	02DEC02A	1	20DEC02A	0.00	
L4-131	Prepare NEPA and WP to cover winding development	02DEC02A	1	20DEC02A	0.00	
L4-132	Develop VPI procedure for impregnating molded co	19NOV02A	44*	31JAN03	0.00	124
L4-133	Prep single conductor molds and test samples	02DEC02A	10	17DEC02A	0.00	
L4-134	VPI single conductor test samples	18DEC02A	5	20DEC02A	0.00	
141-1-3.1	Fabricate Tensile Test Specimens (SOW 4.6)		0	24FEB03	0.00	176
141-2-1.01	Determine material properties and allowables	02DEC02A	91*	17APR03	90,409.60	176
L4-119	Establish test rqmts	16DEC02A	5	20DEC02A	0.00	
L4-121	Peer review test plans and specimens	02JAN03	10*	15JAN03	0.00	182
L4-122	Fabricate molds for test speciments	24JAN03*	11*	07FEB03	0.00	176
L4-123	Fabricate test specimens	10FEB03*	11*	24FEB03	0.00	176
L4-124	Place contracts for outside testing	02JAN03*	17*	24JAN03	0.00	197
L4-125	Perform tests on test specimens, establish prope	25FEB03*	20*	24MAR03	0.00	176
L4-126	Review results of test program	25MAR03*	4*	28MAR03	0.00	176
L4-127	Update design criteria	31MAR03*	14*	17APR03	0.00	176
141-2-1.1	Select Epoxy Resin System (SOW 4.3)		0	31JAN03*	0.00	186
141-2-3	Perform conductor Keystone tests	03FEB03*	16*	24FEB03	98,277.12	214
L4-113	Design winding form	02DEC02A	10	16DEC02A	0.00	
L4-114	Peer review plans for keystoning	17DEC02A	18*	21JAN03	0.00	222



Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
L4-116	Tape and wind conductor on winding form, measure	03FEB03*	16*	24FEB03	0.00	213
L4-117	Review results of keystoning test	25FEB03	1	25FEB03	0.00	213
141-2-3.1	Keystone tests complete (SOW 4.7)		0	25FEB03	0.00	213
141-2-2	Receive, inspect and VPI test coil wound at UT	28OCT02A	46*	20DEC02A	33,875.80	
141-2-2.1	VPI of test Coil from UT (SOW 4.5)		0	20DEC02A	0.00	
141-2-4	Perform VPI and winding testing	03FEB03*	106*	01JUL03	198,250.72	124
141-2-4.1	Prelim VPI Process for Mod Coils (SOW 4.4)		0	31MAR03	0.00	2,476
L4-143	Wind conductor on 1st winding form	04FEB03	5	10FEB03	0.00	180
L4-144	Apply mold and VPI 1st winding	11FEB03*	5*	17FEB03	0.00	180
L4-145	Inspect and test 1st windings	18FEB03	5	24FEB03	0.00	180
L4-146.1	Prep & Wind conductor 2nd (twisted) winding form	18FEB03	15	10MAR03	0.00	180
L4-147	Apply mold and VPI 2nd winding	11MAR03	10	24MAR03	0.00	180
L4-148	Inspect and test 2nd winding	25MAR03	5	31MAR03	0.00	180
L4-149.2	Prep & Wind conductor 3rd (twisted) winding form	03MAR03*	20	28MAR03	0.00	161
L4-150	Apply mold and VPI 3rd winding	31MAR03*	10	11APR03	0.00	161
L4-151	Inspect and test 3rd winding	14APR03	10	25APR03	0.00	161
L4-177	Prep &Wind conductor 4th (vertical) winding form	22MAY03	10	05JUN03	0.00	161
L4-178	Apply mold and VPI 4th winding	28JUL03*	15	15AUG03	0.00	126
L4-179	Inspect and test 4th winding	18AUG03	10	29AUG03	0.00	126
141-2-5	Develop winding and VPI procedures for prototype	02JUL03*	44*	03SEP03	15,256.00	124
141-2-5.1	Final VPI Process for Mod Coils (SOW 4.4)		0	03SEP03*	0.00	124
L4-115	Fab winding form at PPPL	02JAN03*	17*	24JAN03	0.00	218
141-QPS-1	Wind 2nd Test Coil @ PPPL	06JAN03*	6	13JAN03	7,056.48	2,515
141-QPS-2	VPI 2nd Test Coil	20JAN03*	5	24JAN03	4,301.52	2,511
141-QPS-3	Wind (4) conductor Coil	03FEB03*	6	10FEB03	8,276.96	2,506
141-QPS-4	VPI (4) Conductor Coil	17FEB03*	5	21FEB03	4,301.52	2,502
Job: 1407 -Mod Coil Winding Facility-CHRZANOWSKI						
141-3-1	Design Tooling and Winding Facility	01NOV02A	95*	27MAR03	275,908.72	186



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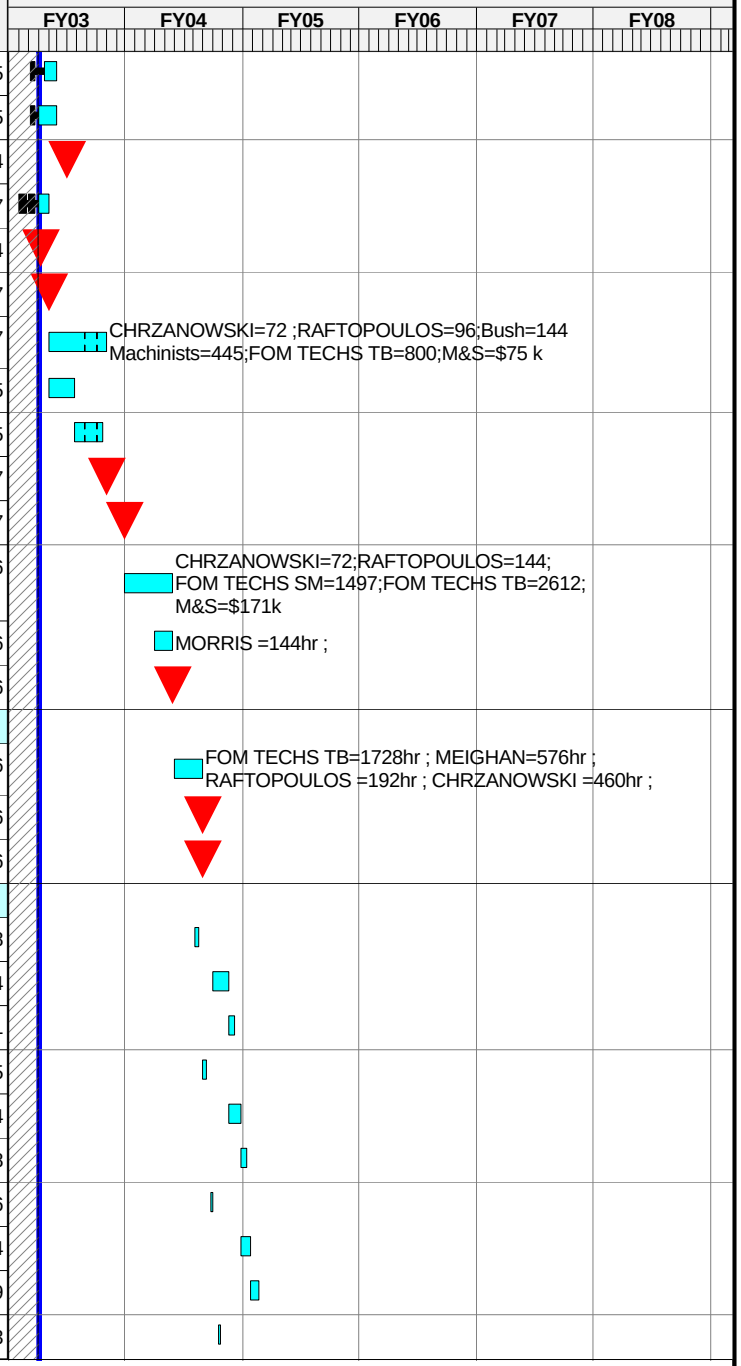
Early Bar
Progress Bar
Critical Activity

021Z

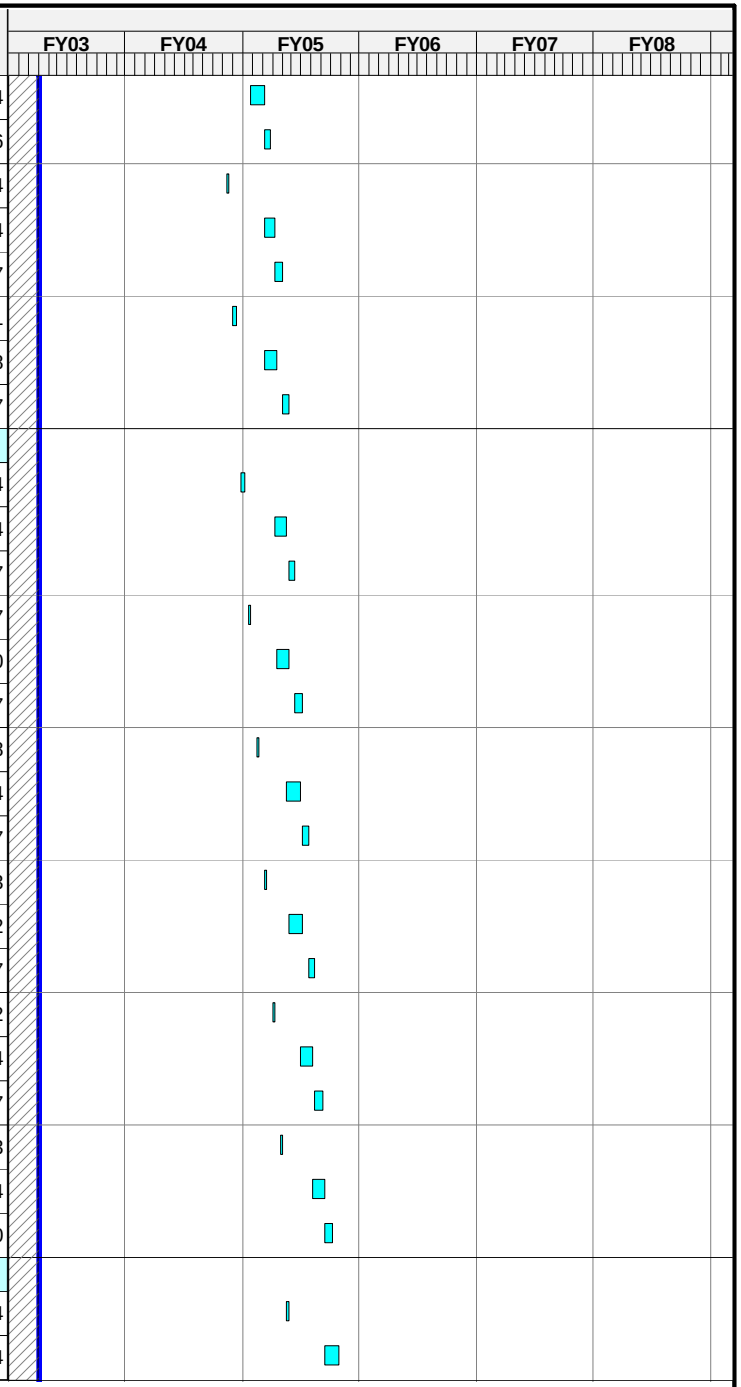
NCSX FY04/05 FWP

MIE & R&D Project

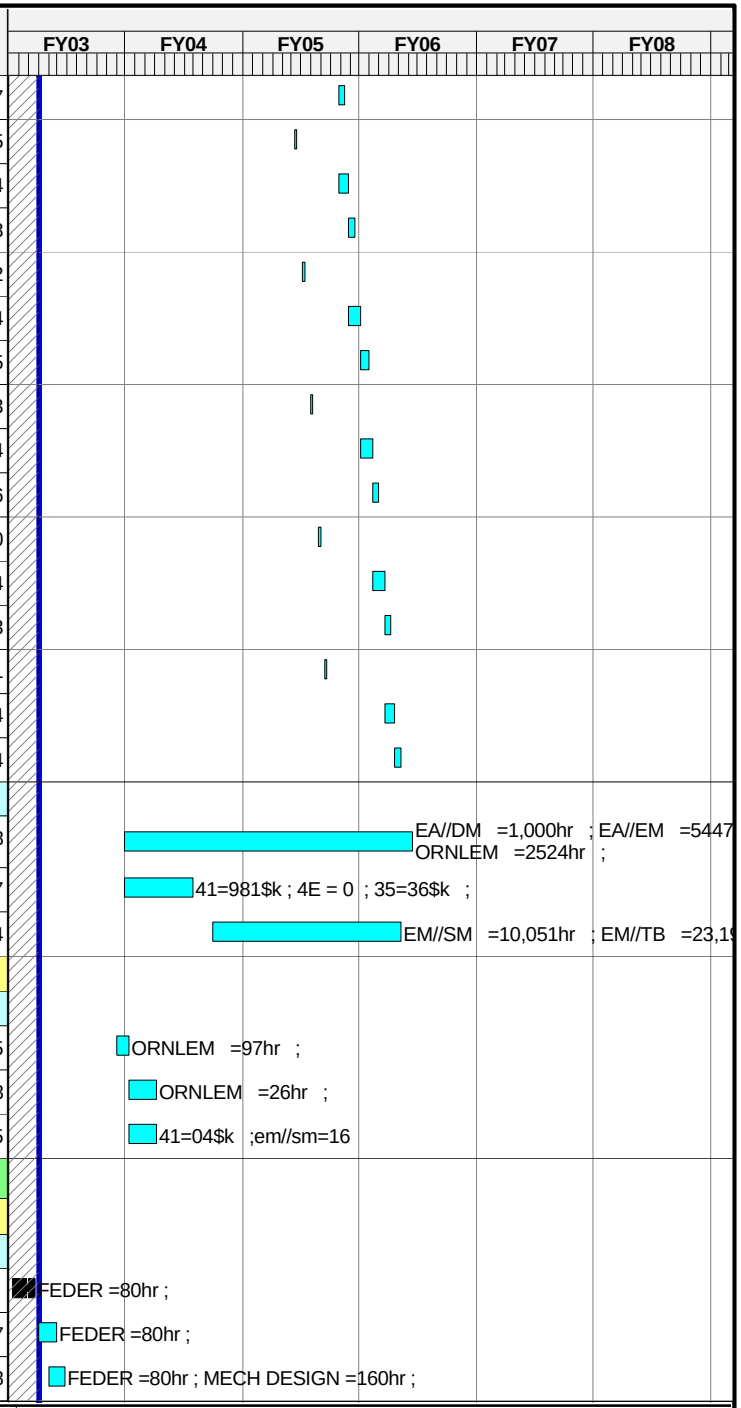
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
L4-170	Develop facility requirements and design	09DEC02A	52*	28FEB03	0.00	205
L4-171	Complete product specification and fab drawings	09DEC02A	52*	28FEB03	0.00	205
141-3-1.4	Complete Design of Tooling and autoclav(SOW 4.8)		0	31MAR03*	0.00	184
141-3-1.1	Design Autoclave	02NOV02A	55*	31JAN03	0.00	97
141-3-1.2	PDR Autoclave		0	08JAN03*	0.00	114
141-3-1.3	FINAL design Autoclave		0	31JAN03*	0.00	97
141-3-3	Fabricate Autoclave	03FEB03*	128*	01AUG03	255,410.59	97
L4-173	Procure components for autoclave	03FEB03	60	25APR03	0.00	105
L4-174	Fabricate and install autoclave	28APR03	60	22JUL03	0.00	105
141-3-3.1	Fabricate Autoclave (SOW 4.8		0	01AUG03	0.00	97
141-3-35.1	FDR Winding Facility and Tooling		0	29SEP03*	0.00	57
141-3-35	Fabricate remainder of winding facility	01OCT03*	108*	27FEB04	632,927.58	56
141-3-2	Upgrade tooling drawings as required	31DEC03	43	27FEB04	15,347.52	56
141-3-35.2	Fabricate Remainder of winding facility (SOW 4.8		0	27FEB04*	0.00	56
Job:1408-Mod Coil Proto Coil Winding-CHRZANOWSKI						
141-3-45	Wind, VPI & test prototype coil	01MAR04*	66	31MAY04	306,342.12	56
141-3-45.1	Complete Prototype Winding (SOW 4.9)		0	31MAY04*	0.00	56
141-3-45.2	Final Procedures & Process Plan (SOW 4.10)		0	31MAY04	0.00	56
Type 1 Winding/VPI						
P1-001	Receive casting BA-1-1	07MAY04	5	13MAY04	0.00	68
P1-011	Wind coil BA-1-1	01JUL04*	34	17AUG04	0.00	34
P1-021	VPI & Ship BA-1-1	18AUG04	15	07SEP04	0.00	151
P1-091	Receive casting BA-4-1	01JUN04	5	07JUN04	0.00	85
P1-101	Wind coil BA-4-1	18AUG04*	28	24SEP04	0.00	34
P1-111	VPI & Ship BA-4-1	27SEP04	15	15OCT04	0.00	138
P2-001	Receive casting BA-7-2	24JUN04	5	30JUN04	0.00	96
P2-011	Wind coil BA-7-2	27SEP04	24	28OCT04	0.00	34
P2-021	VPI & Ship BA-7-2	29OCT04	15	18NOV04	0.00	129
P2-091	Receive casting BA-10-2	19JUL04	5	23JUL04	0.00	103



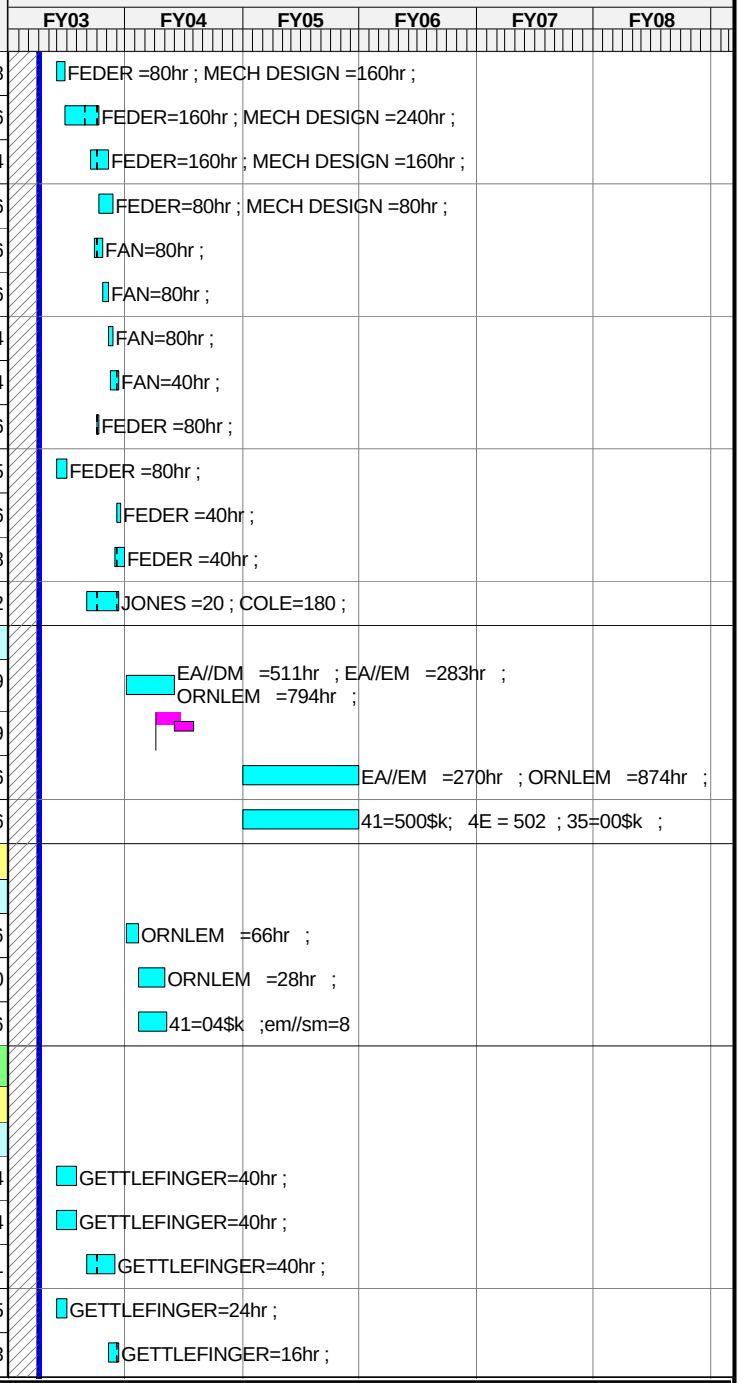
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
P2-101	Wind coil BA-10-2	29OCT04	28	07DEC04	0.00	34
P2-111	VPI & Ship BA-10-2	08DEC04	15	28DEC04	0.00	116
P3-001	Receive casting BA-13-3	11AUG04	5	17AUG04	0.00	114
P3-011	Wind coil BA-13-3	08DEC04	24	10JAN05	0.00	34
P3-021	VPI & ship BA-13-3	11JAN05	15	31JAN05	0.00	107
P3-091	Receive casting BA-16-3	03SEP04	5	09SEP04	0.00	181
P3-101	Wind coil BA-16-3	08DEC04	28	14JAN05	0.00	118
P3-111	VPI & ship BA-16-3	01FEB05	15	21FEB05	0.00	107
Type 2 Winding/VPI						
P1-031	Receive casting MI-2-1	28SEP04	5	04OCT04	0.00	104
P1-041	Wind coil MI-2-1	11JAN05	28	17FEB05	0.00	34
P1-051	VPI & Ship MI-2-1	22FEB05	15	14MAR05	0.00	107
P1-121	Receive casting MI-5-1	21OCT04	5	27OCT04	0.00	177
P1-131	Wind coil MI-5-1	17JAN05	28	23FEB05	0.00	120
P1-141	VPI & Ship MI-5-1	15MAR05	15	04APR05	0.00	107
P2-031	Receive casting MI-8-2	15NOV04	5	19NOV04	0.00	98
P2-041	Wind coil MI-8-2	18FEB05	28	29MAR05	0.00	34
P2-051	VPI & Ship MI-8-2	05APR05	15	25APR05	0.00	107
P2-121	Receive casting MI-11-2	08DEC04	5	14DEC04	0.00	173
P2-131	Wind coil MI-11-2	24FEB05	28	04APR05	0.00	122
P2-141	VPI & Ship MI-11-2	26APR05	15	16MAY05	0.00	107
P3-031	Receive casting MI-14-3	31DEC04	5	06JAN05	0.00	92
P3-041	Wind coil MI-14-3	30MAR05	28	06MAY05	0.00	34
P3-051	VPI & ship MI-14-3	17MAY05	15	06JUN05	0.00	107
P3-121	Receive casting MI-17-3	25JAN05	5	31JAN05	0.00	103
P3-131	Wind coil MI-17-3	09MAY05	28	15JUN05	0.00	34
P3-141	VPI & ship MI-17-3	16JUN05	15	06JUL05	0.00	100
Type 3 Winding/VPI						
P1-061	Receive casting BU-3-1	17FEB05	5	23FEB05	0.00	114
P1-071	Wind coil BU-3-1	16JUN05	28	25JUL05	0.00	34



