NOvA Project Overview

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Project Manager

NOvA Project History

- CD-0 approved on November 28, 2005
  - For “EvA” = Electron Neutrino Appearance Detector, not explicitly NOvA
- CD-1 approved on May 11, 2007
  - Following direction from OMB, NOvA now includes the Accelerator and NuMI Upgrade as well as Detectors
- CD-2 approved on September 15, 2008
- CD-3a approved on October 24, 2008
  - $ 24 M start on specific items
- CD-3b approved on October 29, 2009
  - Full construction start, TPC is $278 M

- CD-4 scheduled for November 2014

NOvA Scope

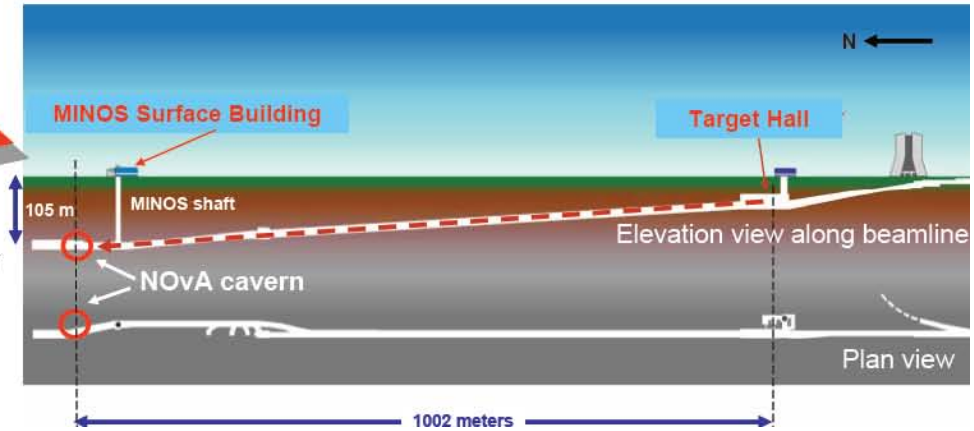
Key Performance Parameters (KPP)	NOvA Threshold KPP	NOvA Objective KPP
Proton Beam Power	Capable of 700 kW to NUMI Target	
Near Detector Mass	0.2 kt	
Long Baseline Distance	810 km	
Detector Angle Off-Axis	14.6 mr	
Far Detector Mass	14 kt	18 kt

» Above from December 22, 2010 revised PEP

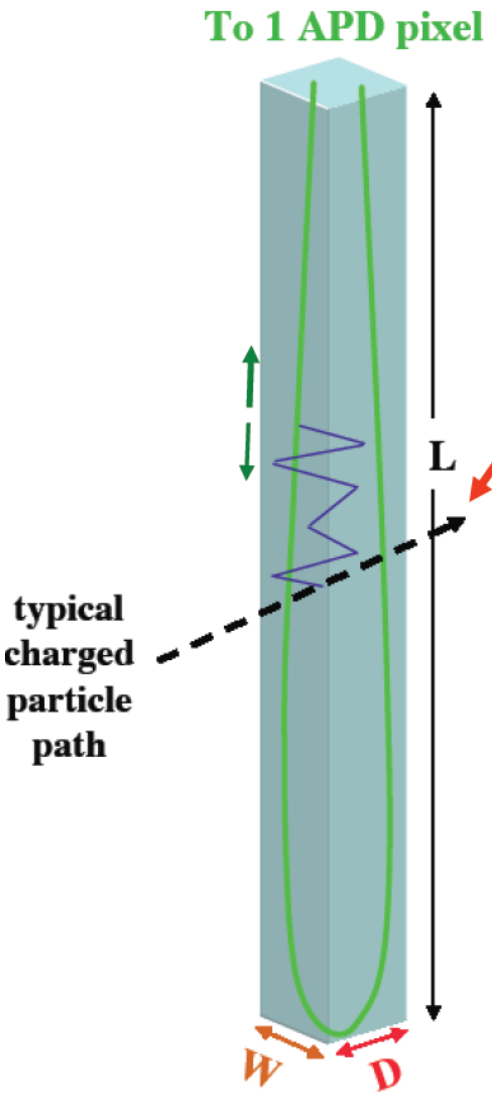
- Proton Beam Power is "capable" of 700 kilowatts, not commissioned
  - We reconfigure the existing Fermilab accelerator complex to increase the proton intensity (beam power) by a factor of two.
- Two Detectors
  - **Near Detector** at Fermilab to measure the electron neutrino content of the muon neutrino beam just after production,
  - **Far Detector** at Ash River, Minnesota near the Canadian border to look for extra electron neutrinos appearing after a 810 kilometer trip north
    - This <u>requires a new building</u> at Ash River done via a Cooperative Agreement between DOE and the University of Minnesota
    - Far Detector mass can be as large as 18 kilotons if we can afford it within the TPC and CD-4 date.

Accelerator & NuMI Upgrades

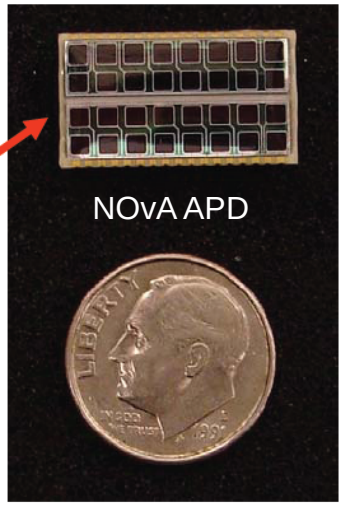
- **NOvA adds items to an extensive existing accelerator infrastructure**
  - Fermilab is the lead institution here
- **Existing Main Injector & Recycler**
  - Dotted yellow circle in picture
  - Previous ~ $250 M project completed in 1999 for the Tevatron Collider (the other circle in the picture)
  - NOvA:
    - Cycle time reduced by using the Recycler as proton storage ring and by using more RF stations in the Main Injector
    - Faster cycling gives more protons/second
- **Existing NuMI Beamline**
  - Dotted red arrow in picture
  - Previous ~ $175 M project completed in 2004
    - This includes an underground tunnel at Fermilab with space for Near Detectors 300 feet below the surface
  - NOvA:
    - New target, move focusing horn, …
- **NOvA Result:**
  - Increase beam power from 400 to 700 kW
  - More protons to make more neutrinos



NOvA Detectors



- Liquid scintillator in a highly reflective PVC plastic cell
  - Passage of charged particles through scintillator create light
  - Light bounces off reflective PVC walls until captured in a thin wavelength-shifting fiber
  - The fiber is U-shaped and both ends terminate in one pixel of a 32-pixel avalanche photodiode (APD)
- Simple construction, just repeat 357,120 times !
  - Cells are 50 feet long



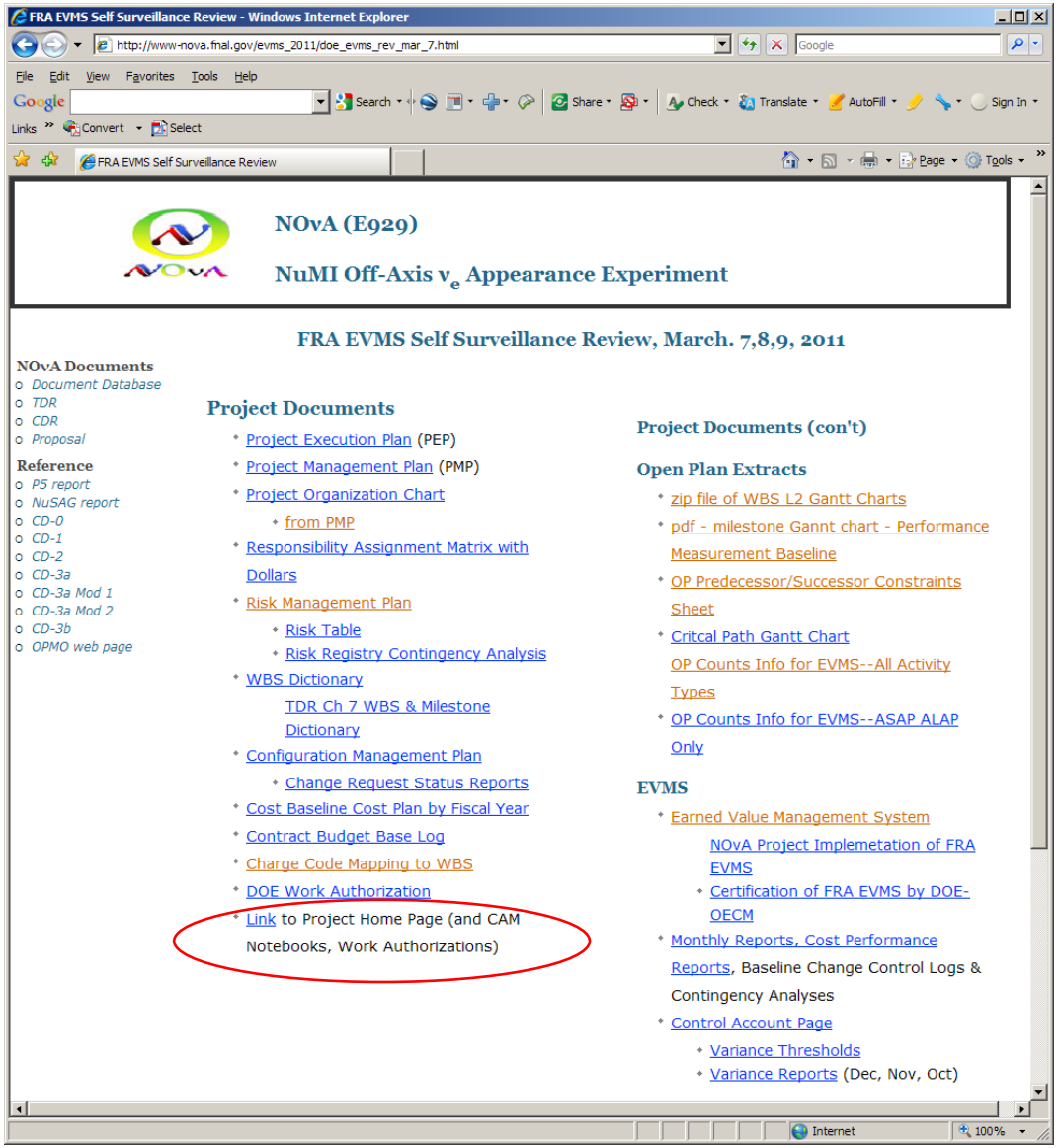
NOvA building

- Building at Ash River, Minnesota for a 18 kt Far Detector

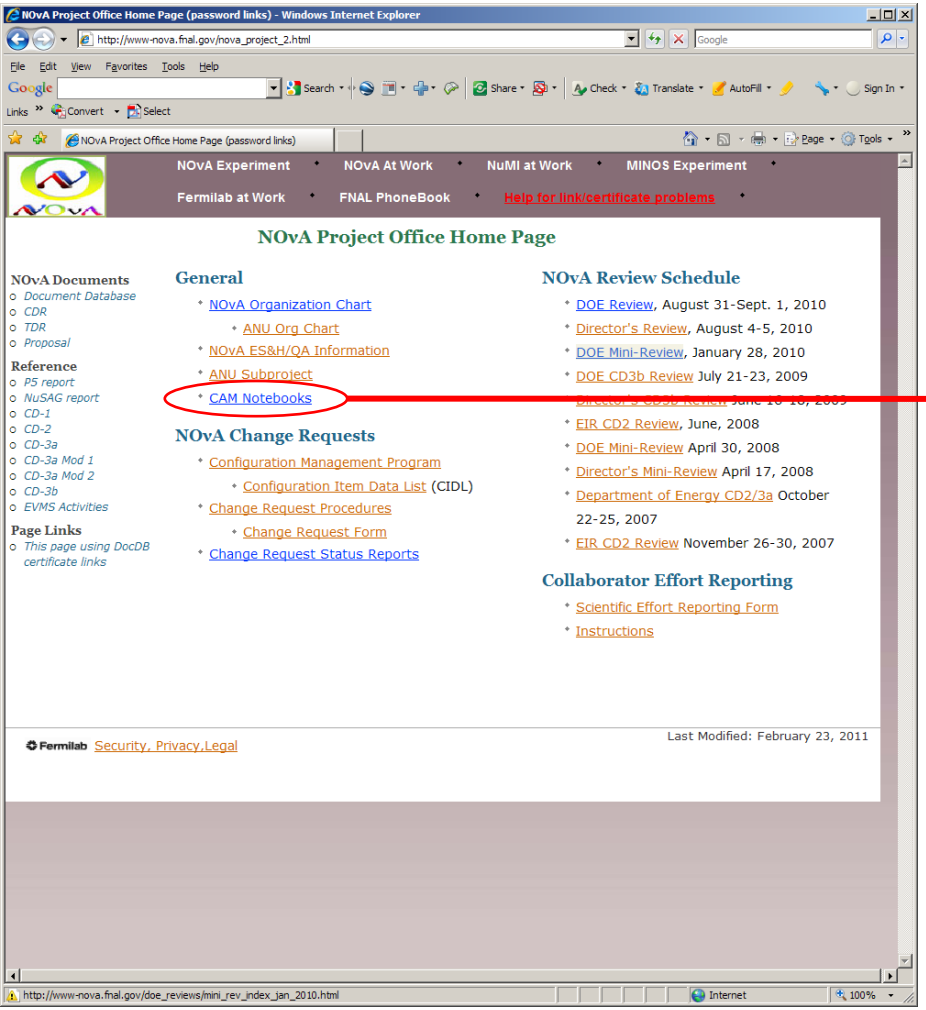
Review Website

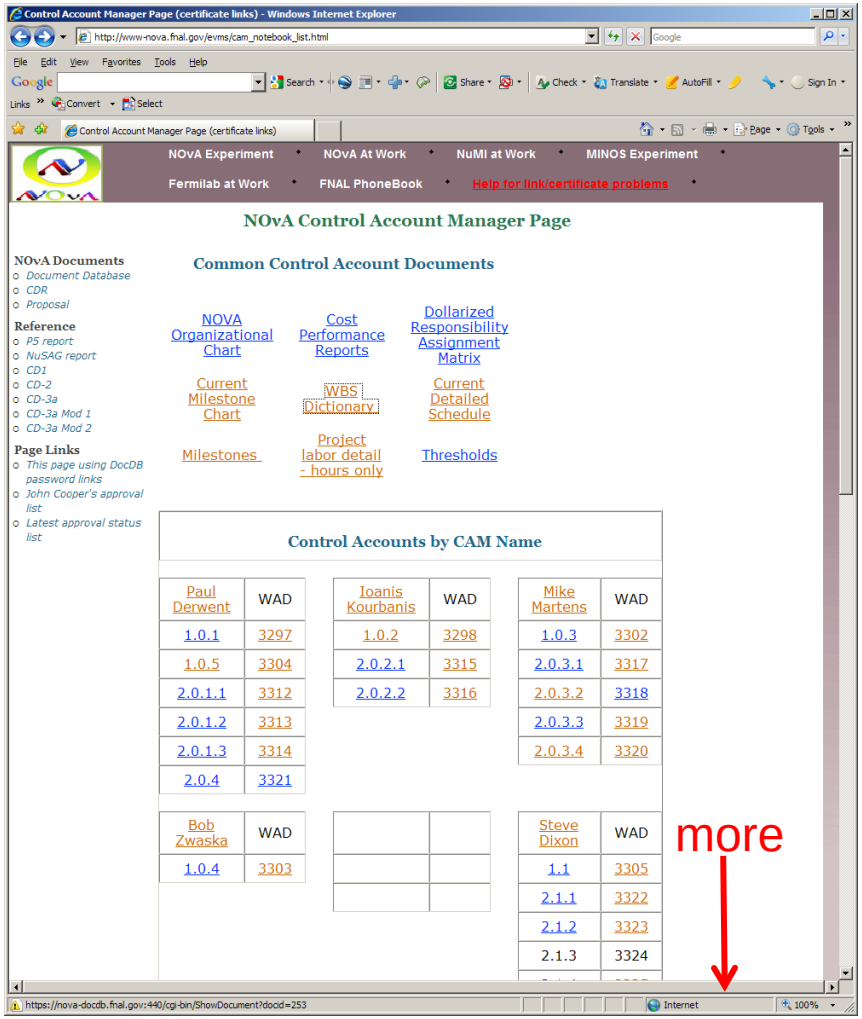
- We have tried to put the list of requested documents on the Review Website
- My experience is that we probably have a disconnect between your requests and our work
  - Sorry, we will have to work together to solve any additional problems.

