



Fermilab

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Accelerator Division/Electron Cooling

February 16, 2004

MEMO TO: Distribution

FROM: Jerry Leibfritz
Project Manager

SUBJECT: **JANUARY MONTHLY REPORT
MI-31
FESS/Engineering Project No. 6-6-44**

Please find attached the January 2004 monthly report for this project.

Enclosure

Distribution:

- P. Philp/MS 118
- M. Witherell/MS 105
- K. Stanfield/ MS 105
- S. Holmes/MS 105
- E. Temple/ MS 200
- J. Brown/MS 200
- H. Dick/ MS 306
- D. Carlson/MS 211
- C. Trimby/MS 212
- D. Nevin/MS 214
- E. Crumpley/MS 214
- S. Nagaitsev/ MS 307
- J. Sims/MS 214
- T. Prosapio/MS 214
- J. Spalding/MS 341
- R. Stefanski/MS 122
- Project File 6-6-44
- Chrono File

REPORTING PERIOD: January 2004

I. PROGRESS

1.1 General Construction

- a. Activity – Primary work activities included electrical rough in, and painting.
- b. Cumulative hours worked – 15,653.5 hours through 1/30/04.
- c. Subcontractor's schedule evaluation – As of 1/30/04 the Subcontractor is on schedule. The Subcontractor's 8th payment update occurred on January 30, 2004. See attached reports and section II of this report for an earned value analysis. The main Subcontract is approximately 82% complete as of 1/30/04.
- d. Engineering Change Proposals/ Requests – See latest ECP list on Website. Supplemental Agreement numbers 1 through 7 have been incorporated into the Subcontract. At this time the total subcontract amount is \$2,714,084 and the completion date is 04/20/04.
- e. Upcoming issues – Electrical rough in and painting will be the focus of the month of February.
- f. Photographs:







1.2 Project Support

- a. Efforts this month were spent on review of submittals, field supervision and construction administration related activities.

SCHEDULE INFORMATION AND MILESTONES:

MILESTONE	DEFINITION	BASELINE	PEP Dates	Latest Estimates
Start Project	Directive signed	30 May 02	30 May 02	26 Jun 02 (actual)
T2 Design Complete	Contract documents submitted for procurement	15 Jan 03	15 Aug 02	15 Nov 02 (actual)
Begin Construction	Notice To Proceed Issued – Switch work	27 Jun 03	21 Nov 02	17 Jan 03 (actual)
Construction Complete	Final acceptance of all work	9 Jun 04	9 Dec 03	20 Apr 04
Project Complete	Project closed	30 Nov 04	10 Dec 03	20 Jun 04

II. Overall Project Cost Summary and Earned Value Analysis:

ORIGINAL BASELINE PROJECT COSTS (2001 dollars)				Latest Estimated Cost*
1.1	General Construction		\$3,047,000	\$3,133,720
1.1.1	Construction W / 18% OHP		\$2,323,000	\$2,882,389
1.1.2	Construction Contingency	22%	\$511,000	\$145,460 5%
1.1.3	Construction G & A		\$83,000	\$105,871
1.1.4	Escalation (4.6%)	4.6%	\$130,000	\$0
1.2	Project Support		\$763,000	\$676,280
1.2.1	Project Engineering		\$465,000	\$482,487
1.2.2	Project Support Contingency	21%	\$99,000	\$58,502 12%
1.2.3	Project Support G & A		\$166,000	\$135,291
1.2.4	Escalation (4.6%)		\$33,000	\$0
Total Project Cost			\$3,810,000	\$3,810,000

*NOTE THAT 1.1 AND 1.2 HAVE BEEN REDISTRIBUTED (2/21/03) TO REFLECT USE OF MUCH OF THE ESCALATION, ACTUAL FIXED PRICE CONSTRUCTION COSTS, AND A HIGHER CONTINGENCY. Includes Supplemental Agreements 1,through 7 and all T&M actual costs to date.