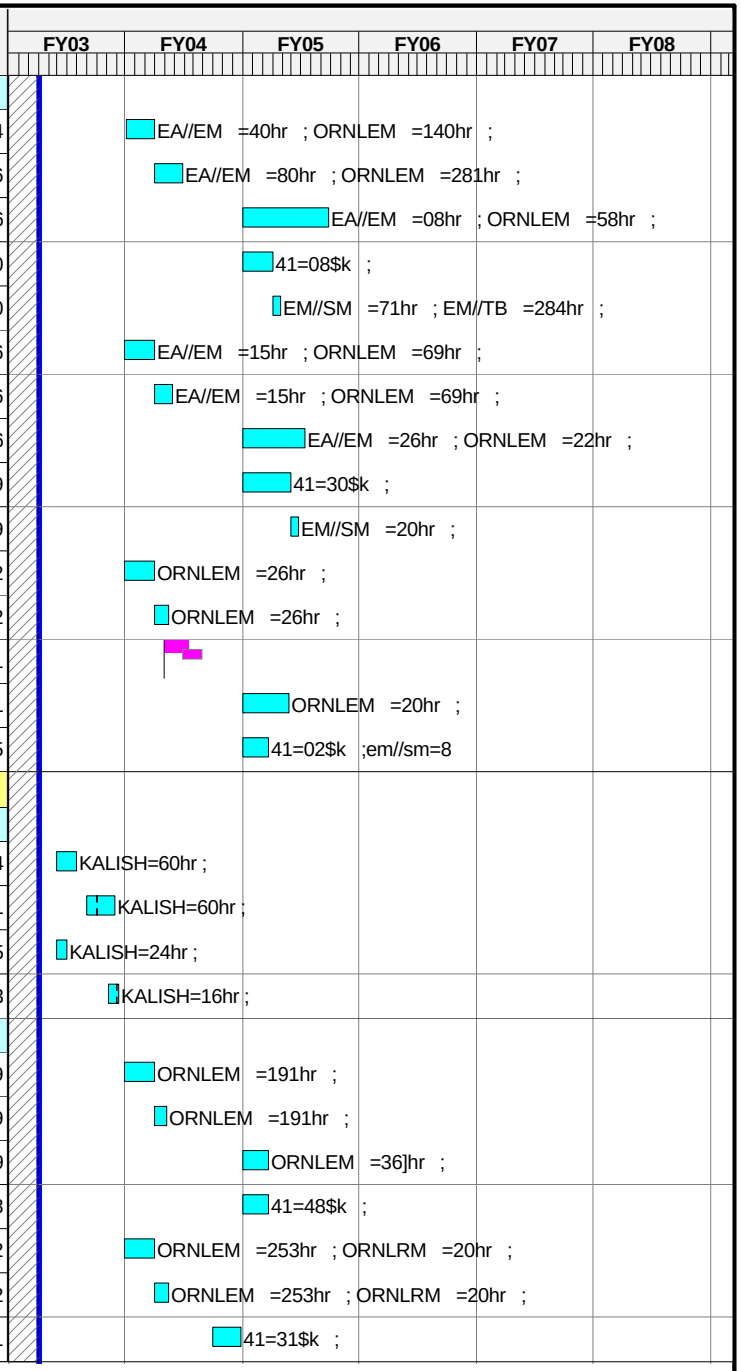
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
P1-081	VPI & Ship BU-3-1	26JUL05	15	15AUG05	0.00	87
P1-151	Receive casting BU-6-1	14MAR05	5	18MAR05	0.00	125
P1-161	Wind coil BU-6-1	26JUL05	24	26AUG05	0.00	34
P1-171	VPI & Ship BU-6-1	29AUG05	15	16SEP05	0.00	78
P2-061	Receive casting BU-9-2	06APR05	5	12APR05	0.00	132
P2-071	Wind coil BU-9-2	29AUG05	28	05OCT05	0.00	34
P2-081	VPI & Ship BU-9-2	06OCT05	15	26OCT05	0.00	65
P2-151	Receive casting BU-12-2	29APR05	5	05MAY05	0.00	143
P2-161	Wind coil BU-12-2	06OCT05	24	08NOV05	0.00	34
P2-171	VPI & Ship BU-12-2	09NOV05	15	29NOV05	0.00	56
P3-061	Receive casting BU-15-3	24MAY05	5	30MAY05	0.00	150
P3-071	Wind coil BU-15-3	09NOV05	28	16DEC05	0.00	34
P3-081	VPI & ship BU-15-3	19DEC05	15	06JAN06	0.00	43
P3-151	Receive casting BU-18-3	16JUN05	5	22JUN05	0.00	161
P3-161	Wind coil BU-18-3	19DEC05	24	19JAN06	0.00	34
P3-171	VPI & ship BU-18-3	20JAN06	15	09FEB06	0.00	34
171-031	Title III engr	01OCT03*	640	14MAR06	1,345,330.97	1,708
171-037	Procurements(winding/vpi statiosn/misc(E/A F/B)	01OCT03*	153*	30APR04	1,367,089.83	77
171-041	Modular Coil Winding (18 coils) (see detail)	01JUL04	421*	09FEB06	3,041,409.73	34
143 - Modular Coil Local I&C						
174-011	Title II design WBS 143 Mod coil local I&C	02SEP03*	30	13OCT03	11,244.48	805
174-015	Title III design	14OCT03	61	06JAN04	3,219.32	2,278
174-037	Mod Coil Cooling System Procurement	14OCT03	60	05JAN04	6,677.60	805
15 - Structures						
151 - Coil Support Structure						
Job: 1501 - Structures Design-FEDER						
150-1-0	Update Conceptual Design	14OCT02A	46	20DEC02A	12,268.80	
150-1-1	Draft of 1) SRD, and 2) SDD Section III - Requir	02JAN03*	42*	28FEB03	12,268.80	2,497
150-1-2	General arrangement models and drawings	31JAN03*	40*	27MAR03	28,249.60	2,478



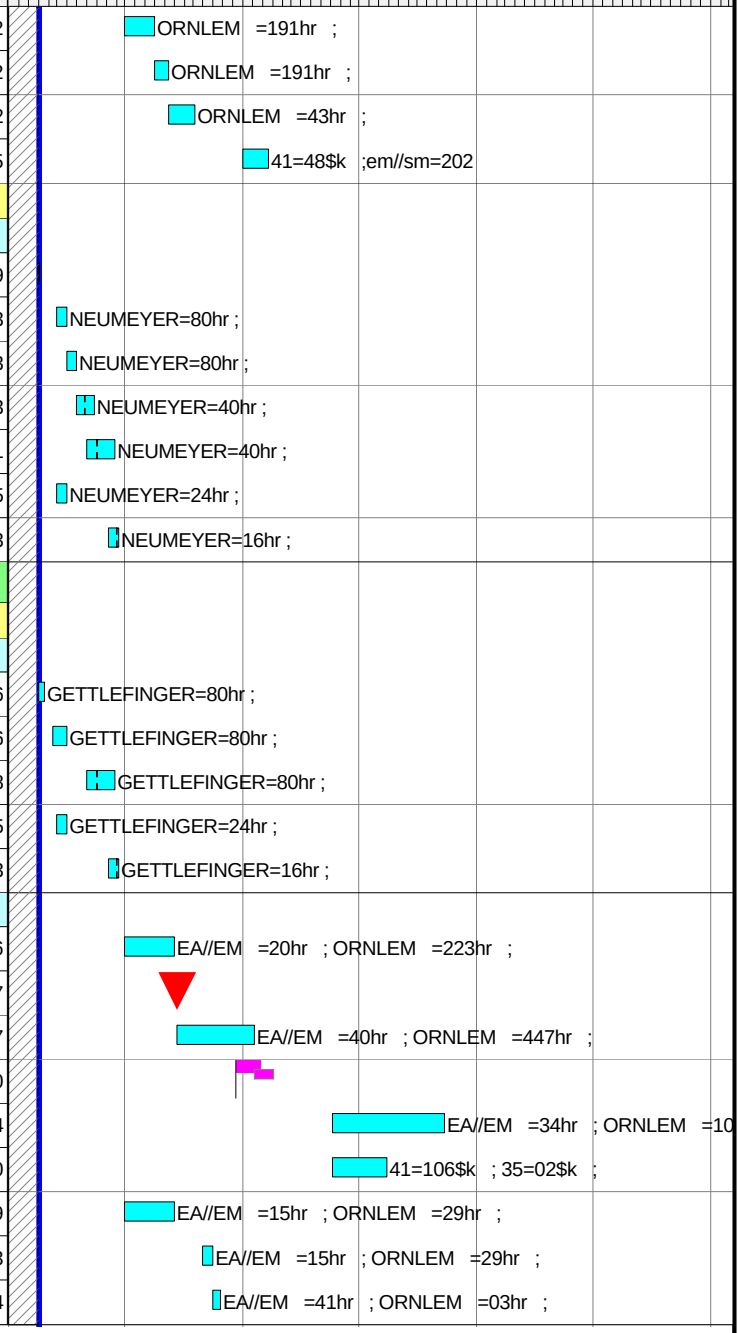
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
150-1-3	Interface drawings	28FEB03*	20*	27MAR03	28,249.60	2,478
150-2-1	Drawings, models, SDD Sect IV text for TF and ou	28MAR03*	72*	09JUL03	48,508.80	2,406
150-2-2	Same data for central solenoid supports and TF b	12JUN03*	41*	08AUG03	40,518.40	2,384
150-2-3	Support structure I&C	10JUL03*	30*	20AUG03	20,259.20	2,376
150-3-1	Develop thermal/structural FEA models of cols, i	24JUN03*	21*	23JUL03	12,204.80	2,396
150-3-2	Incorporate EM loads and load cases from global	24JUL03*	10*	06AUG03	12,204.80	2,386
150-3-3	Evaluate stress/deflection due to EM / gravity /	07AUG03*	12*	22AUG03	12,204.80	2,374
150-3-4	Prepare analysis reports, SDD analysis summary,	18AUG03*	15*	08SEP03	6,102.40	2,364
150-4-1	Document fabrication and assembly options for co	02JUL03*	5*	09JUL03	12,268.80	2,406
150-4-2	Update cost and schedule estimates WBS 15	03MAR03*	22*	01APR03	12,268.80	2,475
150-4-3	Prepare plans for FY-04	05SEP03*	10*	18SEP03	6,134.40	2,356
150-4-4	Prepare PDR documentation for WBS 15	28AUG03*	23*	30SEP03	6,134.40	2,348
192-1-2-15	Self consistent models/dwgs Conv coil/strct PDR	02JUN03*	71*	10SEP03	13,220.00	2,362
162-011	Title II design WBS 151 coil sprt structure	02OCT03	108	01MAR04	198,833.71	1,979
162-012	WBS 15 FDR		0	01MAR04	0.00	1,979
162-031	Title III engr	01OCT04*	260	29SEP05	160,379.10	1,826
162-037	Coil Support Assy Procurement (E/A F/B)	01OCT04*	260	29SEP05	1,225,217.42	1,826
153 - Support Structure Local I&C						
163-011	Title II design WBS 153 sprt struct local I&C	02OCT03	30	12NOV03	8,172.12	806
163-015	Title III design	13NOV03	57	30JAN04	3,466.96	2,260
163-037	Support Structure I&C Procurement/Fab	13NOV03	60	04FEB04	5,809.68	806
16 - Coil Services						
161 - LN2 Distribution						
Job: 1601 - Coil Services Design-WILLIAMSON						
161-1-1	Draft "design-to" spec.	03MAR03*	43*	30APR03	6,134.40	2,454
161-1-2	Interface control documents for modular coils	03MAR03*	43*	30APR03	6,134.40	2,454
161-1-3	Interface control document for conventional coil	02JUN03*	62*	27AUG03	6,134.40	2,371
161-2-1	Update cost estimate for LN2 distribution system	03MAR03*	22*	01APR03	3,680.64	2,475
161-2-2	Update planning for FY-04	12AUG03*	20*	09SEP03	2,453.76	2,363



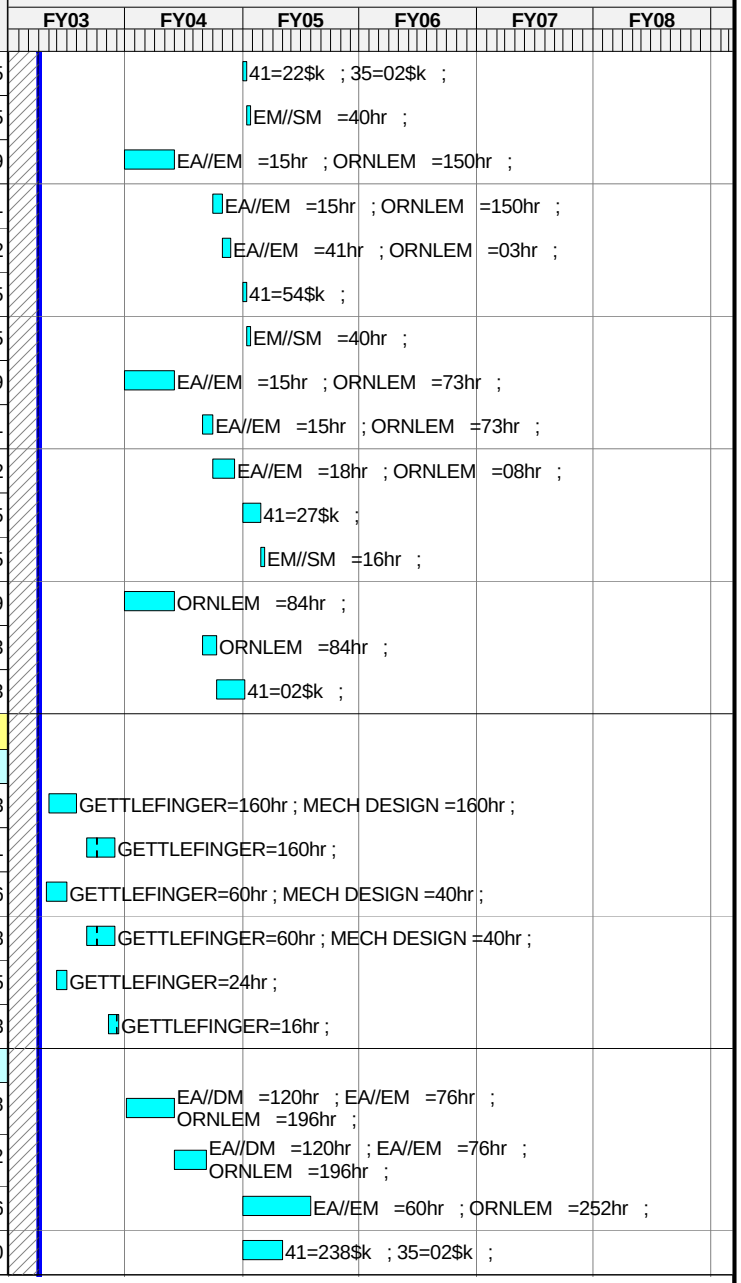
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
191-001	Title I design WBS 1611 LN2 manifolds&piping	02OCT03*	65	31DEC03	23,894.33	444
191-011	Title II design WBS 1611 LN2 manifolds&piping	01JAN04	60	24MAR04	47,788.66	696
191-031	Title III engr	01OCT04*	190	23JUN05	8,947.85	1,896
191-037	Procurement	01OCT04*	65	30DEC04	11,550.73	560
191-041	LN2 Manifolds & ppg Fab/assy	31DEC04	20	27JAN05	31,497.02	560
192-001	Title I design WBS 1612 LN2 flow control assy	01OCT03*	65	30DEC03	10,935.30	676
192-011	Title II design WBS 1612 LN2 flow control assy	31DEC03	40	24FEB04	10,935.30	676
192-031	Title III engr	01OCT04*	140	14APR05	7,264.67	1,946
192-037	Procurement	01OCT04*	106	25FEB05	40,995.41	519
192-041	LN2 Flow control Fab/assy	28FEB05	20	25MAR05	2,252.40	519
193-001	Title I design WBS 1613 LN2 local I&C	01OCT03*	65	30DEC03	3,268.85	762
193-011	Title II design WBS 1613 LN2 local I&C	31DEC03	30	10FEB04	3,268.85	762
193-012	WBS 161 FDR		0	24MAR04	0.00	731
193-031	Title III engr	01OCT04*	105	24FEB05	2,624.60	1,981
193-037	LN2 local I&C Procurement/Fab	01OCT04*	60	23DEC04	3,809.42	595
162 - Electrical Leads						
Job: 1601 - Coil Services Design-WILLIAMSON						
162-1-1	Interface control documents for modular coils	03MAR03*	43*	30APR03	9,153.60	2,454
162-1-2	Interface control document for conventional coil	02JUN03*	62*	27AUG03	9,153.60	2,371
162-2-1	Update cost estimate coil electrical leadsWBS162	03MAR03*	22*	01APR03	3,661.44	2,475
162-2-2	Update planning for FY-04	12AUG03*	20*	09SEP03	2,440.96	2,363
132-001	Title I design WBS 1621 TF leads	01OCT03*	65	30DEC03	23,699.15	409
132-011	Title II design WBS 1621 TF leads	31DEC03	26	04FEB04	23,649.62	409
132-015	Title III design tf leads	01OCT04*	57	20DEC04	4,724.28	2,029
132-037	TF Leads Procurement	01OCT04*	60	23DEC04	66,894.53	238
146-001	Title I design WBS 1622 pf leads	01OCT03*	65	30DEC03	34,785.10	742
146-011	Title II design WBS 1622 pf leads	31DEC03	30	10FEB04	34,785.10	742
146-037	PF leads Procurement	01JUL04*	60	22SEP04	41,447.02	641



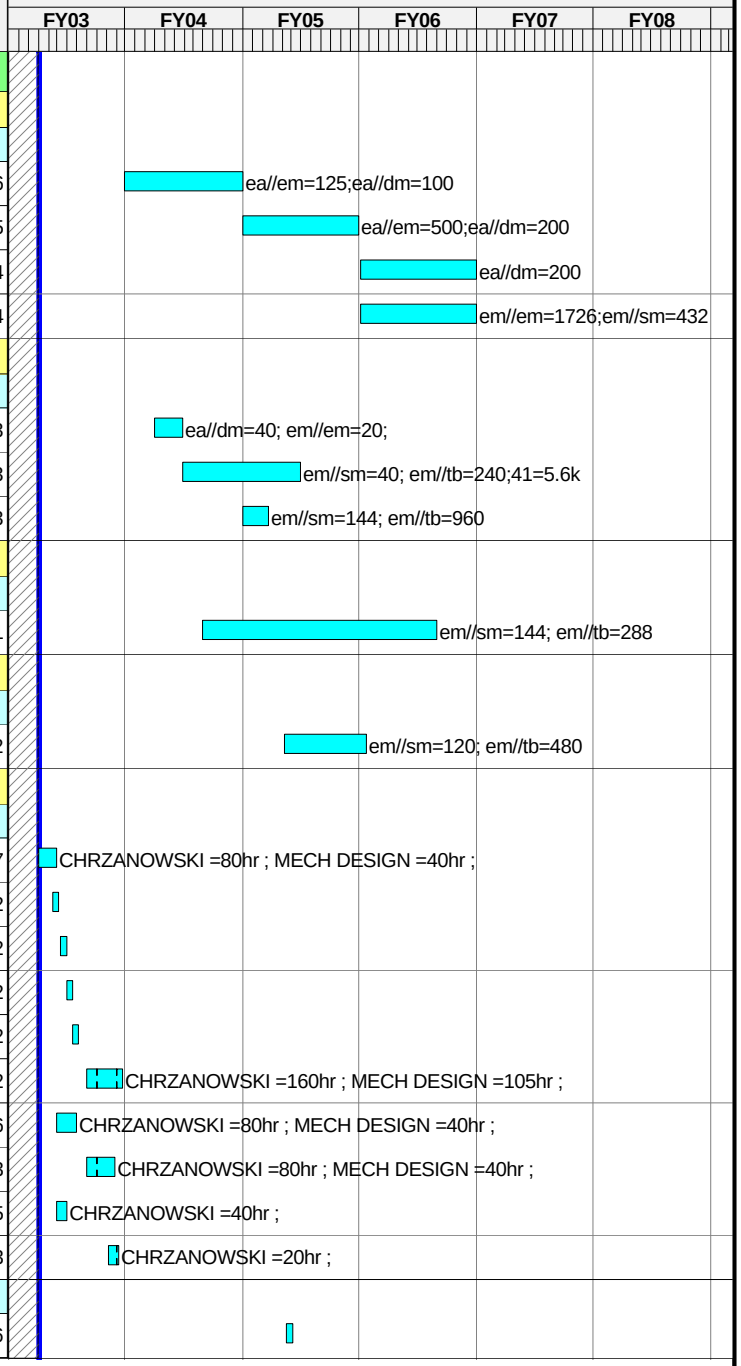
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
173-001	Title I design WBS 1623 mod coil leads	01OCT03*	65	30DEC03	23,699.15	762
173-011	Title II design WBS 1623 mod coil leads	31DEC03	30	10FEB04	23,699.15	762
173-015	Title III design mod coil leads	11FEB04*	61	05MAY04	5,324.26	2,192
173-037	Modular Coil Leads Procurement/Fab	01OCT04*	60	23DEC04	89,311.38	595
163 - Coil Protection System						
Job: 1601 - Coil Services Design-WILLIAMSON						
163-1-1	Design-to specification **N/R**	02JAN03	0	20DEC02	0.00	2,539
163-1-2	Coil protection system architecture and sys resp	03MAR03*	21	31MAR03	11,445.60	2,413
163-1-3	Define Interfaces	01APR03*	20	28APR03	11,445.60	2,413
163-2-1	Interface control documents for modular coils	29APR03*	43	27JUN03	5,722.80	2,413
163-2-2	Interface control document for conventional coil	02JUN03*	62	27AUG03	5,722.80	2,371
163-3-1	Update cost estimate coil protection systWBS 163	03MAR03*	22	01APR03	3,433.68	2,475
163-3-2	Update planning for FY-04	12AUG03*	20*	09SEP03	2,289.12	2,363
17 - Cryostat and Base Support Structure						
171 -Cryostat						
Job:1701-Cryost&Base Sprt Strct Dsn-GETTLEFINGER						
171-1-0	Update Conceptual design	02JAN03*	13	20JAN03	12,268.80	2,526
171-1-1	Cryostat interface with VV and Mod coils	18FEB03*	30	31MAR03	12,268.80	2,476
171-1-2	Cryostat interface with conv coils & structure	02JUN03*	62	27AUG03	12,268.80	2,348
171-2-1	Cryoststst-update cost estimat	03MAR03*	22*	01APR03	3,680.64	2,475
171-2-2	Cryostat-update planning for FY-04	12AUG03*	20	09SEP03	2,453.76	2,363
151-001	Title I design WBS 1711 cryostat shell & struct	01OCT03*	111	03MAR04	30,925.06	156
151-002	Balance of machine core concurrent PDR IC		0	05MAR04	0.00	397
151-011	Title II design WBS 1711 cryostat shell & struct	08MAR04	174	04NOV04	62,360.33	397
151-012	Title II design WBS 1711 cryostat shell & struct		0	04NOV04	0.00	600
151-031	Title III engr	12JUL05*	250	26JUN06	19,758.37	1,634
151-037	Cryostat Procurement (1/A)	12JUL05*	120	26DEC05	150,736.61	220
152-001	Title I design WBS 1712 Cryostat therm insulatio	01OCT03*	111	03MAR04	6,032.03	399
152-011	Title II design WBS 1712 Cryostat therm insulati	01JUN04*	20	28JUN04	6,032.03	693
152-031	Title III engr	29JUN04	20	26JUL04	7,036.42	2,134



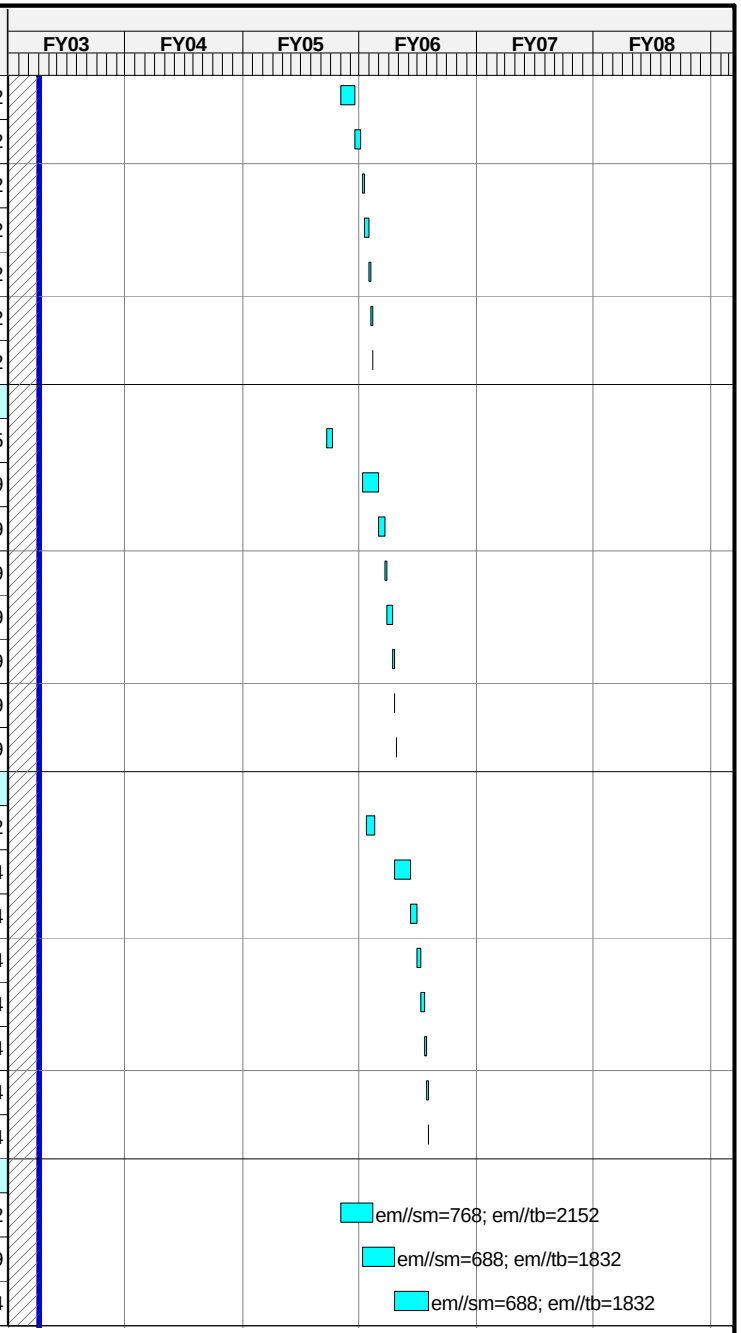
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
152-037	Cryo Thermal Insulation Procurement	01OCT04*	10	14OCT04	34,288.66	625
152-041	Cryostat insulation Fab/assy	15OCT04	10	28OCT04	4,504.80	625
153-001	Title I design WBS 1713 cryostat/vac vsl boots	01OCT03*	111	03MAR04	21,014.25	399
153-011	Title II design WBS 1713 cryostat/vac vsl boots	01JUL04*	20	28JUL04	21,014.25	671
153-031	Title III engr	29JUL04	20	25AUG04	7,036.42	2,112
153-037	VV/Cryostat Boots Procurement	01OCT04*	10	14OCT04	74,788.92	625
153-041	Cryostat/VV boots Fab/assy	15OCT04	10	28OCT04	4,504.80	625
154-001	Title I design WBS 1714 cryostat temp control	01OCT03*	111	03MAR04	11,480.11	399
154-011	Title II design WBS 1714 cryostat temp control	01JUN04*	22	30JUN04	11,480.11	671
154-031	Title III engr	01JUL04	50	08SEP04	3,920.06	2,102
154-037	Procurement	01OCT04*	40	25NOV04	37,394.46	605
154-041	Cryo Temp Cntrl/Heatering Fab/assy	26NOV04	10	09DEC04	1,801.92	605
155-001	Title I design WBS 1715 cryostat local I&C	01OCT03*	111	03MAR04	10,351.35	399
155-011	Title II design WBS 1715 cryostat local I&C	01JUN04*	30	12JUL04	10,351.35	653
155-037	Cryo Local I&C Procurement	13JUL04	60	04OCT04	2,514.30	653
172 - Base Support Structure						
Job:1701-Cryost&Base Sprt Strct Dsn-GETTLEFINGER						
172-1-1	Base structure Design CAD models/dwgs	06FEB03*	61	01MAY03	40,518.40	2,453
172-1-2	Base Struct Design analysis reports	03JUN03*	61	27AUG03	24,537.60	2,371
172-2-1	Base Struct interface with VV and Mod coils	30JAN03*	43	31MAR03	13,196.80	2,476
172-2-2	Base Struct interface with conv coils and struc	02JUN03*	62	27AUG03	13,196.80	2,348
172-3-1	Base Struct- update cost estimate	03MAR03*	22*	01APR03	3,680.64	2,475
172-3-2	Base Struct-Update planning for FY-04	12AUG03*	20	09SEP03	2,453.76	2,363
161-001	Title I design WBS 172 base support struct	02OCT03	111	04MAR04	49,370.01	398
161-011	Title II design WBS 172 base support struct	05MAR04	68	08JUN04	49,370.01	422
161-031	Title III engr	01OCT04*	150	28APR05	43,206.96	1,936
161-037	Machine Base&supports Procurement	01OCT04*	90	03FEB05	333,776.73	340