- For interviews, note link to CAM notebooks
  - Gets you to my next slide

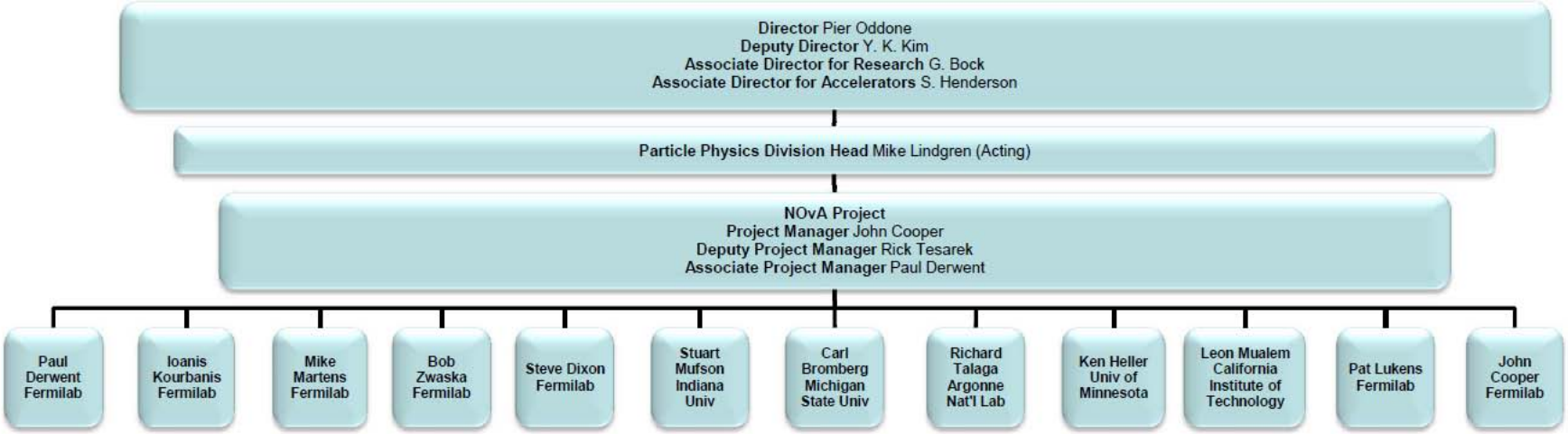


Links to CAM Notebooks





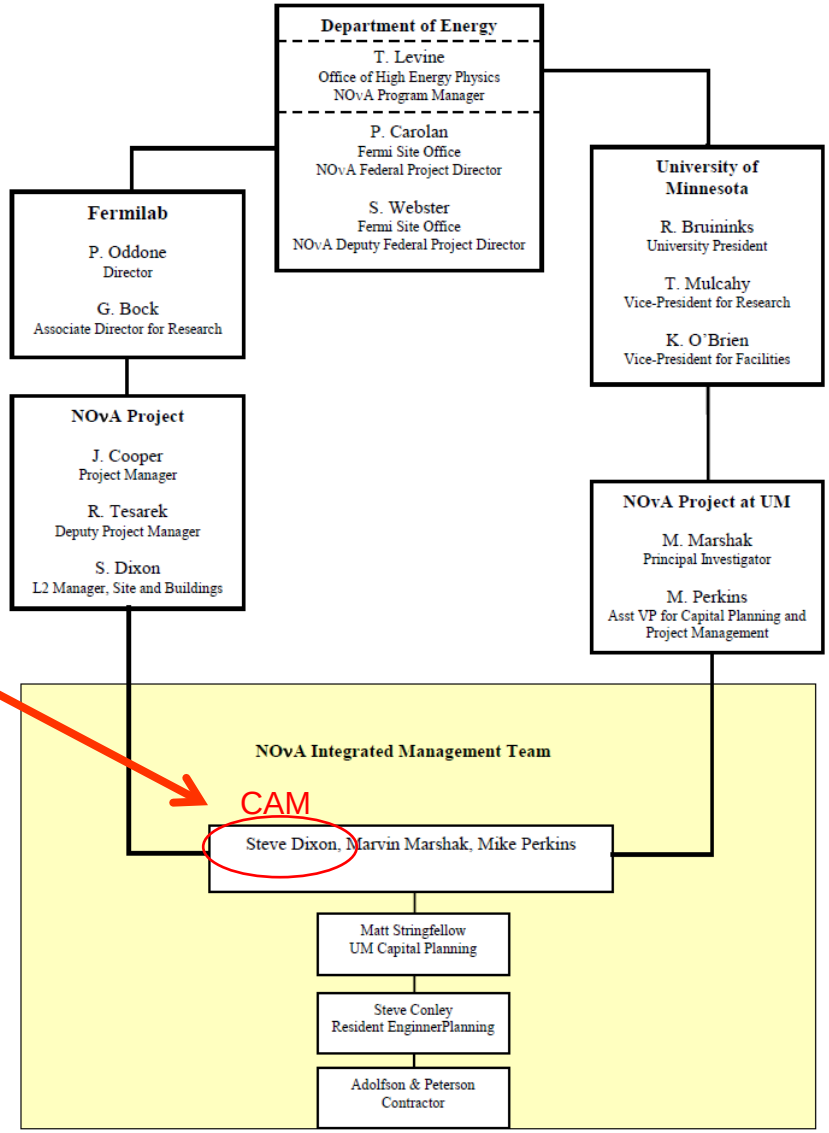
Organization



- This and the WBS structure are available on the Dollarized RAM link

An Organization Wrinkle

- The University of Minnesota received a DOE Cooperative Agreement grant for the building (M. Marshak is the P.I.)
  - The grant is part of the NOvA TPC
- MOU between Fermilab and U Minn
  - Integrated construction team
  - U Minn agreed to and has reported monthly to the Project Office
  - Earned Value is tracked.

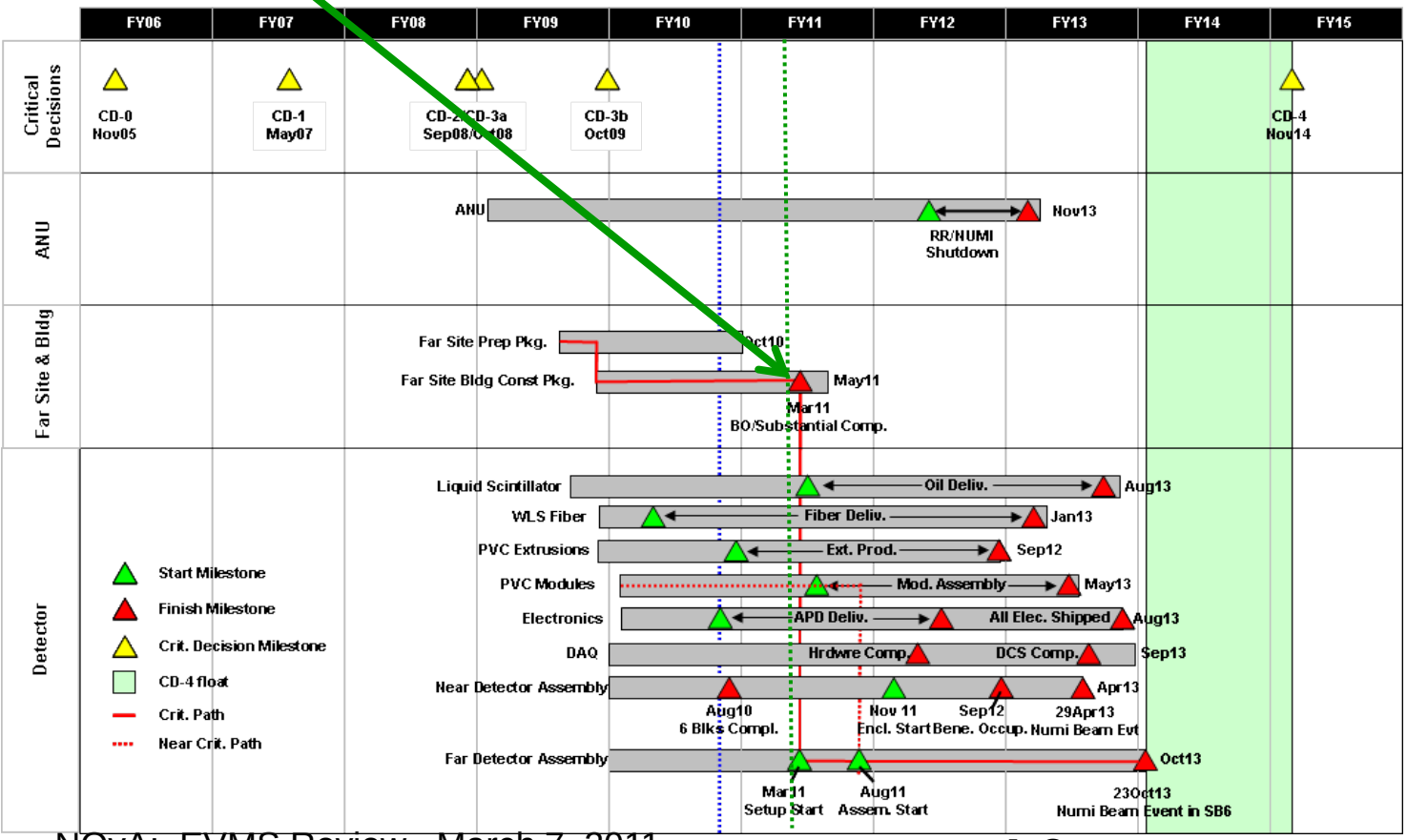


Planning and Scheduling Process

- **The following statements come from our Certification Review in May 2009. They are still true.**
- NOvA uses Open Plan, the schedule has ~ 5,000 tasks and milestones
- **Scheduling Guidelines given to CAMs:**
  - Instructed by the Project Manager to provide best estimates for the duration of every task
  - There should be no hidden contingency in the schedule
  - Tasks with schedule uncertainty should have estimated cost contingency designed to speed up the work commensurate with the risk
    - We do have ~250 documented risks and a Risk Registry
- See **NOvA Key Assumptions** document (NOVA-doc-2954) for more details
  - This also has cost assumptions:
    - estimating instructions, labor cost assumptions, materials & services cost assumptions, escalation assumptions, cost guidance from DOE (funding profile), indirect cost assumptions at universities
  - Other key technical assumptions:
    - expectations from other Fermilab efforts assumed as pre-requisites to NOvA, risk of PVC structure,…
  - **Other scheduling guidelines:**
    - critical path guidance, assumed CD dates, assumptions about the Fermilab operating schedule since NOvA installation must fit within periodic shutdowns

Schedule Critical Path

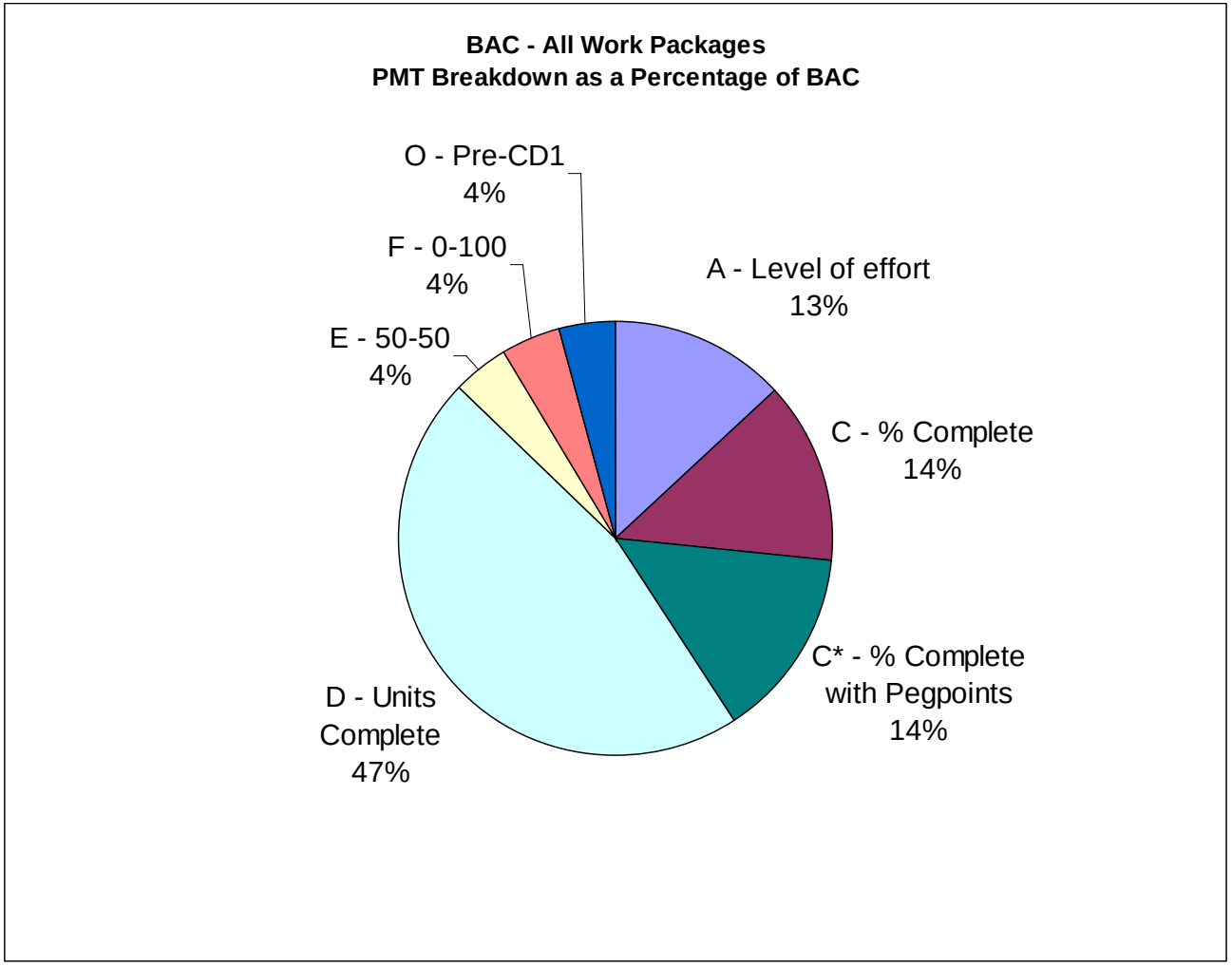
- The Review Website has a recent Critical Path plot from Open Plan
- A better overview comes from our Lehman Review "schedule on a page"
  - The building at Ash River is almost done (April 15)
    - As we approach the Detector assembly work, we are starting to install more milestones to track progress as we try to accelerate the project.



