



NOVA PROJECT

VARIANCE REPORT CORRECTIVE ACTION LOG

ID#	Control Account (CA) #	FOR REPORT MONTH/YR		APPROVAL DATE	CLOSED DATE	RESPONSIBILITY (CAM)
1	1.0.1	Oct-08	None needed. In future, will work with Project Controls office to schedule accruals to mitigate variance effects.	2-Jan-09	17-Mar-09	Derwent
2	1.0.2	Oct-08	The CAM had an extensive talk with the level 4 managers about the importance of using the correct codes for effort reporting. We are taking every effort to communicate to everyone working for the project what appropriate codes to use. There was no incorrect effort reporting in October. The CAM also will be looking at the monthly effort reports now available to check that people are reporting their efforts correctly.	22-Dec-08	17-Mar-09	Kourbanis
3	1.0.3	Oct-08	The labor efforts under Control Account 1.0.3 will continued to be monitored to determine if the over estimates of labor remain consistent. If so, the estimates for future tasks can be reviewed.	16-Dec-08	17-Mar-09	Martens
4	1.0.4	Oct-08	The CAM will monitor these tasks knowing that the schedule and cost variances should eventually come within the limits, and are not (presently) indicative of true progress.	16-Dec-08	17-Mar-09	Zwaska
5	1.0.5	Oct-08	We will correct the ~thousand dollars of incorrect charges in FY09. We can not correct the inccorect charges in past FY's and thus most of this variance will remain. I have sent out e-mail to all the people working on this project speaking to the importance of using the correct codes for effort reporting. I have clarified with people the items that are considered "management" and should be charged to the 2.0.4 code (1.0.5 is now closed).	29-Dec-08	17-Mar-09	Derwent
6	1.2	Oct-08	The IU SOW will soon be in place and this work will take place starting in the second quarter of FY09. Since this work took only 1/2 time tech hours, 1.2 can catch up with the most of the planned work by the end of the June 30, 2009.	20-Dec-08	17-Mar-09	Mufson
7	1.3	Oct-08	Timely accrual information will be supplied by this CAM to Project Controls for future months. MSU invoicing policy will be investigated.	7-Jan-09	27-Apr-09	Bromberg
8	1.4	Oct-08	Corrective action to the \$10k effort cost is to rectify the accounting mistake as soon as possible. With regards to the storage fee, the corrective action would be to ship the stored extrusions to the module assembly factory as soon as the factory is ready to accept the them. The factory is not ready to accept extrusions yet, according to NOVA schedule	19-Dec-08	17-Mar-09	Talaga
9	1.5	Oct-08	No corrective action by the project can prevent budget uncertainties at the Congressional level. We will be more alert to integration discontinuities in the future. We expect monthly variance analyses & discussion of variances within the project to catch these problems earlier. The \$35K which should have been on WBS 1.6 will be fixed in a future month via a revised invoice to Fermilab.	7-Jan-09	17-Mar-09	Heller
10	1.6	Oct-08	There is no corrective action to apply for the expected positive variances in cost and schedule due to advancing the plan without changing the baseline schedule. Then challenge is to avoid falling back to the baseline in the future. The corrective action for the cumulative cost variance had already been applied during the development of the cost and schedule from the time that it was discovered. The future tasks correctly had all the effort applied but the design tasks did not, so there is no possibility to correct this retroactively, but only to assure that all effort is included in the future tasks to allow for proper earned value tracking. The cumulative schedule variance is only slightly ahead of schedule, 3%, illustrating the start of the tasks that are ramping up in response to the available funds.	19-Dec-08	17-Mar-09	Mualem
11	1.7	Oct-08 and Nov-08	All future efforts will need to be closely monitored for their earned value to prevent such a large variance from being created again. Monthly Contract Performance Reports will help, variance analysis will help since the current variance will not go away. Effort will be made to augment the DAQ software effort from collaboration scientists that is off project, which would reduce some cumulative cost variance. Effort must be made to assure that Fermilab efforts are not able to outspend the budgeted cost without triggering a full report. The CAM is now aware that Computing Division effort reports exist and can be supplied by Project Controls. Potential delays will be discussed with other CAMs in Technical Board meetings. A change request may be required if the consistent underestimation of the effort continues. This would represent a substantial draw on contingency.	8-Jan-09	17-Mar-09	Mualem