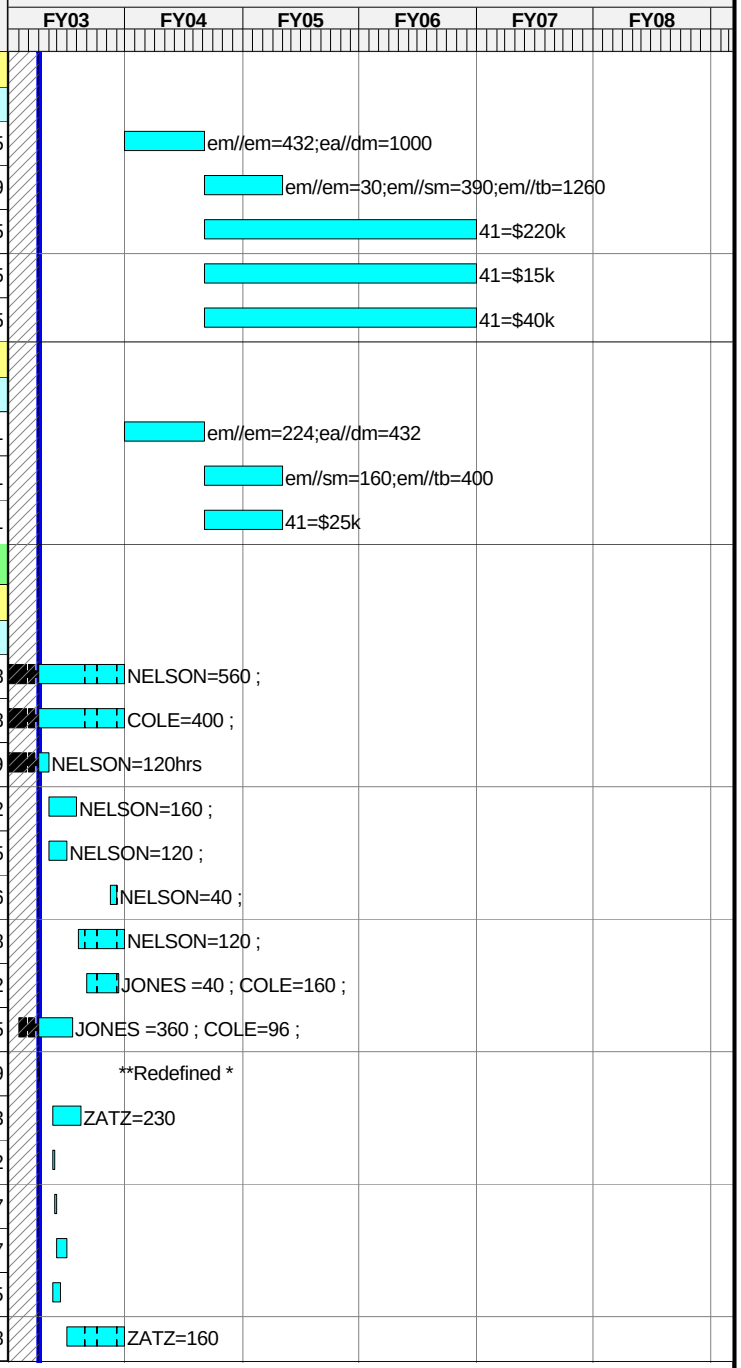
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
18 - Field Period Assembly						
181 - Field Period Assembly Planning/Oversight						
711.020	LOE FY04	01OCT03*	262*	30SEP04	31,001.75	2,086
711.030	LOE FY05	01OCT04*	261*	30SEP05	106,603.00	1,825
711.040	LOE FY06	03OCT05*	261*	02OCT06	22,486.94	1,564
714A.020	LOE FY06	03OCT05*	261*	02OCT06	346,220.76	1,564
182 - TFTR Test Cell Area preparations						
611B.005	Final Design	01JAN04	62*	26MAR04	7,540.40	303
611B.010	Lab Fab/Assy/Installation	29MAR04	261	28MAR05	31,498.70	303
721.010	Area preparations	01OCT04*	57*	20DEC04	95,657.28	373
183 - Receive,Inspect, and Test Coils						
722.010	Receive/Inspect TF & Mod Coils	01JUN04*	523*	01JUN06	39,956.16	1,651
184 - Receive, Inspect, and Test VV						
724.010	Receive/Inspect VV	08FEB05	185*	24OCT05	0.00	82
185 - Assemble Field Periods						
Job: 1801 - Field Period Assly Dsn-CHRZANOWSKI						
185-1-1	Revised conceptual plan for field period assembl	02JAN03*	42*	28FEB03	16,200.00	2,497
L4-016	Develop concept of tooling and assembly features	17FEB03*	15	07MAR03	0.00	2,452
L4-017	Document procedure for FP assembly, conduct revi	10MAR03*	15	28MAR03	0.00	2,452
L4-018	Develop concept of tooling and assembly features	31MAR03*	15	18APR03	0.00	2,422
L4-019	Document procedure for final assembly, conduct r	21APR03*	15	09MAY03	0.00	2,422
185-1-2	Layouts and preliminary tooling models and draw	02JUN03*	81*	24SEP03	34,897.00	2,352
185-2-1	Interface control documents for vacuum vessel an	03MAR03*	41*	28APR03	16,200.00	2,456
185-2-2	Interface control document for conventional coil	30MAY03*	61*	25AUG03	16,200.00	2,373
185-3-1	Update cost estimate field period assmbly WBS 18	03MAR03*	22*	01APR03	6,102.40	2,475
185-3-2	Update planning for FY-04	12AUG03*	20*	09SEP03	3,051.20	2,363
Period #1						
P1-180	Attach cooling tubes & Insul to VV 1st Period	15FEB05	15	07MAR05	0.00	186



Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
P1-181	Assemble 1st. Field Period - coils/VV	01AUG05	35	16SEP05	0.00	82
P1-191	Position and weld port assemblies	19SEP05	15	07OCT05	0.00	82
P1-201	Bakeout vessel segment to 150 degrees C	10OCT05	5	14OCT05	0.00	82
P1-211	Perform vacuum leak check of welded assemblies	17OCT05	10	28OCT05	0.00	82
P1-221	Prepare field period for shipment	31OCT05	5	04NOV05	0.00	82
P1-231	Ship 1st. Field period	07NOV05	3	09NOV05	0.00	82
P1-241	Field period 1 ready for installation	10NOV05	1	10NOV05	0.00	82
Period #2						
P2-180	Attach cooling tubes & Insul to VV 2nd Period	21JUN05	15	11JUL05	0.00	125
P2-181	Assemble 2nd. Field Period- coils/ VV	12OCT05	35	29NOV05	0.00	59
P2-191	Position and weld port assemblies	30NOV05	15	20DEC05	0.00	59
P2-201	Bakeout vessel segment to 150 degrees C	21DEC05	5	27DEC05	0.00	59
P2-211	Perform vacuum leak check of welded assemblies	28DEC05	10	10JAN06	0.00	59
P2-221	Prepare field period for shipment	11JAN06	5	17JAN06	0.00	59
P2-231	Ship 2nd. Field period	18JAN06	3	20JAN06	0.00	59
P2-241	Field Period 2 ready for installation	23JAN06	1	23JAN06	0.00	59
Period #3						
P3-180	Attach cooling tubes & Insul to VV 3rd Period	25OCT05	15	14NOV05	0.00	82
P3-181	Assemble 3rd. Field Period - coils/ VV	20JAN06	35	09MAR06	0.00	34
P3-191	Position and weld port assemblies	10MAR06	15	30MAR06	0.00	34
P3-201	Bakeout vessel segment to 150 degrees C	31MAR06	6	07APR06	0.00	34
P3-211	Perform vacuum leak check of welded assemblies	10APR06	10	21APR06	0.00	34
P3-221	Prepare field period for shipment	24APR06	5	28APR06	0.00	34
P3-231	Ship 3rd. Field Period	01MAY06	3	03MAY06	0.00	34
P3-241	3rd. Period ready for installation	04MAY06	1	04MAY06	0.00	34
725.001	Assemble Field Period #1 (summary task)	01AUG05	74*	10NOV05	265,771.04	82
725.101	Assemble Field Period #2 (summary task)	12OCT05	73*	20JAN06	231,733.68	59
725.201	Assemble Field Period #3 (summary task)	20JAN06	74*	03MAY06	231,733.68	34

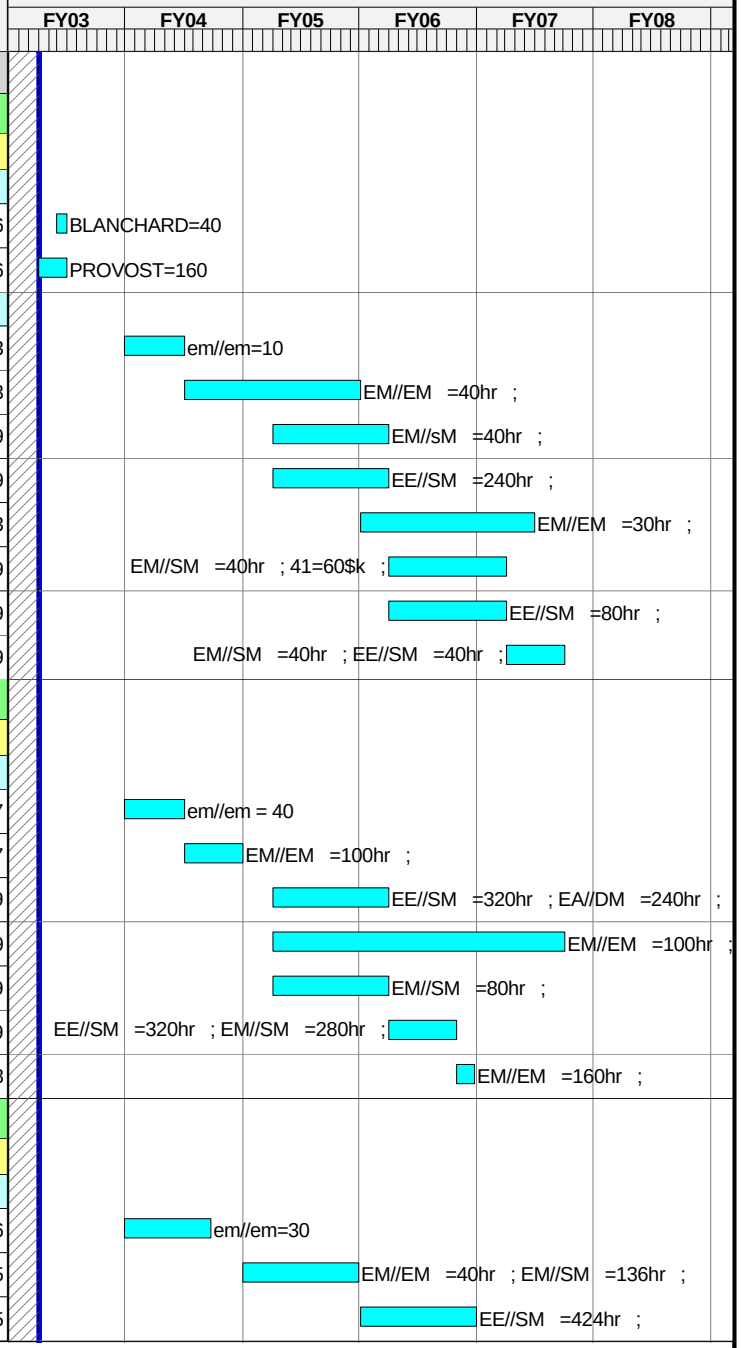


Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
186 - Tooling Design and Fabrication						
713A.010	Final Design Tooling	01OCT03*	175	01JUN04	177,367.52	1,565
713A.020	Lab Fab/Assy/Installation	02JUN04	174	31JAN05	150,475.65	1,999
713A.030	Tooling,assy fixtures,misc equipt	02JUN04	608*	29SEP06	296,218.85	1,565
713A.040	General procurements	02JUN04	608*	29SEP06	20,196.74	1,565
713A.050	Welding tools, materials & equipt	02JUN04	608*	29SEP06	53,857.97	1,565
187 - Measurement Systems						
740.010	Final Design Measurement systems	01OCT03*	175	01JUN04	82,747.20	211
740.020	Lab Fab/Assy/Installation	02JUN04	174	31JAN05	50,180.80	211
740.030	Procured Hardware/Material	02JUN04	174	31JAN05	33,917.63	211
19 - Stellarator Core Management and Integration						
Job: 1901 - Stellarator Core Mngtt&Integr-NELSON						
0191-1-5	LOE-Day to day telecons, meetings,Design and R&D	01OCT02A	248*	30SEP03	91,840.00	2,348
0192-1-3	LOE-Day to day coordin of Pro-E & Pro-Intrali	01OCT02A	248*	30SEP03	57,600.00	2,348
121-1-01	Update Conceptual Design of Stellarator Core	01OCT02A	79*	31JAN03	19,680.00	19
191-1-1	Modular Coil / VV dsn review and documentation	03FEB03*	65*	02MAY03	26,240.00	2,452
191-1-2	CD 2 cost and schedule update for WBS 1	03FEB03*	42*	01APR03	19,680.00	2,475
191-1-3	FY04 work plans	14AUG03*	15*	04SEP03	6,560.00	2,366
191-1-4	Conventional Coils / support structure dsn rvw	05MAY03*	104*	30SEP03	19,680.00	2,348
192-1-2	Self consistent models/dwgs Conv coil/strct PDR	02JUN03*	71*	10SEP03	26,440.00	2,362
192-1-4	Prepare Stellarator Core Assembly dwgs &assy seq	01NOV02A	108*	15APR03	44,424.00	2,465
192-2-2	Material permeability limits vs location	02JAN03*	0*	20DEC02	0.00	2,539
192-2-4	Prepare stellarator core assembly dsn criteria	14FEB03*	65*	15MAY03	35,088.80	2,443
L4-022	Define preliminary S1, S2, and S3 states	17FEB03*	5	21FEB03	0.00	2,452
L4-023	Confirm final S1, S2, and S3 states	24FEB03*	5	28FEB03	0.00	2,477
L4-024	Perform flexibility studies	03MAR03*	20	28MAR03	0.00	2,477
L4-025	Perform initial divertor (edge modeling) studies	17FEB03*	20	14MAR03	0.00	15
192-2-5A	continuing analysis/final rprts f/mod coil FY 03	01APR03*	128*	30SEP03	19,527.68	2,348

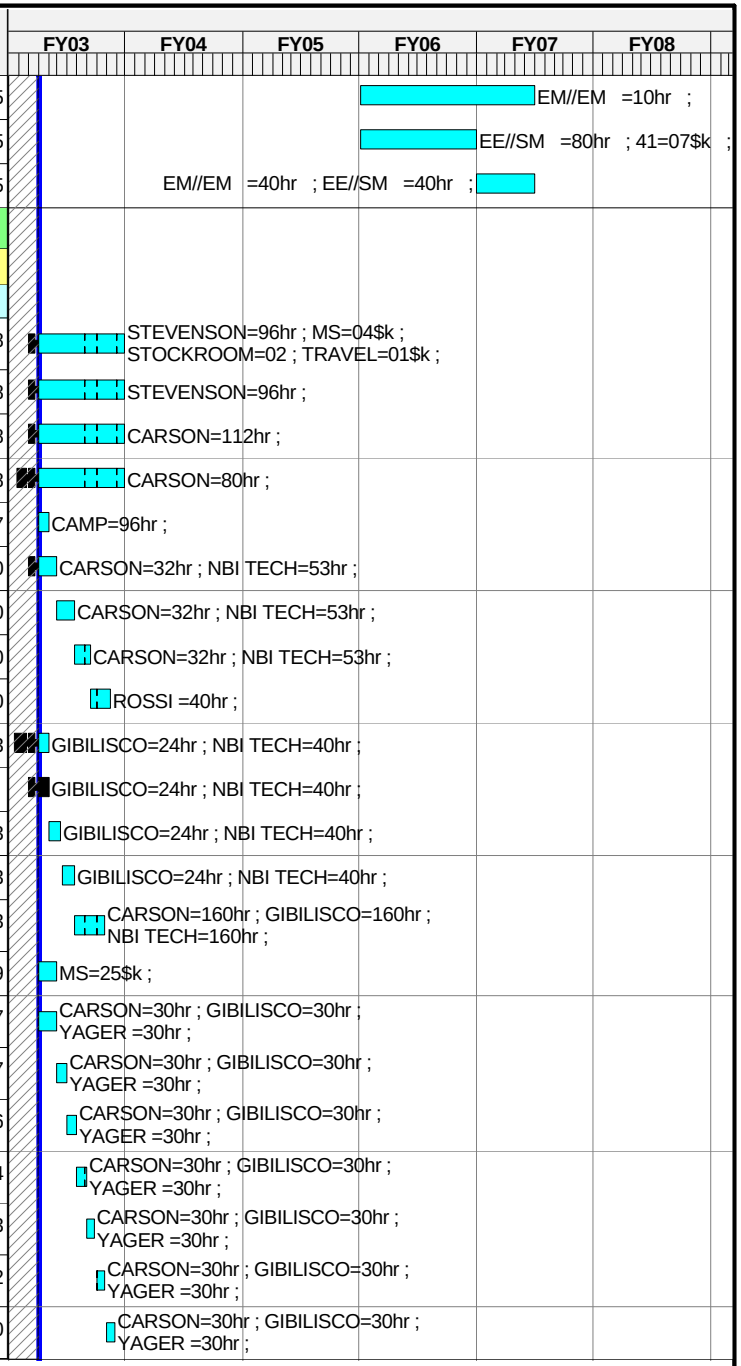


Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
193-1-1	Doc time cnstnt/rqmnts f/ insul breaks vv/mc	31JAN03*	21*	28FEB03	12,204.80	2,497
193-1-2	Doc time cnstnt/rqmnts insul breaks struct/solen	31JAN03*	75*	15MAY03	18,307.20	2,443
L4-029	Assess time constants and derived rqmts in struc	20JAN03*	10	31JAN03	0.00	2,452
193-1-3	Time cnstnt,loop voltage, transient filed errors	31JAN03*	75*	15MAY03	18,307.20	2,443
L4-028	Document time constants and derived rqmts for MC	06JAN03*	10	17JAN03	0.00	2,452
L4-030	Assess time constants and field errors in couple	03FEB03*	10	14FEB03	0.00	2,452
L4-032	Assess potential sources of field errors in TC	21APR03*	20	16MAY03	0.00	2,417
193-1-4	Doc. tolerance studies for mod,TF,&PF coils	03FEB03*	20*	28FEB03	18,307.20	2,497
L4-031	Document tolerance studies and derived rqmts	17FEB03*	10	28FEB03	0.00	2,452
193-1-5	Doc. VV disruption loads	03MAR03*	10*	14MAR03	6,102.40	2,487
193-1-6	EM analysis in final design	01APR03*	128*	30SEP03	106,792.00	2,348
L4-182	Update the ICH (WBS 24) conceptual design for an	02JAN03*	10	15JAN03	0.00	82

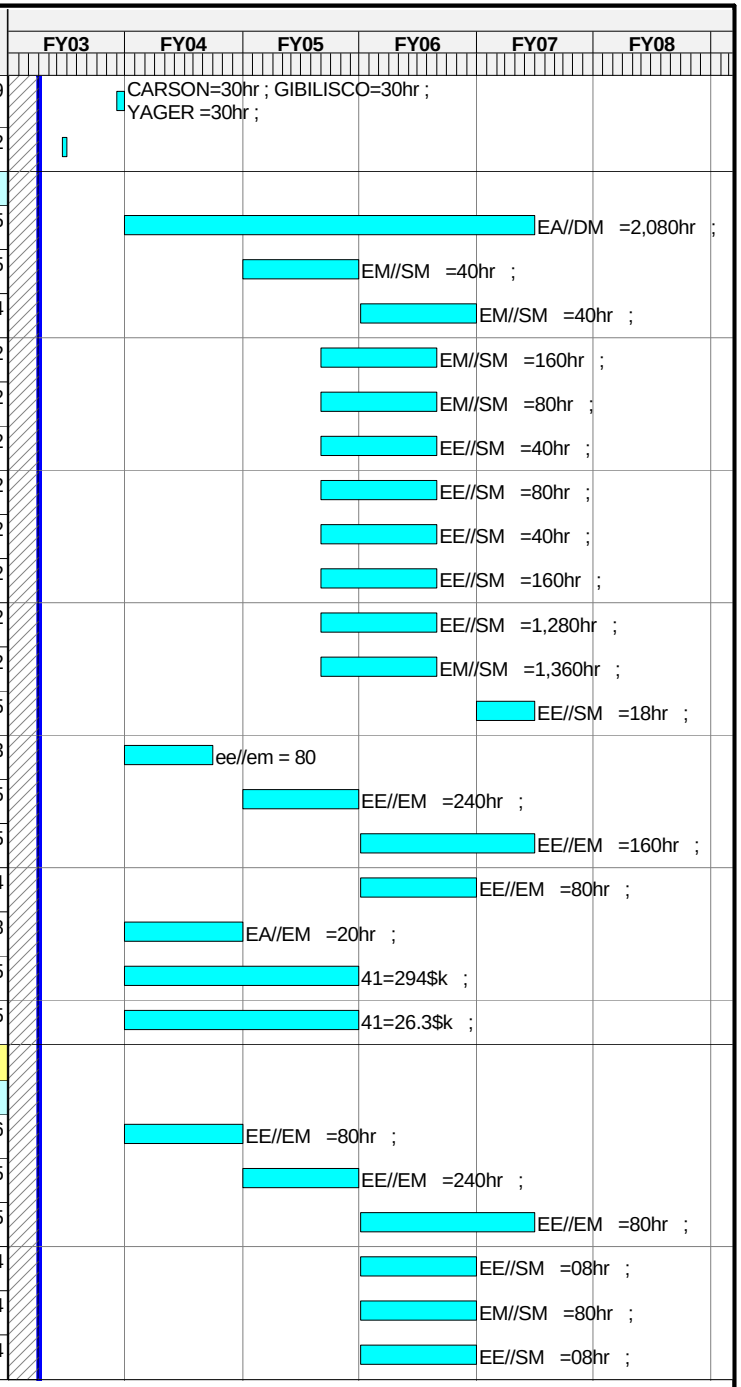
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
2 - Plasma Heating, Fueling & Vac Systems						
21 - Fueling Systems						
211 - Gas Fueling Systems						
Job: 2001-VPS,Gas& Cond Sys Oversight-BLANCHARD						
211-0001	CDR Chits and C&S updates	03MAR03*	21*	31MAR03	6,134.40	2,476
211-0002	Equipment checkout	02JAN03*	63*	31MAR03	15,998.40	2,476
211-001	Prelim Design	01OCT03*	130	30MAR04	1,638.60	1,433
211-005	Final Design	31MAR04	395	04OCT05	6,720.99	1,433
211-010	Design Gas Handling HW	03JAN05*	261	02JAN06	4,517.95	1,369
211-015	Design PLC Controls	03JAN05*	261	02JAN06	27,249.66	1,369
211-020	Design support during Installation (Title III)	05OCT05	390	03APR07	5,181.19	1,433
211-025	Install Gas Handling HW	03JAN06*	260	01JAN07	83,477.66	1,369
211-030	Install PLC	03JAN06*	260	01JAN07	9,217.59	1,369
211-035	Integr System Test	02JAN07*	130	02JUL07	9,253.20	1,369
22 - Torus Vacuum Pumping Systems						
220 - Torus Vacuum Pumping System						
220-001	Prelim Design	01OCT03*	130	30MAR04	6,554.40	217
220-010	Final Design	31MAR04	130	28SEP04	16,386.00	217
220-013	PLC Design & Drafting for Pumping Sys	03JAN05*	261	02JAN06	62,995.10	149
220-015	Title III Design support	03JAN05*	651	02JUL07	125,189.68	1,369
220-020	Maint/Repair mech pumping sys	03JAN05*	261	02JAN06	9,035.90	149
220-025	Electr/Mech Fab & Installation	03JAN06	149	28JUL06	68,665.60	149
220-030	Integr System Test	31JUL06	42	26SEP06	27,531.20	1,568
23 - Wall Conditioning Systems						
231 - Glow Discharge Cleaning System						
231-001	Prelim Design	01OCT03*	191	23JUN04	4,915.80	1,506
231-010	Final Design	01OCT04*	261	30SEP05	22,120.32	1,435
231-015	Design/Fab Pwr Supplies & PLC cntrls	03OCT05	260	29SEP06	48,717.60	1,565