- Blue line is Lehman Review
- Green Line is NOW
- Critical path is still Ash River Building, then Assembly (red line)
  - Next to critical path (dotted red line) happens if Module assembly slides 4 months
  - Now likely due to technical problems, thus the effort to install more milestones and seek work-arounds

NOvA Project PMTs

- **The following chart comes from our Certification Review in May 2009. It is still a good picture of what we do.**



Work Authorization

- **The following statements come from our Certification Review in May 2009. They are still true.**
- Project Office authorizes work through Work Authorization Documents
  - Approved by Scheduler, Financial Officer, CAM, Project Manager
  - See the links in the CAM notebooks on our review webpage
- WAD must be in place before a control account, any of its subsidiary chargeable task codes can be opened
  - Suzanne Saxer (Field Financial Officer) is responsible for checking the prerequisites
  - NOvA has 67 control accounts and then another ~200 chargeable task codes
    - Actual costs are accumulated at this chargeable task code level & rolled up to the control accounts.
- Labor at Fermilab is effort reported to open Fermilab chargeable task codes
  - Monthly Effort reports from all divisions available to CAMs for checking the data
- Moving funds outside of Fermilab to other institutions also requires Purchase Order and
  - Memorandum of Understanding (MOU)
    - Over-arching document describing expected contributions and responsibilities of institutions
    - Signed by Fermilab and the Institution's management
  - Statement of Work (SOW)
    - One for each FY detailing amounts expected to be funded by Fermilab
    - Signed by Fermilab, Institution's management, <u>and the CAM(s)</u>

Reports

- You have access to our monthly reports for Oct, Nov, Dec 2010
  - 2 types, one for DOE as they requested, a separate one for FRA EVMS

February 7, 2011
NOVA-doc-5508

December, 2010
NOvA Monthly Report

Project Overview

The project remained in "green" EVMS status in December with a Schedule Performance Index of 0.956 and a Cost Performance Index of 0.965. The table below summarizes key status variables:

	December 2010 Status	Change from November
BAC	$ 230.5 M	+ $ 0.1 M
EAC	$ 234.0 M	+ $ 0.3 M
% Complete	41%	
% Obligated	66%	
Assigned Contingency (assigned line by line in the schedule according to estimated risk)	$ 35.8 M	$ 0.0 M
Available Contingency	$ 8.2 M	- $ 0.3 M
Float to CD-4	244 working days	0 days

The float to CD-4 did not change from November to December and is still 18 days shorter than in October. A complete rework of the assembly schedule is still in progress but is taking longer than anticipated. We do still expect to recover this float.

The project can be divided logically into 4 main elements: Accelerator Upgrades, Ash River Building, Detector R&D, and Detector Construction. Progress in each area is summarized in the next sections, and a fifth section has a table of quantitative financial details and performance for each area.

Accelerator and NuMI Upgrades (ANU)

- Initial design reviews were completed of the Recycler, Main Injector, and NuMI Low Conductivity Water systems and of the NuMI Radioactive Water system. Final design reviews of these systems are scheduled for October 2011.
- All PDDW (Permanent Dipole wide gap) were completed.
- IHEP Protvino manufactured the first prototype of the target downstream window using diffusion welding of the beryllium membrane. The prototype passed a helium leak test.
- IHEP also delivered a draft set of target construction drawings which were reviewed by Fermilab and a short list of comments were returned to IHEP.
- We continued to watch the ANU resources at Fermilab as a key to monitor on-time progress. In December, 36 FTEs reported effort on NOvA ANU tasks to be compared to 34 expected in our OpenPlan schedule.

Page 1 of 4

February 14, 2011
NOVA-doc-5508

December 2010
NOvA Monthly Report for FRA EVMS

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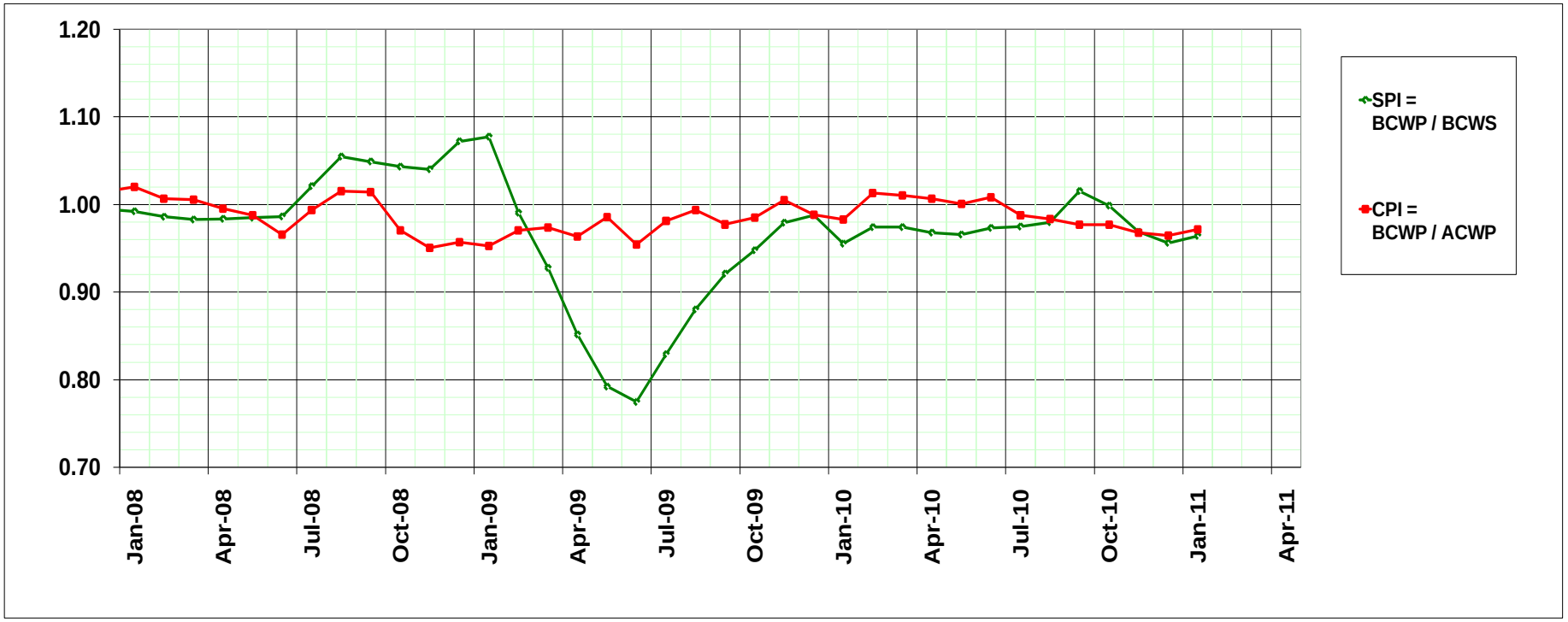
NOvA Project Management Group

- A NOvA PMG meets on the 4th Tuesday of every month
- This is another reporting path for EVMS data
- The PMG is attended by
  - DOE Germantown
  - DOE Fermilab Site Office
  - Fermilab Directorate
    - Budget Office represented as well
  - Representatives of Fermilab Divisions & Sections
    - Fermilab Procurement specialist for NOvA attends
- Agenda is one talk by me (mostly on EVMS)
  - 3 or more other talks by managers on technical progress

- Next slides are essentially my February 22 talk which covered EVMS data just then completed for January 2011.

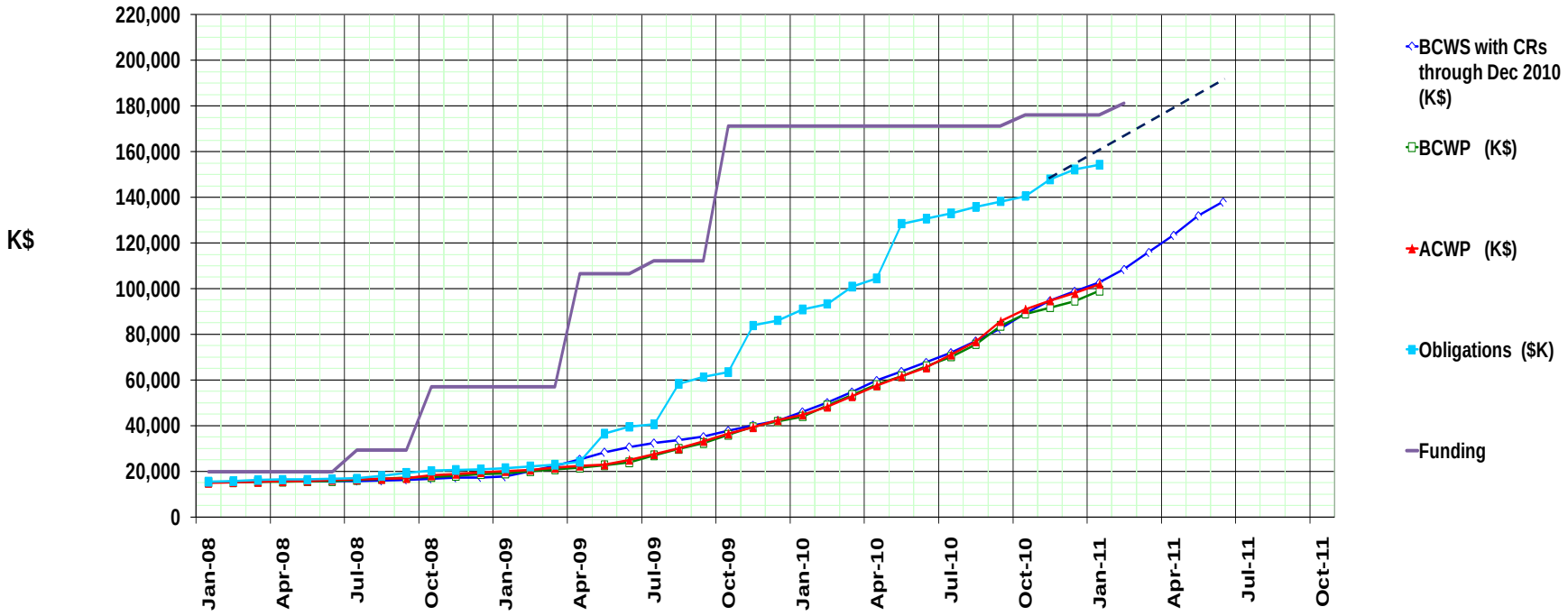
EVMS Reporting Overview

- Data now available through January 2010
  - SPI = **0.964**, compare to 0.956 in Dec, 0.969 in Nov
  - CPI = **0.972,** compare to 0.965 in Dec, 0.968 in Nov
- We are still "Green"



EVMS Reporting Overview

- Basic data in BCWS, BCWP, ACWP, Funding & **Obligations** through Jan 2011
  - BCWS = Budgeted cost of work Scheduled
  - BCWP = Budgeted cost of work Performed
  - ACWP = Actual cost of work Performed
- Project is 42.7 % complete (BCWP/BAC = 99.0 M$ / 231.7 M$)
  - BAC = Budget at Completion
- Project is 66.6 % obligated (Obligations/BAC = 154.3 / 231.7)



CPR1 Jan 2011

COST PERFORMANCE REPORT
FORMAT 1 - WORK BREAKDOWN STRUCTURE

CONTRACTOR	CONTRACT	PROGRAM	REPORT PERIOD
NAME	NAME	NAME	FROM 01-Jan-2011
Fermi National Accelerator Laboratory		NOvA Project	TO 31-Jan-2010

PERFORMANCE DATA

CTC-FndSrc	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
WBS[2]			ACTUAL					ACTUAL					
Results...	BUDGETED COST		COST	VARIANCE		BUDGETED COST		COST	VARIANCE			LATEST	
	WORK	WORK	WORK			WORK	WORK	WORK				REVISED	
ITEM	SCHEDULED	PERFORMED	PERFORMED	SCHEDULE	COST	SCHEDULED	PERFORMED	PERFORMED	SCHEDULE	COST	BUDGETED	ESTIMATE	VARIANCE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
DA DOE-ACEL MIE													
2.0 ANU Construction													
Fully burdened AY$k	465	774	630	310	144	10,831	9,485	9,692	(1,346)	(207)	30,943	31,139	(196)
CTC-FndSrcTotals:	465	774	630	310	144	10,831	9,485	9,692	(1,346)	(207)	30,943	31,139	(196)
DC DOE-CA													
2.1 Site and Building													
Fully burdened AY$k	875	1,127	1,054	252	73	33,160	32,635	31,745	(524)	890	33,876	33,031	844
CTC-FndSrcTotals:	875	1,127	1,054	252	73	33,160	32,635	31,745	(524)	890	33,876	33,031	844
DD DOE-ACEL R&D													
1.0 ANU R&D													
Fully burdened AY$k	194	157	40	(37)	117	6,263	6,147	6,279	(117)	(132)	8,084	8,222	(137)
CTC-FndSrcTotals:	194	157	40	(37)	117	6,263	6,147	6,279	(117)	(132)	8,084	8,222	(137)
DE DOE-DET MIE													
2.1 Site and Building													
Fully burdened AY$k	139	152	105	13	47	2,768	2,599	1,477	(169)	1,122	6,198	5,081	1,117
2.10 Project Management - Nova Project - Construction													
Fully burdened AY$k	252	279	206	27	73	4,210	4,210	3,620	0	590	13,226	12,639	586
2.2 Liquid Scintillator													
Fully burdened AY$k	7	7	20	0	(13)	3,256	3,244	3,369	(12)	(125)	21,441	21,560	(120)
2.3 WLS Fiber													
Fully burdened AY$k	352	354	409	2	(55)	4,057	4,406	4,511	349	(105)	12,163	12,244	(80)
2.4 PVC Extrusions													
Fully burdened AY$k	1,011	999	497	(12)	502	4,231	4,203	4,349	(27)	(146)	25,059	25,074	(15)
2.5 PVC Modules													
Fully burdened AY$k	219	280	303	61	(23)	5,699	5,140	3,980	(559)	1,160	16,861	15,700	1,161
2.6 Electronics													
Fully burdened AY$k	141	98	105	(44)	(7)	868	743	862	(125)	(118)	13,034	13,289	(254)
2.7 DAQ													
Fully burdened AY$k	23	28	157	5	(130)	818	550	414	(268)	135	3,620	3,498	122
2.8 Near Detector Assembly													
Fully burdened AY$k	8	24	213	17	(189)	584	532	1,329	(51)	(797)	5,863	6,714	(851)
2.9 Far Detector Assembly													
Fully burdened AY$k	133	110	247	(23)	(137)	1,905	1,391	1,939	(514)	(548)	16,202	16,774	(572)
CTC-FndSrcTotals:	2,286	2,331	2,264	46	68	28,395	27,019	25,850	(1,376)	1,169	133,667	132,573	1,094
DO DOE-ACEL OPS													
1.0 ANU R&D													
Fully burdened AY$k	0	0	3	0	(3)	312	312	517	0	(205)	1,294	1,499	(205)
CTC-FndSrcTotals:	0	0	3	0	(3)	312	312	517	0	(205)	1,294	1,499	(205)

CPR1 Jan 2011 continued

COST PERFORMANCE REPORT FORMAT 1 - WORK BREAKDOWN STRUCTURE													
CONTRACTOR					CONTRACT			PROGRAM			REPORT PERIOD		
NAME					NAME			NAME			FROM 01-Jan-2011		
Fermi National Accelerator Laboratory								NOvA Project			TO 31-Jan-2010		
PERFORMANCE DATA													
CTC-FndSrc	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
WBS[2]			ACTUAL					ACTUAL					
Results...	BUDGETED COST		COST	VARIANCE		BUDGETED COST		COST	VARIANCE			LATEST	
	WORK	WORK	WORK			WORK	WORK	WORK				REVISED	
ITEM	SCHEDULED	PERFORMED	PERFORMED	SCHEDULE	COST	SCHEDULED	PERFORMED	PERFORMED	SCHEDULE	COST	BUDGETED	ESTIMATE	VARIANCE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
DR DOE-POST CD-1 DET R&D													
1.1 Site and Building R&D													
Fully burdened AY$k	0	0	0	0	0	3,630	3,630	3,168	0	462	3,630	3,168	462
1.2 Liquid Scintillator R&D													
Fully burdened AY$k	0	0	0	0	0	297	297	389	0	(91)	297	389	(91)
1.3 WLS Fiber R&D													
Fully burdened AY$k	0	0	0	0	0	341	341	375	0	(34)	341	375	(34)
1.4 PVC Extrusion R&D													
Fully burdened AY$k	0	0	1	0	(1)	1,369	1,364	2,079	(5)	(715)	1,369	2,080	(711)
1.5 PVC Module R&D													
Fully burdened AY$k	0	0	0	0	0	2,260	2,260	2,398	0	(137)	2,260	2,398	(137)
1.6 Electronics R&D													
Fully burdened AY$k	4	7	25	3	(18)	1,998	1,921	2,340	(78)	(419)	2,028	2,455	(428)
1.7 DAQ R&D													
Fully burdened AY$k	11	0	(66)	(11)	66	1,546	1,503	2,799	(43)	(1,296)	1,635	2,932	(1,297)
1.8 Detector Assembly R&D													
Fully burdened AY$k	0	134	1	134	133	3,123	2,942	4,932	(181)	(1,990)	3,123	5,128	(2,005)
1.9 Project Management R&D													
Fully burdened AY$k	0	0	0	0	0	383	383	559	0	(176)	383	559	(176)
CTC-FndSrcTotals:	15	141	(40)	126	180	14,948	14,642	19,039	(306)	(4,397)	15,067	19,484	(4,417)
DY DOE CD-0 TO CD-1 R&D													
1.9 Project Management R&D													
Fully burdened AY$k	0	0	0	0	0	8,801	8,801	8,801	0	0	8,801	8,801	0
CTC-FndSrcTotals:	0	0	0	0	0	8,801	8,801	8,801	0	0	8,801	8,801	0
Undist. Budget											0	0	0
Sub Total	3,835	4,531	3,951	696	580	102,709	99,040	101,922	(3,669)	(2,882)	231,732	234,749	(3,017)
Management Resrv.											46,268		
Total	3,835	4,531	3,951	696	580	102,709	99,040	101,922	(3,669)	(2,882)	278,000		