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12	1.8	Oct-08	Additional manpower was applied to some of the safety issues surrounding the adhesive dispenser. This helped develop the test program needed to obtain approval from ANL for operation of the dispenser. Some delays due to lack of decisions about the lifting fixture length were corrected by simply updating the FSAP drawings. Engineering progress will be corrected in future months status reports.	8-Jan-09	17-Mar-09	Lukens
13	2.0.4	Oct-08	We will correct the labor effort codes people charged to in Oct. I have sent out e-mail to all the people working on this project speaking to the importance of using the correct codes for effort reporting. I have clarified with people the items that are considered "management" and should be charged to the 2.0.4 code (1.0.5 is now closed). I have also communicated with project controls that the LOE tasks should be statused as such.	18-Dec-08	17-Mar-09	Derwent
14	2.1.1	Oct-08	The WBS 2.1.1 project team does not anticipate corrective action for the schedule variance due to the integration with the design of the Far Detector Building. The project team will continue to monitor the cost variances in coming months for correctable actions.	18-Dec-08	18-Mar-09	Dixon
15	2.1.2	Oct-08	While The WBS 2.1.2 project team does not anticipate corrective action for the variances noted, the project team will continue to monitor the cost variances in coming months for possible correctable actions. In order to better track the schedule performance, the performance measurement technique for the Construction Phase EDIA support for WBS 2.1.2.3 and WBS 2.1.2.4 will be modified to a percent complete ("C").	7-Jan-09		Dixon
16	2.5.4	Oct-08	The factory manager salary will be returned to wbs 2.5.4 when a new SOW is in place for Feb 1, 2009 to reflect the new budget situation.	5-Jan-09	17-Mar-09	Heller
17	2.8.1	Oct-08	None. This variance will be corrected when the bill for the engineering study is paid.	5-Jan-09	27-Apr-09	Lukens
18	2.9.5	Oct-08	This variance will clear when invoices are submitted for these costs.	7-Jan-09		Lukens
19	1.0.1	Nov-08	Correcting the effort reports for the month of November and continue to emphasize to workers the importance of proper effort reporting.	29-Jan-09	17-Mar-09	Derwent
20	2.0.1.1	Dec-08	Emphasis given on reporting to correct task codes.	29-Jan-09	17-Mar-09	Derwent
21	1.0.2	Nov-08	We have asked the appropriate person to make the change in effort reporting. We will talk to the persons involved about being more careful in their effort reporting.	4-Feb-09	17-Mar-09	Kourbanis
22	1.0.3	Nov-08	The labor efforts under Control Account 1.0.3 will continued to be monitored to determine if the over estimates of labor remain consistent. If so, the estimates for future tasks can be reviewed.	3-Feb-09	17-Mar-09	Martens
23	1.0.4	Nov-08	The CAM will monitor these tasks knowing that the schedule and cost variances should eventually come within the limits, and are not (presently) indicative of true progress.	5-Feb-09	17-Mar-09	Zwaska
24	2.1.1	Nov-08	1. The WBS 2.1.2 project team will continue to monitor the cost variances in coming months for possible correctable actions. This includes improved coordination of accrual reports with the University of Minnesota team. 2. In order to better track the schedule performance, the performance measurement technique (PMT) for the Construction Phase EDIA support for WBS 2.1.2.3 and WBS 2.1.2.4 will be modified to better reflect the anticipated execution of this work. Discussions with the NOVA Project Controls group are underway to determine the choice of a better PMT.	10-Feb-09		Dixon
25	2.1.2	Nov-08	1. In order to better track the schedule performance, the performance measurement technique (PMT) for the Construction Phase EDIA support for WBS 2.1.2.3 and WBS 2.1.2.4 will be modified prior to the start of construction phase of the work. Discussions with the NOVA Project Controls group are underway to determine a better choice of PMT. 2. The Control Account Manager will work with the NOVA Project Controls group to correct the inaccurate reporting information in subsequent months.	10-Feb-09	18-Mar-09	Dixon