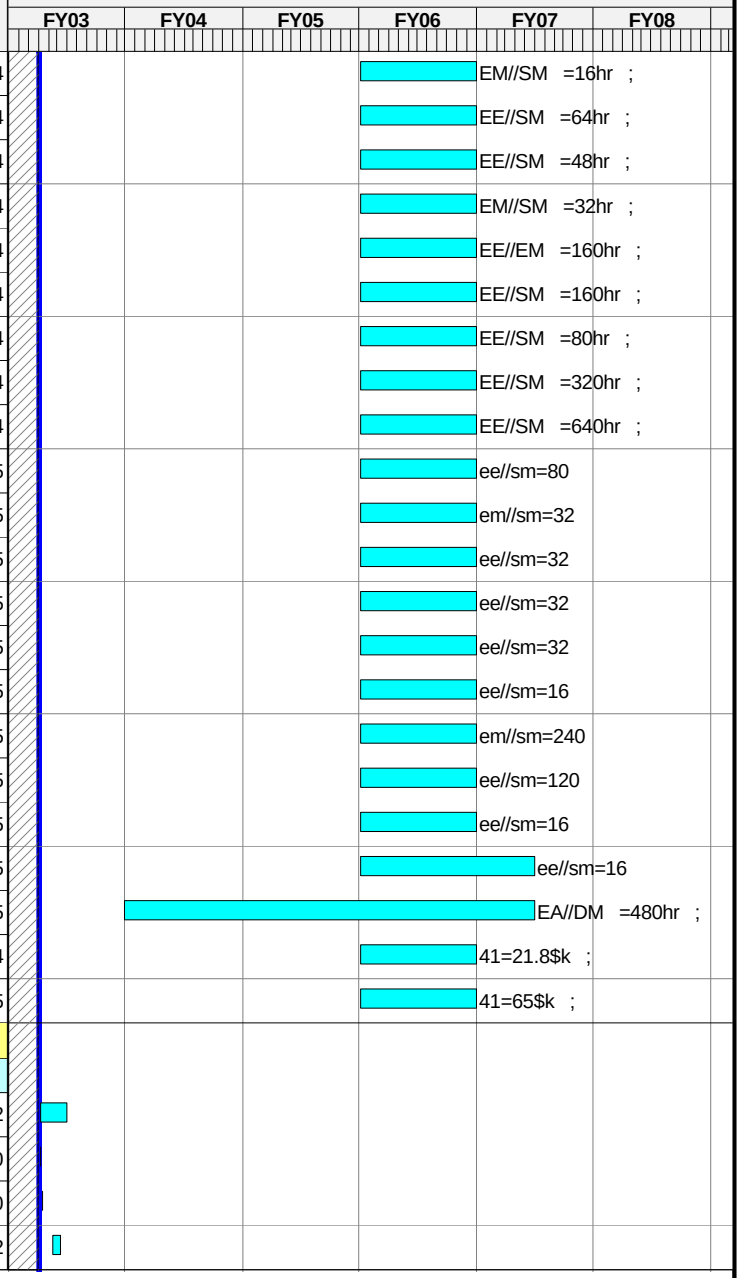
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
231-020	Title III Design	03OCT05	390	30MAR07	1,726.97	1,435
231-025	Install Cables	03OCT05	260	29SEP06	17,731.70	1,435
231-030	Integr Systems test	02OCT06	130	30MAR07	11,604.40	1,435
25 - Neutral Beam Injection System						
251 - NB Systems Recommissioning						
Job: 2501 - Neutral Beam Refurbishment-STEVENSON						
250-0001	Design & work planning	02DEC02A	206*	30SEP03	21,856.72	2,348
250-0003	Systems Engineering & Interfaces	02DEC02A	206*	30SEP03	13,734.72	2,348
250-0005	Design Layout and Routing	02DEC02A	206*	30SEP03	11,420.64	2,348
250-0006	Procedures	28OCT02A	229*	30SEP03	8,157.60	2,348
250-0007	Power Supply Eval-Pole Xfmr AC Power Test	02JAN03*	22*	31JAN03	13,734.72	2,517
250-0009	Power Supply Eval-Clean Accel Rectifier	02DEC02A	40	26FEB03	7,073.74	2,380
250-0011	Power Supply Eval-Hipot Accel Rectifier	27FEB03	40	23APR03	7,073.74	2,380
250-0013	Power Supply Eval-Local Test Accel Rectifier	24APR03	36	13JUN03	7,073.74	2,380
250-0015	Power Supply Eval-Evaluate Phase Controller	16JUN03	43	14AUG03	4,078.80	2,380
250-0017	Power Supply Eval-Modulator Restoration	21OCT02A	65*	31JAN03	5,323.28	2,393
250-0019	Power Supply Eval-Fault Detector Evaluation	02DEC02A	37*		5,323.28	
250-0021	Power Supply Eval-Crowbar Test	03FEB03	30	14MAR03	5,323.28	2,393
250-0023	Power Supply Eval-Relocate DL to Mod Area	17MAR03	30	25APR03	5,323.28	2,393
250-0025	Power Supply Eval-Accel System Test	28APR03	64	28JUL03	44,134.40	2,393
250-0026	Purchase Leak Detector	02JAN03*	40	26FEB03	33,000.00	2,499
250-0027	Beamline #1 Evaluations-Vacuum Test	02JAN03*	42*	28FEB03	9,117.90	2,497
250-0029	Beamline #2 Evaluations-Vacuum Test	03MAR03*	20	28MAR03	9,117.90	2,477
250-0031	Beamline #3 Evaluations-Vacuum Test	01APR03*	20	28APR03	9,117.90	2,456
250-0033	Beamline #4 Evaluations-Vacuum Test	01MAY03*	20	29MAY03	9,117.90	2,434
250-0035	Beamline #1 Evaluations-Cryo Pump Test	02JUN03*	20	27JUN03	9,117.90	2,413
250-0037	Beamline #2 Evaluations-Cryo Pump Test	01JUL03*	20	29JUL03	9,117.90	2,392
250-0039	Beamline #3 Evaluations-Cryo Pump Test	01AUG03*	20	28AUG03	9,117.90	2,370



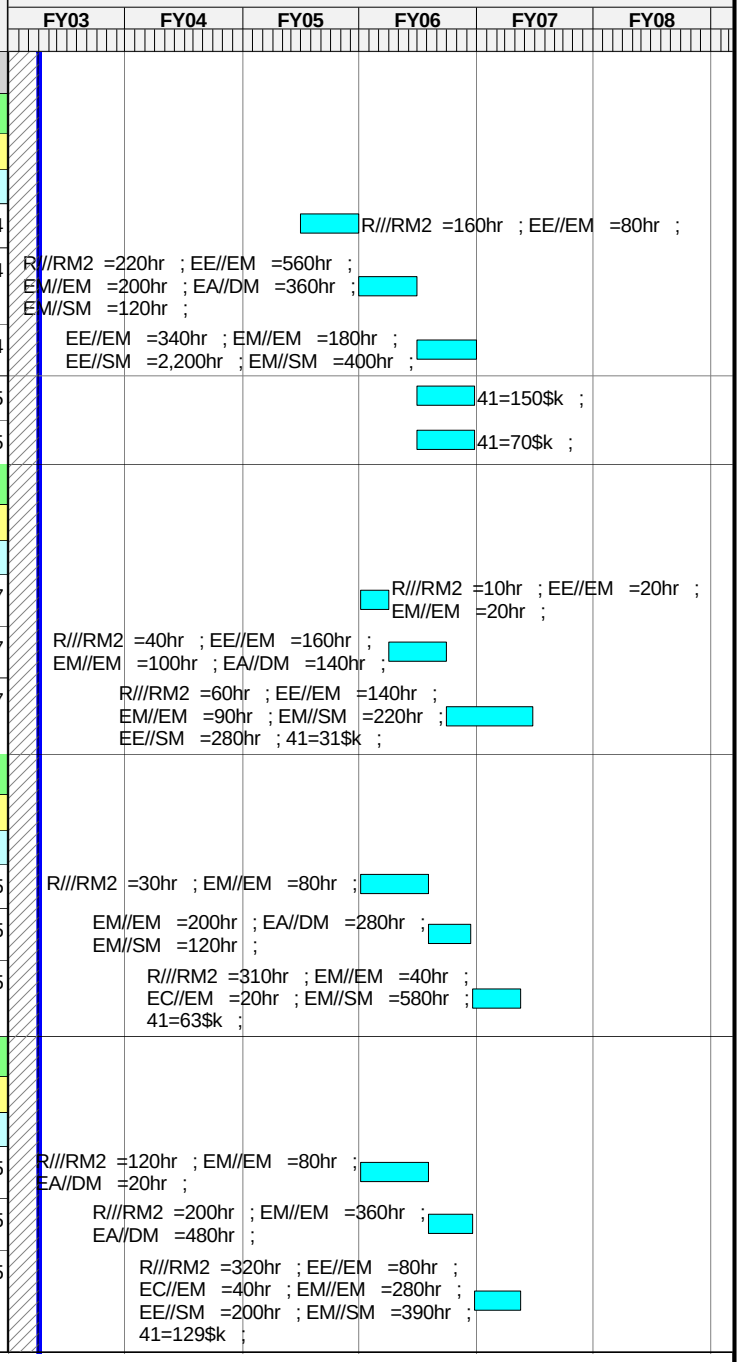
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
250-0041	Beamline #4 Evaluations-Cryo Pump Test	02SEP03*	20	29SEP03	9,117.90	2,349
L4-188	Update cost and schedule estimates	17MAR03*	10	28MAR03	0.00	2,452
250-0601	Drafting: Refurbishment	01OCT03*	913*	30MAR07	229,662.53	1,435
250-0701	Repair water leak in East source	01OCT04*	261*	30SEP05	4,504.80	1,825
250-0801	Fabricate and install all new filaments	03OCT05*	261*	02OCT06	4,556.99	1,564
250-0901	Replace calorimeter bearings and cables	01JUN05*	261	31MAY06	18,157.07	1,652
250-1001	Maint. and reinstall cryogenic transfer sys	01JUN05*	261	31MAY06	9,078.53	1,652
250-1201	Maintenance and repair of vacuum sys	01JUN05*	261	31MAY06	4,571.45	1,652
250-1301	Water system maintenance and calib.	01JUN05*	261	31MAY06	9,142.91	1,652
250-1401	Maint. & calib. of Auxiliary Pwr Supplies	01JUN05*	261	31MAY06	4,571.45	1,652
250-1501	Upgrade,maint,calib telemetry,optical links&cntr	01JUN05*	261	31MAY06	18,285.82	1,652
250-1601	Design PLC& perform oper test& calibr of PLC	01JUN05*	261	31MAY06	146,286.54	1,652
250-1701	Fabr, install, test Main & Front Box N2 Cryopane	01JUN05*	261	31MAY06	154,335.09	1,652
250-1801	Subsystem integrated testing	02OCT06*	130*	30MAR07	2,090.88	1,435
250-2101	Prelim Design-Sys Eng & Work Planning: Refurbish	01OCT03*	195	29JUN04	12,696.80	2,153
250-2111	Final Design-Sys Eng & Work Planning: Refurbishm	01OCT04*	261*	30SEP05	39,542.40	1,825
250-2121	Fab/Install-Sys Eng & Work Planning: Refurbishme	03OCT05*	390*	30MAR07	26,883.20	1,435
250-2131	Sys Eng & Work Planning Procedures	03OCT05*	261*	02OCT06	13,393.36	1,564
250-3201	EAD analysis: platform support capability	01OCT03*	260	28SEP04	3,255.00	2,088
250-7001	M&S during Refurbishment	01OCT03*	523*	30SEP05	398,855.38	1,825
250-7002	M&S support services during refurbishment	01OCT03*	523*	30SEP05	35,679.92	1,825
252 - NB Installation & Test						
250-3101	Prelim Dsn -Sys Eng &Work Planning: Installation	01OCT03*	261	29SEP04	12,696.80	1,436
250-3111	Final Dsn-Sys Eng &Work Planning: Installation	01OCT04*	261*	30SEP05	39,542.40	1,435
250-3121	Fab/Install-Sys Eng &Work Planning: Installation	03OCT05*	390*	30MAR07	13,441.60	1,435
250-3301	Fab BL alignment measurement fixt, obtain BL bas	03OCT05*	261*	02OCT06	919.24	1,564
250-3401	Fab bellows/elec break section of transition duc	03OCT05*	261*	02OCT06	9,113.98	1,564
250-3501	Perform alignment measurements	03OCT05*	261*	02OCT06	919.24	1,564



Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
250-3601	Carpenter prep platform for base plate	03OCT05*	261*	02OCT06	1,822.80	1,564
250-3701	Relocate base plate to NCSX location	03OCT05*	261*	02OCT06	7,353.91	1,564
250-3801	Lift NB from Refurb Location to NCSX	03OCT05*	261*	02OCT06	5,515.43	1,564
250-3901	Enclose platform around base plate	03OCT05*	261*	02OCT06	3,645.59	1,564
250-4001	Engineer new Junction Box	03OCT05*	261*	02OCT06	26,786.72	1,564
250-4101	Fabricate and Install new Junction Box	03OCT05*	261*	02OCT06	18,384.77	1,564
250-4201	Hi-potting cable run and fixing problems	03OCT05*	261*	02OCT06	9,192.39	1,564
250-4301	Install Cable Trays	03OCT05*	261*	02OCT06	36,769.54	1,564
250-4401	Pulling heavy cables from Arc Room to Junction B	03OCT05*	261*	02OCT06	73,539.09	1,564
250-4501	Install welding cables Junction Box to Ion Sourc	03OCT05*	260*	29SEP06	9,192.00	1,565
250-4601	Connect BL to new foreline/exhaust manifold.	03OCT05*	260*	29SEP06	3,645.44	1,565
250-4701	New PLC:Test with Vacuum system	03OCT05*	260*	29SEP06	3,676.80	1,565
250-4801	New Cryolines: Connect beamlines	03OCT05*	260*	29SEP06	3,676.80	1,565
250-4901	Crogenic Sys Controls: connect & test	03OCT05*	260*	29SEP06	3,676.80	1,565
250-5001	Pneumatic Air Sys :connect beamlines	03OCT05*	260*	29SEP06	1,838.40	1,565
250-5101	Water System	03OCT05*	260*	29SEP06	27,340.80	1,565
250-5201	Fab & Install Water cooled aperture	03OCT05*	260*	29SEP06	13,788.00	1,565
250-5301	New PLC: Test Water system controls	03OCT05*	260*	29SEP06	1,838.40	1,565
250-5401	Install NB Diagnostic Control System	03OCT05*	390*	30MAR07	1,845.12	1,435
250-5601	Drafting: Installation	01OCT03*	913*	30MAR07	52,999.04	1,435
250-7003	M&S during installation	03OCT05*	261*	02OCT06	28,644.92	1,564
250-7004	M&S during installation	03OCT05*	260*	29SEP06	85,659.76	1,565
Job: 2501 - Neutral Beam Refurbishment-STEVENSON						
L4-184	Update the NB conceptual design (WBS 25)	06JAN03*	60	28MAR03	0.00	2,452
L4-185	Confirm adequate NB access	06JAN03*	5	10JAN03	0.00	80
L4-186	Calculate heat loads on VV surface (if unshielde	13JAN03*	5	17JAN03	0.00	80
L4-187	Check out legacy equipment	17FEB03*	20	14MAR03	0.00	2,452



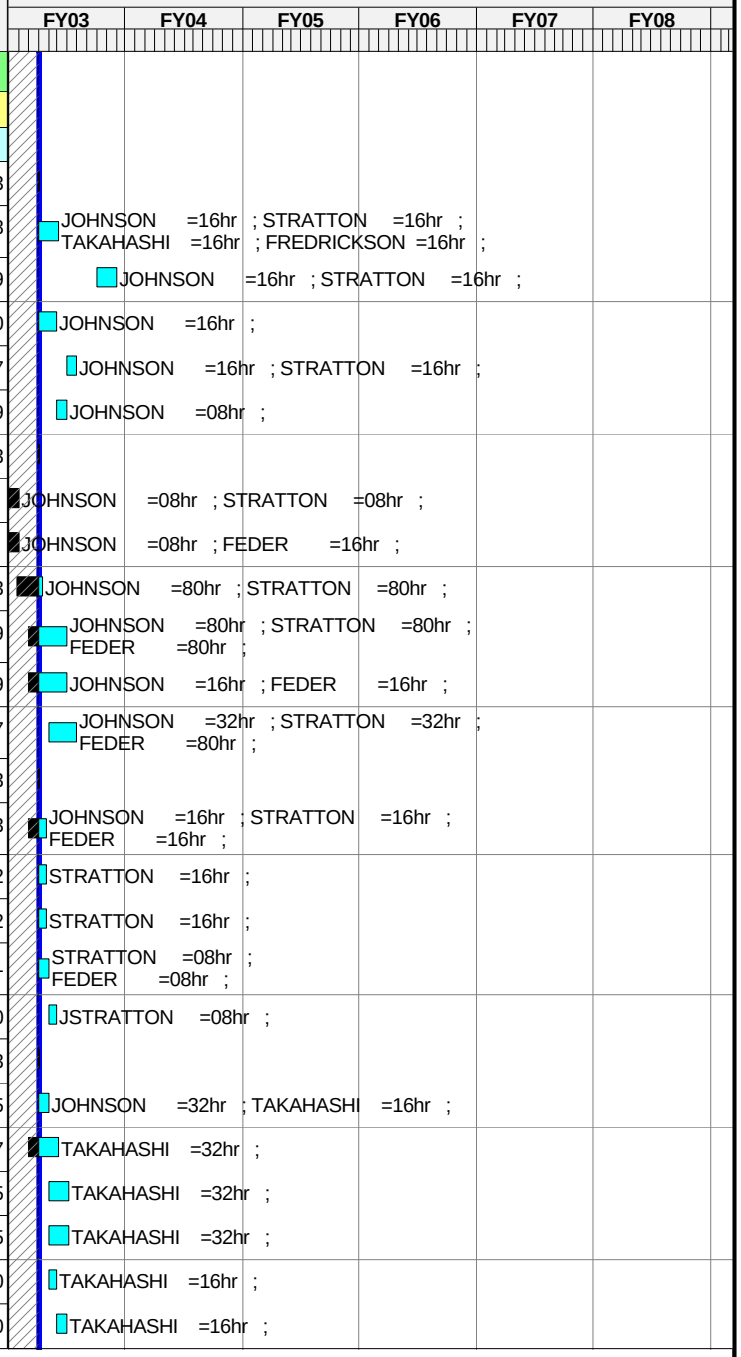
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
3 - Diagnostics						
31 - Magnetic Diagnostics						
310-001	Preliminary Design wbs 114 mag diag	01APR05*	129	28SEP05	38,182.40	124
310-010	Final Design wbs 114 mag diag	29SEP05	131	30MAR06	217,191.04	124
310-015	Fab/Assembly/Installation	31MAR06*	131	29SEP06	386,240.00	124
310-020	Fabricate Integrator Modules	31MAR06*	130	28SEP06	197,070.00	125
310-025	Misc. Mag Diag Procurements	31MAR06*	130	28SEP06	91,440.48	125
35 - Profile Diagnostics						
350-001	Preliminary Design	03OCT05*	63	28DEC05	8,377.40	1,437
350-010	Final Design	29DEC05	130	28JUN06	66,084.00	1,437
350-015	Fab/Assy/Installation	29JUN06	195	28MAR07	147,492.65	1,437
36 - Edge and Divertor Diagnostics						
361-001	Preliminary Design	03OCT05*	153	03MAY06	18,529.00	1,465
361-010	Final Design	04MAY06	97	15SEP06	79,564.80	1,465
361-015	Fab/Assy/Installation	18SEP06	110	16FEB07	212,273.41	1,465
38 - Electron Beam (EB) Mapping						
380-001	Preliminary Design	03OCT05*	153	03MAY06	35,067.80	1,465
380-010	Final Design	04MAY06	102	22SEP06	147,667.60	1,465
380-015	Fab/Assy/Installation	25SEP06	105	16FEB07	363,499.29	1,465



