

NIST Center for Neutron Research

MACS ON BT-9 ***UPDATE***

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June 4, 2012



MACS ON BT-9

Overview

- *Coverage*
 - *Current Status*
 - *Projected June Status*
 - *Projected September Status*
 - *Projected December Status*

MACS ON BT-9

Background

- *INSTRUMENTATION – Current Plan*
 - *Remove the BT-9 Triple Axis Spectrometer*
 - *Install “Pee Wee” Cold Source in the BT-9 Beam Port*
 - *Relocate NG-0 MACS Instrument to BT-9 – the small port through “Pee Wee” is large enough to properly illuminate the MACS Instrument*

MACS ON BT-9

Current Design Status



● General

- *All shielding required is through detailed design. 60% is in house either installed or awaiting installation. 20% is in fabrication. Remaining 20% is awaiting drafting.*
- *Phase 1 (installation of components required for start up) is complete and Phase 2A (installation of CASK/MBT components) should soon be complete soon.*
- *Power wiring has been run through the BT-9 floor in case of complications running wiring through the BT-8 floor.*
- *Plant will begin running conduit for the power distribution through the BT-8 floor during the June shutdown.*
- *The Cryogenic Filter Exchanger (CFX) is installed. Still needs final hook up with operational services.*
- *Several major Analyzer additions are being implemented now, including the addition of a 4th air pad, Static Collimator, and incorporation of the Monochromatic Cryogenic Filter Exchanger (MCFX). Also several upgrades and/or repairs are being done including motor/encoder upgrades, re-wiring, DXAL repair, DXAL re-alignment, and 6-axis service.*
- *Local floor area has been stripped of the old asbestos tiling in preparation for the epoxy floor.*
- *BT-8 has been re-established.*
- *Pee Wee has been incorporated.*

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Installation

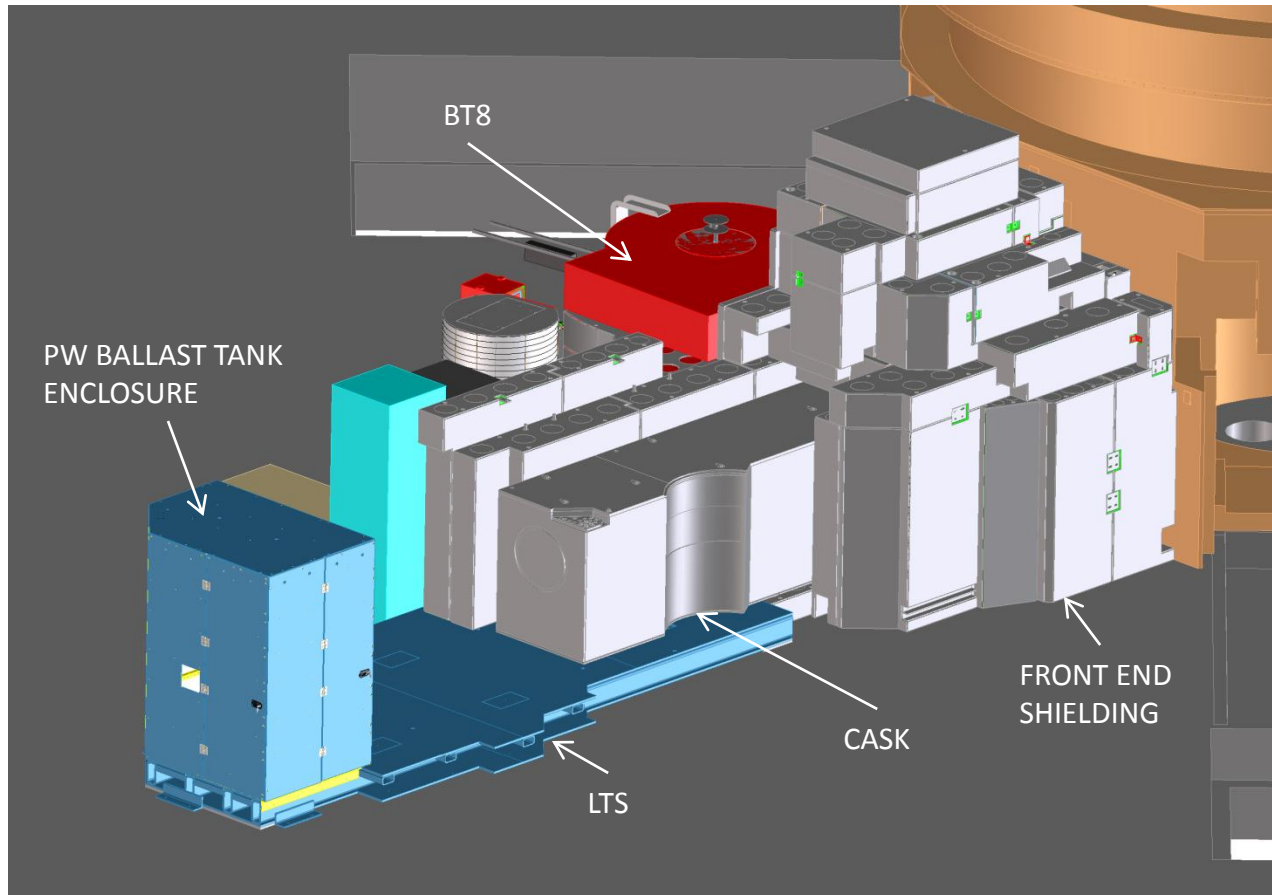
- MACS – Monochromatic Cryogenic Filter Exchanger (MCFX) pumping down in the High Bay