TPC Earned Value Analysis as of January 30, 2004 (based on earned value reports for January 2004):

1. The Schedule Variance is \$-183,247. (Ahead of schedule)
2. The Cost Variance is \$937 (On track)



ATTACHMENTS

See MI-31 website

<http://www-ap.fnal.gov/ecool/internal.html>

for the following:

TSR Report for 1-04

Earned Value Reports - Cost Reports and Graphs up to 1-04

Engineering Change Proposal List

More Photographs

Task Summary Report by Expenditure Type ("TSR")

Period End: JAN-04

Report on tasks: 1

A0201 - MI31 Ecooling Bldg

1 - MI31 Ecooling Bldg
Service Type: PL-EXST PRGM
SUPP-AIP

	Curr Month Costs	Curr YTD Costs	Curr YTD Obligations	Inception to Date Obligations	Inception to Date Costs	Reqs. in Process	Open Commitments
<u>Personnel Costs</u>							
FRINGE BENEFITS	0.00	818.47	818.47	3,009.53	3,009.53	0.00	0.00
OPTO ALLOC-MONTHLY	0.00	142.38	142.38	847.43	847.43	0.00	0.00
OPTO ALLOC-WEEKLY	0.00	0.00	0.00	79.14	79.14	0.00	0.00
OVERTIME	0.00	76.06	76.06	180.15	180.15	0.00	0.00
TIME WORKED -MONTHLY	0.00	2,190.48	2,190.48	11,089.72	11,089.72	0.00	0.00
TIME WORKED -WEEKLY	0.00	0.00	0.00	15.93	15.93	0.00	0.00
VAC EARNED ALLOC-MONTHLY	0.00	240.94	240.94	1,421.19	1,421.19	0.00	0.00
VAC EARNED ALLOC-WEEKLY	0.00	0.00	0.00	94.91	94.91	0.00	0.00
Personnel Costs	0.00	3,468.33	3,468.33	16,738.00	16,738.00	0.00	0.00

Materials & Services

CONSTRUCTION ENGINEERING	14,673.00	75,993.00	75,993.00	327,238.00	327,238.00	0.00	0.00
EXEMPT - CIVIL CONSTR.	0.00	560,829.00	639,377.00	1,821,863.00	1,743,315.00	10,380.00	78,548.00
EXEMPT - CIVIL CONSTRUCTION	231,536.00	280,580.00	-560,829.00	892,221.00	280,580.00	0.00	611,641.00
FEES	0.00	0.00	0.00	500.00	500.00	0.00	0.00
FREIGHT	0.00	5.84	5.84	11.41	11.41	0.00	0.00
MACHINE SHOP	0.00	110.00	110.00	110.00	110.00	0.00	0.00
MATERIAL PURCHASES	0.00	832.00	61,822.06	82,283.77	21,293.71	0.00	60,990.06
PHOTO/GRAPHIC SERVICES	24.00	81.00	81.00	159.00	159.00	0.00	0.00
STORES ISSUES	0.00	0.00	0.00	640.42	640.42	0.00	0.00
SUB-CONTRACT SERVICES	216.89	2,046.19	158.80	108,809.03	105,766.38	10,000.00	3,042.65
T&M CONSTRUCTION SVCS.	0.00	0.00	0.00	8,678.12	8,678.12	0.00	0.00