26	1.3	Nov-08	SOW for FY09 was submitted to Fermilab on Jan 9, 2008, waiting for Fermilab signatures and subsequent Purchase Order to MSU.	4-Feb-09	17-Mar-09	Bromberg
26	1.4	Nov-08	Ship the stored extrusions to the module production factory (WBS 1.5) as soon as the factory is ready to receive them. (no longer a variance due to threshold revision 17 Mar 09)	4-Feb-09	17-Mar-09	Talaga



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27	1.8	Nov-08	A new adhesive pump was identified and ordered. This new device appears to have the ability to deliver the quantity of adhesive we require. Delivery is anticipated in Feb., 2009. Several variations on the lifting fixture suction cups have been studied, and more modifications to the lifting fixture are planned to make these connections more reliable.	30-Jan-09	17-Mar-09	Lukens
28	1.5	Nov-08	A cost transfer of the factory manager cost from 1.5 to 2.5 for Oct -Jan will be done to fix this error.	26-Feb-09	change strategy 17 Mar 09	Heller
29	1..0.1	Dec-08	Emphasis given on reporting to correct task codes.	2-Feb-09	17-Mar-09	Derwent
30	1.0.2	Dec-08	The appropriate people were notified in order to make the changes to the Fermilab accounting system to correctly reflect people's effort. The involved persons were again reminded to report their efforts correctly.	10-Feb-09	17-Mar-09	Kourbanis
31	1.0.3	Dec-08	Will continue to monitor the situation and in the future can consider changing the estimate at completion as more data becomes available.	25-Feb-09	17-Mar-09	Martens
32	2.0.2.2	Dec-08	The new task codes for the 2.x codes were explained to the Level 4 manager and he in turn explained them to the appropriate people. We have asked the appropriate person to make the cahngne in effort reporting.	12-Feb-09	17-Mar-09	Kourbanis
33	1.0.4	Dec-08	The LOE task that has the bulk of the variance (1.0.4.2.16) will have to be split and delayed to conform to the availability of the Recycler for an instrument installation. This CR will be forthcoming, after some engineering work and some of the task are completed under the current task.	25-Feb-09		Zwaska
34	1.1	Dec-08	The Control Account Manager will work with the NOVA Project Controls to reverse the charges associated with the misapplied FESS/Engineering effort with a completion date anticipated in March 2009	24-Feb-09	17-Apr-09	Dixon
35	2.1.1	Dec-08	1. The WBS 2.1.2 project team will continue to monitor the cost variances in coming months for possible correctable actions. This includes improved coordination of accrual reports with the University of Minnesota team. 2. In order to better track the schedule performance, the performance measurement technique (PMT) for the Construction Phase EDIA support for WBS 2.1.2.3 and WBS 2.1.2.4 will be modified to better reflect the anticipated execution of this work. Discussions with the NOVA Project Controls group are underway to determine the choice of a better PMT. 3. The Control Account Manager will work with NOVA Projects Controls to correct the misapplied FESS/Engineering costs. This is expected to occur in March 2009.	24-Feb-09	17-Apr-09	Dixon
36	1.4	Dec-08	Corrective action was to have rectified the accounting mistake.	23-Feb-09	17-Mar-09	Talaga
37	1.6	Dec-08	All efforts are being closely monitored for their earned value to prevent such a large variance from being created again. Monthly Contract Performance Reports will help, variance analysis will help since the current variance will not go away. Effort will be made to augment the DAQ software effort from collaboration scientists that is off project, which would reduce some cumulative cost variance. Effort must be made to assure that Fermilab efforts are not able to outspend the budgeted cost without triggering a full report. The CAM is now aware that Computing Division effort reports exist and can be supplied by Project Controls. Potential delays will be discussed with other CAMs in Technical Board meetings. A change request may be required if the consistent underestimation of the effort continues. This would represent a substantial draw on contingency.	10-Feb-09	17-Mar-09	Mualem