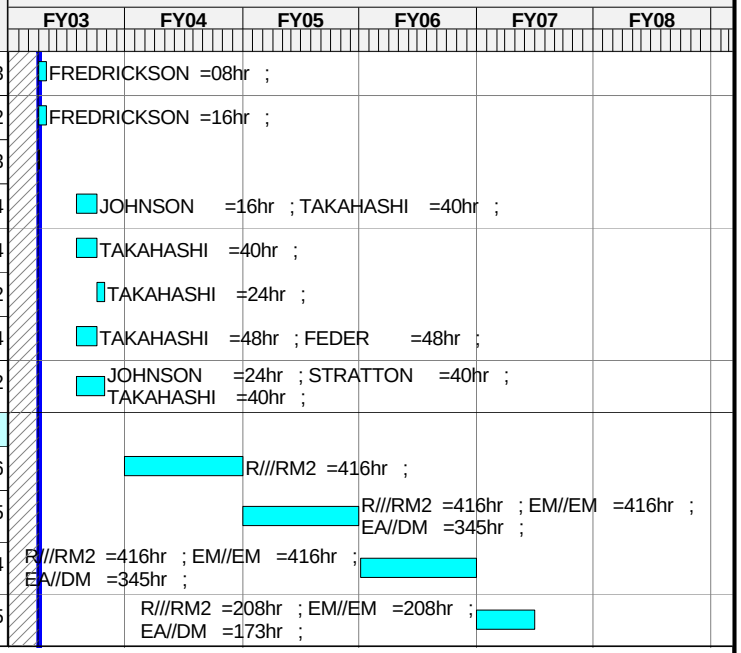
39 - Diagnostics Integration

Job: 3901 - Diagnostics sys Integration-JOHNSON

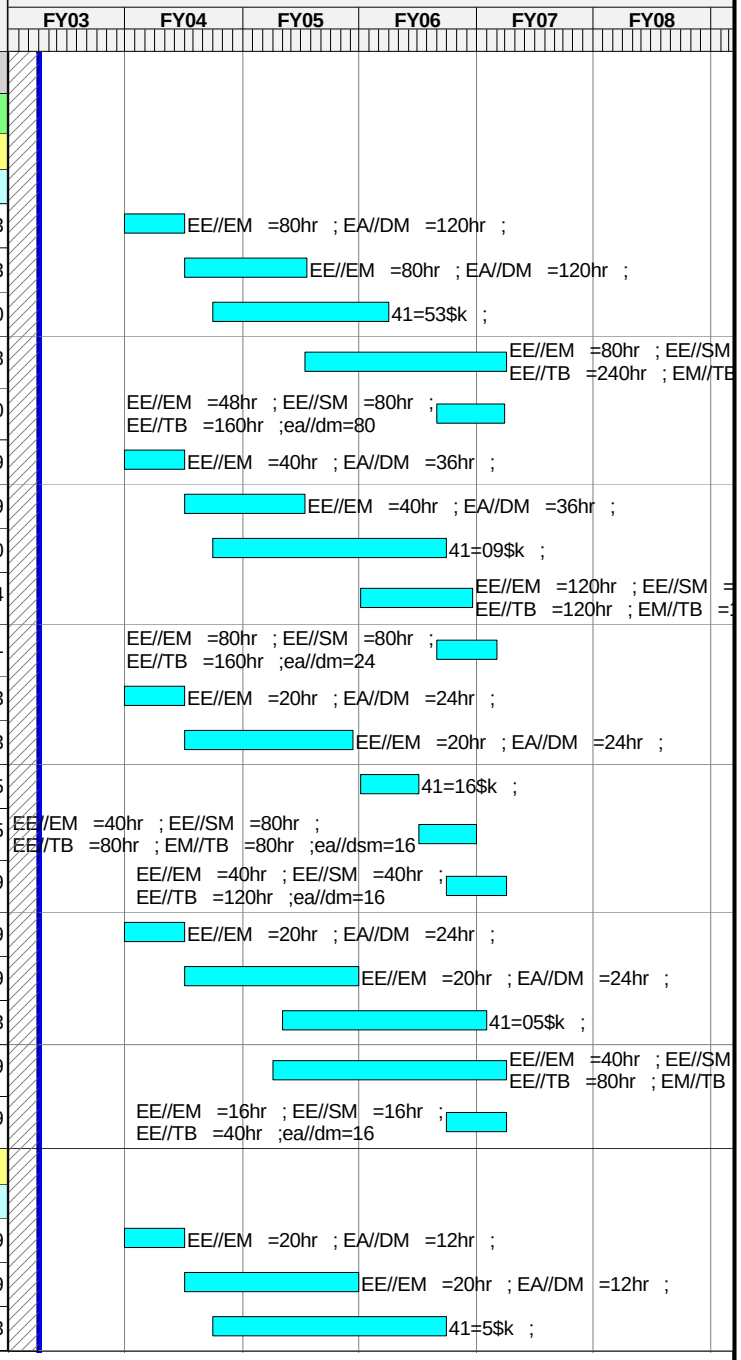
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
390-1	DIAGNOSTIC INTEGRATION	01JAN03*	0*	31DEC02	0.00	2,543
390-101	refine measurement requirements	01JAN03	45	04MAR03	10,014.88	2,498
390-102	refine diagnostics/research plan	01JUL03*	45*	01SEP03	5,511.84	2,369
390-103	prepare physics meetings presentations	01JAN03*	43*	28FEB03	3,260.32	2,500
390-104	prepare VV CDR material	01APR03*	22*	30APR03	5,511.84	2,457
390-105	review and modify WBS3 cost estimates	03MAR03*	21*	31MAR03	1,630.16	2,479
390-2	PORT ORIENTATION/ALLOCATION ISSUES	01JAN03*	0*	31DEC02	0.00	2,543
390-201	prioritize diagnostics for access	01OCT02A	0*	31OCT02A	2,755.92	
390-202	prep drawings package for specialist meetings	01OCT02A	0*	31OCT02A	4,083.92	
390-203	layouts of diagnostic sightllines	28OCT02A	35	14JAN03	27,559.20	2,533
390-204	attend/follow-up wkly meetings on sightlines	02DEC02A	86*	31MAR03	39,828.00	2,479
390-205	explore cryostat implications	02DEC02A	86*	31MAR03	5,714.08	2,479
390-206	provide port orientation info f/VV design	03FEB03*	63*	30APR03	23,292.48	2,457
390-3	SXR TOMOGRAPHY INTEGRATION INTO VV	01JAN03*	0*	31DEC02	0.00	2,543
390-301	investigate integration with modified VV wedge	02DEC02A	42*	28JAN03	7,965.60	2,523
390-302	invest feasibility of AXUV diode array approach	01JAN03*	21	29JAN03	2,251.52	2,522
390-303	invest feasibility scintillator/fiber optics	01JAN03*	21	29JAN03	2,251.52	2,522
390-304	prepare and present physics meeting presentation	01JAN03*	22*	30JAN03	2,352.64	2,521
390-305	provide input to VV CDR	03FEB03*	20*	28FEB03	1,125.76	2,500
390-4	MAGNETIC DIAGNOSTICS	01JAN03*	0*	31DEC02	0.00	2,543
390-401	define measurement reqts for slow magnetics	01JAN03*	24	03FEB03	8,772.16	2,475
390-402	invest space envelopes magn sensors inside vsl	02DEC02A	68*	05MAR03	6,520.64	2,497
390-403	consider altern locations electr vac feedthrus	04FEB03	44	04APR03	4,503.04	2,475
390-404	invest space envel for magn sensors outside vsl	04FEB03	44	04APR03	4,503.04	2,475
390-405	engr mtg present space envel/mounting concepts	03FEB03*	20*	28FEB03	2,251.52	2,500
390-406	document space envelope for slow magnetics	03MAR03*	20*	28MAR03	2,251.52	2,480



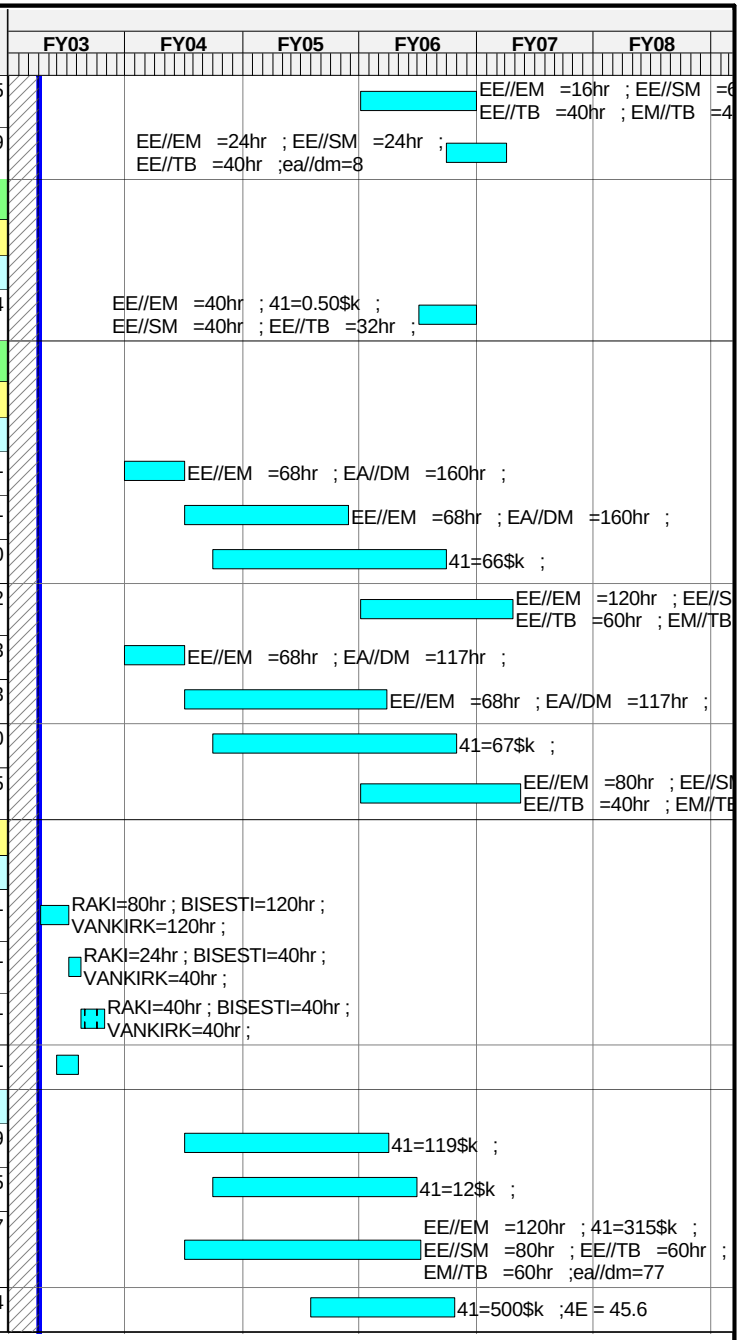
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
390-407	define high freq. Mirnov coil requirements	01JAN03*	20	28JAN03	1,125.76	2,523
390-408	conc dsn space envel high freq Mirnov coils	01JAN03*	21	29JAN03	2,251.52	2,522
390-5	E-BEAM CONCEPT EXPLORATION	01JAN03*	0*	31DEC02	0.00	2,543
390-501	define space and time resolution requirements	01MAY03*	43*	30JUN03	8,889.12	2,414
390-502	define vacuum scenarios to be probed	01MAY03*	43*	30JUN03	5,628.80	2,414
390-503	prep physics mtg presenta reqnts, scenarios	01JUL03*	22*	30JUL03	3,377.28	2,392
390-504	continue concept exploration detecting e-beam	01MAY03*	43*	30JUN03	14,115.84	2,414
390-601	Investig Diagn Issues w/other stellartor groups	01MAY03*	65*	30JUL03	16,148.08	2,392
390-010	LOE Support FY04	01OCT03*	262*	30SEP04	62,620.48	2,086
390-015	LOE Support FY05	01OCT04*	261*	30SEP05	173,936.56	1,825
390-020	LOE Support FY06	03OCT05*	261*	02OCT06	176,429.35	1,564
390-025	LOE Support FY07	02OCT06*	130*	30MAR07	89,232.94	1,435



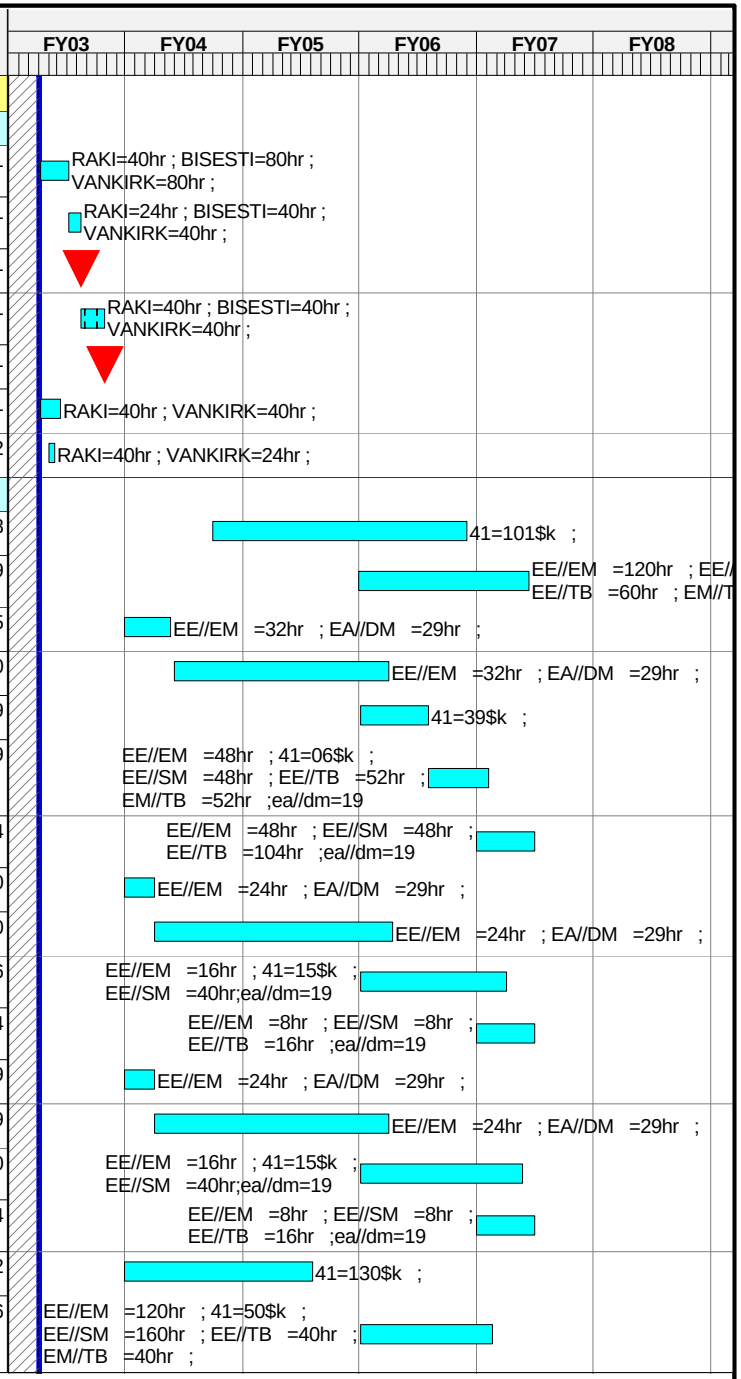
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
4 - Electrical Power Systems						
41 - AC Power						
411 - Auxliary AC Power Systems						
411-001	Test Cell AC Power Distrib - Prelim Dsn	01OCT03*	131*	31MAR04	25,486.40	1,943
411-011	Test Cell AC Power Distrib - Final Dsn	01APR04*	274	19APR05	25,993.27	1,943
411-021	Test Cell AC Power Distrib - Procurements	01JUL04*	392	30DEC05	72,751.05	1,760
411-031	Test Cell AC Power Distrib - Installation	15APR05*	448	02JAN07	72,629.77	1,498
411-041	Test Cell AC Power Distrib - Commission	01JUN06*	152	29DEC06	40,496.91	1,500
411-101	Ex Test Cell AC Pwr Distrib - Prelim Dsn	01OCT03*	131*	31MAR04	10,185.28	1,949
411-111	Ex Test Cell AC Pwr Distrib - Final Dsn	01APR04*	268	11APR05	12,991.44	1,949
411-121	Ex Test Cell AC Pwr Distrib - Procurements	01JUL04*	522	30JUN06	12,161.16	1,630
411-131	Ex Test Cell AC Pwr Distrib - Installation	03OCT05*	251	18SEP06	61,781.52	1,574
411-141	Ex Test Cell AC Pwr Distrib - Commission	01JUN06*	131	30NOV06	39,514.06	1,521
411-201	Standby Pwr f/Cryo Sys - Prelim Dsn	01OCT03*	131*	31MAR04	5,732.12	1,843
411-211	Standby Pwr f/Cryo Sys - Final Dsn	01APR04*	374	06SEP05	5,874.05	1,843
411-221	Standby Pwr f/Cryo Sys - Procurements	03OCT05*	132	04APR06	21,020.80	1,565
411-231	Standby Pwr f/Cryo Sys - Installation	05APR06	128	29SEP06	31,427.28	1,565
411-241	Standby Pwr f/Cryo Sys - Commission	03JUL06*	131	01JAN07	23,786.31	1,499
411-301	Grounding - Prelim Dsn	01OCT03*	131*	31MAR04	5,732.12	1,829
411-311	Grounding - Final Dsn	01APR04*	388	26SEP05	5,876.81	1,829
411-321	Grounding - Procurements	01FEB05*	456	31OCT06	6,716.58	1,543
411-331	Grounding - Installation	03JAN05*	521	01JAN07	31,295.21	1,499
411-341	Grounding - Commission	03JUL06*	131	01JAN07	9,891.62	1,499
412 - Experimental AC Power Systems						
412-001	D-Site Pulsed AC Pwr Distrib - Prelim Dsn	01OCT03*	131*	31MAR04	4,453.16	1,829
412-011	D-Site Pulsed AC Pwr Distrib - Final Dsn	01APR04*	388	26SEP05	4,565.58	1,829
412-021	D-Site Pulsed AC Pwr Distrib - Procurements	01JUL04*	519	27JUN06	6,757.28	1,633



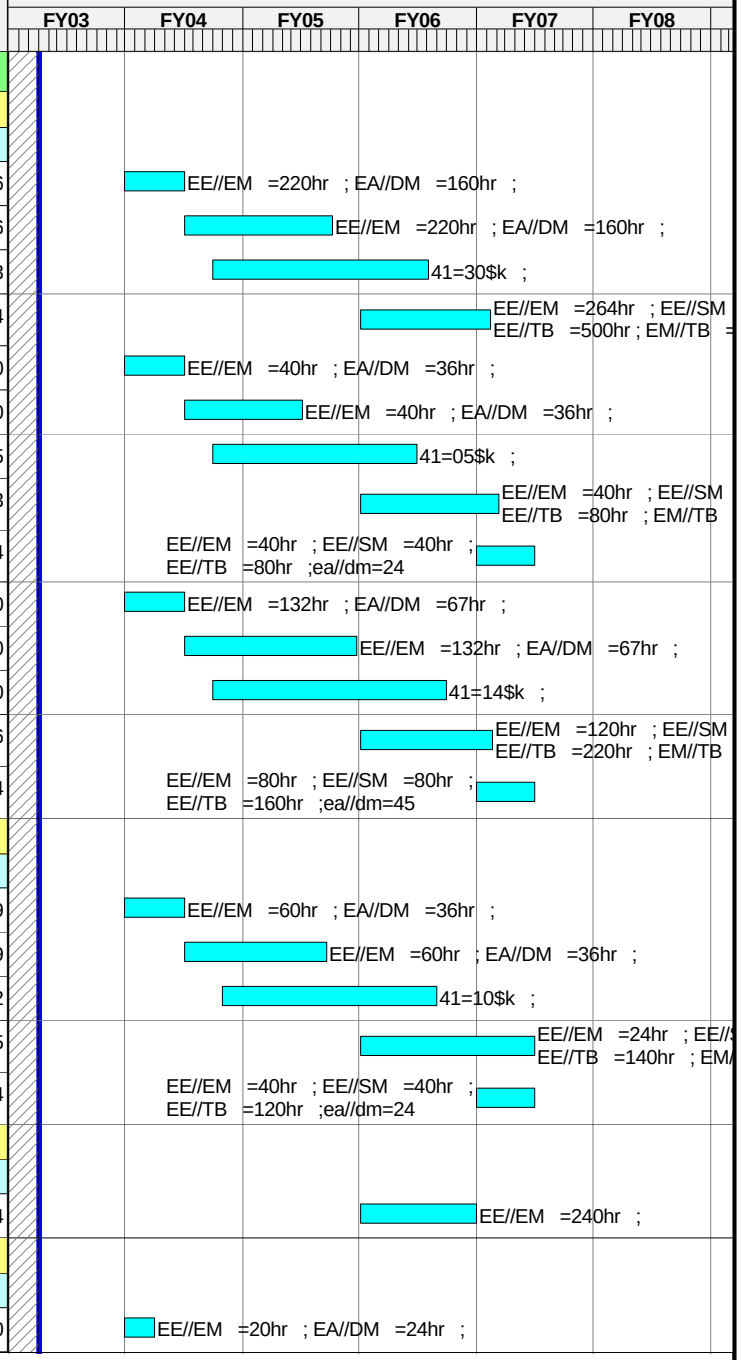
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
412-031	D-Site Pulsed AC Pwr Distrib - Installation	03OCT05*	260*	29SEP06	17,801.60	1,565
412-041	D-Site Pulsed AC Pwr Distrib - Commission	03JUL06*	131	01JAN07	11,258.16	1,499
42 - AC/DC Converters						
422 - D-Site AC/DC Converters						
422-041	Coil Pwr Supplies - Commission	03APR06*	131*	02OCT06	14,767.94	1,564
43 - DC Systems						
431 - C-Site DC Systems						
431-001	Coil DC Cabling to DLS - Prelim Dsn	01OCT03*	131*	31MAR04	27,845.08	1,851
431-011	Coil DC Cabling to DLS - Final Dsn	01APR04	366	25AUG05	28,526.32	1,851
431-021	Coil DC Cabling to DLS - Procurements	01JUL04*	522	30JUN06	88,911.58	1,630
431-031	Coil DC Cabling to DLS - Installation	03OCT05*	343	24JAN07	62,335.50	1,482
431-101	DC Cabling to Coils in TC - Prelim Dsn	01OCT03*	131*	31MAR04	23,262.14	1,763
431-111	DC Cabling to Coils in TC - Final Dsn	01APR04	454	27DEC05	23,946.00	1,763
431-121	DC Cabling to Coils in TC - Procurements	01JUL04*	542	28JUL06	90,170.53	1,610
431-131	DC Cabling to Coils in TC - Installation	03OCT05*	360	16FEB07	42,738.54	1,465
432 - D-to-C Site DC Systems						
Job: 4301 - ElectrDsn DC SystemsWBS 432&433-RAKI						
432-0001	D to C Site DC Cabling -Design & Requisitions	06JAN03*	66*	07APR03	35,416.80	2,391
432-0002	D to C Site DC Cabling -Design Review	08APR03	28*	15MAY03	11,424.08	2,391
432-0004	D to C Site DC Cabling -Final Design	16MAY03	52*	30JUL03	13,713.20	2,391
432-0006	D Site DC Systems -SOW, IP	03MAR03*	46*	05MAY03	0.00	2,451
432-021	Dc Cabling to C-Site - 1000mcm 5kvcable	02APR04*	457	02JAN06	158,136.31	1,759
432-022	Dc Cabling to C-Site - misc procurements	01JUL04*	457	31MAR06	16,821.40	1,695
432-031	Dc Cabling to C-Site - Installation Supports	01APR04*	530	12APR06	473,290.42	1,687
432-032	Dc Cabling to C-Site - Installation Cable	02MAY05*	321	24JUL06	718,123.17	1,614



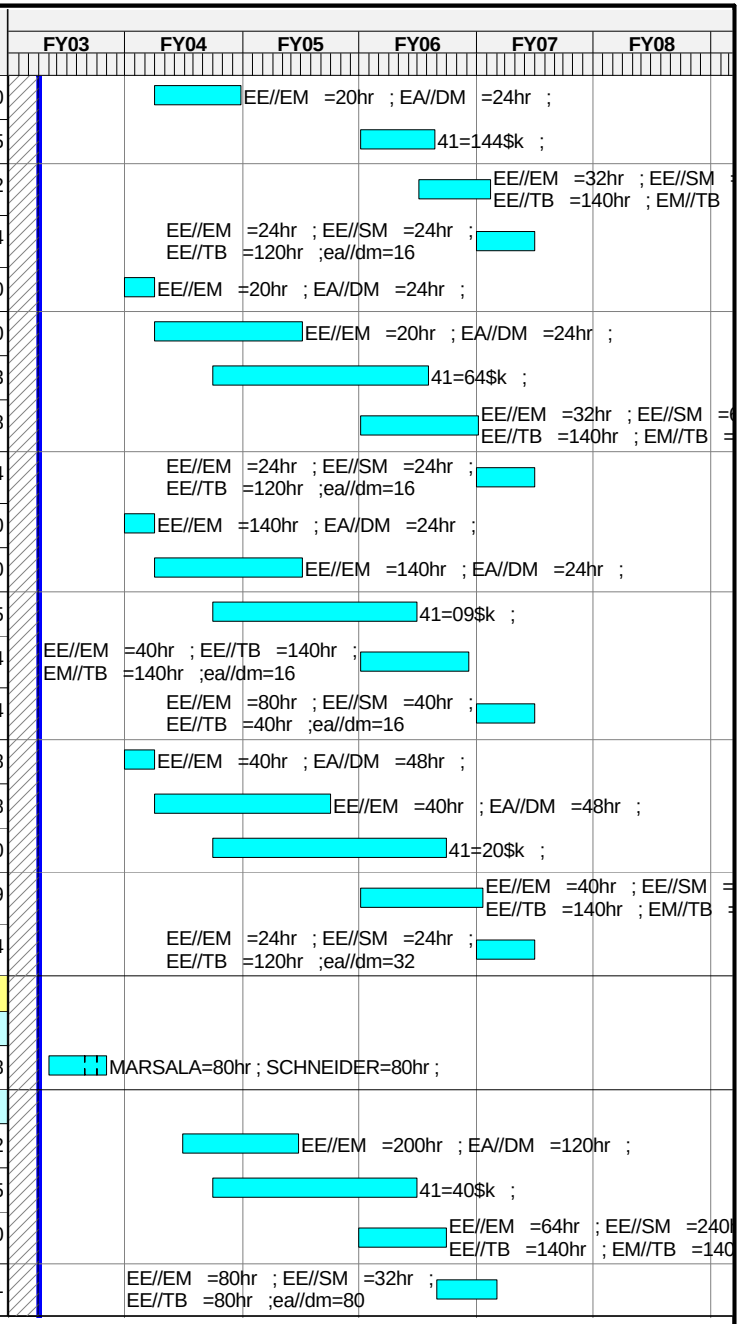
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
433 - D-Site DC Systems						
Job: 4301 - ElectrDsn DC SystemsWBS 432&433-RAKI						
433-0001	D Site DC Systems -Design & Requisitions	06JAN03*	66*	07APR03	21,703.60	2,391
433-0002	DSite DC Systems -Design Review Prep	08APR03	28*	15MAY03	11,424.08	2,391
433-0003	D Site DC Systems and D-C Site DC Cabling-PDR		0	15MAY03	0.00	2,391
433-0004	D Site DC Systems -Final Design	16MAY03	52*	30JUL03	13,713.20	2,391
433-0005	D Site DC Systems and D-C Site DC Cabling-FDR		0	30JUL03	0.00	2,391
433-0007	Disconnect & Grid Switch Design	06JAN03*	46*	10MAR03	9,718.00	2,491
433-0008	Disconnect & Grid Switch Procurement spec	04FEB03*	14*	21FEB03	8,119.92	2,502
433-021	DC Cabling D-Site - Procurements	01JUL04*	564	29AUG06	135,519.40	1,588
433-031	DC Cabling D-Site - Installation	29SEP05*	378	12MAR07	60,569.74	1,449
433-101	DC Current Limiting Reactors - Prelim Dsn	01OCT03*	103*	20FEB04	8,169.54	1,765
433-111	DC Current Limiting Reactors - Final Dsn	01MAR04*	480	30DEC05	8,399.50	1,760
433-121	DC Current Limiting Reactors - Procurements	03OCT05*	153	03MAY06	51,238.20	1,539
433-131	DC Current Limiting Reactors - Installation	04MAY06	133	06NOV06	32,610.66	1,539
433-141	DC Current Limiting Reactors - Commission	02OCT06*	131	02APR07	25,114.74	1,434
433-201	Coil Pwr Supplies TF - Prelim Dsn	01OCT03*	66*	31DEC03	6,899.86	1,750
433-211	Coil Pwr Supplies TF- Final Dsn	01JAN04*	532	13JAN06	7,082.21	1,750
433-231	Coil Pwr Supplies TF- Installation	03OCT05*	329	04JAN07	29,292.86	1,496
433-241	Coil Pwr Supplies TF- Commission	02OCT06*	131	02APR07	5,866.74	1,434
433-251	Coil Pwr Supplies OH PS - Prelim Dsn	01OCT03*	66*	31DEC03	6,899.86	1,759
433-261	Coil Pwr Supplies OH PS- Final Dsn	01JAN04*	523	02JAN06	7,078.84	1,759
433-271	Coil Pwr Supplies OH PS- Installation	03OCT05*	365	23FEB07	29,357.95	1,460
433-281	Coil Pwr Supplies OH PS- Commission	02OCT06*	131	02APR07	5,866.74	1,434
433-321	Isolating Switch - Procurements	01OCT03*	416*	04MAY05	175,417.37	1,932
433-331	Isolating Switch - Installation	03OCT05*	299	23NOV06	111,416.16	1,526