EVMS analysis

- Now divide the project into 4 parts and look at Schedule and Cost variations

- The four parts:
  - Accelerator work, R&D + Construction
    - R&D and Const are mixed until very near the end
    - ~ ends with the end of the 2012 long shutdown for installation
  - Cooperative Agreement work, building
    - Ends in early 2011
  - Detector R&D
    - Concludes ~ now
  - Detector Construction
    - This is the bulk of the project (58% of BAC)

4 part data

- January:

	Accelerator Upgrades	Ash River Building	Detector R&D	Detector Construction
BAC	$ 40.3 M	$ 33.9 M [a]	$ 15.1 M	$ 133.7 M
EAC	$ 40.9 M	$ 33.0 M [a]	$ 19.5 M	$ 132.6 M
BCWS	$ 17.4 M	$ 33.2 M	$ 14.9 M	$ 28.4 M
BCWP	$ 15.9 M	$ 32.6 M	$ 14.6 M	$ 27.0 M
ACWP	$ 16.5 M	$ 31.7 M	$ 19.0 M	$ 25.9 M
% Complete (BCWP/BAC)	40%	96%	97%	21%
SPI = BCWP/BCWS	0.92	0.98	0.99	0.95
CPI = BCWP/ACWP	0.97	1.03	0.77	1.05

a – This does not include the full rock claim, but settled about half of the amount outstanding in Dec 2010.

- December

	Accelerator Upgrades	Ash River Building	Detector R&D	Detector Construction
BAC	$ 40.6 M	$ 33.9 M [a]	$ 15.3 M	$ 132.0 M
EAC	$ 41.5 M	$ 33.1 M [a]	$ 19.9 M	$ 130.8 M
BCWS	$ 16.7 M	$ 30.7 M	$ 14.9 M	$ 26.1 M
BCWP	$ 15.0 M	$ 31.5 M	$ 14.5 M	$ 24.7 M
ACWP	$ 15.8 M	$ 30.7 M	$ 19.1 M	$ 23.6 M
% Complete (BCWP/BAC)	37%	93%	96%	19%
SPI = BCWP/BCWS	0.90	0.98	0.97	0.95
CPI = BCWP/ACWP	0.95	1.03	0.76	1.05

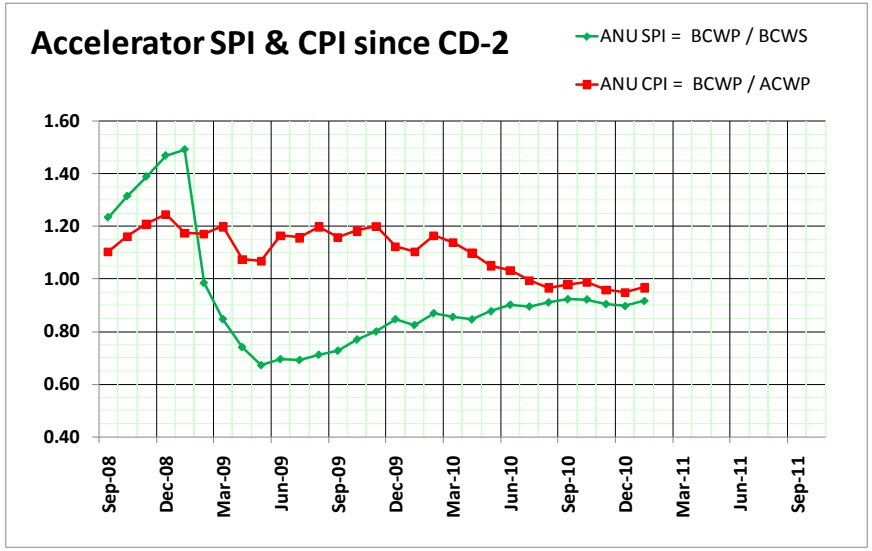
a – This does not include the full rock claim.

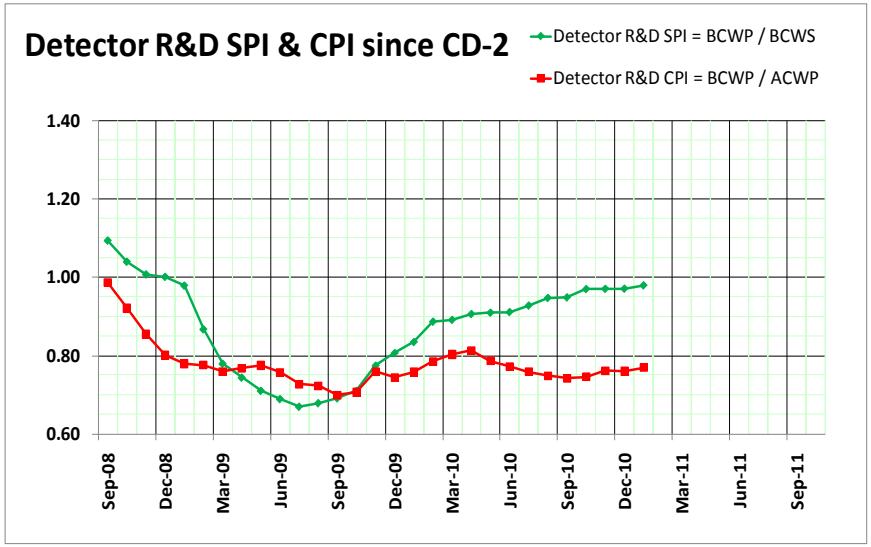
- November

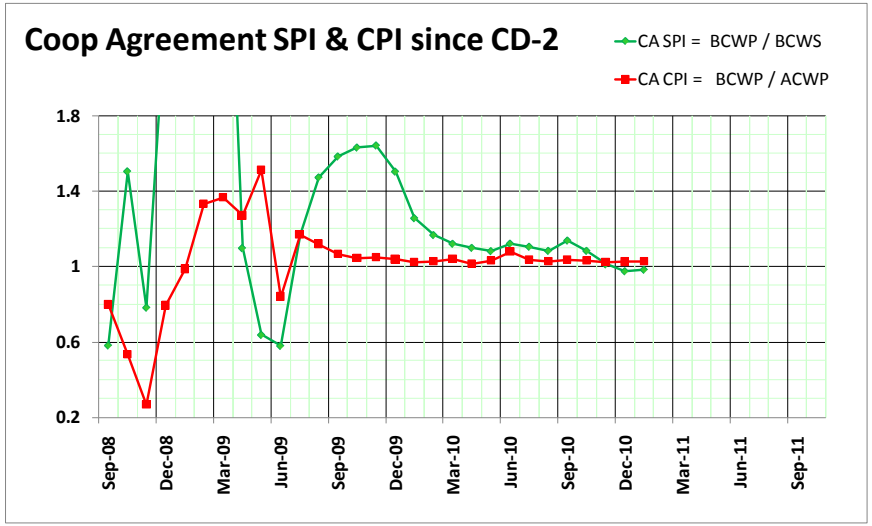
	Accelerator Upgrades	Ash River Building	Detector R&D	Detector Construction
BAC	$ 40.6 M	$ 33.9 M [a]	$ 15.3 M	$ 131.9 M
EAC	$ 41.3 M	$ 33.3 M [a]	$ 19.8 M	$ 130.5 M
BCWS	$ 15.9 M	$ 30.4 M	$ 14.9 M	$ 24.7 M
BCWP	$ 14.4 M	$ 30.8 M	$ 14.3 M	$ 23.3 M
ACWP	$ 15.0 M	$ 30.1 M	$ 19.0 M	$ 21.9 M
% Complete (BCWP/BAC)	36%	91%	95%	19%
SPI = BCWP/BCWS	0.90	1.01	0.97	0.95
CPI = BCWP/ACWP	0.96	1.02	0.76	1.07

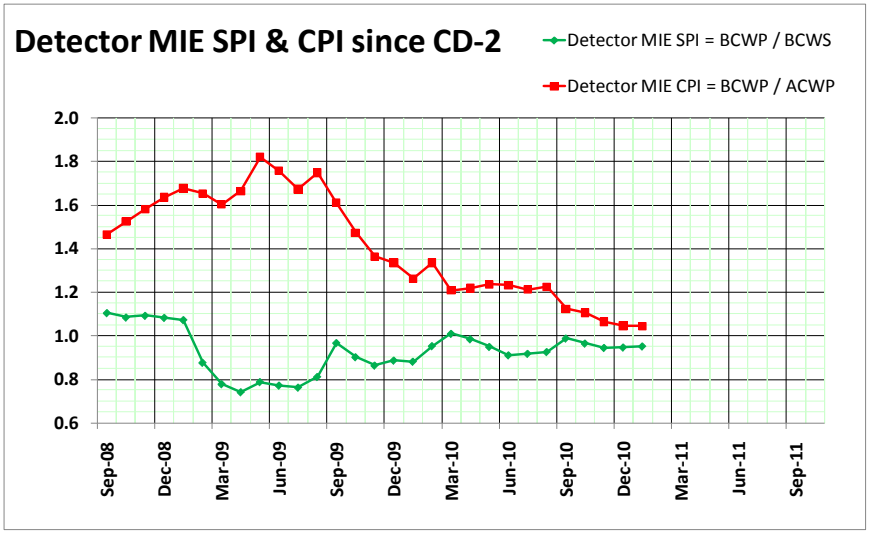
a – This does not include the full rock claim.

