



06/04/12

2012 Neutron Guide System Project Management

Mike Murbach
NIST Center for Neutron Research



NCNR Expansion Initiative



● Outline

- D-100 Success
- Schedule Sequence Re-arrangement Due To Construction Delays
- Current G-100 Guide Installation Status
- G-100 Guide System Installation Sequence
- Schedule for Finalizing Control Network in G-100
- Goal For G-100 Guide Installation: December 2012
- Current Schedule for Earliest Possible Instrument Installations

NCNR Expansion Initiative



● D-100 Success

- Construction Delays In D-100 Impacted Schedule By Over 2 ½ Months
- Concern That D-100 Guide Work Would Not Be Complete By Reactor Start-up
- Entire D-100 Work Was Completed In Two Weeks - Eight Weeks Were Allotted – Finished 03/08/12
- Concrete Paver Hand Stack Shielding (35 Tons) Was Installed in 2 ½ Days – Much Of The RFO Staff, Including Senior Management Assisted

NCNR Expansion Initiative



- Schedule Sequence Re-arrangement Due To Schedule Delays
 - Able To Pre-Install All Guides Into D-100 Vacuum Jackets And Vacuum Leak Check
 - Maintained Vacuum/Seal On Pumped Down Guides
 - Required Fewer Vacuum Jacket Port Covers To Be Checked In The Event Of A Leak
 - Able To Pre-Characterize NG-Bb,Bt,C, & D G-100 Guides During Delay
 - Will Expedite Future Guide Installation