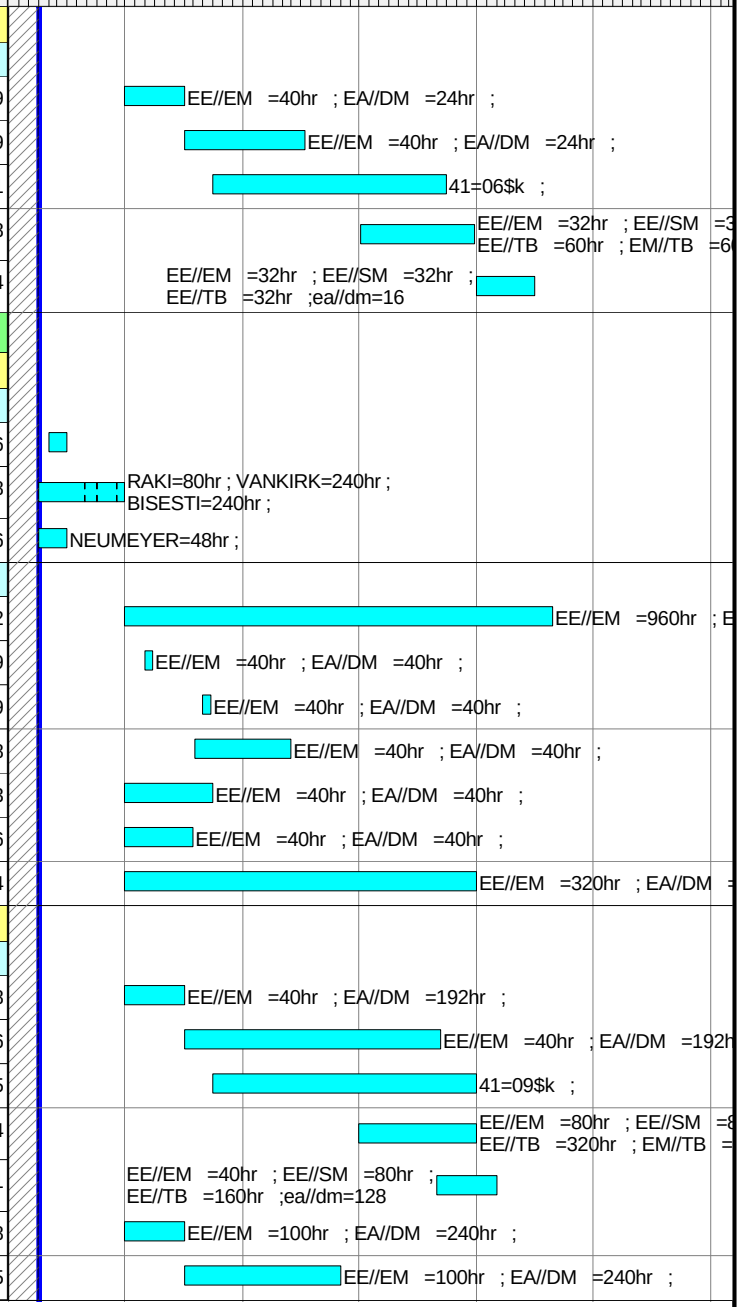
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
44 - Control and protection Systems						
441 - Electrical Interlocks						
441-001	C-Site Interlocks - Prelim Dsn	01OCT03*	132*	01APR04	51,969.00	1,886
441-011	C-Site Interlocks - Final Dsn	02APR04	330	07JUL05	53,169.37	1,886
441-021	C-Site Interlocks - Procurements	01JUL04*	479	02MAY06	40,583.84	1,673
441-031	C-Site Interlocks - Installation	03OCT05*	291	13NOV06	185,043.02	1,534
441-101	D-to-C Site Interlocks - Prelim Dsn	01OCT03*	130*	30MAR04	10,185.28	1,950
441-111	D-to-C Site Interlocks - Final Dsn	31MAR04	268	08APR05	10,382.26	1,950
441-121	D-to-C Site Interlocks - Procurements	01JUL04*	457	31MAR06	6,782.82	1,695
441-131	D-to-C Site Interlocks - Installation	03OCT05*	312	12DEC06	27,781.17	1,513
441-141	D-to-C Site Interlocks - Commission	02OCT06*	131	02APR07	21,263.84	1,434
441-201	D-Site Interlocks - Prelim Dsn	01OCT03*	130*	30MAR04	28,090.58	1,830
441-211	D-Site Interlocks - Final Dsn	31MAR04	388	23SEP05	28,796.97	1,830
441-221	D-Site Interlocks - Procurements	01JUL04*	522	30JUN06	18,863.31	1,630
441-231	D-Site Interlocks - Installation	03OCT05*	299	23NOV06	86,035.94	1,526
441-241	D-Site Interlocks - Commission	02OCT06*	131	02APR07	42,186.70	1,434
442 - Kirk Key Interlocks						
442-001	Kirk Keys - Prelim Dsn	01OCT03*	130*	30MAR04	13,359.48	1,899
442-011	Kirk Keys - Final Dsn	31MAR04*	319	20JUN05	13,657.95	1,899
442-021	Kirk Keys - Procurements	02AUG04*	478	31MAY06	13,540.13	1,652
442-031	Kirk Keys - Installation	03OCT05*	390	30MAR07	35,485.71	1,435
442-041	Kirk Keys - Commission	02OCT06*	131	02APR07	24,823.84	1,434
443 - Real Time Control Systems						
443-001	Develop Control Algorithms	03OCT05*	261*	02OCT06	40,180.08	1,564
444 - Instrument Systems						
444-001	DC Current Transducers - Prelim Dsn	01OCT03*	66*	31DEC03	5,732.12	2,090



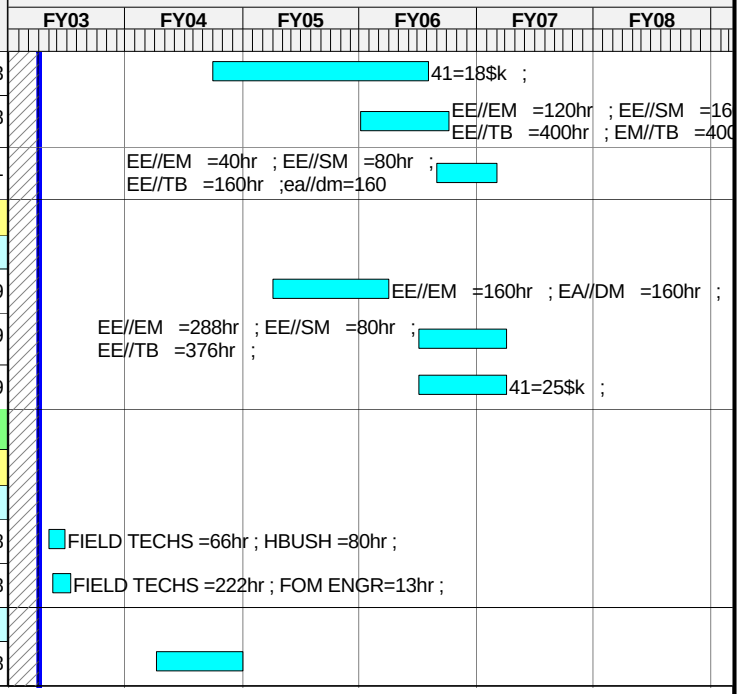
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
444-011	DC Current Transducers - Final Dsn	01JAN04	192	24SEP04	5,732.12	2,090
444-021	DC Current Transducers - Procurements	05OCT05*	168	26MAY06	189,187.20	1,655
444-031	DC Current Transducers - Installation	03APR06*	163	15NOV06	38,639.77	1,532
444-041	DC Current Transducers - Commission	02OCT06*	131	02APR07	19,348.16	1,434
444-101	DC Shunts - Prelim Dsn	01OCT03*	66*	31DEC03	5,732.12	1,950
444-111	DC Shunts - Final Dsn	01JAN04	332	08APR05	5,821.61	1,950
444-121	DC Shunts - Procurements	01JUL04*	479	02MAY06	86,694.45	1,673
444-131	DC Shunts - Installation	03OCT05*	267	10OCT06	38,565.63	1,558
444-141	DC Shunts - Commission	02OCT06*	131	02APR07	19,348.16	1,434
444-201	Signal Conditioning - Prelim Dsn	01OCT03*	66*	31DEC03	24,777.32	1,950
444-211	Signal Conditioning - Final Dsn	01JAN04	332	08APR05	25,164.20	1,950
444-221	Signal Conditioning - Procurements	01JUL04*	457	31MAR06	12,209.08	1,695
444-231	Signal Conditioning - Installation	03OCT05*	241	04SEP06	32,540.28	1,584
444-241	Signal Conditioning - Commission	02OCT06*	131	02APR07	23,564.16	1,434
444-301	DC Potential transducers - Prelim Dsn	01OCT03*	66*	31DEC03	11,464.24	1,888
444-311	DC Potential transducers - Final Dsn	01JAN04*	394	05JUL05	11,683.78	1,888
444-321	DC Potential transducers - Procurements	01JUL04*	522	30JUN06	27,024.80	1,630
444-331	DC Potential transducers - Installation	03OCT05*	276	23OCT06	38,959.78	1,549
444-341	DC Potential transducers - Commission	02OCT06*	131	02APR07	21,166.72	1,434
445 - Coil protection Systems						
Job: 4401 - Electr Dsn Control & Protection-RAKI						
445-0001	Coil Protection Design	03FEB03*	129*	04AUG03	22,891.20	2,388
445-011	Overload Protection - Final Dsn	25MAR04*	260	23MAR05	45,341.04	1,962
445-021	Overload Protection - Procurements	01JUL04*	457	31MAR06	54,262.60	1,695
445-031	Overload Protection - Installation	30SEP05*	196	30JUN06	71,324.12	1,630
445-041	Overload Protection - Commission	01JUN06*	131	30NOV06	33,228.76	1,521



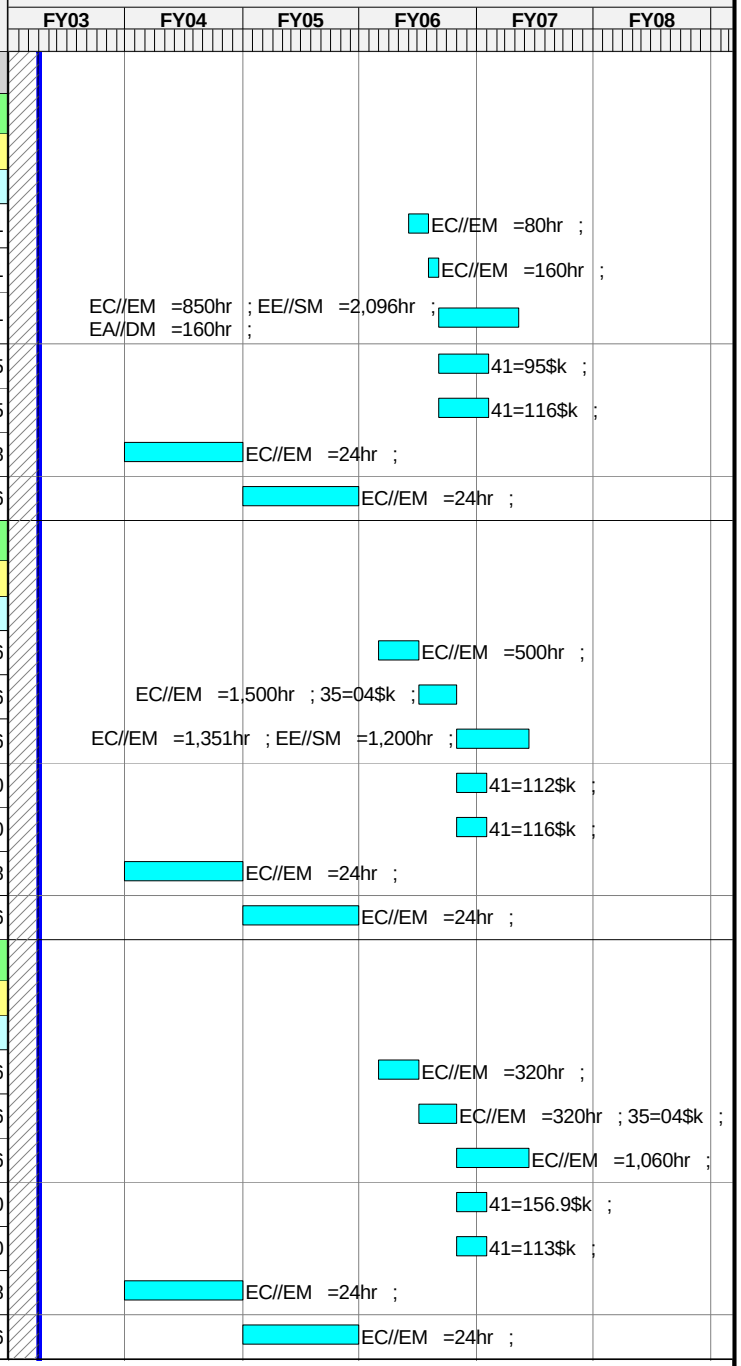
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
446 - Ground Fault Monitoring System						
445-101	Ground Fault Protection - Prelim Dsn	01OCT03*	130	30MAR04	8,906.32	1,949
445-111	Ground Fault Protection - Final Dsn	31MAR04*	269	11APR05	9,079.20	1,949
445-121	Ground Fault Protection - Procurements	01JUL04*	521	29JUN06	8,107.87	1,631
445-131	Ground Fault Protection - Installation	03OCT05*	257	26SEP06	21,137.80	1,568
445-141	Ground Fault Protection - Commission	02OCT06*	131	02APR07	13,799.36	1,434
45 - Power System Design and Integration						
451 - System Design and Interfaces						
Job: 4501 - Electr Sys Design & Integration-RAKI						
451-0000	Update Cost & Schedule Baseline	03FEB03*	41*	31MAR03	0.00	2,476
451-0001	Drawings & Documentation Support FY03	02JAN03*	191*	30SEP03	59,388.00	2,348
451-0002	Calculations FY03	02JAN03*	63*	31MAR03	6,867.36	2,476
451-001	Design Drawings,changes,as-builts	01OCT03*	956*	30MAY07	197,946.47	1,392
451-021	FDR D-Site	01DEC03*	16*	22DEC03	10,611.60	2,289
451-031	FDR C-Site	01JUN04*	15*	21JUN04	10,611.60	2,159
451-051	FDR Cabling C-Site	03MAY04*	217	01MAR05	10,812.87	1,978
451-061	FDR DC Transmission	01OCT03*	195*	29JUN04	10,611.60	2,153
451-071	FDR AC Auxiliaries & Grounding	01OCT03*	152	29APR04	10,611.60	2,196
451-081	Calculations	01OCT03*	784*	02OCT06	53,238.32	1,564
452 - Electrical Systems Support						
452-001	Diagnostics AC Pwr Distrib - Prelim Dsn	01OCT03*	130*	30MAR04	26,811.76	2,218
452-011	Diagnostics AC Pwr Distrib - Final Dsn	01APR04*	571	08JUN06	27,739.89	1,646
452-021	Diagnostics AC Pwr Distrib - Procurements	01JUL04*	587	29SEP06	12,123.85	1,565
452-031	Diagnostics AC Pwr Distrib - Installation	30SEP05*	262	02OCT06	91,934.55	1,564
452-041	Diagnostics AC Pwr Distrib - Commission	01JUN06*	131	30NOV06	44,528.76	1,521
452-101	Diagnostics Sensor Cabling - Prelim Dsn	01OCT03*	130*	30MAR04	41,450.20	2,218
452-111	Diagnostics Sensor Cabling - Final Dsn	01APR04*	352	05AUG05	42,441.81	1,865



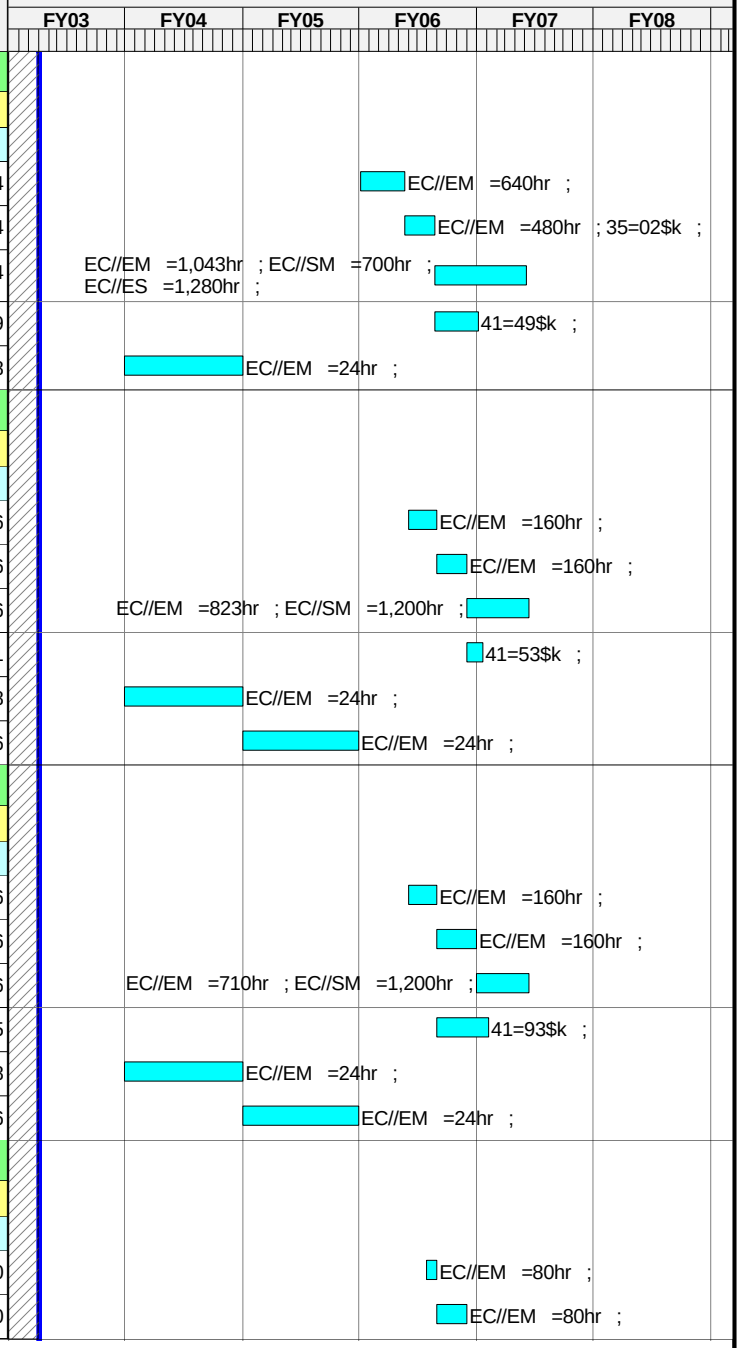
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
452-121	Diagnostics Sensor Cabling - Procurements	01JUL04*	479	02MAY06	24,382.81	1,673
452-131	Diagnostics Sensor Cabling - Installation	07OCT05*	193	04JUL06	125,162.00	1,628
452-141	Diagnostics Sensor Cabling - Commission	01JUN06*	131	30NOV06	48,139.74	1,521
453 - System Testing (PTP's)						
453-001	Procedures	03JAN05*	261	02JAN06	44,243.64	1,759
453-111	PTP's & ISTP's	03APR06*	196*	01JAN07	90,842.08	1,499
453-112	PTP's & ISTP's Test Equipt	03APR06*	196*	01JAN07	33,255.82	1,499
46 - FCPC Building Modifications						
Job: 4601 - FCPC Bldg Modifications-RAKI						
460-0001	Electrical Clearing (procedures and field)	03FEB03*	39	27MAR03	18,044.94	2,468
460-0002	Mechanical Clearing (procedures and field)	17FEB03	39	10APR03	24,191.46	2,468
460-0003	Provide Penetrations, structural changes, etc	05JAN04*	192	28SEP04	65,742.08	2,088



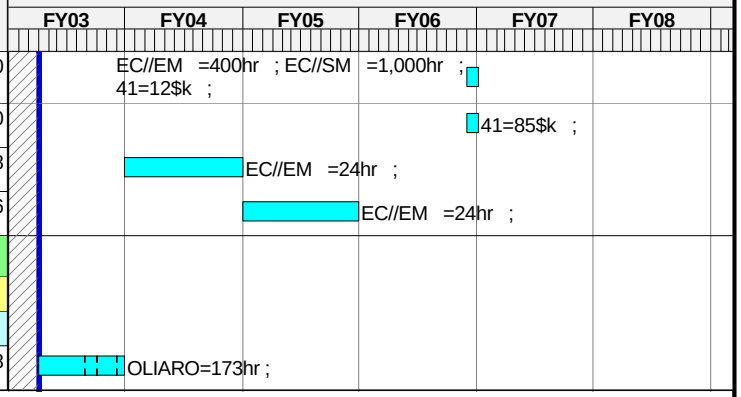
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
5 - Central I&C Systems						
51 - TCP/IP Infrastructure Systems						
51-001	Preliminary Design (Title I)	06MAR06*	45	05MAY06	12,584.00	1,471
51-005	Final Design (Title II)	08MAY06	22	06JUN06	25,168.00	1,471
51-010	Lab Fab/Assy/Installation (Title III)	07JUN06	177	08FEB07	394,807.69	1,471
51-015	Hardware/Material	07JUN06	113	10NOV06	126,439.82	1,535
51-016	Ethernet hubs and port modules	07JUN06	113	10NOV06	153,240.29	1,535
51-2004	Level of Effort FY04	01OCT03*	260	28SEP04	3,496.08	2,088
51-2005	Level of Effort FY05	01OCT04*	260	29SEP05	3,600.24	1,826
52 - Central Instrumentation & Control						
52-001	Preliminary Design (Title I)	01DEC05*	88	03APR06	78,650.00	1,446
52-005	Final Design (Title II)	04APR06	86	01AUG06	243,085.92	1,446
52-010	Lab Fab/Assy/Installation (Title III)	02AUG06	162	15MAR07	353,209.90	1,446
52-015	Hardware/Material	02AUG06	68	03NOV06	148,489.14	1,540
52-016	I/O Purchases	02AUG06	68	03NOV06	154,215.63	1,540
52-2004	Level of Effort FY04	01OCT03*	260	28SEP04	3,496.08	2,088
52-2005	Level of Effort FY05	01OCT04*	260	29SEP05	3,600.24	1,826
53 - Data Acquisition & Facility Computing						
53-001	Preliminary Design (Title I)	01DEC05*	88	03APR06	50,336.00	1,446
53-005	Final Design (Title II)	04APR06	86	01AUG06	57,471.92	1,446
53-010	Lab Fab/Assy/Installation (Title III)	02AUG06	162	15MAR07	168,077.26	1,446
53-015	Hardware/Material	02AUG06	68	03NOV06	208,950.19	1,540
53-016	I/O Purchases	02AUG06	68	03NOV06	149,820.88	1,540
53-2004	Level of Effort FY04	01OCT03*	260	28SEP04	3,496.08	2,088
53-2005	Level of Effort FY05	01OCT04*	260	29SEP05	3,600.24	1,826