History of SPI & CPI for the 4 parts

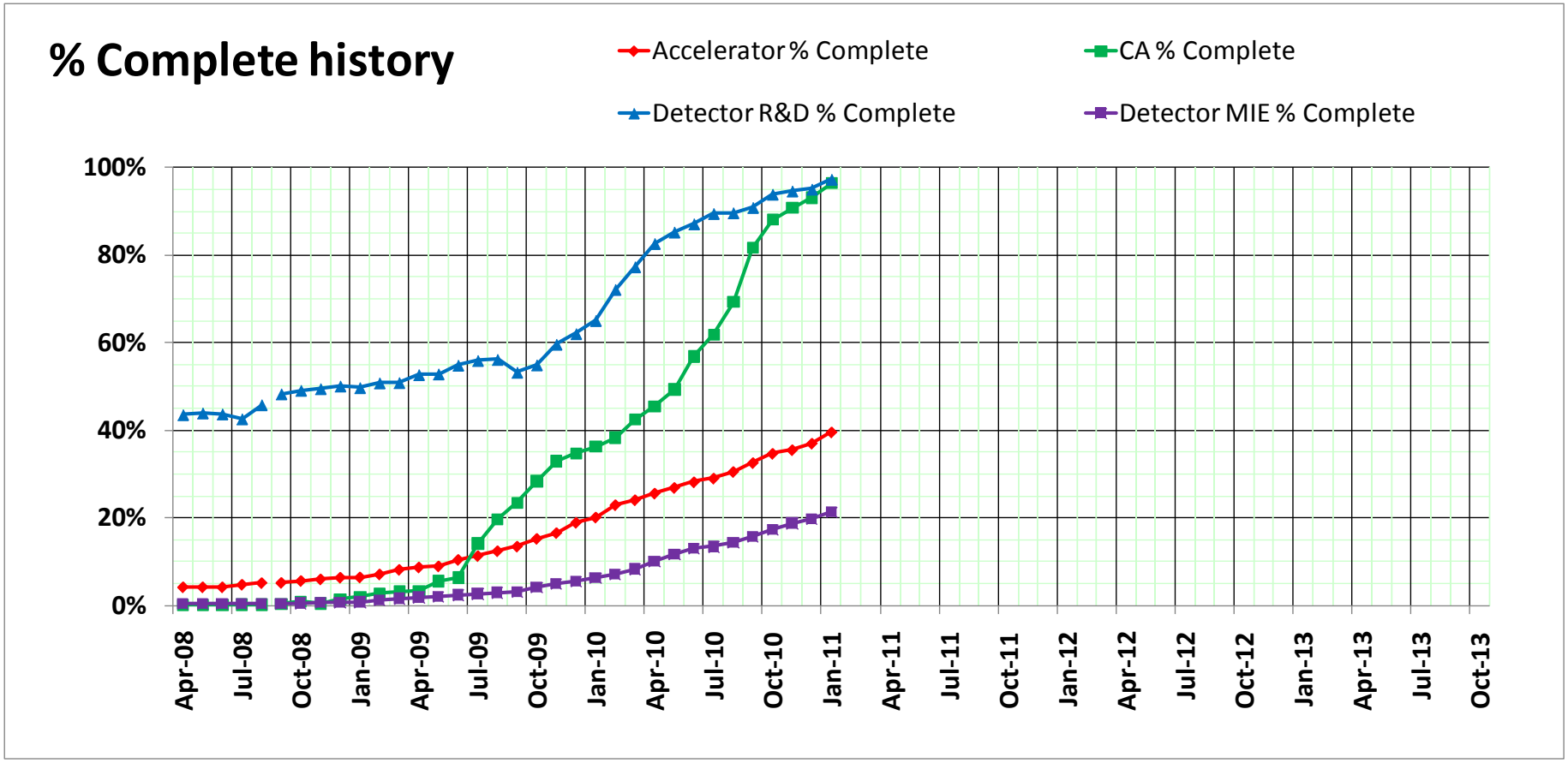






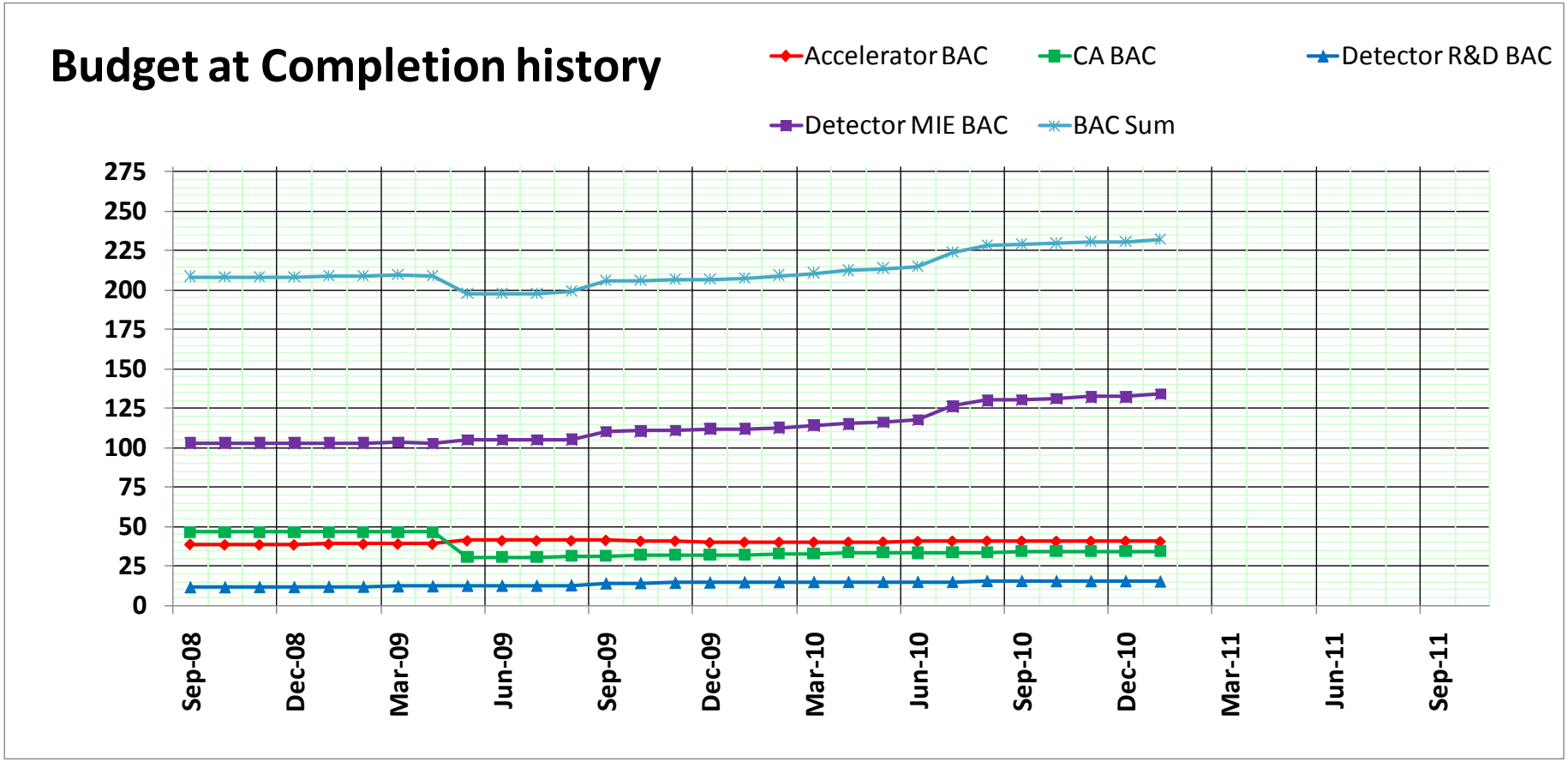


% Complete history for the 4 parts



- Building & R&D racing to end, both won't finish until spring / summer

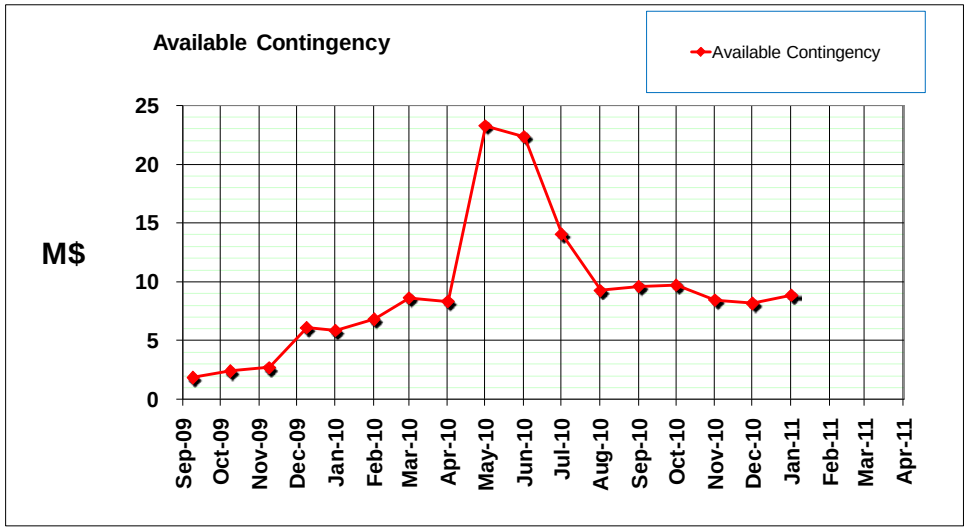
BAC history for the 4 parts

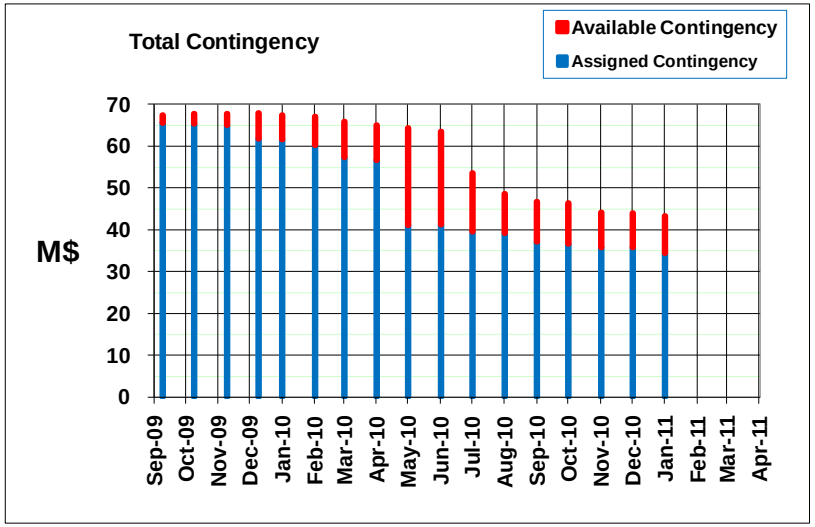


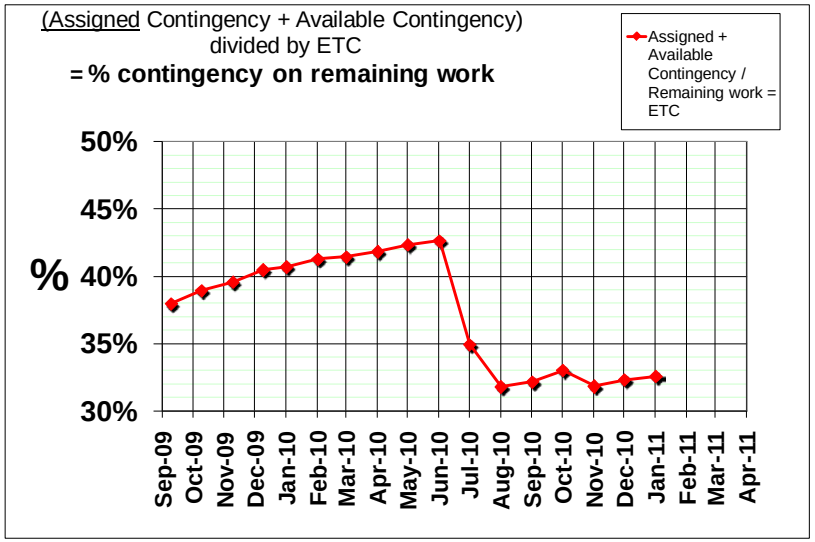
- Cheaper building in April 09
- Detector MIE increases at Lehman Reviews in 2009 and 2010
- Note full scale is TPC = $ 278 M

Contingency Status

- Available Contingency = $ 8.87 M (Dec = 8.18, Nov = $ 8.5 M, Oct = $ 9.7 M)
- Assigned Contingency
- % Contingency on remaining work







AY$ by Level 2 with MIE/OPC split

WBS	Items	NOvA Costs to Date ($M) as of 31-Jan-2011	NOvA 's Cost Estimate AY $M (for February 1, 2011 to project end)									
			Estimated Cost (with indirects)			Mgmt Reserve Estimate			Contingency %			Total
			M&S	Labor[1]	Total	M&S	Labor[1]	Total	M&S	Labor[1]	Total	Cost
2.0	Accelerator & NuMI Upgrades	$ 9.7	$ 7.6	$ 13.9	$ 21.4	$ 2.8	$ 4.6	$ 7.4	37%	33%	34%	$ 38.5
2.1	Far Detector Site and Building	$ 1.5	$ 3.3	$ 0.3	$ 3.6	$ 0.8	$ -	$ 0.8	25%	0%	23%	$ 5.9
2.2	Liquid Scintillator	$ 3.4	$ 17.7	$ 0.5	$ 18.2	$ 4.9	$ 0.2	$ 5.1	28%	42%	28%	$ 26.7
2.3	Wave-Length-Shifting Fiber	$ 4.5	$ 7.2	$ 0.6	$ 7.7	$ 0.4	$ 0.1	$ 0.4	5%	11%	5%	$ 12.7
2.4	PVC Extrusions	$ 4.3	$ 19.5	$ 1.2	$ 20.7	$ 2.5	$ 0.4	$ 2.9	13%	33%	14%	$ 28.0
2.5	PVC Modules	$ 4.0	$ 5.6	$ 6.1	$ 11.7	$ 0.8	$ 1.3	$ 2.1	14%	21%	18%	$ 17.8
2.6	Electronics Production	$ 0.9	$ 11.0	$ 1.4	$ 12.4	$ 3.5	$ 0.4	$ 3.9	32%	27%	31%	$ 17.1
2.7	Data Acquisition System	$ 0.4	$ 1.9	$ 1.2	$ 3.1	$ 0.4	$ 0.4	$ 0.8	22%	32%	26%	$ 4.3
2.8	Near Detector Assembly	$ 1.3	$ 5.0	$ 0.4	$ 5.4	$ 1.7	$ 0.2	$ 1.9	33%	54%	35%	$ 8.6
2.9	Far Detector Assembly	$ 1.9	$ 6.6	$ 8.3	$ 14.8	$ 3.0	$ 4.3	$ 7.3	46%	53%	49%	$ 24.1
2.10	Project Management	$ 3.6	$ 0.3	$ 8.7	$ 9.0	$ 0.1	$ 0.1	$ 0.1	25%	1%	2%	$ 12.8
	Subtotal Construction	**$ 35.5**	**$ 85.7**	**$ 42.5**	**$ 128.2**	**$ 20.9**	**$ 11.9**	**$ 32.8**	**24%**	**28%**	**26%**	**$ 196.5**
R&D - Accelerator		$ 6.3	$ 0.3	$ 1.7	$ 1.9	$ 0.1	$ 0.5	$ 0.6	27%	30%	30%	$ 8.8
R&D - Detector		$ 27.8	$ 0.1	$ 0.4	$ 0.4	$ 0.0	$ 0.0	$ 0.0	7%	4%	4%	$ 28.3
Cooperative Agreement		$ 31.7	$ 1.3	$ -	$ 1.3	$ 0.7	$ -	$ 0.7	2%	0%	51%	$ 33.7
Operating		$ 0.5	$ 0.1	$ 0.9	$ 1.0	$ 0.0	$ 0.3	$ 0.3	36%	33%	33%	$ 1.8
	Total OPC:	**$ 66.4**	**$ 1.7**	**$ 2.9**	**$ 4.7**	**$ 0.8**	**$ 0.8**	**$ 1.6**	**45%**	**28%**	**34%**	**$ 72.6**
	Available Contingency							**$ 8.865**				**$ 8.9**
	TPC:	**$ 101.9**	**$ 87.4**	**$ 45.4**	**$ 132.8**	**$ 21.6**	**$ 12.7**	**$ 43.3**	**25%**	**28%**	**33%**	**$ 278.000**

[1] Labor costs presented here include all project labor from Fermilab, other DOE facilities and Universities.

End of PMG talk, but here are some other EVMS items of interest

- Change Control thresholds
- Sample Change Requests
- Variance Thresholds and status
  - At Level 2
  - At Cost Accounts
  - Sample VARs illustrating signature path

Change Control

- Thresholds from the PEP and PMP

	Performance Baseline Deviation		Routine Project Changes	
	Secretarial Acquisition Executive (Level 0-A) Deputy Secretary	Acquisition Executive (Level 0-B) SC-1	Associate Director OHEP or Program Manager (Level 1)	Federal Project Director (Level 2)
Technical Scope	A change in scope that affects the ability to meet a KPP and the ability to satisfy the mission need.	A change in scope that affects the ability to meet a KPP and the ability to satisfy the mission need.	Any change in the KPPs as referenced in PEP section 3.2.	Any significant change to the technical scope (as described in PEP sect. 5) that affect ES&H requirements or meeting Project Closeout definitions in PEP Table 7.2.
Schedule	> 6 month (cumulative) delay in the CD-4 project completion date.	Up to a 6 month (cumulative) delay in the CD-4 project completion date.	Any change to a level 1 milestone > 3 months.	Any change to a level 2 milestone > 1 month or a level 1 milestone < 3 months.
Cost	Increase in excess of $25M or 25% (cumulative) of the CD-2 Total Project Cost baseline.	Any increase in the CD-2 Total Project Cost baseline.	Any change in Total Estimated Cost or Total Project Cost.	Any cumulative use of contingency of > $1M.[2]

*Changes must be recommended at all applicable lower levels prior to being forwarded to the next higher level for consideration.

Fermilab Associate Director (Level 3)	NOvA Project Manager (Level 4)	Subproject Manager (Level 5)
Major technical changes that are significant departures from the technical baseline. Changes that affect ES&H or impact PoT projections by more than 10%. Out-of-scope changes to upgrade physics capabilities.	Related technical changes to multiple subprojects that do not diminish performance	Minor technical changes to a single subproject that does not diminish performance
Any change that results in the delay of a Level 3 Director's milestone.	Any change that results in the delay of a Level 4 milestone by more than one month.	Any change that results in the delay of a Level 5 milestone by more than one month
Increase in the cost of a single item by more than $250k. Increase in the Project base cost exceeding $500k during the previous 12 months.	Increase in the cost of a single item by more than $100k.	Increase in the cost of a single item by more than $25k.

CRs available on website

- Look under “Configuration Management Plan”, click 1st sub-bullet
- 2 Examples: left is for a set of WBSs, right is a catch-up CR to keep thresholds in line with PEP and PMP.