38	1.8	Dec-08	A new adhesive pump was identified and ordered. This new device appears to have the ability to deliver the quantity of adhesive we require. Delivery is anticipated in Feb., 2009. Several variations on the lifting fixture suction cups have been studied, and more modifications to the lifting fixture are planned to make these connections more reliable. The latest version appears to have the potential to meet our requirements	20-Feb-09	17-Mar-09	Lukens
39	1.5	Dec-08	A cost transfer of the factory manager cost from 1.5 to 2.5 for Oct -Jan will be done to fix this error. A change request will be filed to add to the total cost of the Minnesota salaried workers to align the University and Fermilab budgeting for vacation time and sick leave.	4-Mar-09		Heller
40	2.0.1.1	Dec-08	Emphasis given on reporting to correct task codes.	29-Jan-09	17-Mar-09	Derwent



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41	2.1.2	Dec-08	1. The WBS 2.1.2 project team will continue to monitor the cost variances in coming months for possible correctable actions. This includes improved coordination of accrual reports with the University of Minnesota team. 2. In order to better track the schedule performance, the performance measurement technique (PMT) for the Construction Phase EDIA support for WBS 2.1.2.3 and WBS 2.1.2.4 will be modified to better reflect the anticipated execution of this work. Discussions with the NOVA Project Controls group are underway to determine the choice of a better PMT. 3. The Control Account Manager will work with NOVA Projects Controls to correct the misapplied FESS/Engineering costs. This is expected to occur in March 2009.	24-Feb-09	17-Apr-09	Dixon
42	1.3	Dec-08	In the future, reporting of ACWP will be expedited	4-Mar-09	27-Apr-09	Bromberg
43	1.7	Dec-08	All efforts are being closely monitored for their earned value to prevent such a large variance from being created again. Monthly Contract Performance Reports will help, variance analysis will help since the current variance will not go away. Effort will be made to augment the DAQ software effort from collaboration scientists that is off project, which would reduce some cumulative cost variance. Effort must be made to assure that Fermilab efforts are not able to outspend the budgeted cost without triggering a full report. The CAM is now aware that Computing Division effort reports exist and can be supplied by Project Controls. Potential delays will be discussed with other CAMs in Technical Board meetings. A change request may be required if the consistent underestimation of the effort continues. This would represent a substantial draw on contingency.	10-Feb-09	17-Mar-09	Mualem
44	1.7	Jan-09	All efforts are being closely monitored for their earned value to prevent such a large variance from being created again. Monthly Contract Performance Reports will help, variance analysis will help since the current variance will not go away. Potential delays will be discussed with other CAMs in Technical Board meetings. A change request may be required if the consistent underestimation of the effort continues. This would represent a substantial draw on contingency	12-Mar-09	17-Mar-09	Mualem
45	1.0.3	Jan-09	Will continue to monitor the situation and in the future can consider changing the estimate at completion as more data becomes available.	5-Mar-09	17-Mar-09	Martens
46	1.1	Jan-09	The Control Account Manager will work with the NOVA Project Controls to reverse the charges associated with the misapplied FESS/Engineering effort with a completion date anticipated in March 2009	9-Mar-09	17-Apr-09	Dixon
47	1.8	Jan-09	A new adhesive pump was identified and ordered. This new device appears to have the ability to deliver the quantity of adhesive we require. Delivery is anticipated in March, 2009. Several variations on the lifting fixture suction cups have been studied, and more modifications to the lifting fixture are planned to make these connections more reliable. Tests made in Jan. indicate that the current version will meet the specifications needed for the assembly process.	9-Mar-09	17-Mar-09	Lukens
48	2.1.2	Jan-09	1. In order to better track the schedule performance, the performance measurement technique (PMT) for the Construction Phase EDIA support for WBS 2.1.2.3 and WBS 2.1.2.4 will be modified to better reflect the anticipated execution of this work. Discussions with the NOVA Project Controls group are underway to determine the choice of a better PMT. 2. The Control Account Manager will work with NOVA Projects Controls to correct the misapplied FESS/Engineering costs. This is expected to occur in March 2009.	10-Mar-09	17-Apr-09	Dixon