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Installation/ Phase 1

- MACS – Installation of components required for start up at end of 13 month shutdown (April 2012) - complete



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Current Design Status



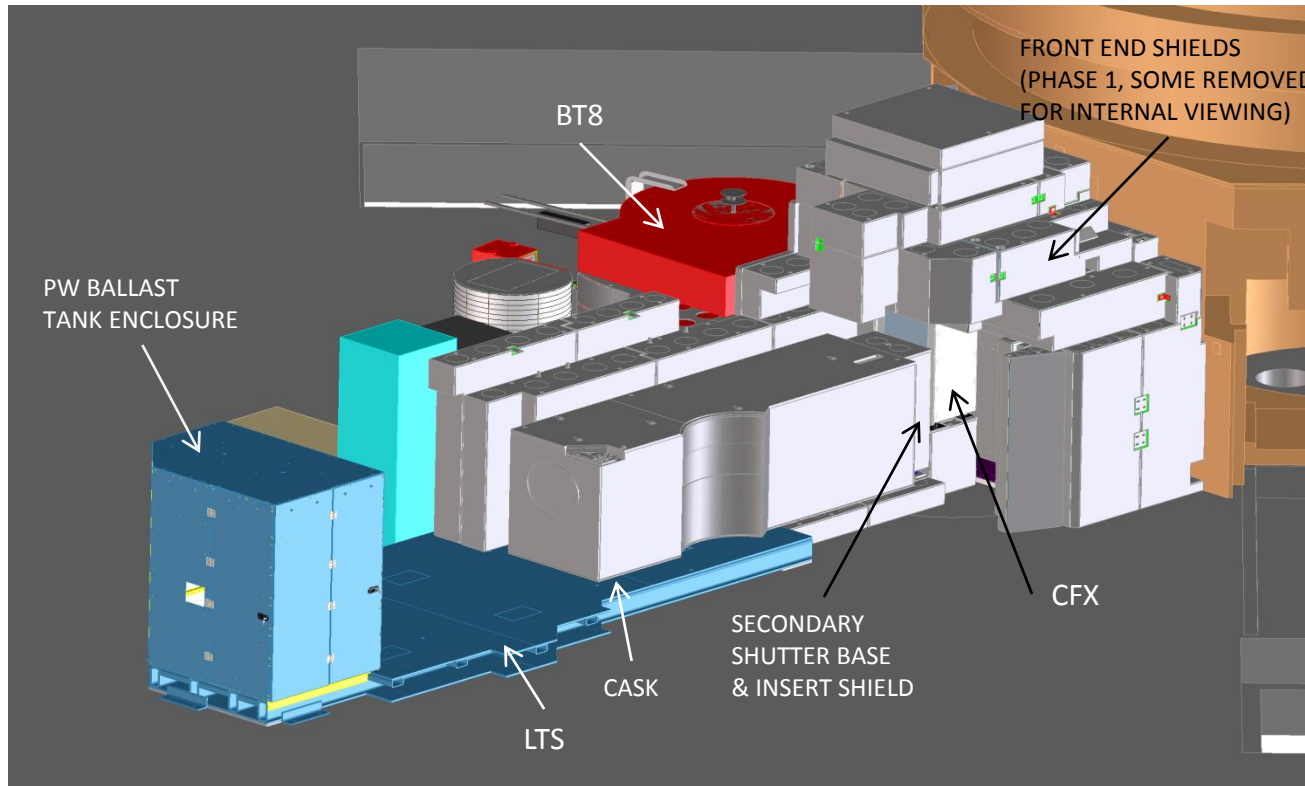
● General - NEW

- *Decided to add the provision of incorporating a secondary shutter located post CFX – pre CASK. Space allocated and base shield and temporary shield insert designed and drafted. Currently out for fabrication.*