1 - MI31 Ecooling Bldg
Service Type: PL-EXST PRGM
SUPP-AIP

	Curr Month Costs	Curr YTD Costs	Curr YTD Obligations	Inception to Date Obligations	Inception to Date Costs	Reqs. in Process	Open Commitments
<u>Materials & Services</u>							
T&M ELECTRICAL SERVICES	0.00	0.00	0.00	12,966.11	12,966.11	0.00	0.00
T&M PIPE FITTERS	0.00	0.00	0.00	2,050.86	2,050.86	0.00	0.00
T&M RIGGING SERVICES	0.00	19,424.12	2,185.12	83,468.96	64,829.68	0.00	18,639.28
TRAVEL, DOMESTIC-LAB EMPLOYEE	0.00	95.13	95.13	95.13	95.13	0.00	0.00
Materials & Services	246,449.89	939,996.28	218,998.95	3,341,094.81	2,568,233.82	20,380.00	772,860.99
<u>Indirect Cost</u>							
CSS ALLOCATION	2,714.51	14,720.72	14,720.72	62,860.35	62,860.35	0.00	0.00
G&A ALLOCATION	2.40	17.61	17.61	62,293.27	62,293.27	0.00	0.00
G&A ALLOCATION-CSS PORTION	1,738.75	9,429.24	9,429.24	34,985.93	34,985.93	0.00	0.00
G&A ALLOCATION-M&S PORTION	22.88	2,353.51	2,353.51	18,556.55	18,556.55	0.00	0.00
MSA ALLOCATION	11.93	1,226.96	1,226.96	40,969.22	40,969.22	0.00	0.00
Indirect Cost	4,490.47	27,748.04	27,748.04	219,665.32	219,665.32	0.00	0.00
1 - MI31 Ecooling Bldg SUBTOTAL:	250,940.36	971,212.65	250,215.32	3,577,498.13	2,804,637.14	20,380.00	772,860.99
DIST. TO ACCOUNTS REC'BL:	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UNDISTRIBUTED BALANCE:	250,940.36	971,212.65	250,215.32	3,577,498.13	2,804,637.14	20,380.00	772,860.99

REPORT TOTALS

TOTAL PROJECT/TASK:	250,940.36	971,212.65	250,215.32	3,577,498.13	2,804,637.14	20,380.00	772,860.99
TOTAL DIST. ACCTS REC'BL:	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL UNDIST BALANCE:	250,940.36	971,212.65	250,215.32	3,577,498.13	2,804,637.14	20,380.00	772,860.99