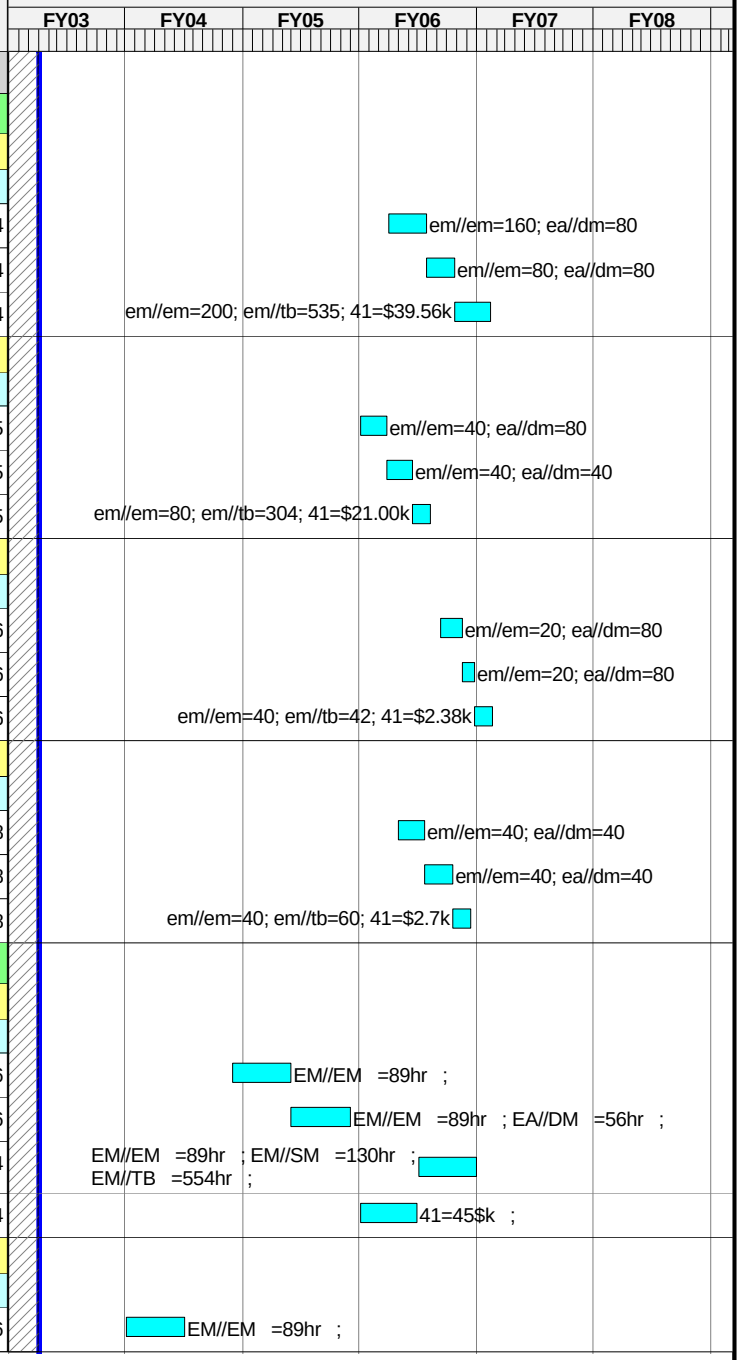
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
54 - Facility Timing & Synchronization						
54-001	Preliminary Design (Title I)	03OCT05*	100	17FEB06	100,672.00	1,454
54-005	Final Design (Title II)	20FEB06	66	22MAY06	79,071.96	1,454
54-010	Lab Fab/Assy/Installation (Title III)	23MAY06	205	05MAR07	435,120.33	1,454
54-015	Hardware/Material	23MAY06	100	09OCT06	64,256.33	1,559
54-2004	Level of Effort FY04	01OCT03*	260	28SEP04	3,496.08	2,088
55 - Real Time Plasma & Power Supply Control Sys						
55-001	Preliminary Design (Title I)	01MAR06*	67	01JUN06	25,168.00	1,446
55-005	Final Design (Title II)	02JUN06	66	01SEP06	25,168.00	1,446
55-010	Lab Fab/Assy/Installation (Title III)	04SEP06	139	15MAR07	246,864.49	1,446
55-015	Hardware/Material	04SEP06	34	19OCT06	71,229.95	1,551
55-2004	Level of Effort FY04	01OCT03*	260	28SEP04	3,496.08	2,088
55-2005	Level of Effort FY05	01OCT04*	260	29SEP05	3,600.24	1,826
56 - Central Safety Interlock Systems						
56-001	Preliminary Design (Title I)	01MAR06*	67	01JUN06	25,168.00	1,446
56-005	Final Design (Title II)	02JUN06	86	29SEP06	25,168.00	1,446
56-010	Lab Fab/Assy/Installation (Title III)	02OCT06	119	15MAR07	229,280.20	1,446
56-015	Hardware/Material	02JUN06	116	10NOV06	123,357.12	1,535
56-2004	Level of Effort FY04	01OCT03*	260	28SEP04	3,496.08	2,088
56-2005	Level of Effort FY05	01OCT04*	260	29SEP05	3,600.24	1,826
57 - Control Room Facility						
57-001	Preliminary Design (Title I)	01MAY06*	24	01JUN06	12,584.00	1,560
57-005	Final Design (Title II)	02JUN06	66	01SEP06	12,584.00	1,560



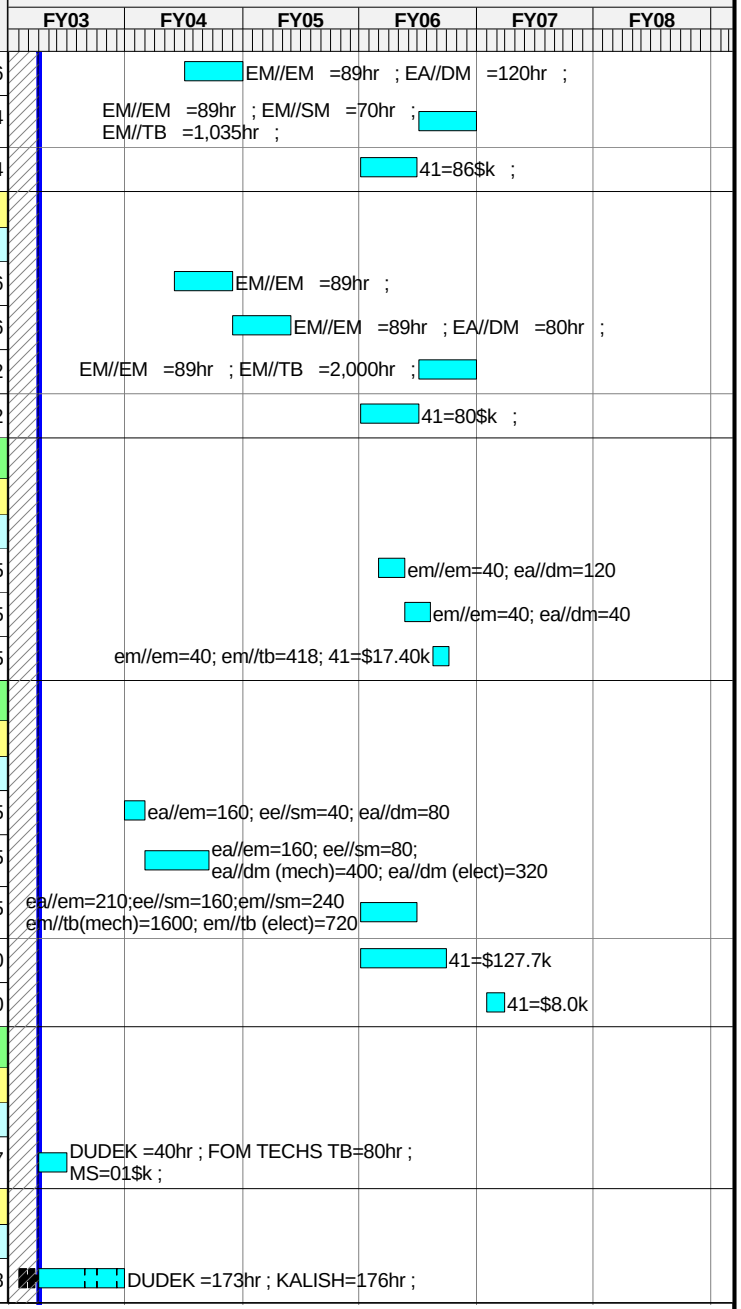
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
57-010	Lab Fab/Assy/Installation (Title III)	04SEP06	25	06OCT06	174,418.54	1,560
57-015	Hardware/Material	04SEP06	25	06OCT06	112,634.96	1,560
57-2004	Level of Effort FY04	01OCT03*	260	28SEP04	3,496.08	2,088
57-2005	Level of Effort FY05	01OCT04*	260	29SEP05	3,600.24	1,826
58 - Central I&C management and Integration						
Job: 5801 -Central I&C Integr & Oversight-OLIARO						
58-2003	Systems Integration and oversight FY03	02JAN03*	191	30SEP03	23,872.27	2,348



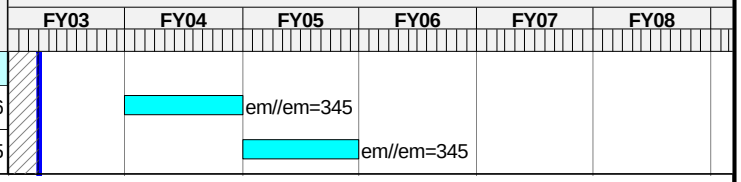
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
6 - Facility Systems						
61 - Water Systems						
612 - Neutral Beam Water Cooling System						
622.001	Preliminary design	02JAN06*	86	01MAY06	36,525.60	1,534
622.011	Final Design	02MAY06	60	24JUL06	22,760.00	1,534
622.021	Assembly/Fabrication/Installation	25JUL06	80	13NOV06	132,255.21	1,534
613 - Vacuum Pumping Water Cooling System						
623.001	Preliminary design	03OCT05*	59	22DEC05	15,877.20	205
623.011	Final Design	23DEC05	60	16MAR06	11,380.00	205
632.021	Assembly/Fabrication/Installation	17MAR06	40	11MAY06	0.00	205
614 - Bakeout Water System						
624.001	Preliminary design	12JUN06*	49	17AUG06	12,435.80	1,526
624.011	Final Design	18AUG06	30	28SEP06	12,435.80	1,526
624.021	Assembly/Fabrication/Installation	29SEP06	40	23NOV06	13,749.28	1,526
615 - Diagnostic Water Cooling System						
625.001	Preliminary design	01FEB06*	58	21APR06	11,380.00	1,578
625.011	Final Design	24APR06	62	18JUL06	11,380.00	1,578
625.021	Assembly/Fabrication	19JUL06	40	12SEP06	15,452.66	1,578
62 - Cryogenic Systems						
621 - LN2-LHe Supply System						
631-001	Preliminary Design	02SEP04*	130	02MAR05	15,049.19	156
631-010	Final Design	03MAR05*	130	31AUG05	21,334.74	156
631-015	Fab/Assy/Installation	03APR06*	130	29SEP06	76,499.17	134
631-020	Procurement	03OCT05*	130	31MAR06	59,646.52	134
622 - LN2 Coil Cooling Supply						
632-001	Preliminary Design	02OCT03*	130	31MAR04	14,583.54	266



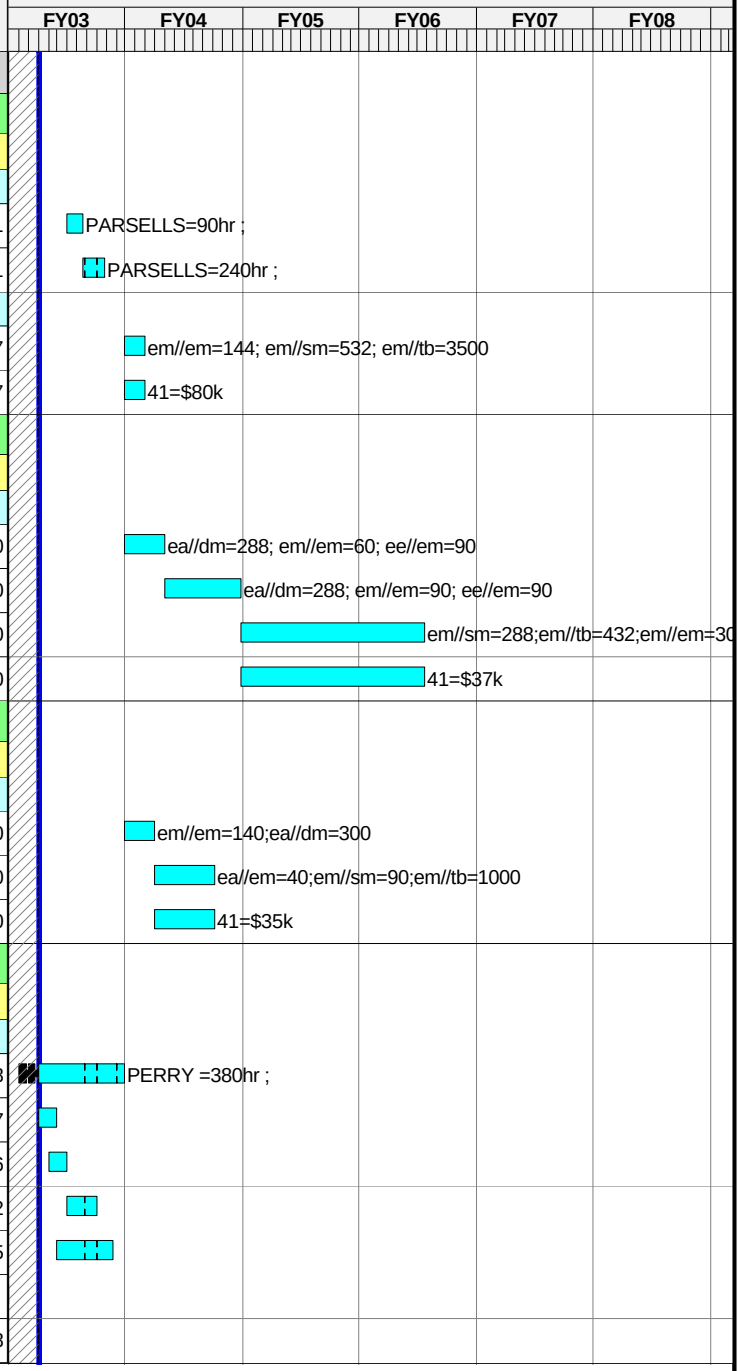
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
632-010	Final Design	01APR04*	130	29SEP04	27,373.14	396
632-015	Fab/Assy/Installation	03APR06*	130	29SEP06	109,928.48	134
632-020	Procurement	03OCT05*	130	31MAR06	112,724.04	134
623 - GN2 Cryostat Cooling System						
633-001	Preliminary Design	04MAR04*	130	01SEP04	14,583.54	156
633-010	Final Design	02SEP04*	130	02MAR05	23,847.92	286
633-015	Fab/Assy/Installation	05APR06*	130	03OCT06	182,764.80	132
633-020	Procurement	05OCT05*	130	04APR06	105,038.31	132
63 - Utility Systems						
640.001	Preliminary design	28NOV05*	60	17FEB06	20,374.40	1,625
640.011	Final Design	20FEB06	60	12MAY06	11,380.00	1,625
640.021	Assembly/Fabrication	15MAY06	40	07JUL06	64,733.70	1,625
64 - Bakeout System						
650.001	Preliminary Design	01OCT03*	44	01DEC03	38,923.60	1,965
650.005	Final Design	02DEC03	144	18JUN04	111,492.00	1,965
650.010	Lab Fab/Assy/Installation	03OCT05*	130	31MAR06	275,982.70	1,695
650.012	Procured Hardware/Material	03OCT05*	195	30JUN06	167,772.26	1,630
650.015	Procured Installation/Assy	01NOV06*	43	29DEC06	10,900.80	1,500
65 - Facility Systems Integration						
612 - Neutral Beam Water Cooling System						
Job: 6501 - Facility Systems Integration-DUDEK						
611.001	Test Decel PS cooling skid	02JAN03*	62	28MAR03	12,630.40	2,477
Job: 6501 - Facility Systems Integration-DUDEK						
660.101	Integration support (dsn rvws, interfaces, C&S)	01NOV02A	225*	30SEP03	53,381.84	2,348



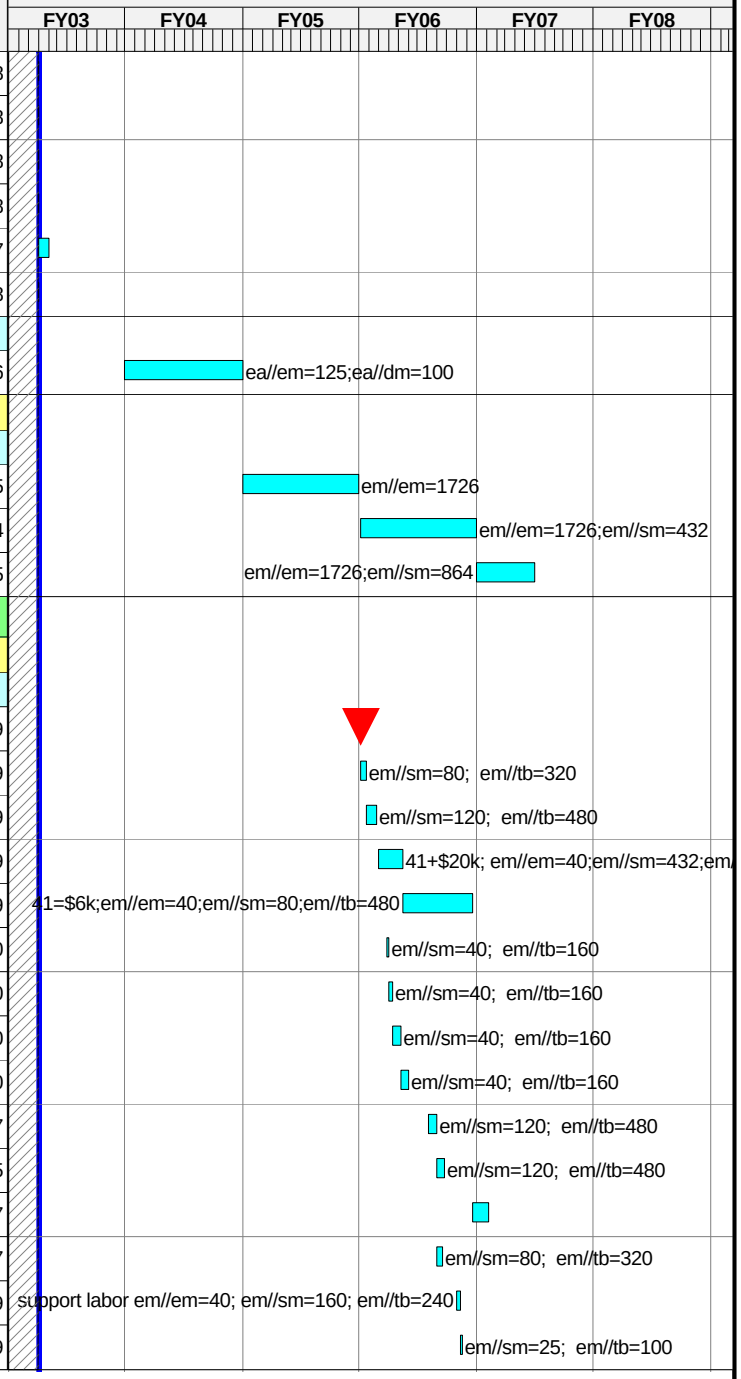
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
660.102	LOE FY04	01OCT03*	262*	30SEP04	56,531.70	2,086
660.103	LOE FY05	01OCT04*	261*	30SEP05	58,684.50	1,825



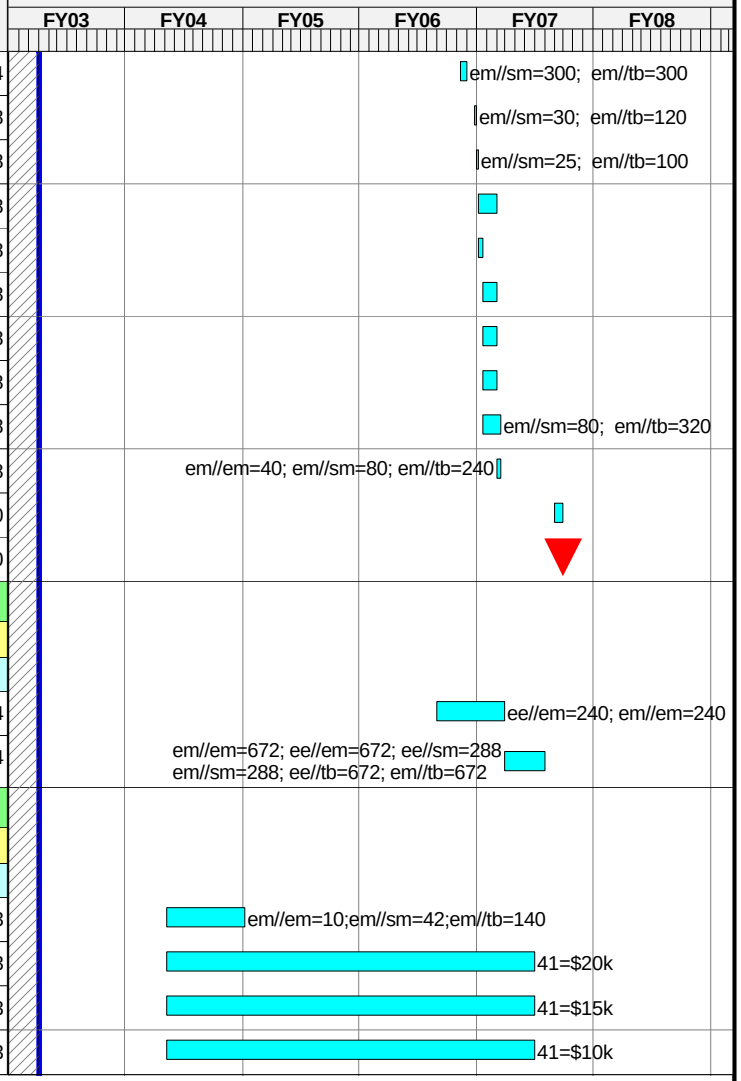
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
7 - Test Cell Preparation and Machine Assy						
71 - Shield Wall Seismic Modifications						
Job: 7101 - Shield Wall Modif Design-PERRY						
613.001	Design	01APR03*	37	21MAY03	13,802.40	691
613.005	Final Design	22MAY03	47	29JUL03	36,806.40	691
613.010	Modify Test Cell Walls	01OCT03*	45	02DEC03	360,297.52	647
613.015	Procured Hardware/Material	01OCT03*	45	02DEC03	106,274.40	647
72 - Control Room Refurbishment						
611C.001	Preliminary Design	01OCT03*	88	30JAN04	54,810.54	1,680
611C.005	Final Design	02FEB04	168	22SEP04	59,726.34	1,680
611C.010	Lab Fab/Assy/Installation	23SEP04	412	21APR06	116,739.77	1,680
611C.015	Procured Hardware/Material	23SEP04	412	21APR06	50,286.89	1,680
73 - Platform Design & Fabrication						
712.010	Final Design	01OCT03*	66	31DEC03	54,914.40	2,150
712.020	Lab Fab/Assy/Installation	01JAN04	132	02JUL04	95,984.10	2,150
712.030	Procured Hardware/Material	01JAN04	132	02JUL04	46,495.05	2,150
74 - Machine Assembly Planning and Oversight						
741 - Planning Prior to Machine Assembly						
Job: 7401 - TC Prep & Mach Assy Planning-PERRY						
711A.010	LOE FY03	01NOV02A	225*	30SEP03	58,276.80	2,348
711A.011	Review and update WBS 7 cost/schedule baseline	02JAN03*	42*	28FEB03	0.00	2,497
EXFAC001	Excess Fac.-Relocate CDX pwr cables	03FEB03*	41*	31MAR03	0.00	2,476
EXFAC002	Excess Fac.-Savalge vendor remove PBX device	01APR03*	64*	30JUN03	0.00	2,412
EXFAC003	Excess Fac.-Clear PBX control room	03MAR03*	122*	21AUG03	0.00	2,375
GPP001	GPP-Upgarde C-Site central chilled wtr plant	01OCT02A	1	01OCT02A	0.00	
GPP002	GPP-CS Water sys refurbishment	02JAN03	1	02JAN03	0.00	2,538