49	1.5	Jan-09	Changes are being made to account correctly for the accounting system inconsistency and factory manager charges.	17-Mar-09		Heller
50	1.0.3	Feb-09	To address the schedule progress the CAM for 1.0.3 will work with the support departments and Level 4 managers to make sure that labor resources are assigned to the upcoming tasks. To address the cost variance, the best choice is to revise the estimate at completion (EAC) downward by \$300k to \$1.82M.	25-Mar-09	28-Apr-09	Martens
51	1.8	Feb-09	A new adhesive pump was identified and ordered. This new device appears to have the ability to deliver the quantity of adhesive we require. Delivery is anticipated in March, 2009. Several variations on the lifting fixture suction cups have been studied, and more modifications to the lifting fixture are planned to make these connections more reliable. Tests made in Feb. confirm that the current version will meet the specifications needed for the assembly process. Additional work has been applied to this to improve the efficiency of its use. The IPND enclosure work variance will clear after the final decision is made on the enclosure, and the contracts can be written.	23-Mar-09	27-Apr-09	Lukens



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52	2.1.2	Feb-09	The Control Account Manager will work with the NOVA Project Controls to reverse the charges associated with the misapplied FESS/Engineering effort with a completion date anticipated in April 2009	27-Mar-09	17-Apr-09	Dixon
53	1.1	Feb-09	The Control Account Manager will work with the NOVA Project Controls to reverse the charges associated with the misapplied FESS/Engineering effort with a completion date anticipated in March 2009	27-Mar-09	17-Apr-09	Dixon
54	1.5	Feb-09	We are investigating methods to accelerate building the IPND modules if that is necessary to meet the planned schedule. The accounting errors have been found and forms are progressing to fix them.	27-Mar-09		Heller
55	1.0.1	Mar-09	Keep on top of GCK schedule and work to understand possible advances in the schedule due to this work	16-Apr-09		Derwent
56	1.0.3	Mar-09	To address the schedule progress the CAM for 1.0.3 will work with the support departments and Level 4 managers to make sure that labor resources are assigned to the upcoming tasks. To address the cost variance, an updated Estimate to Completion (ETC) has been submitted. The revised ETC will reduce the EAC by an additional -\$100k due to a forecasted reduction in engineering and design/drafter effort.	22-Apr-09		Martens
57	1.4	Mar-09	QC equipment will be tested in May 2009 and purchase of the additional \$15k of PVC resin will also be initiated in May.	3-May-09		Talaga
58	2.0.3.1	Mar-09	No corrective action is needed. Work has already resumed in March. Since these are undertaken by people responsible for operations work will resume as time permits. Since there is over two years of float this delay will not affect the overall schedule. The incorrect status of 2.0.3.1.3 (Fabricate Spang Regulation Units) will be corrected in the April reporting period.	28-Apr-09		Martens
59	2.1.2	Mar-09	The Control Account Manager will work with the NOVA Project Controls to reverse the charges associated with the misapplied FESS/Engineering effort with a completion date anticipated in April 2009	21-Apr-09		Dixon
60	1.8	Mar-09	A new adhesive pump was identified and ordered. This new device was placed into service in March, 2009. Reliable operation of the lifting fixture has been achieved. Tests made in March confirm that the current version will meet the specifications needed for the assembly process. Additional work has been applied to this to improve the efficiency of its use. The IPND enclosure work variance will clear after the final decision is made on the enclosure, and the contracts can be written.	4-May-09		Lukens
61	2.10	Mar-09	The increased Fermilab indirect rates should be changed via our ETC process in the near future.	6-May-09		Cooper
62	1.5	Mar-09	The injection molding delay was caused primarily by unforeseen technical factors in the injection molding plastic flow rates coupled with limited engineering resources to design the parts. No corrective action is planned as the part design is progressing. The factory manager will be charged to the correct WBS item when the 09 Minnesota SOW is approved. The corrective action for labor rates is in process.	7-May-09		Heller