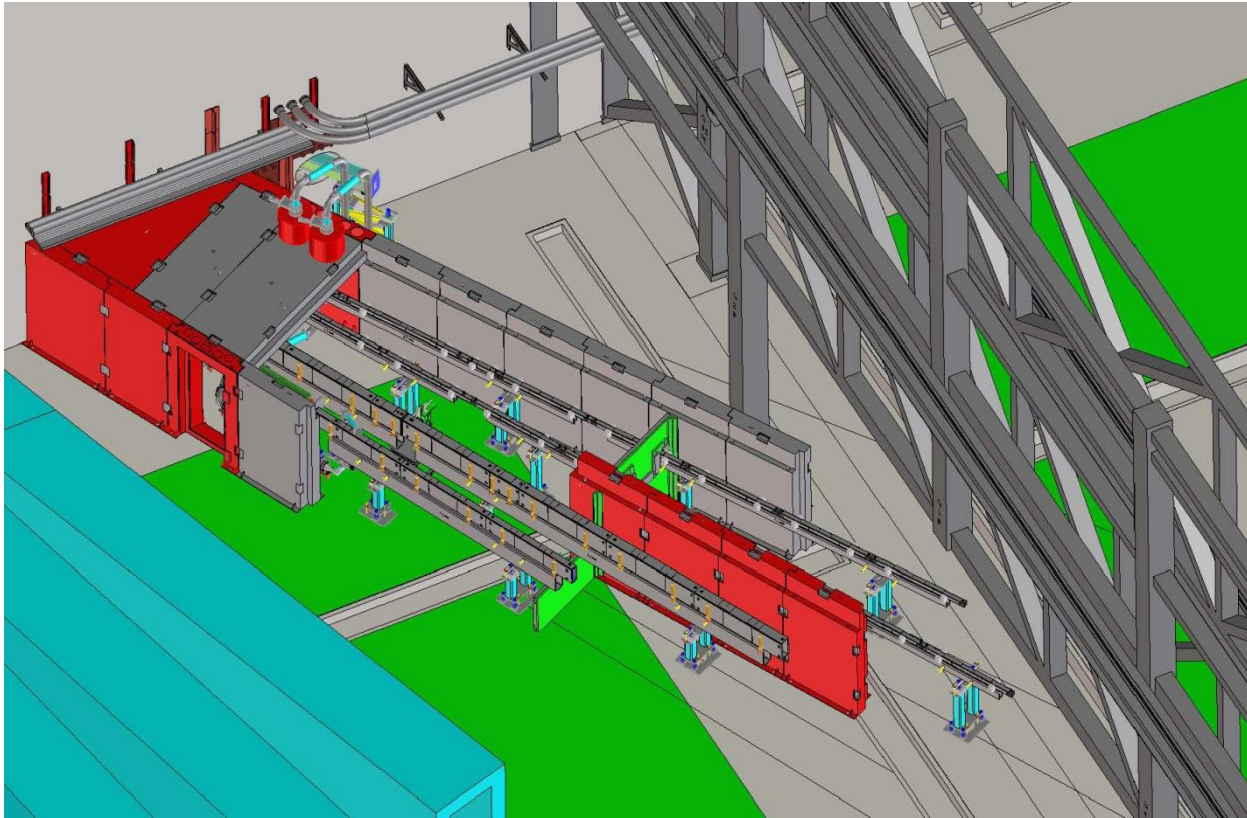
NCNR Expansion Initiative



- Current G-100 New Guide Installation Status
 - Rush Order For NG-D G-100 Vacuum Jacket (2 Elements, 3.5 Meters Total Length)
 - 12.0 Meters Of NG-Bb Installed (36% Of Beam Line Elements)
 - 13.5 Meters Of NG-Bt Installed (58% Of Beam Line Elements)
 - 11.0 Meters Of NG-C Installed (37% Of Beam Line Elements)
 - 11.5 Meters Of NG-D Installed (35% Of Beam Line Elements)

NCNR Expansion Initiative

- Current G-100 New Guide Installation Status





- G-100 Guide System Installation Sequence
 - Characterize And Install Guide Beam Stanchions
 - Install Guide Beam
 - Install Pre-Characterized Guides And Align With Laser Tracker
 - Glue Guide Joints With Tecsil (3 Coats)
 - While Coats Are Curing, Begin Installation Of Next Set Of Guide Beam Stanchions And Shielding
 - Vacuum Test Cured Guides

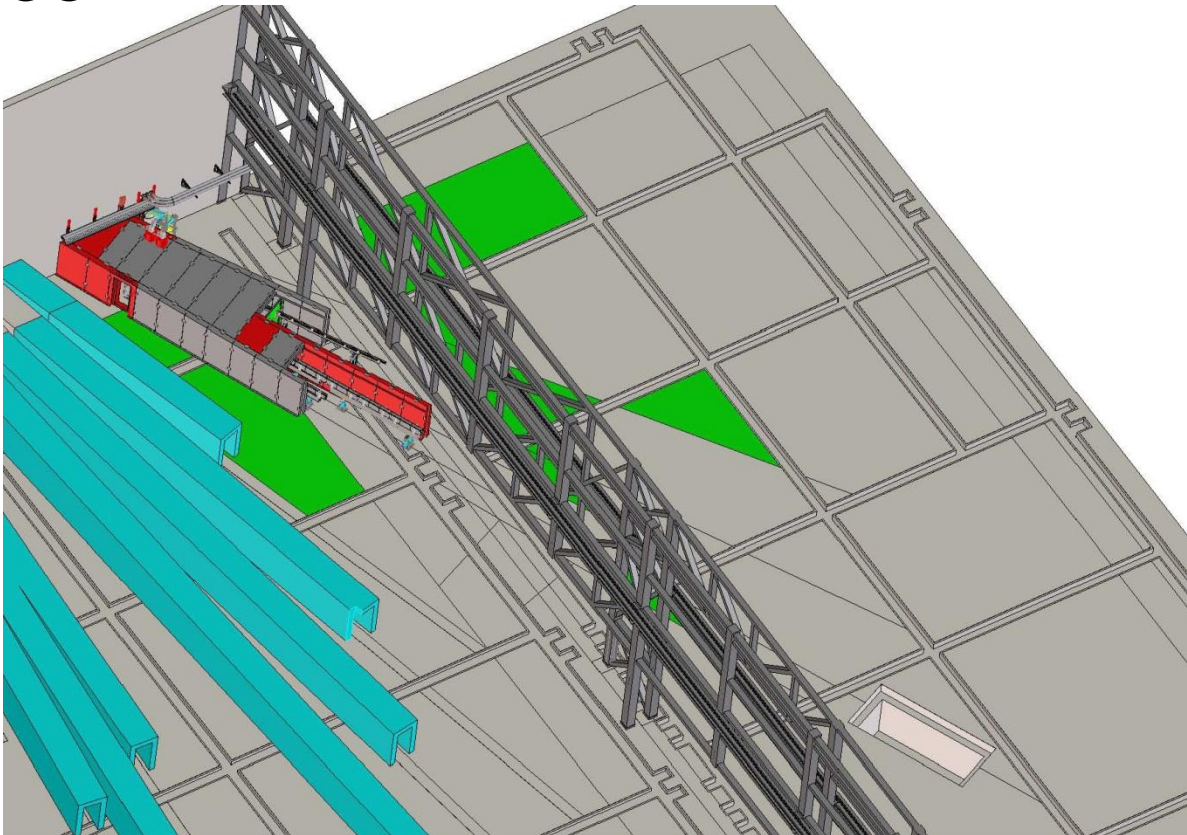
NCNR Expansion Initiative



- Schedule For Finalizing The Control Network In G-100
 - Currently Scheduled For Week Of June, 25, 2012
 - Need The North Two-Thirds Of New Guide Hall Cleared