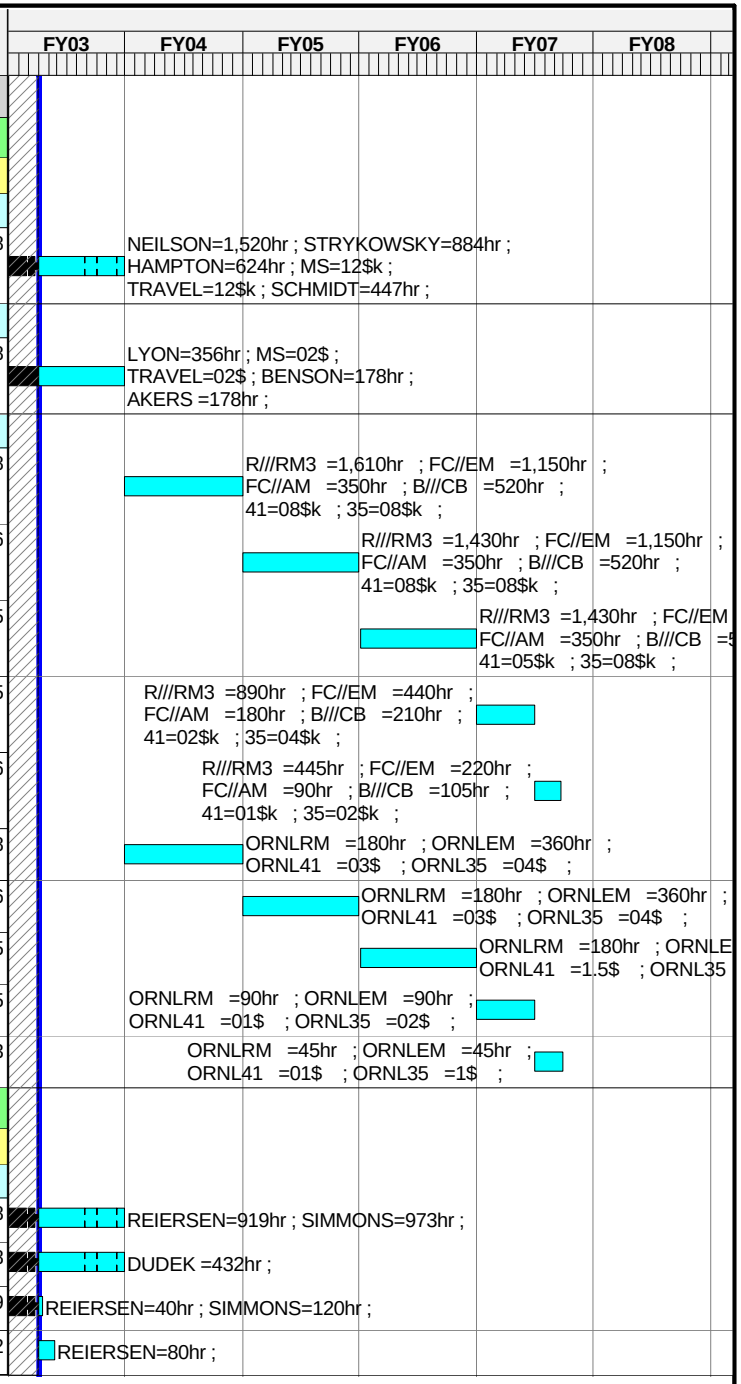
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
GPP003	GPP-Demineralizer refurbishment	02JAN03	1	02JAN03	0.00	2,538
GPP004	GPP-Roofing	02JAN03	1	02JAN03	0.00	2,538
GPP005	GPP-Test Cell lighting	02JAN03	1	02JAN03	0.00	2,538
GPP006	GPP-Test Cell HVAC/dew point control	02JAN03	1	02JAN03	0.00	2,538
GPP007	GPP-C-Site elevators	02JAN03*	22*	31JAN03	0.00	2,517
GPP008	GPP-Fire suppression	02JAN03	1	02JAN03	0.00	2,538
711A.020	LOE FY04	01OCT03*	262*	30SEP04	31,001.75	2,086
742 - Construction Management						
714.010	LOE FY05	01OCT04*	261*	30SEP05	293,592.60	1,825
714.020	LOE FY06	03OCT05*	261*	02OCT06	346,220.76	1,564
714.030	LOE FY07	02OCT06*	130*	30MAR07	399,744.58	1,435
75 - Test Cell and Basement Assembly Operations						
750 - Test Cell & Basement Assembly Operations						
730.1000	Begin Assembly Activities	03OCT05*	0		0.00	169
730.1020	Install & Level Support Base Plates	03OCT05	15	21OCT05	35,900.80	169
730.1030	Install/Level Machine Support Columns	24OCT05	25	25NOV05	53,851.20	169
730.1040	Install Platform	28NOV05	55	10FEB06	227,023.12	169
730.1050	Install Lighting,Fire Det/Supprs under platform	13FEB06	160	22SEP06	68,189.68	169
730.1060	Install Lower Cryostat Floor	27DEC05	5	02JAN06	17,950.40	220
730.1070	Install Lower PF 3,4,5&6 into prelim position	03JAN06	5	09JAN06	17,950.40	220
730.1080	Install 1st Field Period Assembly	10JAN06	20	06FEB06	17,950.40	220
730.1090	Install 2nd Field Period Assembly	07FEB06	20	06MAR06	17,950.40	220
730.1100	Install 3rd Field Period Assembly	05MAY06	20	01JUN06	53,851.20	177
730.1110	Restore Shield Wall Area & complete platform	02JUN06	15	22JUN06	53,851.20	245
730.1120	Install Neutral Beams (WBS 250-5401?)	20SEP06*	35	07NOV06	0.00	147
730.1130	Make Final Vacuum Pump Connections to VV	02JUN06	13	20JUN06	35,900.80	177
730.1140	PTP Pumpdown & leak check VV (WBS 220-025)	31JUL06	10	11AUG06	45,200.40	149
730.1150	Raise lower PF-3,4,5&6 coils into final position	14AUG06	3	16AUG06	11,219.00	149



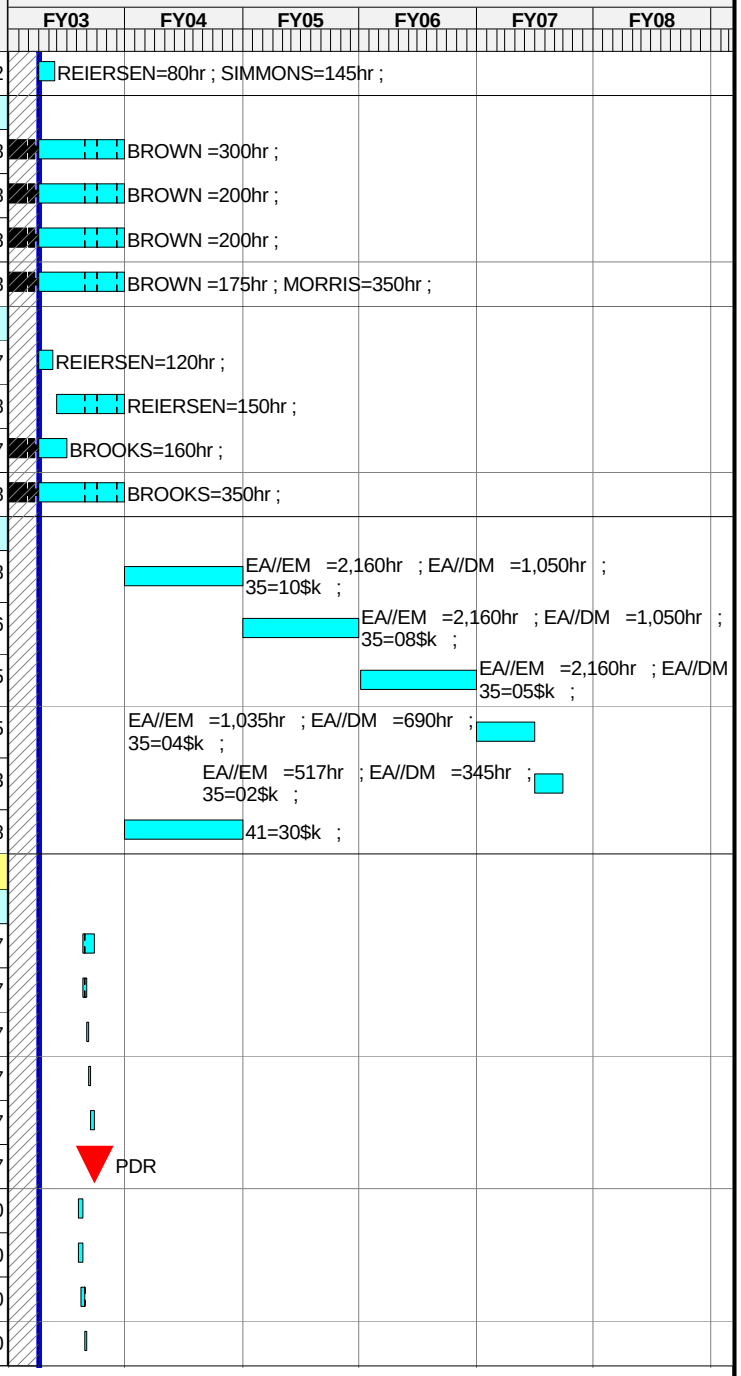
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
730.1151	Install Trim Coils	14AUG06	15	01SEP06	59,289.00	154
730.1170	Install PF Solenoid into position (U/L 1&2 PF)	29SEP06	4	04OCT06	13,572.83	118
730.1175	Install Upper PF-3,4,5 & 6 coils	05OCT06	3	09OCT06	11,341.25	118
730.1180	Install Bus connections to coil sys (WBS 431-131	10OCT06	40	04DEC06	0.00	128
730.1185	Install External Cryostat Walls and Ceiling	10OCT06	10	23OCT06	0.00	118
730.1190	Connect Bakeout System (WBS 650.010)	24OCT06	30	04DEC06	0.00	118
730.1200	Connect Cryo System (WBS 633-015)	24OCT06	30	04DEC06	0.00	118
730.1210	Connect Cooling System (WBS 624.021)	24OCT06	30	04DEC06	0.00	118
730.1230	Complete Bus connections (WBS 4 to 6)	24OCT06	40	18DEC06	36,292.00	118
730.1240	PTP Cryostat System Test	05DEC06	10	18DEC06	36,480.40	118
730.1250	Power Tests	01JUN07	20	28JUN07	0.00	0
730.9000	First Plasma		0	28JUN07*	0.00	0
76 - Integrated Systems Testing						
760 - Integrated Systems Testing						
920.001	Final Design	01JUN06*	152*	29DEC06	81,855.97	1,414
920.005	Lab Fab/Assy/Installation	01JAN07*	86*	30APR07	413,919.36	1,414
77 - Tooling Design and Fabrication						
Tooling Design and Fabrication						
713.020	Lab Fab/Assy/Installation	04FEB04*	174	04OCT04	17,362.18	1,433
713.030	Tooling,assy fixtures,misc equipt	04FEB04	825	03APR07	26,943.54	1,433
713.040	General procurements	04FEB04	825	03APR07	20,207.65	1,433
713.050	Welding tools, materials & equipt	04FEB04	825	03APR07	13,471.77	1,433



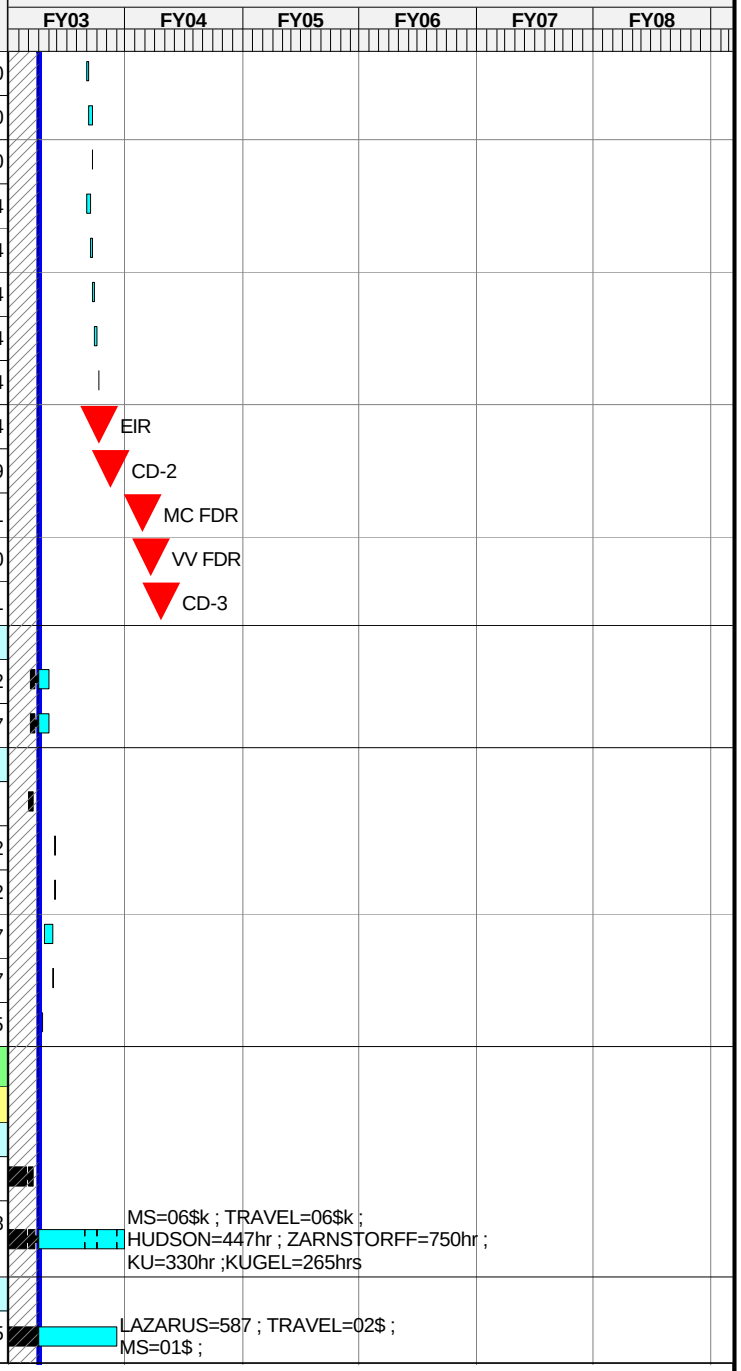
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
8 - Project Oversight and Support						
81 - Project Management and Control						
810 - Project Management & Control						
Job: 8101 - Project Management & Control-NEILSON						
810.001	Project Management Office PPPL FY03	01OCT02A	248*	30SEP03	579,441.91	2,348
Job: 8102 - NCSX MIE Management ORNL-LYON						
810.101	Project Management Office ORNL FY03	01OCT02A	261*	30SEP03	109,133.92	2,348
810.002	Project Management Office PPPL FY04	01OCT03*	260	28SEP04	653,532.64	2,088
810.003	Project Management Office PPPL FY05	01OCT04*	260	29SEP05	637,718.04	1,826
810.004	Project Management Office PPPL FY06	03OCT05*	260	29SEP06	642,945.44	1,565
810.005	Project Management OfficePPPL FY07	02OCT06*	130	30MAR07	336,852.90	1,435
810.005X	Project Management Office PPPL FY07	02APR07*	59	21JUN07	168,426.45	1,376
810.102	Project Management Office ORNL FY04	01OCT03*	260	28SEP04	83,208.60	2,088
810.103	Project Management Office ORNL FY05	01OCT04*	260	29SEP05	87,433.07	1,826
810.104	Project Management Office ORNL FY06	03OCT05*	260	29SEP06	65,099.57	1,565
810.105	Project Management Office ORNL FY07	02OCT06*	130	30MAR07	35,477.34	1,435
810.105X	Project Management Office ORNL FY07	02APR07*	62	26JUN07	17,738.67	1,373
82 - Project Engineering						
820 - Project Engineering						
Job: 8202 - Engr Mgmt & Sys Eng Support-REIERSEN						
820.110	General Engr Mgmt & SE support	01OCT02A	248*	30SEP03	303,608.26	2,348
820.111	Oversight of Ancillary Systems WBS 2-6	01OCT02A	248*	30SEP03	66,251.52	2,348
820.112	Compl Project Plans (CMP,ICMP,DMP,DOC,SEMP,RAM	01OCT02A	67*	15JAN03	26,255.20	2,529
820.113	Compl Project Plan (TEP)	02JAN03*	37	21FEB03	12,204.80	2,502



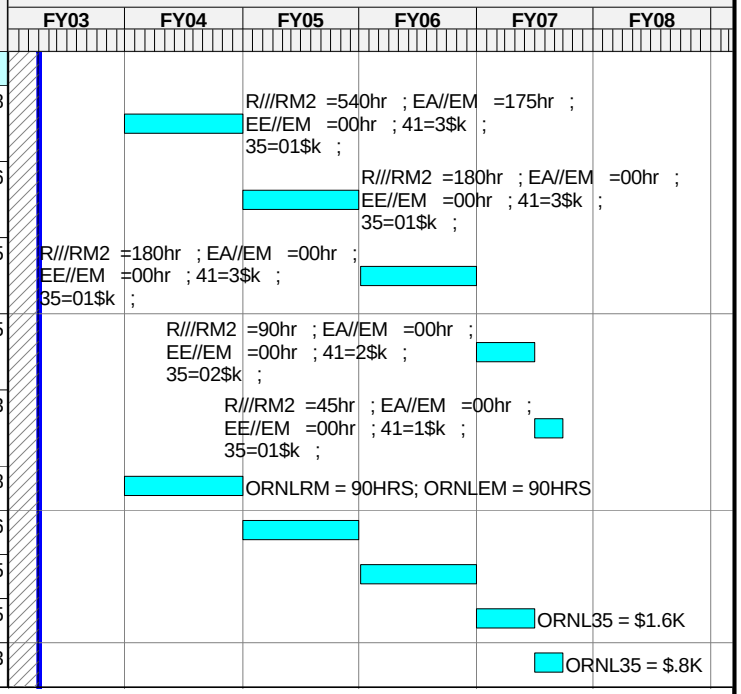
Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
820.114	Complete Dev of Implementing procedures	02JAN03	79	21FEB03	36,007.27	2,502
Job: 8203 - Design Integration-REIERSEN						
820.150	General Design Integration	01OCT02A	248*	30SEP03	45,768.00	2,348
820.151	Development of Stellarator Core Concepts	01OCT02A	248*	30SEP03	30,512.00	2,348
820.152	Support aux sys interface with WBS 1	01OCT02A	248*	30SEP03	30,512.00	2,348
820.153	Develop/maintain Pro/E model pf NCSX Facility	01OCT02A	248*	30SEP03	61,656.00	2,348
Job: 8204 - Systems Analysis-REIERSEN						
820.170	Develop Technical Data	02JAN03	32*	14FEB03	18,307.20	2,507
820.171	Update Technical data consistent w/dsn evolution	28FEB03*	150*	30SEP03	22,884.00	2,348
820.172	Assess potential sources of field errors in TC	01OCT02A	119*	28MAR03	24,409.60	2,477
820.173	General syst analysis support	01OCT02A	248*	30SEP03	53,396.00	2,348
820.002	Proj engr,Sys Integr.,Designers, Deputy PM FY04	01OCT03*	260	28SEP04	481,199.00	2,088
820.003	Proj engr,Sys Integr.,Designers, Deputy PM FY05	01OCT04*	260	29SEP05	495,494.00	1,826
820.004	Proj engr,Sys Integr.,Designers, Deputy PM FY06	03OCT05*	260	29SEP06	497,778.60	1,565
820.005	Proj engr,Sys Integr.,Designers, Deputy PM FY07	02OCT06*	130	30MAR07	265,091.25	1,435
820.005X	Proj engr,Sys Integr.,Designers, Deputy PM FY07	02APR07*	62	26JUN07	132,458.85	1,373
820.102	Purchased Design Services FY03	01OCT03*	260	28SEP04	39,852.90	2,088
Job: 8202 - Engr Mgmt & Sys Eng Support-REIERSEN						
L4-195	PDR preparations	19MAY03*	25*	23JUN03	0.00	2,417
L4-196	Develop PDR documentation	19MAY03*	10	02JUN03	0.00	2,417
L4-197	Review, finalize, and issue PDR documentation	03JUN03*	5	09JUN03	0.00	2,417
L4-198	Develop PDR presentations	10JUN03*	5	16JUN03	0.00	2,417
L4-199	Review and finalize PDR presentations	17JUN03*	5	23JUN03	0.00	2,417
L4-200	PDR		0	23JUN03	0.00	2,417
L4-202	Conduct ICR	07MAY03*	10	20MAY03	0.00	2,420
L4-203	Respond to PDR recommendations	07MAY03	10	20MAY03	0.00	2,420
L4-204	Develop ICR documentation	14MAY03	9	27MAY03	0.00	2,420
L4-204.1	Review,finalize & issue ICR documentation	28MAY03	5	03JUN03	0.00	2,420



Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
L4-205	Develop ICR presentations	04JUN03	5	10JUN03	0.00	2,420
L4-205.2	Review & finalize ICR presentations	11JUN03	5	17JUN03	0.00	2,420
L4-205.3	ICR	18JUN03	1	18JUN03	0.00	2,420
L4-212	Respond to ICR recommendations	02JUN03*	10	13JUN03	0.00	2,404
L4-213	Develop EIR documentation	13JUN03	5	19JUN03	0.00	2,404
L4-214	Review ,finalize & issue EIR presentations	20JUN03	5	26JUN03	0.00	2,404
L4-215	Develop EIR Presentations	27JUN03	5	03JUL03	0.00	2,404
L4-216	Review and finalize EIR presentations	07JUL03	5	11JUL03	0.00	2,404
L4-217	EIR		0	11JUL03	0.00	2,404
M-0100	CD-2		0	15AUG03*	0.00	2,379
M-0105	MC FDR		0	20NOV03	0.00	2,311
M-0110	VV FDR		0	19DEC03	0.00	2,290
M-0115	CD-3		0	15JAN04*	0.00	2,271
Job: 8203 - Design Integration-REIERSEN						
L4-005	Define geometry of TF/PF windings and coil struc	11DEC02A	30*	31JAN03	0.00	2,462
L400-6	Resolve configuration issues re CS	11DEC02A	30*	31JAN03	0.00	2,517
Job: 8204 - Systems Analysis-REIERSEN						
L4-007	Define CS coil locations and envelopes	02DEC02A	3	16DEC02A	0.00	
L4-008	Define current waveforms for reference scenarios	24FEB03*	0*	21FEB03	0.00	2,452
L4-009	Finalize number of turns, coil x-sections, and m	24FEB03*	0*	21FEB03	0.00	2,452
L4-191	Finalize the GRD	20JAN03*	20*	14FEB03	0.00	2,507
L4-192	GRD spec review	17FEB03*	0*	14FEB03	0.00	2,507
L4-193	Provide format requirements for performance spec	13JAN03*	5*	17JAN03	0.00	205
84 - Project Physics						
840 - Project Physics						
Job: 8401 - Project Physcis-ZARNSTORFF						
840.200	Develop Healed coil design	01OCT02A	11*	16DEC02A	0.00	
840.201	PPPL Project Physics/Engr Analysis FY03	01OCT02A	248*	30SEP03	251,292.56	2,348
Job: 8402 - Project Physics MIE ORNL-LYON						
840.301	ORNL Project Physics/Engr Analysis FY03	01OCT02A	244*	05SEP03	99,168.00	2,365



Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
840.202	Project Physics/Engr Analysis FY04	01OCT03*	260	28SEP04	115,527.74	2,088
840.203	Project Physics/Engr Analysis FY05	01OCT04*	260	29SEP05	34,080.49	1,826
840.204	Project Physics/Engr Analysis FY06	03OCT05*	260	29SEP06	34,305.78	1,565
840.205	Project Physics/Engr Analysis FY07	02OCT06*	130	30MAR07	20,692.80	1,435
840.205X	Project Physics/Engr Analysis FY07	02APR07*	62	26JUN07	10,346.40	1,373
840.302	Project Physics/Engr Analysis FY04	01OCT03*	260	28SEP04	26,819.10	2,088
840.303	Project Physics/Engr Analysis FY05	01OCT04*	260	29SEP05	0.00	1,826
840.304	Project Physics/Engr Analysis FY06	03OCT05*	260	29SEP06	0.00	1,565
840.305	Project Physics/Engr Analysis FY07	02OCT06*	130	30MAR07	1,766.53	1,435
840.305X	Project Physics/Engr Analysis FY07	02APR07*	62	26JUN07	883.26	1,373



Activity ID	Activity Description	Baseline Start	Work Days	Baseline Finish	Baseline Budget	Total Float
Allocations						
PPPL Allocations						
PPPL Allocations						
Job: 8998 - Allocations						
99.03	PPPL Alloc.FY03	01OCT02A	248*	30SEP03	111,058.35	2,348
99.04	PPPL Allocations FY04	01OCT03*	260	28SEP04	200,885.03	2,088
99.05	PPPL Allocations FY05	01OCT04*	260	29SEP05	203,546.55	1,826
99.06	PPPL Allocations FY06	03OCT05*	260	29SEP06	201,875.18	1,565
99.07	PPPL Allocations FY07	02OCT06*	130	30MAR07	199,206.86	1,435