- *It has been requested to investigate the possibility of expanding the epoxy floor area so that the analyzer can be floated from under the mezzanine and catwalk for service instead of having to tear down the mezzanine and catwalk for access.*

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Installation/ Phase 2a

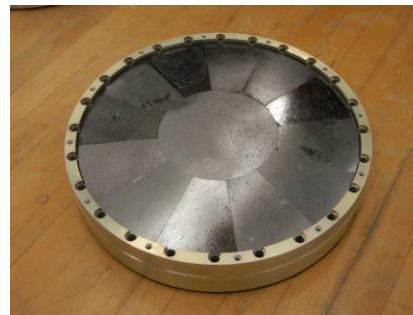
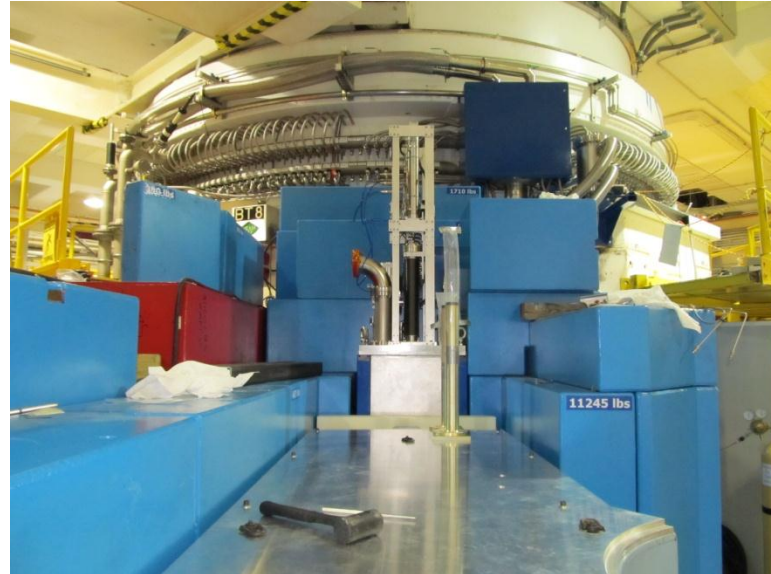
- MACS – Installation of Secondary Shutter Base provision, MBT, and CASK/MBT Shielding (June 2012)