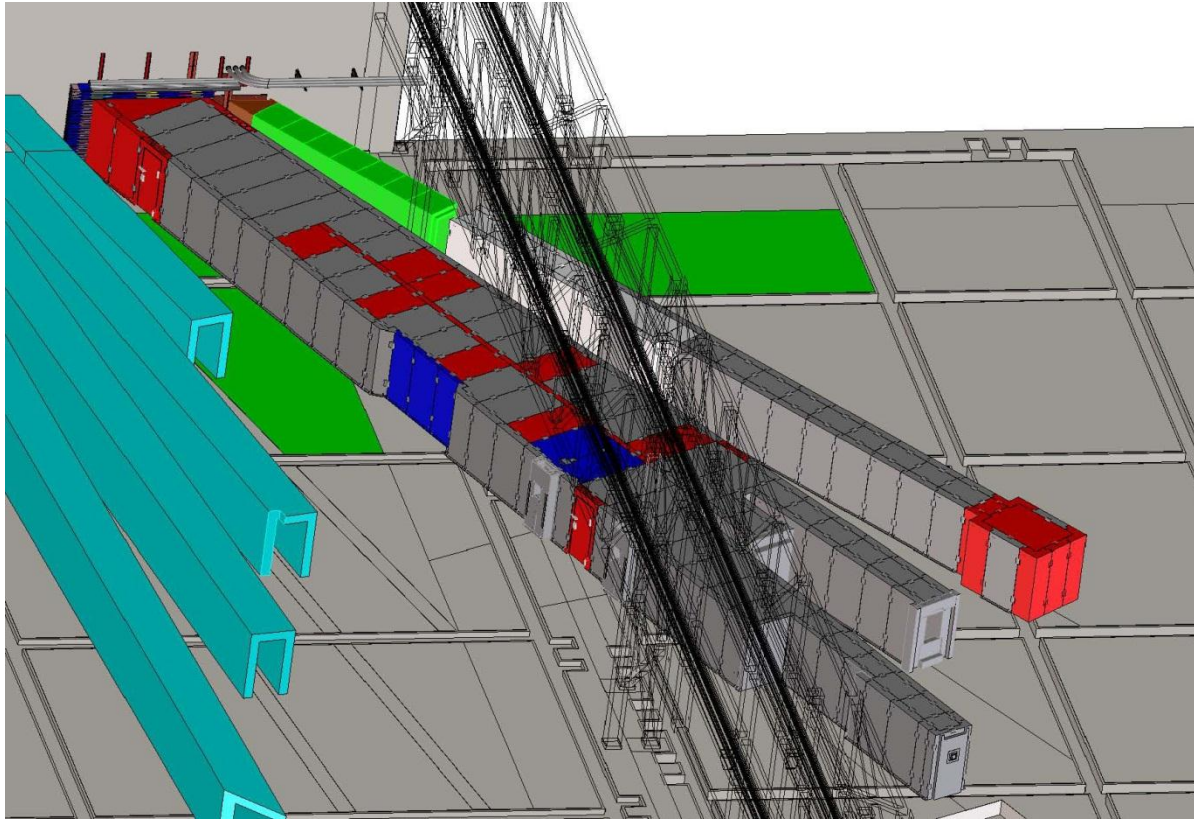
NCNR Expansion Initiative

- Schedule For Finalizing The Control Network In G-100



NCNR Expansion Initiative

- Goal For Guide Line Installation: December 2012



NCNR Expansion Initiative

- Goal For Guide Line Installation: December 2012
 - Installation Of Shielding Perpendicular To Beam Where Center Wall Shielding Begins Separating NG-C,D From NG-Bt, Bb
 - Allows For Beam Shutters To Open On NG-C,D While Continuing Installation Of NG-Bt, Bb
 - Installation Of NG-A Guides And Shields Optional In 2012
 - Shielding Delivery Could Impact Schedule
 - Installation Duration ~ 6 Weeks
 - Neutron Spin Echo Move Tentatively Scheduled for 09/13