NOvA Project Office — CHANGE REQUEST RECORD

L3 (DIRECTORATE)

Level of Change	L4 (NOvA PM)	Date Initiated	2/4/2011	CR No.	266
Status	Submitted	Date Revised:	2/7/2011		
Awaiting:	John Cooper				

PRELIMINARY APPROVAL

Schedule Impact: None — Cost Impact: ($449,874.00) — from/to MR or Contingency: N/A

PM GO-AHEAD — Date: — DATE

FINAL APPROVAL

CONTROL ACCOUNT #	COST IMPACT
46 Control Accounts Affected see attached list	($449,873.66)

CONTROL ACCOUNT MANAGER (+ L2 MGR IF DIFFERENT) — DATE 2/8/11
PROJECT MANAGER — DATE 2/8/11
FINANCIAL OFFICER — DATE 2/8/11
SCHEDULER — DATE 2/9/11
ASSOCIATE DIRECTOR FOR RESEARCH (IF REQ'D) — DATE
DOE FEDERAL PROJECT DIRECTOR (IF REQ'D) — DATE

from/to MR or Contingency: N/A — Final Cost Impact: ($449,873.66) from Project Financial Officer — Final Schedule Impact: none from Project Scheduler

SUBMITTED INFORMATION

CR Title: Two Year wage freeze for Fermilab and Argonne National Lab and revised FY11 FNAL burden rates
Change Type: ☐ Technical ☑ Cost ☐ Schedule ☐ Other
Initiator Name: Suzanne L Saxer — Control Account Manager: John Cooper
Initiator Email: pasek@fnal.gov
Affected WBS #'s: mutilple - all WBSs with FNAL or ANL labor and any WBS with non-exempt resources

NOvA Project Office — CHANGE REQUEST RECORD

Level of Change	L2 (DOE Fermi)	Date Initiated	1/26/2011	CR No.	263
Status	In Process	Date Revised:			
Awaiting:	John Cooper				

PRELIMINARY APPROVAL

Schedule Impact: — Cost Impact: $0.00 — from/to MR or Contingency: N/A

PM GO-AHEAD — Date: — DATE

FINAL APPROVAL

CONTROL ACCOUNT #	COST IMPACT

CONTROL ACCOUNT MANAGER (+ L2 MGR IF DIFFERENT) — DATE 2/7/11
PROJECT MANAGER — DATE
FINANCIAL OFFICER — DATE
SCHEDULER — DATE 2/9/11
ASSOCIATE DIRECTOR FOR RESEARCH (IF REQ'D) — DATE
DOE FEDERAL PROJECT DIRECTOR (IF REQ'D) — DATE 2/10/11

from/to MR or Contingency: N/A — Final Cost Impact: $0.00 from Project Financial Officer — Final Schedule Impact: from Project Scheduler

SUBMITTED INFORMATION

CR Title: Cumulative Change Report for CR263 -Cumulative CR H
Change Type: ☑ Technical ☑ Cost ☑ Schedule ☐ Other
Initiator Name: John Cooper — Control Account Manager: John Cooper
Initiator Email: jcooper@fnal.gov
Affected WBS #'s: Various WBS
Change Description: This change represents a cumulative use of contingency ~$1.33M, which requires approval by DOE Federal Project Director. After this approval, this ~$1.33M running total resets to $0. The summary of changes in this CR are found on the table attached to the CR form.
Total cost = $1,328,064.12
CR File found in: S598

Variance thresholds & January 2011 status

- At Level 2 (we report this in our FRA Monthly Report)

Report Period: Jan-11	Current Period									Cumulative								
WBS Level 2	BCWS (AY$)	BCWP (AY$)	ACWP (AY$)	SV (AY$)	SV (%)	CV (AY$)	CV (%)	SPI	CPI	BCWS (AY$)	BCWP (AY$)	ACWP (AY$)	SV (AY$)	SV (%)	CV (AY$)	CV (%)	SPI	CPI
R&D																		
1.0 ANU R&D	193,960	157,270	42,520	(36,691)	-19%	114,749	73%	0.81	3.70	6,575,173	6,458,661	6,795,940	(116,512)	-2%	(337,280)	-5%	0.98	0.95
1.1 Site and Building R&D	0	0	0	0	0%	0	0%	1.00	1.00	3,630,248	3,630,248	3,168,478	0	0%	461,770	13%	1.00	1.15
1.2 Liquid Scintillator R&D	0	0	0	0	0%	0	0%	1.00	1.00	297,031	297,031	388,504	0	0%	(91,473)	-31%	1.00	0.76
1.3 WLS Fiber R&D	0	0	0	0	0%	0	0%	1.00	1.00	340,909	340,909	374,822	0	0%	(33,913)	-10%	1.00	0.91
1.4 PVC Extrusion R&D	0	0	968	0	0%	(968)	-100%	1.00	0.00	1,368,848	1,363,943	2,079,357	(4,905)	-0%	(715,414)	-52%	1.00	0.66
1.5 PVC Module R&D	0	0	0	0	0%	0	0%	1.00	1.00	2,260,343	2,260,343	2,397,549	(0)	-0%	(137,206)	-6%	1.00	0.94
1.6 Electronics R&D	4,021	6,859	24,767	2,838	71%	(17,908)	-261%	1.71	0.28	1,998,271	1,920,663	2,340,108	(77,608)	-4%	(419,445)	-22%	0.96	0.82
1.7 DAQ R&D	10,994	0	(66,247)	(10,994)	-100%	66,247	-100%	0.00	0.00	1,545,806	1,503,233	2,799,309	(42,573)	-3%	(1,296,076)	-86%	0.97	0.54
1.8 Detector Assembly R&D	0	133,663	966	133,663	100%	132,697	99%	N/A	138.40	3,122,854	2,941,963	4,931,887	(180,891)	-6%	(1,989,924)	-68%	0.94	0.60
1.9 Project Management R&D	0	0	0	0	0%	0	0%	1.00	1.00	9,184,127	9,184,127	9,359,785	0	0%	(175,658)	-2%	1.00	0.98
$ **Construction**																		
2.0 ANU Construction	464,760	774,423	630,439	309,663	67%	143,984	19%	1.67	1.23	10,830,882	9,485,133	9,691,679	(1,345,749)	-12%	(206,546)	-2%	0.88	0.98
2.1 Site and Building	1,014,438	1,279,412	1,158,686	264,974	26%	120,726	9%	1.26	1.10	35,927,609	35,234,413	33,222,532	(693,196)	-2%	2,011,881	6%	0.98	1.06
2.10 Project Management - Nova Project - Constru	252,260	279,089	206,454	26,829	11%	72,635	26%	1.11	1.35	4,210,034	4,210,034	3,619,571	0	0%	590,463	14%	1.00	1.16
2.2 Liquid Scintillator	7,149	7,154	20,467	4	0%	(13,314)	-186%	1.00	0.35	3,256,056	3,244,255	3,368,967	(11,801)	-0%	(124,712)	-4%	1.00	0.96
2.3 WLS Fiber	352,068	353,828	409,142	1,760	1%	(55,314)	-16%	1.01	0.86	4,056,936	4,405,780	4,510,644	348,844	9%	(104,864)	-2%	1.09	0.98
2.4 PVC Extrusions	1,011,454	999,482	497,404	(11,972)	-1%	502,078	50%	0.99	2.01	4,230,539	4,203,337	4,348,899	(27,202)	-1%	(145,562)	-3%	0.99	0.97
2.5 PVC Modules	218,978	280,337	303,451	61,359	28%	(23,114)	-8%	1.28	0.92	5,698,539	5,139,698	3,979,609	(558,841)	-10%	1,160,089	23%	0.90	1.29
2.6 Electronics	141,233	97,548	104,536	(43,685)	-31%	(6,988)	-7%	0.69	0.93	868,307	743,370	861,596	(124,937)	-14%	(118,226)	-16%	0.86	0.86
2.7 DAQ	22,779	27,510	157,245	4,731	21%	(129,735)	-472%	1.21	0.17	817,563	549,566	414,393	(267,997)	-33%	135,174	25%	0.67	1.33
2.8 Near Detector Assembly	7,597	24,283	213,309	16,686	220%	(189,027)	-778%	3.20	0.11	583,712	532,482	1,329,276	(51,229)	-9%	(796,794)	-150%	0.91	0.40
2.9 Far Detector Assembly	133,048	109,941	246,773	(23,106)	-17%	(136,831)	-124%	0.83	0.45	1,905,095	1,390,983	1,939,300	(514,112)	-27%	(548,317)	-39%	0.73	0.72
R&D SubTotal (WBS 1.0-1.9)	208,976	297,792	2,974	88,816	43%	294,818	99%	1.43	100.12	30,323,609	29,901,121	34,635,741	(422,489)	-1%	(4,734,620)	-16%	0.99	0.86
Const. SubTotal (WBS 2.0-2.10)	3,625,763	4,233,007	3,947,906	607,244	17%	285,100	7%	1.17	1.07	72,385,273	69,139,052	67,286,466	(3,246,221)	-4%	1,852,586	3%	0.96	1.03
Project Total	3,834,738	4,530,799	3,950,881	696,060	18%	579,918	13%	1.18	1.15	102,708,882	99,040,172	101,922,207	(3,668,710)	-4%	(2,882,035)	-3%	0.96	0.97

Non-costed Scientific hours

Report Period: Jan-11	Current Period - SCI Hrs									Cumulative - Since 01Oct09								
WBS Level 2	BCWS (Hrs)	BCWP (Hrs)	ACWP (Hrs)	SV (Hrs)	SV (%)	CV (Hrs)	CV (%)	SPI	CPI	BCWS (Hrs)	BCWP (Hrs)	ACWP (Hrs)	SV (Hrs)	SV (%)	CV (Hrs)	CV (%)	SPI	CPI
R&D																		
1.0 ANU R&D	258	89	71	(169)	-65%	18	21%	0.35	1.26	4,157	3,976	4,001	(181)	-4%	(25)	-1%	0.96	0.99
1.1 Site and Building R&D	0	0	0	0	0%	0	0%	1.00	1.00	0	0	0	0	0%	0	0%	1.00	1.00
1.2 Liquid Scintillator R&D	0	0	0	0	0%	0	0%	1.00	1.00	0	0	0	0	0%	0	0%	1.00	1.00
1.3 WLS Fiber R&D	0	0	0	0	0%	0	0%	1.00	1.00	0	29	60	29	100%	(31)	-107%	N/A	0.48
1.4 PVC Extrusion R&D	0	0	0	0	0%	0	0%	1.00	1.00	0	179	132	179	100%	47	26%	N/A	1.36
1.5 PVC Module R&D	0	0	0	0	0%	0	0%	1.00	1.00	1,224	1,638	3,155	414	34%	(1,517)	-93%	1.34	0.52
1.6 Electronics R&D	0	0	0	0	0%	0	0%	1.00	1.00	224	206	5,766	(18)	-8%	(5,560)	######	0.92	0.04
1.7 DAQ R&D	168	1,209	0	1,041	619%	1,209	100%	7.19	N/A	2,565	3,427	1,711	862	34%	1,716	50%	1.34	2.00
1.8 Detector Assembly R&D	0	0	0	0	0%	0	0%	1.00	1.00	944	800	724	(144)	-15%	76	10%	0.85	1.10
1.9 Project Management R&D	0	0	0	0	0%	0	0%	1.00	1.00	0	0	0	0	0%	0	0%	1.00	1.00
Construction																		
2.0 ANU Construction	151	309	356	159	105%	(47)	-15%	2.05	0.87	5,713	5,857	3,321	144	3%	2,536	43%	1.03	1.76
2.1 Site and Building Construction	0	0	0	0	0%	0	0%	1.00	1.00	0	0	0	0	0%	0	0%	1.00	1.00
2.10 Project Management - Nova Project - Construc	0	0	122	0	0%	(122)	-100%	1.00	0.00	0	0	2,645	0	0%	(2,645)	-100%	1.00	0.00
2.2 Liquid Scintillator	47	47	95	0	0%	(48)	-103%	1.00	0.49	1,101	1,091	1,495	(10)	-1%	(404)	-37%	0.99	0.73
2.3 WLS Fiber	22	23	20	1	5%	3	13%	1.05	1.15	310	310	375	0	0%	(65)	-21%	1.00	0.83
2.4 PVC Extrusions	46	126	58	80	175%	68	54%	2.75	2.17	1,611	1,600	580	(11)	-1%	1,020	64%	0.99	2.76
2.5 PVC Modules	294	119	1,015	(174)	-59%	(896)	-750%	0.41	0.12	3,572	2,808	6,349	(764)	-21%	(3,541)	-126%	0.79	0.44
2.6 Electronics	46	38	326	(8)	-18%	(288)	-758%	0.82	0.12	1,036	868	721	(168)	-16%	147	17%	0.84	1.20
2.7 DAQ	356	68	163	(288)	-81%	(94)	-138%	0.19	0.42	5,724	3,632	2,724	(2,092)	-37%	908	25%	0.63	1.33
2.8 Near Detector Assembly	9	19	157	10	110%	(137)	-719%	2.10	0.12	306	216	398	(90)	-29%	(182)	-84%	0.71	0.54
2.9 Far Detector Assembly	29	0	103	(29)	-100%	(103)	-100%	0.00	0.00	165	26	399	(139)	-84%	(373)	-1,435%	0.16	0.07
R&D SubTotal (WBS 1.0-1.9)	426	1,299	71	873	205%	1,228	95%	3.05	18.29	9,114	10,255	15,549	1,141	13%	(5,294)	-52%	1.13	0.66
Const. SubTotal (WBS 2.0-2.10)	999	750	2,414	(249)	-25%	(1,664)	-222%	0.75	0.31	19,538	16,408	19,006	(3,130)	-16%	(2,598)	-16%	0.84	0.86
Project Total	1,425	2,049	2,485	623	44%	(437)	-21%	1.44	0.82	28,652	26,663	34,555	(1,989)	-7%	(7,892)	-30%	0.93	0.77

Variance thresholds & January 2011 status

- At the Chargeable Cost level where CAMs write VARs
  - 59 of 71 accounts active, 26 require VARs, 17 complete as of March 2