BCWP
MI-31 Spending Profile
WBS 1.1 and 1.2

Title Source Type	WBS 1.2 Project Support													WBS 1.1 Construction													Monthly Totals	Cumulative Totals											
	ED&I						A							Subcontract	Subcontract	Subcontract	Subcontract	Switch conduit	Switch conduit	Transformer Purchase	Transformer Purchase	Cable Tray	Cable Tray	Cabling	Cabling	Chiller			Chiller	Shielding Steel	Shielding Steel	Shielding Steel	Shielding Steel	Inst.	Shielding Steel	Inst.			
	T2 Hanson Direct	T2 Hanson G&A	T2 FESS Chargeback	T2 FESS G&A	T3 FESS M&S	T3 FESS Chargeback	T3 FESS G&A	T3 FESS Chargeback	T3 FESS G&A	T3 PM Salary TX	T3 PM G&A	Monthly Totals	Cumulative Totals	T3 Whittaker Direct**	T3 Whittaker G&A	T3 Whittaker Incentive	T3 Whittaker G&A	T3 T&M Direct	T3 T&M G&A	T3 Procurement Direct	T3 Procurement G&A	T3 T&M Direct	T3 T&M G&A	T3 T&M Direct	T3 T&M G&A	T3 Procurement Direct	T3 Procurement G&A	T3 T&M Direct	T3 T&M G&A	T3 T&M Direct	T3 T&M G&A	Monthly Totals	Cumulative Totals						
F Y O 2	Mo-Yr																																						
	Jul-02	\$25,000	\$4,250	\$10,000	\$3,000	\$300	\$51					\$42,601	\$42,601																				\$0	\$0					
	Aug-02	\$20,000	\$3,400	\$10,000	\$3,000					\$1,000	\$300	\$37,700	\$80,301																					\$0	\$0				
	Sep-02	\$24,587	\$4,180	\$11,800	\$3,540					\$1,000	\$300	\$45,407	\$125,708																					\$0	\$0				
	Oct-02			\$10,000	\$3,000	\$300	\$51	\$3,000	\$900	\$1,000	\$300	\$18,551	\$144,259																						\$0	\$0			
	Nov-02	\$20,500	\$3,485	\$10,000	\$3,000			\$3,000	\$900	\$1,000	\$300	\$42,185	\$186,444																						\$0	\$0			
	Dec-02							\$3,000	\$900	\$1,000	\$300	\$7,800	\$194,244																						\$0	\$0			
	Jan-03							\$3,000	\$900	\$1,000	\$300	\$7,800	\$202,044							\$10,396	\$1,913														\$12,309	\$12,309			
	Feb-03							\$3,000	\$900	\$1,000	\$300	\$7,800	\$209,844							\$10,435	\$1,920														\$12,355	\$24,664			
	Mar-03					\$200	\$34	\$12,000	\$3,720	\$11,000	\$3,410	\$1,000	\$300	\$31,664	\$241,508	\$0				\$66	\$12													\$78	\$24,742				
	Apr-03							\$12,000	\$3,720	\$12,000	\$3,720	\$900	\$200	\$32,540	\$274,048	\$92,204						\$20,537	\$3,257												\$115,998	\$140,740			
	May-03							\$12,000	\$3,720	\$12,000	\$3,720	\$900	\$200	\$32,540	\$306,588	\$331,522																			\$331,522	\$472,262			
	Jun-03							\$12,000	\$3,720	\$12,000	\$3,720	\$900	\$200	\$32,540	\$339,128	\$320,000	\$80,240																			\$400,240	\$872,502		
	Jul-03							\$12,000	\$3,720	\$12,000	\$3,720	\$900	\$200	\$32,540	\$371,668	\$109,886																				\$109,886	\$982,388		
	Aug-03							\$12,000	\$3,720	\$12,000	\$3,720	\$900	\$200	\$32,540	\$404,208	\$253,407																				\$253,407	\$1,235,795		
	Sep-03							\$12,000	\$3,720	\$12,000	\$3,720	\$900	\$200	\$32,540	\$436,748	\$104,898																				\$150,731	\$1,386,526		
	Oct-03							\$12,000	\$3,720	\$12,000	\$3,720	\$900	\$200	\$32,540	\$469,288	\$119,114	\$20,000																				\$177,992	\$1,564,518	
	Nov-03							\$12,000	\$3,720	\$12,000	\$3,720	\$900	\$200	\$32,540	\$501,828	\$390,529																					\$390,529	\$1,955,047	
	Dec-03							\$12,000	\$3,720	\$12,000	\$3,720	\$900	\$200	\$32,540	\$534,368	\$231,536																					\$231,536	\$2,186,583	
	Jan-04							\$12,000	\$3,720	\$12,000	\$3,720	\$900	\$200	\$32,540	\$566,908	\$262,259																						\$262,259	\$2,448,842
	Feb-04											\$0	\$566,908	\$0	\$566,908	\$0																					\$0	\$2,448,842	
	Mar-04											\$0	\$566,908	\$0	\$566,908	\$0																					\$0	\$2,448,842	
	Apr-04											\$0	\$566,908	\$0	\$566,908	\$0																					\$0	\$2,448,842	
TOTALS		\$90,087	\$15,315	\$51,800	\$15,540	\$800	\$136	\$138,000	\$42,720	\$146,000	\$45,110	\$17,000	\$4,400	\$2,215,355	\$80,240	\$20,000	\$0	\$20,897	\$3,845	\$20,537	\$3,257	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,015,750		

WBS 1.2 Escalation and Contingency

Total for WBS 1.2 = \$676,280
 Total Direct and G&A (above) = \$566,908 *
 Project Support Escalation = \$0
 Project Support Contingency = \$109,372 25%