NCNR Expansion Initiative

Current Schedule For Earliest Possible Instrument Installations

2012 IOC Expansion Instruments

Mon 6/4/12

ID	% Complete	Task Name	Duration	Start	Finish	2012	2013
1	1%	2012 IOC Expansion Instruments	565 days	Fri 4/15/11	Mon 7/8/13		
2	100%	Finalize Shielding Handstack Over (NG-A,Bt,Bb,C,D) in D-100	3 days	Tue 3/6/12	Thu 3/8/12		
3	100%	Install NG-A Vacuum Jacket (Vacuum Jacket Installation, Alignment Check, & Vacuum Check)	4 days	Wed 2/29/12	Mon 3/5/12		
4	100%	Complete Installation of Handstack Shielding for D-100 South	2 days	Tue 3/6/12	Wed 3/7/12		
5	100%	Complete Installation of Handstack Shielding for D-100 North	1 day	Thu 3/8/12	Thu 3/8/12		
6	0%	<i>Begin New Guides and Shield Installation in G-100</i>	0 days	Fri 3/9/12	Fri 3/9/12		
7	0%	Polarized Beam Reflectometer on NG-D [PBR]	25 days	Fri 7/6/12	Thu 8/9/12		
8	0%	pbr beam line characterization	0.5 days	Tue 7/3/12	Thu 7/5/12		
9	0%	Mechanical Installation of PBR on NG-D	5 days	Fri 7/6/12	Thu 7/12/12		
10	0%	Install, Test, & Document Shutter Controls	10 days	Fri 7/13/12	Thu 7/26/12		
11	0%	Reinstall Cabling and Electronics for Reflectometer on NG-D	8 days	Fri 7/27/12	Tue 8/7/12		
12	0%	Requalify Reflectometer on NG-D	2 days	Wed 8/8/12	Thu 8/9/12		
13	0%	MAGIK on NG-D	30 days	Fri 7/13/12	Thu 8/23/12		
14	0%	Mechanical Installation of MAGIK on NG-D	10 days	Fri 7/13/12	Thu 7/26/12		
15	0%	Install, Test, & Document Shutter Controls	10 days	Fri 7/27/12	Thu 8/9/12		
16	0%	Reinstall Cabling and Electronics for MAGIK on NG-D	8 days	Fri 8/10/12	Tue 8/21/12		
17	0%	Requalify MAGIK on NG-D	2 days	Wed 8/22/12	Thu 8/23/12		
18	0%	Prompt Gamma on NG-D [PGAA]	20 days	Fri 9/28/12	Fri 10/26/12		
19	0%	final roof shield bb installation before pgaa installation	0.06 days	Thu 9/27/12	Thu 9/27/12		
20	0%	Mechanical Installation of PGAA on NG-D	10 days	Fri 9/28/12	Fri 10/12/12		
21	0%	Install, Test, & Document Shutter Controls	10 days	Mon 10/15/12	Fri 10/26/12		
22	0%	Physics Station on NG-C	0 days	Fri 10/26/12	Fri 10/26/12		
23	0%	start physics installation	20 days	Thu 8/30/12	Fri 9/28/12		
24	0%	<i>Physics Station on NG-C</i>	0 days	Fri 10/26/12	Fri 10/26/12		
25	0%	10 meter SANS on NG-Bb	20 days	Mon 10/29/12	Tue 11/27/12		
26	0%	start 10m sans inst	0 days	Fri 10/26/12	Fri 10/26/12		
27	0%	Mechanical Installation of 10 meter SANS on NG-Bb	10 days	Mon 10/29/12	Fri 11/9/12		
28	0%	Install, Test, & Document Shutter Controls	10 days	Tue 11/13/12	Tue 11/27/12		
29	0%	MACS II at BT-9	556 days	Fri 4/15/11	Tue 6/25/13		
30	0%	Installation Required for Operation at BT-9	453 days	Fri 4/15/11	Thu 1/31/13		
31	0%	MACS II Operational at BT-9 (No Mezzanine or Floor Tiles)	0 days	Fri 2/1/13	Fri 2/1/13		
32	0%	<i>MACS II Operational at BT-9 (No Mezzanine or Floor Tiles)</i>	0 days	Fri 2/1/13	Fri 2/1/13		
33	0%	MACS II Operational at BT-9 (With Mezzanine)	0 days	Tue 6/25/13	Tue 6/25/13		
34	0%	<i>MACS II Operational at BT-9 (With Mezzanine)</i>	0 days	Tue 6/25/13	Tue 6/25/13		