Report Period: Jan-11

Control Account	Current Period BCWS (AY$)	Current Period BCWP (AY$)	Current Period ACWP (AY$)	Current Period SV (AY$)	Current Period SV (%)	Current Period CV (AY$)	Current Period CV (%)	Current Period SPI	Current Period CPI	Cumulative BCWS (AY$)	Cumulative BCWP (AY$)	Cumulative ACWP (AY$)	Cumulative SV (AY$)	Cumulative SV (%)	Cumulative CV (AY$)	Cumulative CV (%)	Cumulative SPI	Cumulative CPI	BAC (AY$)	VAR complete date	VAR done	VAR needed		Active	
R&D																									
1.0.0 ANU CDR COSTS	0	0	0	0	0%	0	0%	1.00	1.00	0	0	18,630	0	0%	(18,630)	-100%	1.00	0.00	0						1
1.0.1 RR Upgrades	110,397	96,892	18,233	(13,505)	-12%	78,659	81%	0.88	5.31	3,760,195	3,827,725	4,205,438	67,530	2%	(377,713)	-10%	1.02	0.91	5,542,355					1	1
1.0.2 MI Upgrades	28,691	7,481	5,120	(21,210)	-74%	2,362	32%	0.26	1.46	551,240	525,157	597,277	(26,083)	-5%	(72,120)	-14%	0.95	0.88	1,127,532					1	1
1.0.3 NUMI Upgrades	54,872	52,896	19,167	(1,976)	-4%	33,729	64%	0.96	2.76	1,835,849	1,677,889	1,704,749	(157,960)	-9%	(26,860)	-2%	0.91	0.98	2,280,716					1	1
1.0.4 ANU Beam Physics	0	0	0	0	0%	0	0%	1.00	1.00	83,191	83,191	11,155	(0)	-0%	72,037	87%	1.00	7.46	83,191						1
1.0.5 ANU Project Management	0	0	0	0	0%	0	0%	1.00	1.00	344,698	344,698	258,691	0	0%	86,007	25%	1.00	1.33	344,698						1
1.1 Site and Building R&D	0	0	0	0	0%	0	0%	1.00	1.00	3,630,248	3,630,248	3,168,478	0	0%	461,770	13%	1.00	1.15	3,630,248	25-Feb	1	1			1
1.2 Liquid Scintillator R&D	0	0	0	0	0%	0	0%	1.00	1.00	297,031	297,031	388,504	0	0%	(91,473)	-31%	1.00	0.76	297,031						1
1.3 WLS Fiber R&D	0	0	0	0	0%	0	0%	1.00	1.00	340,909	340,909	374,822	0	0%	(33,913)	-10%	1.00	0.91	340,909						1
1.4 PVC Extrusion R&D	0	0	968	0	0%	(968)	-100%	1.00	0.00	1,368,848	1,363,943	2,079,357	(4,905)	-0%	(715,414)	-52%	1.00	0.66	1,368,848			1			1
1.5 PVC Module R&D	0	0	0	0	0%	0	0%	1.00	1.00	2,260,343	2,260,343	2,397,549	(0)	-0%	(137,206)	-6%	1.00	0.94	2,260,343						1
1.6 Electronics R&D	4,021	6,859	24,767	2,838	71%	(17,908)	-261%	1.71	0.28	1,998,271	1,920,663	2,340,108	(77,608)	-4%	(419,445)	-22%	0.96	0.82	2,027,555			1		1	1
1.7 DAQ R&D	10,994	0	(66,247)	(10,994)	-100%	66,247	-100%	0.00	0.00	1,545,806	1,503,233	2,799,309	(42,573)	-3%	(1,296,076)	-86%	0.97	0.54	1,635,495			1		1	1
1.8 Detector Assembly R&D	0	133,663	966	133,663	100%	132,697	99%	N/A	138.40	3,122,854	2,941,963	4,931,887	(180,891)	-6%	(1,989,924)	-68%	0.94	0.60	3,122,854	25-Feb	1	1		1	1
1.9 Project Management R&D	0	0	0	0	0%	0	0%	1.00	1.00	9,184,127	9,184,127	9,359,785	0	0%	(175,658)	-2%	1.00	0.98	9,184,127						1
Construction																									
2.0.1.1 Recycler Ring Modifications	91,012	139,299	168,712	48,286	53%	(29,413)	-21%	1.53	0.83	3,330,574	2,348,931	2,116,608	(981,643)	-29%	232,323	10%	0.71	1.11	9,447,407	24-Feb	1	1			1
2.0.1.2 Recycler Kicker System	151,894	31,562	284,273	(120,331)	-79%	(252,711)	-801%	0.21	0.11	2,191,408	1,904,770	2,971,489	(286,638)	-13%	(1,066,720)	-56%	0.87	0.64	8,551,913	24-Feb	1	1		1	1
2.0.1.3 Recycler Instrumentation	19,393	79,826	13,476	60,434	312%	66,350	83%	4.12	5.92	761,040	714,732	964,837	(46,308)	-6%	(250,104)	-35%	0.94	0.74	1,588,316	24-Feb	1	1		1	1
2.0.2.1 MI Modifications	0	0	10,538	0	0%	(10,538)	-100%	1.00	0.00	219,605	219,605	468,047	0	0%	(248,442)	-113%	1.00	0.47	381,407	25-Feb	1	1		1	1
2.0.2.2 MI RF Cavities	11,684	121,904	36,698	110,220	943%	85,206	70%	10.43	3.32	946,068	830,992	995,832	(115,077)	-12%	(164,841)	-20%	0.88	0.83	1,377,629	25-Feb	1	1		1	1
2.0.3.1 NuMI Primary Proton Beam	0	140,619	0	140,619	100%	140,619	100%	N/A	N/A	737,321	779,533	881,565	42,212	6%	(102,032)	-13%	1.06	0.88	1,506,028			1		1	1
2.0.3.2 NuMI Target Hall Technical Components	80,976	126,262	32,779	45,285	56%	93,482	74%	1.56	3.85	198,935	215,096	151,067	16,161	8%	64,029	30%	1.08	1.42	1,485,974					1	1
2.0.3.3 NuMI Target Hall Infrastructure	61,125	84,393	50,767	23,268	38%	33,626	40%	1.38	1.66	407,907	492,757	224,608	84,850	21%	268,149	54%	1.21	2.19	1,645,230			1		1	1
2.0.3.4 NuMI Decay Pipe/Hadron Absorber/Utilities	0	0	11,155	0	0%	(11,155)	-100%	1.00	0.00	59,306	0	70,655	(59,306)	-100%	(70,655)	-100%	0.00	0.00	1,254,347					1	1
2.0.4 Project Management - ANU - Construction	48,676	50,559	22,041	1,883	4%	28,518	56%	1.04	2.29	1,978,717	1,978,717	846,970	0	0%	1,131,747	57%	1.00	2.34	3,705,058	24-Feb	1	1			1
2.1.1 Site Preparation Package	57,925	0	679,070	(57,925)	-100%	(679,070)	-100%	0.00	0.00	14,130,516	14,255,512	13,435,115	124,996	1%	820,397	6%	1.01	1.06	14,255,512	25-Feb	1	1		1	1
2.1.2 Far Detector Building	929,186	1,174,079	458,378	244,893	26%	715,702	61%	1.26	2.56	20,762,933	20,092,600	18,958,754	(670,333)	-3%	1,133,847	6%	0.97	1.06	21,535,536	25-Feb	1	1		1	1
2.1.4 Management - Site and Building - Construction	15,858	62,922	7,178	47,064	297%	55,744	89%	3.97	8.77	547,189	440,838	523,272	(106,351)	-19%	(82,434)	-19%	0.81	0.84	556,370					1	1
2.1.5 Far Detector Building Outfitting	11,470	42,411	14,060	30,942	270%	28,351	67%	3.70	3.02	398,631	369,121	305,247	(29,510)	-7%	63,874	17%	0.93	1.21	3,395,649					1	1
2.1.6 Transition Support Tasks	0	0	(144)	0	0%	144	-100%	1.00	0.00	88,340	76,341	0	(12,000)	-14%	76,341	100%	0.86	N/A	156,002					1	1
2.1.7 Block Pivoter Assembly	0	0	144	0	0%	(144)	-100%	1.00	0.00	0	0	144	0	0%	(144)	-100%	1.00	0.00	174,615					1	1
2.10 Project Management - Nova Project - Construction	252,260	279,089	206,454	26,829	11%	72,635	26%	1.11	1.35	4,210,034	4,210,034	3,619,571	0	0%	590,463	14%	1.00	1.16	13,225,591	25-Feb	1	1		1	1
2.2.1 Mineral Oil	0	0	0	0	0%	0	0%	1.00	1.00	165,762	165,762	234,966	0	0%	(69,204)	-42%	1.00	0.71	13,991,662					1	1
2.2.2 Pseudocumene	0	0	0	0	0%	0	0%	1.00	1.00	56,655	56,655	56,405	0	0%	250	0%	1.00	1.00	1,604,725					1	1
2.2.3 Waveshifters and Stadis 425	0	1	0	1	100%	1	100%	N/A	N/A	2,843,763	2,844,023	2,833,382	259	0%	10,641	0%	1.00	1.00	3,426,938					1	1
2.2.4 Blending	4,313	4,313	7,015	0	0%	(2,702)	-63%	1.00	0.61	120,111	120,111	176,513	0	0%	(56,402)	-47%	1.00	0.68	822,618					1	1
2.2.5 Transport - Liquid Scintillator	0	0	13,452	0	0%	(13,452)	-100%	1.00	0.00	30,151	18,090	40,301	(12,060)	-40%	(22,210)	-123%	0.60	0.45	1,487,865					1	1
2.2.6 Management - Liquid Scintillator - Construction	2,837	2,840	0	3	0%	2,840	100%	1.00	N/A	39,614	39,614	27,401	0	0%	12,213	31%	1.00	1.45	106,771					1	1
2.3.1 Procurement - WLS Fiber	0	0	0	0	0%	0	0%	1.00	1.00	84,374	84,374	83,367	0	0%	1,008	1%	1.00	1.01	84,374					1	1
2.3.2 Production - WLS Fiber	348,779	350,376	408,175	1,598	0%	(57,799)	-16%	1.00	0.86	3,859,292	4,223,991	4,337,679	364,699	9%	(113,688)	-3%	1.09	0.97	11,945,419					1	1
2.3.3 Management - WLS Fiber - Construction	767	767	966	0	0%	(199)	-26%	1.00	0.79	20,281	20,281	7,366	0	0%	12,915	64%	1.00	2.75	37,646					1	1
2.3.4 Additional WLS Fiber-related Tasks	2,522	2,684	0	163	6%	2,684	100%	1.06	N/A	92,989	77,134	82,232	(15,855)	-17%	(5,097)	-7%	0.83	0.94	95,843					1	1
2.4.1 Procurement - PVC Extrusions	0	1,805	4,278	1,805	100%	(2,473)	-137%	N/A	0.42	178,037	173,393	362,495	(4,645)	-3%	(189,102)	-109%	0.97	0.48	178,037					1	1
2.4.2 Extrusion Pre-Production	298,443	308,538	0	10,094	3%	308,538	100%	1.03	N/A	1,342,931	1,329,438	1,326,349	(13,494)	-1%	3,089	0%	0.99	1.00	1,342,931			1		1	1
2.4.3 Extrusion Production	612,816	456,679	419,790	(156,137)	-25%	36,889	8%	0.75	1.09	1,704,912	1,548,775	1,859,554	(156,137)	-9%	(310,779)	-20%	0.91	0.83	20,766,075			1		1	1
2.4.4 Production Quality Assurance and Extrusion Evaluation	51,485	44,212	45,225	(7,273)	-14%	(1,014)	-2%	0.86	0.98	190,049	162,177	198,950	(27,871)	-15%	(36,772)	-23%	0.85	0.82	863,445					1	1
2.4.5 Shipping & Handling - PVC Extrusions	35,222	173,519	12,335	138,297	393%	161,184	93%	4.93	14.07	566,929	741,874	438,266	174,945	31%	303,609	41%	1.31	1.69	1,130,768			1		1	1
2.4.6 Management - PVC Extrusions - Construction	13,488	14,729	15,776	1,242	9%	(1,047)	-7%	1.09	0.93	247,680	247,680	163,286	(0)	-0%	84,394	34%	1.00	1.52	777,820					1	1
2.5.1 End Seals	2,671	17,135	40,378	14,464	542%	(23,243)	-136%	6.42	0.42	384,985	341,253	84,588	(43,732)	-11%	256,665	75%	0.89	4.03	1,920,389	24-Feb	1	1		1	1
2.5.2 Optical Connector Production	78	1,109	0	1,031	1,316%	1,109	100%	14.16	N/A	29,603	19,959	0	(9,544)	-33%	19,959	100%	0.67	N/A	120,347					1	1
2.5.3 Module Production	185,529	231,393	174,490	45,864	25%	56,903	25%	1.25	1.33	4,610,486	4,105,021	3,285,131	(505,465)	-11%	819,859	20%	0.89	1.25	13,284,925	24-Feb	1	1		1	1
2.5.4 Management - PVC Modules - Construction	30,700	30,700	88,584	0	0%	(57,884)	-189%	1.00	0.35	673,466	673,466	609,890	0	0%	63,575	9%	1.00	1.10	1,535,493					1	1
2.6.1 APD Module Production	137,728	96,545	19,726	(41,183)	-30%	76,819	80%	0.70	4.89	633,734	618,652	544,668	(15,082)	-2%	73,984	12%	0.98	1.14	7,062,238					1	1
2.6.2 Readout - FEB	0	0	59,370	0	0%	(59,370)	-100%	1.00	0.00	120,834	12,731	198,555	(108,103)	-89%	(185,824)	-1,460%	0.11	0.06	3,030,497					1	1
2.6.3 Readout Infrastructure	2,502	0	25,428	(2,502)	-100%	(25,428)	-100%	0.00	0.00	84,878	83,125	106,487	(1,753)	-2%	(23,361)	-28%	0.98	0.78	2,896,634					1	1
2.6.4 Management - Electronics - Construction	1,003	1,003	12	0	0%	991	99%	1.00	85.87	28,862	28,862	11,887	0	0%	16,975	59%	1.00	2.43	54,732					1	1
2.7.1 DAQ Software	18,956	23,782	37,255	4,826	25%	(13,474)	-57%	1.25	0.64	441,625	371,331	213,069	(70,295)	-16%	158,262	43%	0.84	1.74	694,525					1	1
2.7.2 DAQ Hardware	0	0	49,561	0	0%	(49,561)	-100%	1.00	0.00	241,956	44,253	49,703	(197,703)	-82%	(5,450)	-12%	0.18	0.89	2,282,262					1	1
2.7.3 Integration - DAQ	3,183	3,087	61,973	(96)	-3%	(58,886)	-1,908%	0.97	0.05	121,255	121,255	143,164	0	0%	(21,910)	-18%	1.00	0.85	411,737					1	1
2.7.4 Detector Control System	0	0	1,373	0	0%	(1,373)	-100%	1.00	0.00	0	0	1,373	0	0%	(1,373)	-100%	1.00	0.00	204,894					1	1
2.7.5 Management - DAQ - Construction	640	642	7,083	2	0%	(6,441)	-1,004%	1.00	0.09	12,728	12,728	7,083	0	0%	5,645	44%	1.00	1.80	27,062					1	1
2.8.1 Near Detector Site Preparation	297	22,466	169,079	22,169	7,466%	(146,613)	-655%	75.66	0.13	134,980	107,847	725,221	(27,134)	-20%	(617,374)	-572%	0.80	0.15	5,178,505	25-Feb	1	1		1	1
2.8.2 Mechanical Construction and Installation - Near Detector A	5,568	0	44,149	(5,568)	-100%	(44,149)	-100%	0.00	0.00	386,488	362,392	603,974	(24,096)	-6%	(241,582)	-67%	0.94	0.60	487,765	25-Feb	1	1		1	1
2.8.3 Liquid Scintillator Filling Equipment - Near Detector Assem	0	0	0	0	0%	0	0%	1.00	1.00	0	0	0	0	0%	0	0%	1.00	1.00	54,660						1
2.8.4 Installation Coordination - Near Detector Assembly	0	0	0	0	0%	0	0%	1.00	1.00	0	0	0	0	0%	0	0%	1.00	1.00	30,188						1
2.8.5 Management - Near Detector Assembly - Construction	1,731	1,817	82	85	5%	1,735	96%	1.05	22.26	62,243	62,243	82	0	0%	62,161	100%	1.00	#####	111,905					1	1
2.9.1 Mechanical Systems - Far Detector Assembly	79,377	63,147	201,391	(16,230)	-20%	(138,244)	-219%	0.80	0.31	1,017,836	777,042	1,626,296	(240,794)	-24%	(849,254)	-109%	0.76	0.48	2,708,437	2-Mar	1	1		1	1
2.9.2 Detector Infrastructure - Far Detector Assembly	0	756	1,154	756	100%	(399)	-53%	N/A	0.65	70,487	20,640	2,511	(49,847)	-71%	18,128	88%	0.29	8.22	212,348					1	1
2.9.3 Scintillator Filling Equipment - Far Detector Assembly	9,176	0	3,004	(9,176)	-100%	(3,004)	-100%	0.00	0.00	282,234	58,764	34,530	(223,470)	-79%	24,234	41%	0.21	1.70	483,760			1		1	1
2.9.4 Block Assembly and Installation - Far Detector Assembly	0	0	27,571	0	0%	(27,571)	-100%	1.00	0.00	0	0	32,326	0	0%	(32,326)	-100%	1.00	0.00	10,253,382					1	1
2.9.5 Management - Far Detector Assembly - Construction	37,173	38,717	13,653	1,543	4%	25,064	65%	1.04	2.84	527,215	527,215	243,636	0	0%	283,579	54%	1.00	2.16	2,096,504	2-Mar	1	1		1	1
2.9.6 Other University of Minnesota Far Detector Assembly-Rel	7,322	7,322	0	0	0%	7,322	100%	1.00	N/A	7,322	7,322	0	0	0%	7,322	100%	1.00	N/A	447,232					1	1
																				Sum:	17	26		59	71
R&D SubTotal (WBS 1.0-1.9)	208,976	297,792	2,974	88,816	43%	294,818	99%	1.43	100.12	30,323,609	29,901,121	34,635,741	(422,489)	-1%	(4,734,620)	-16%	0.99	0.86	33,245,902						
Const. SubTotal (WBS 2.0-2.10)	3,625,763	4,233,007	3,947,906	607,244	17%	285,100	7%	1.17	1.07	72,385,273	69,139,052	67,286,466	(3,246,221)	-4%	1,852,586	3%	0.96	1.03	198,485,738						

Variance thresholds & January 2011 status

- At the Chargeable Cost level for non-costed scientist HOURS
  - 52 active, 8 requiring reports, 5 completed as of Mar 2