* Total Indirect = \$123,221
 Total Direct = \$443,687

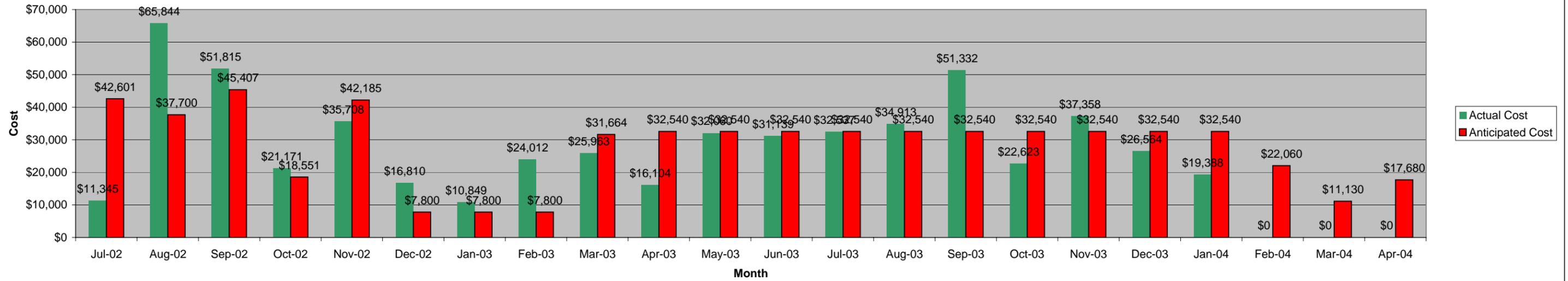
** NOTE BUDGETED COST OF WORK PERFORMED IS BASED ON WHITTAKERS LATEST T3 COST LOADED SCHEDULE.

WBS 1.1 Escalation and Contingency

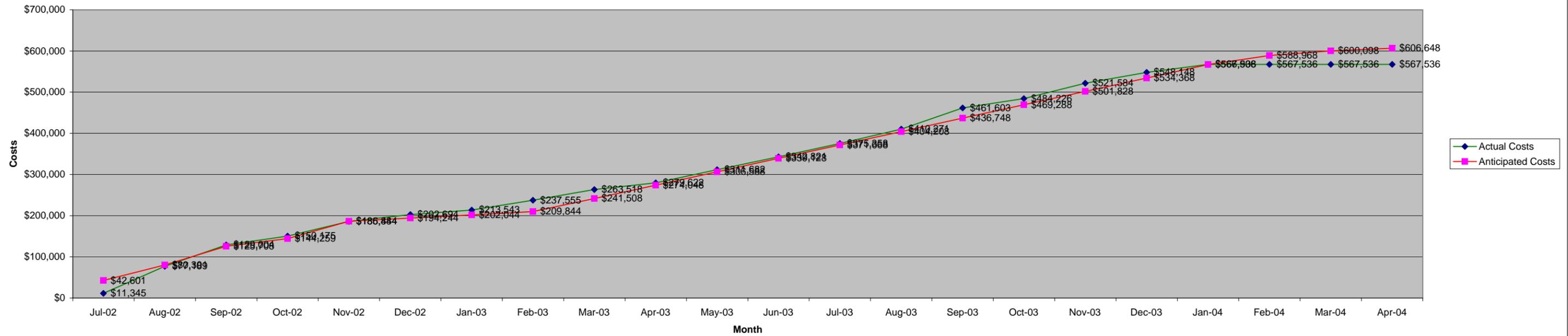
Total for WBS 1.1 = \$3,133,720
 Total Direct and G&A (above) = \$2,448,842 *
 Project Support Escalation = \$0
 Construction Contingency = \$684,878 29%

* Total Indirect = \$99,812
 Total Direct = \$2,349,030

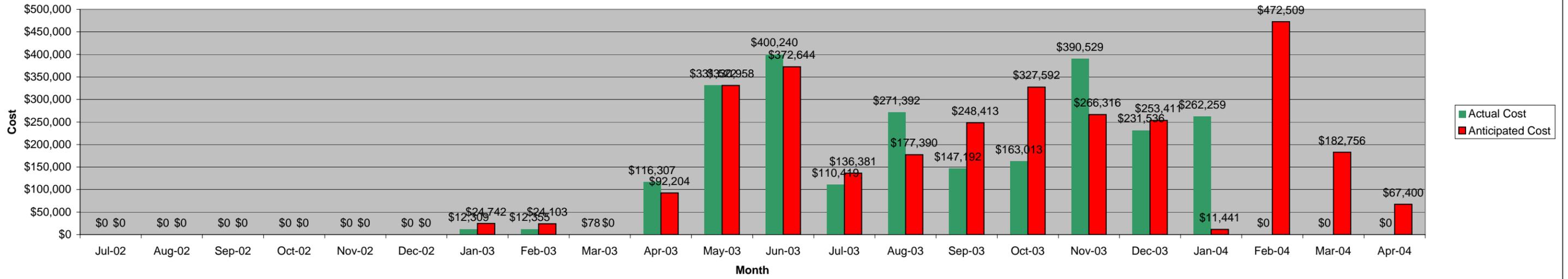
WBS 1.2 Monthly



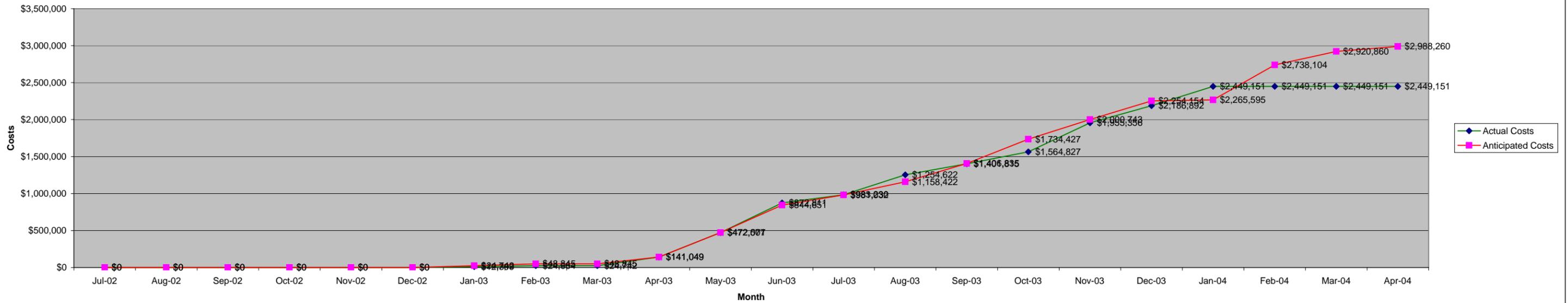
WBS 1.2 Cumulative



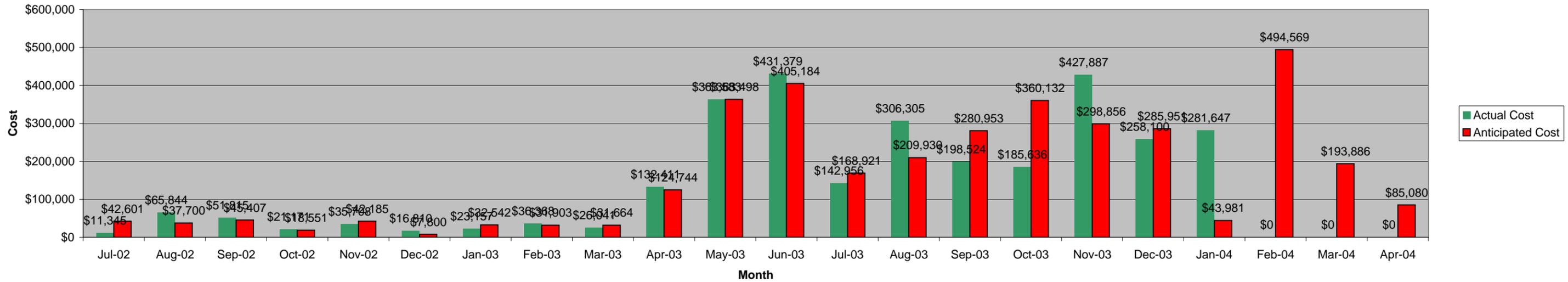
WBS 1.1 Monthly



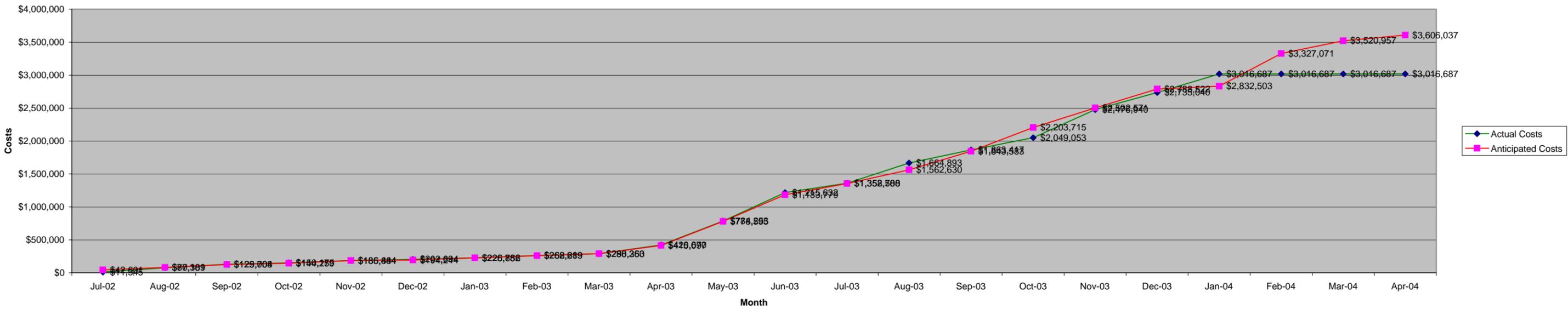
WBS 1.1 Cumulative



TPC Monthly



TPC Cumulative



MI-31 ECP LIST

ECP #	Description	Date Issued from CMO	Anticipated Credit, Extra or No Cost	Associated Sketch Number	Actual Credit, Extra or No Cost	Associated Payment Milestone	Overall Schedule Impact In Days	Whittaker Proposal Date	Accepted/Rejected or Pending	Req. #	Req. Approval Date	SA #	Date Work Complete	Comments
1	Holeless elevator instead of single cylinder elevator and add pit ladder	3/12/2003	Extra - \$5000	SK-1...	\$19,390	3a	0	4/17/2003	Accepted	163820	5/6/2003	2		
1a	Full width doors on elevator	3/12/2003	Extra - \$3000	SK-1...	\$3,080	3a	0	4/17/2003	Accepted	163822	5/6/2003	2		
2	Watermain valve clarifications/ modifications and installation of flushing hydrants.	3/12/2003	No Cost	SK-2	\$1,665	1e	1	3/19/2003	Accepted	163549	4/15/2003	1	7/15/2003	
3	Reduce shut down schedule from 6 weeks to 5 weeks VOID	3/12/2003	NA	None	\$0	5a	0	3/28/2003	Rejected					Void
4	Earth retention changes – including bottom of soldier piles to elevation 698 and shielding distance of 18.4 feet.	3/12/2003	No Cost	SK-4	\$0	1b	1	3/28/2003	Accepted	---	4/4/2003	1	4/30/2003	
5	Temporary Bulkhead Door	3/21/2003	Extra - \$7000	SK-5	\$10,231	5a	1	4/14/2003	Accepted	163802	4/25/2003	1	9/11/2003	
6	Modifications to MI Ducts	6/26/2003	Extra – \$30,000	SK-6	\$46,117	5a	5	7/21/2003	Accepted	165776	8/1/2003	4	10/15/2003	