Report Period: Jan-11

Control Account	Current Period - SCI Hrs BCWS (Hrs)	BCWP (Hrs)	ACWP (Hrs)	SV (Hrs)	SV (%)	CV (Hrs)	CV (%)	SPI	CPI	Cumulative - Since 01Oct09 BCWS (Hrs)	BCWP (Hrs)	ACWP (Hrs)	SV (Hrs)	SV (%)	CV (Hrs)	CV (%)	SPI	CPI	VAR complete date	VAR done	VAR needed		Active	
R&D																								
1.0.1 RR Upgrades	96	76	42	(20)	-20%	34	45%	0.80	1.82	226	555	1,538	329	146%	(983)	-177%	2.46	0.36					1	1
1.0.2 MI Upgrades	78	0	0	(78)	-100%	0	0%	0.00	1.00	333	292	226	(41)	-12%	67	23%	0.88	1.29					1	1
1.0.3 NUMI Upgrades	80	0	20	(80)	-100%	(20)	-100%	0.00	0.00	1,192	1,237	2,003	45	4%	(766)	-62%	1.04	0.62					1	1
1.0.4 ANU Beam Physics	4	13	9	9	211%	4	31%	3.11	1.44	2,405	1,892	234	(513)	-21%	1,658	88%	0.79	8.09	24-Feb	1	1		1	1
1.0.5 ANU Project Management	0	0	0	0	0%	0	0%	1.00	1.00	0	0	0	0	0%	0	0%	1.00	1.00				closed		1
1.2 Liquid Scintillator R&D	0	0	0	0	0%	0	0%	1.00	1.00	0	0	0	0	0%	0	0%	1.00	1.00						1
1.3 WLS Fiber R&D	0	0	0	0	0%	0	0%	1.00	1.00	0	29	60	29	100%	(31)	-107%	N/A	0.48					1	1
1.4 PVC Extrusion R&D	0	0	0	0	0%	0	0%	1.00	1.00	0	179	132	179	100%	47	26%	N/A	1.36					1	1
1.5 PVC Module R&D	0	0	0	0	0%	0	0%	1.00	1.00	1,224	1,638	3,155	414	34%	(1,517)	-93%	1.34	0.52	24-Feb	1	1		1	1
1.6 Electronics R&D	0	0	0	0	0%	0	0%	1.00	1.00	224	206	5,766	(18)	-8%	(5,560)	######	0.92	0.04			1		1	1
1.7 DAQ R&D	168	1,209	0	1,041	619%	1,209	100%	7.19	N/A	2,565	3,427	1,711	862	34%	1,716	50%	1.34	2.00			1		1	1
1.8 Detector Assembly R&D	0	0	0	0	0%	0	0%	1.00	1.00	944	800	724	(144)	-15%	76	10%	0.85	1.10					1	1
1.9 Project Management R&D	0	0	0	0	0%	0	0%	1.00	1.00	0	0	0	0	0%	0	0%	1.00	1.00				closed		1
Construction																								
2.0.1.1 Recycler Ring Modifications	3	6	129	3	89%	(123)	-2,154%	1.89	0.04	379	397	1,257	18	5%	(860)	-217%	1.05	0.32					1	1
2.0.1.2 Recycler Kicker System	3	3	96	0	0%	(93)	-3,077%	1.00	0.03	73	89	456	16	22%	(367)	-412%	1.22	0.20					1	1
2.0.1.3 Recycler Instrumentation	0	0	0	0	0%	0	0%	1.00	1.00	13	13	5	0	0%	8	62%	1.00	2.60					1	1
2.0.3.1 NuMI Primary Proton Beam	0	154	0	154	100%	154	100%	N/A	N/A	194	374	59	180	93%	316	84%	1.93	6.39					1	1
2.0.3.2 NuMI Target Hall Technical Components	8	10	0	2	22%	10	100%	1.22	N/A	128	56	91	(72)	-56%	(35)	-62%	0.44	0.62					1	1
2.0.3.3 NuMI Target Hall Infrastructure	0	0	0	0	0%	0	0%	1.00	1.00	16	16	0	0	0%	16	100%	1.00	N/A					1	1
2.0.4 Project Management - ANU - Construction	136	136	131	0	0%	5	4%	1.00	1.04	4,910	4,910	1,454	0	0%	3,456	70%	1.00	3.38	24-Feb	1	1		1	1
2.10 Project Management - Nova Project - Construction	0	0	122	0	0%	(122)	-100%	1.00	0.00	0	0	2,645	0	0%	(2,645)	-100%	1.00	0.00	25-Feb	1	1		1	1
2.2.1 Mineral Oil	0	0	0	0	0%	0	0%	1.00	1.00	128	128	188	0	0%	(60)	-47%	1.00	0.68					1	1
2.2.2 Pseudocumene	0	0	0	0	0%	0	0%	1.00	1.00	80	80	16	0	0%	64	80%	1.00	5.00					1	1
2.2.3 Waveshifters and Stadis 425	0	0	0	0	0%	0	0%	1.00	1.00	0	0	0	0	0%	0	0%	1.00	1.00						1
2.2.4 Blending	0	0	0	0	0%	0	0%	1.00	1.00	80	70	98	(10)	-13%	(28)	-40%	0.88	0.71					1	1
2.2.5 Transport - Liquid Scintillator	0	0	0	0	0%	0	0%	1.00	1.00	0	0	8	0	0%	(8)	-100%	1.00	0.00					1	1
2.2.6 Management - Liquid Scintillator - Construction	47	47	95	0	0%	(48)	-103%	1.00	0.49	813	813	1,185	0	0%	(372)	-46%	1.00	0.69					1	1
2.3.1 Procurement - WLS Fiber	0	0	0	0	0%	0	0%	1.00	1.00	28	0	0	(28)	-100%	0	0%	0.00	1.00					1	1
2.3.2 Production - WLS Fiber	16	17	20	1	7%	(3)	-18%	1.07	0.85	176	204	190	28	16%	14	7%	1.16	1.07					1	1
2.3.3 Management - WLS Fiber - Construction	6	6	0	0	0%	6	100%	1.00	N/A	106	106	185	0	0%	(79)	-75%	1.00	0.57					1	1
2.4.1 Procurement - PVC Extrusions	0	0	0	0	0%	0	0%	1.00	1.00	19	88	64	69	363%	24	27%	4.63	1.38					1	1
2.4.2 Extrusion Pre-Production	0	80	0	80	100%	80	100%	N/A	N/A	800	720	156	(80)	-10%	564	78%	0.90	4.62					1	1
2.4.3 Extrusion Production	0	0	16	0	0%	(16)	-100%	1.00	0.00	0	0	16	0	0%	(16)	-100%	1.00	0.00					1	1
2.4.4 Production Quality Assurance and Extrusion Evaluation	0	0	16	0	0%	(16)	-100%	1.00	0.00	0	0	96	0	0%	(96)	-100%	1.00	0.00					1	1
2.4.5 Shipping & Handling - PVC Extrusions	0	0	0	0	0%	0	0%	1.00	1.00	0	0	24	0	0%	(24)	-100%	1.00	0.00					1	1
2.4.6 Management - PVC Extrusions - Construction	46	46	26	0	0%	20	43%	1.00	1.75	792	792	224	0	0%	568	72%	1.00	3.54					1	1
2.5.1 End Seals	2	27	0	24	988%	27	100%	10.88	N/A	429	351	0	(78)	-18%	351	100%	0.82	N/A					1	1
2.5.2 Optical Connector Production	0	1	0	1	100%	1	100%	N/A	N/A	44	18	0	(26)	-59%	18	100%	0.41	N/A					1	1
2.5.3 Module Production	275	76	810	(199)	-72%	(734)	-960%	0.28	0.09	2,785	2,125	5,302	(660)	-24%	(3,177)	-150%	0.76	0.40	24-Feb	1	1		1	1
2.5.4 Management - PVC Modules - Construction	15	15	205	0	0%	(190)	-1,249%	1.00	0.07	314	314	1,047	0	0%	(733)	-233%	1.00	0.30					1	1
2.6.1 APD Module Production	8	0	0	(8)	-100%	0	0%	0.00	1.00	168	8	110	(160)	-95%	(102)	-1,275%	0.05	0.07					1	1
2.6.2 Readout - FEB	0	0	24	0	0%	(24)	-100%	1.00	0.00	0	0	127	0	0%	(127)	-100%	1.00	0.00					1	1
2.6.3 Readout Infrastructure	0	0	225	0	0%	(225)	-100%	1.00	0.00	8	0	405	(8)	-100%	(405)	-100%	0.00	0.00					1	1
2.6.4 Management - Electronics - Construction	38	38	77	0	0%	(39)	-103%	1.00	0.49	860	860	79	0	0%	781	91%	1.00	10.89					1	1
2.7.1 DAQ Software	288	0	40	(288)	-100%	(40)	-100%	0.00	0.00	4,336	2,244	1,099	(2,092)	-48%	1,145	51%	0.52	2.04			1		1	1
2.7.2 DAQ Hardware	0	0	5	0	0%	(5)	-100%	1.00	0.00	0	0	5	0	0%	(5)	-100%	1.00	0.00					1	1
2.7.3 Integration - DAQ	0	0	43	0	0%	(43)	-100%	1.00	0.00	0	0	337	0	0%	(337)	-100%	1.00	0.00					1	1
2.7.4 Detector Control System	0	0	0	0	0%	0	0%	1.00	1.00	0	0	0	0	0%	0	0%	1.00	1.00					1	1
2.7.5 Management - DAQ - Construction	68	68	75	0	0%	(7)	-10%	1.00	0.91	1,388	1,388	1,283	0	0%	105	8%	1.00	1.08					1	1
2.8.1 Near Detector Site Preparation	0	10	0	10	100%	10	100%	N/A	N/A	100	10	0	(90)	-90%	10	100%	0.10	N/A					1	1
2.8.2 Mechanical Construction and Installation - Near Detector	0	0	57	0	0%	(57)	-100%	1.00	0.00	48	48	98	0	0%	(50)	-103%	1.00	0.49						1
2.8.3 Liquid Scintillator Filling Equipment - Near Detector Asse	0	0	0	0	0%	0	0%	1.00	1.00	0	0	0	0	0%	0	0%	1.00	1.00					1	1
2.8.4 Installation Coordination - Near Detector Assembly	0	0	100	0	0%	(100)	-100%	1.00	0.00	0	0	300	0	0%	(300)	-100%	1.00	0.00						1
2.8.5 Management - Near Detector Assembly - Construction	9	9	0	0	0%	9	100%	1.00	N/A	158	158	0	0	0%	158	100%	1.00	N/A						
2.9.1 Mechanical Systems - Far Detector Assembly	29	0	0	(29)	-100%	0	0%	0.00	1.00	149	0	96	(149)	-100%	(96)	-100%	0.00	0.00						
2.9.2 Detector Infrastructure - Far Detector Assembly	0	0	103	0	0%	(103)	-100%	1.00	0.00	0	16	303	16	100%	(287)	-1,794%	N/A	0.05						
2.9.3 Scintillator Filling Equipment - Far Detector Assembly	1	0	0	(1)	-100%	0	0%	0.00	1.00	16	10	0	(6)	-38%	10	100%	0.63	N/A						
2.9.4 Block Assembly and Installation - Far Detector Assembly	0	0	0	0	0%	0	0%	1.00	1.00	0	0	0	0	0%	0	0%	1.00	1.00						
																			Sum:	5	8		47	53
R&D SubTotal (WBS 1.0-1.9)	426	1,299	71	873	205%	1,228	95%	3.05	18.29	9,113	10,255	15,549	1,142	13%	(5,294)	-52%	1.13	0.66						
Const. SubTotal (WBS 2.0-2.10)	999	750	2,414	(249)	-25%	(1,664)	-222%	0.75	0.31	19,538	16,406	19,006	(3,132)	-16%	(2,600)	-16%	0.84	0.86						
Project Total	1,425	2,049	2,485	623	44%	(437)	-21%	1.44	0.82	28,651	26,661	34,555	(1,990)	-7%	(7,894)	-30%	0.93	0.77						

Sample VAR: 2.10 Jan 2011

- NOTE: signatures are electronic
  - See CAM notebooks

			CLASSIFICATION (When Filled In)						
CONTRACT PERFORMANCE REPORT								FORM APPROVED	
FORMAT 5 - EXPLANATIONS AND PROBLEM ANALYSES								OMB No. 0704-0188	
1. CONTRACTOR		2. CONTRACT			3. PROGRAM			4. REPORT PERIOD	
a. NAME		a. NAME			a. NAME			a. FROM (YYYYMMDD)	
Fermi National Accelerato					NOvA project			2011/01/01	
b. LOCATION (Address		b. NUMBER			b. PHASE				
Batavia, Illinois								b. TO (YYYYMMDD)	
		c. TYPE	d. SHARE RATIO		c. EVMS ACCEPTANCE (YYYYMMD			2011/01/31	
					NO X	YES			
2.10 Project Management - Nova Project - Construction									
	BCWS	BCWP	ACWP	SV in $	SV in %	CV in $	CV %	SPI	CPI
Current:	252,260	279,089	206,454	26,829	11%	72,635	26%	1.11	1.35
Cumulativ	4,210,034	4,210,034	3,619,571	0	0%	590,463	14%	1.00	1.16
	BAC	EAC	VAC in $	VAC in %	CPI to BAC	CPI to EAC			
At Comple	########	########	586,215	4%	0.94	1.00			
Thresholds Exceeded: Current Period Schedule, Current Period Cost, Cumulative Cost									
Explanation of Variance/Description of Problem:									
Cumulative CV is positive and increasing due to less cost than estimated. This is due to fewer Project Office people hours than estimated reporting to the project. Several hires are in process to add effort to this task (one was completed in November 2010, another in December 2010, a third half-time in January which will increase to full time in October 2011). This is a Level of Effort task, so no changes can be made to the schedule until FY12.									
Impact:									
none									
Corrective Action:									
none									
Monthly Summary (to include technical causes of VARs, Impacts) and Corrective Action(s):									
saee above									
Prepared by:				Date:	Approved by:			Date:	

NOVA Document 3443-v55

[NOvA DocDB Home]

CAM Notebook for 2.10

(Document Status: Approved)

Document #: NOVA-doc-3443-v55
Document type: CAM notebook
Submitted by: Elaine McCluskey
Updated by: Alan A. Wehmann
Document Created: 30 Oct 2008, 10:35
Contents Revised: 25 Feb 2011, 12:09
DB Info Revised: 25 Feb 2011, 12:09
Last Signed: 25 Feb 2011, 12:09

Update Document | Update DB Info | Add Files | Watch Document

Abstract:
This document contains files or links to other files in NOVA-docdb that pertain to this control account.

Files in Document:
- January Variance Analysis Report (VAR-Jan11_for_2.10_Project_Management_-_Nova_Project_-...xls, 35.0 kB)
- January Variance HR Analysis Report (VAR-HRs_Jan11_for_2.10_Project_Management_-_Nova_Proje...xls, 34.0 kB)

Get all files as tar.gz, zip.

Topics:
- Project Management

Authors:
- John W. Cooper

Keywords:
control account

Related Documents:
- NOVA-doc-5052: CR185 - Nova Project Management Effort and Budget Adjustments for FY11-FY14
- NOVA-doc-4329: CR109 - Update Cobra Rates to FY10 Fermilab and FESS Chargeback Rates
- NOVA-doc-4240: CR100 - ANU Replan
- NOVA-doc-4234: CR097 - Factory Machines Engineering Review
- NOVA-doc-4171: CR087 - Add L1 & L2 Scientists to Project Budgets
- NOVA-doc-3956: CR075 - Update to FNAL OH Rates, FESS Chargeback Rates, UMN Rates
- NOVA-doc-3644: CR062 - HU Engineering Labor Subsidy Change
- NOVA-doc-3075: CR027 - Move FY08 Management Labor from R&D to MIE
- NOVA-doc-3030: CR024 - FY08 Subproject Management Tasks Changes
- NOVA-doc-2984: CR014 - OP Errata - WBS 2.10 - Add Admin Asst
- NOVA-doc-253: NOvA WBS Dictionary
- NOVA-doc-2573: WBS Level 3 Managers (Approved - 24 Jun 2009)
- NOVA-doc-3447: NOvA Dollarized RAM
- NOVA-doc-2638: Nova WBS Level 2 Milestone Gantt Charts By Control Account - Mar09
- NOVA-doc-2844: Monthly Schedule Snapshots with Progress Information - January 2011
- NOVA-doc-3372: Monthly Contract Performance Reports (Approved - 22 Feb 2011)
- NOVA-doc-2823: Work Authorization Document for Control Account 2.10 (Approved - 25 Jan 2011)

Signoffs:
- John W. Cooper 356693 (signature complete)

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Summary

- We believe the NOvA Project continues to follow the FRA EVMS

  and

  continues to do the same things we did for the EVMS Certification Review in May 2009