7	Install 6 Atlas Piles at MI-30	From Sub	Extra - \$25,000	See Excavation Plan	\$26,180	1a	3	3/28/2003	Accepted	163420	5/1/2003	1	5/7/2003	Rush Requisition, added because excavation plan required supporting building. Approval by CCB required
8	Credit for Wall Panel Coating change – three coat system to two coat system	4/22/2003	Credit – \$3,500	None	-\$3,500	2h	0	4/25/2003	Accepted	--	4/25/2003	2		
9	Credit for substitute damp proofing product	4/22/2003	Credit- \$7,000	None	-\$7,500	1i	0	4/25/2003	Accepted	--	4/25/2003	2	10/15/2003	
10	Temporary Work Platform on MI-30	5/5/2003	Extra - \$3500	Page 1 of 1	\$4,610	1b	1	5/14/2003	Accepted	164321	5/19/2003	3	6/1/2003	Field Directed on 5/15/03 - Required for maintenance of MI-30 HVAC units
11	Relocation of Building Sump	6/10/2003	No Cost	SK ECP-10	\$0	1d	0	6/24/2003	Accepted	--		4	6/7/2003	
12	Rad. Detector Platform/ Relocation	From Sub	-	None	\$733		0	6/19/2003	Accepted	165153	6/27/2003	4	6/14/2003	Field Directed , noted incorrectly in the requisition as ECP 11. Time and Material.
13	Extra for Concrete Mix Design 71	From Sub	\$7,300	None	\$5,625	1k	0	9/12/2003	Accepted	165389	7/14/2003	5	8/29/2003	See letter from Mike Botts on 6/25/03
14	Connecting Enclosure Mods	7/28/2003	\$1,500	SK-14	\$1,755	5b	0	9/2/2003	Accepted	166707	9/9/2003	5	9/30/2003	
15	Credit for PVC in lieu of Rigid Conduit for ducts on sheet E-6	From Sub	(\$10,000)	None	-\$10,000	5b	0	9/2/2003	Accepted			6	11/7/2003	
16	Topsoil for MI Stockpile	9/12/2003	\$10,000	None	\$4,368	1	0		Accepted	167479	10/21/2003	8?	12/31/2003	Based on per load cost
17	Painting of Cast In Place Walls in Lieu of Concrete Sealer	9/12/2003	\$2,500	None	\$3,362	1	3		Accepted	167479	10/21/2003	6		
18	Time extension for Shielding Steel Placement	From Sub	\$0	None	\$0	5	6		Accepted	--	--	6	NA	
19	Mezzanine	10/22/2003	\$48,000	Several	\$53,127	3	16		Accepted	168753	12/17/2003	7		
20	Bonus for completing MS 5b on time	NA	\$20,000	NA	\$20,000	5b	0	NA	Accepted	167810	10/28/2003	6	11/3/2003	
21	Electrical modifications for Equip. Lift	11/3/2003	\$1,500	SK-21a,b	\$2,890	3	1		Accepted	168516	12/1/2003	7		
22	Add two 600 amp breakers into the 750 kva transformer	From Sub	-	NA	\$8,771	3	0	11/4/2003	Accepted	168124	11/13/2003	7	11/25/2003	
23	Credit for change from 750 mcm to 10 cable	From Sub	(\$850)	NA	-\$850	3			Accepted	--	--	7	11/19/2003	
24	Miscellaneous Field Directed Changes	From Sub	\$1,300	NA	\$1,248	3	0	11/26/2003	Accepted	168657	12/8/2003	7	11/11/2003	Field Directed - Move SF6 footing, Waterproof Conn Enc.
25	Pelletron Support	2/4/2004	\$41,000	ECP-25					In Process					
26	Control Room Ceiling Revision	2/5/2004	Cost Neutral	ECP-26					In Process					
	TOTAL				\$191,302									

Note: Changes above colored in blue indicate added scope and bonus related extras.
All other changes are either unforeseen conditions or plan errors.

Original Subcontract Amount = \$2,527,150
 Total Added Scope/Bonus = \$165,375
 Total Unforeseen/ Errors = \$25,927
 Subcontract amount to date = **\$2,718,452**

7% change from original subcontract amount includes bonus
 1% change from original subcontract amount