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Installation

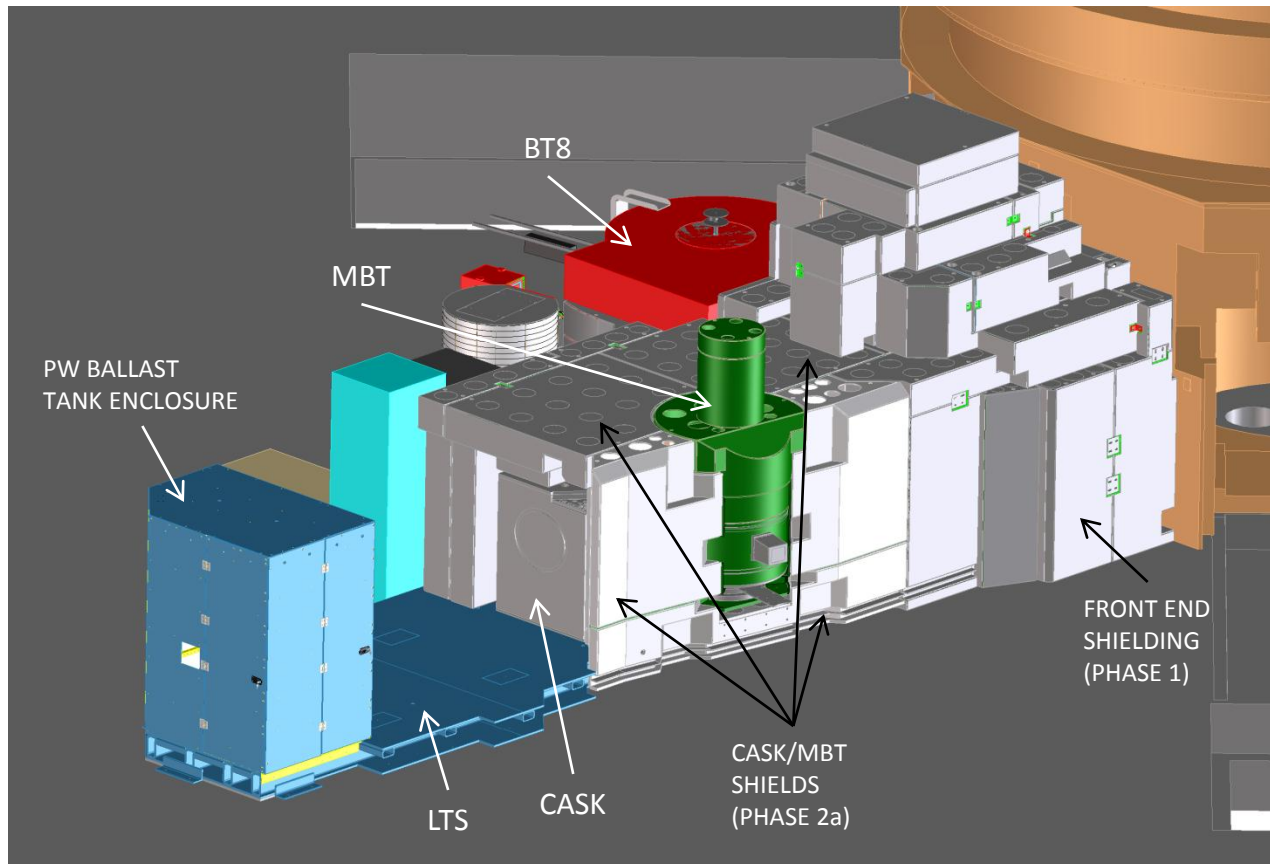
- *MACS – Cryogenic Filter Exchanger (CFX)*



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Installation/ Phase 2a

- MACS – Continue installation of CASK/MBT area as Health Physics allows - (June 2012)



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Acquisitions / Status



● General

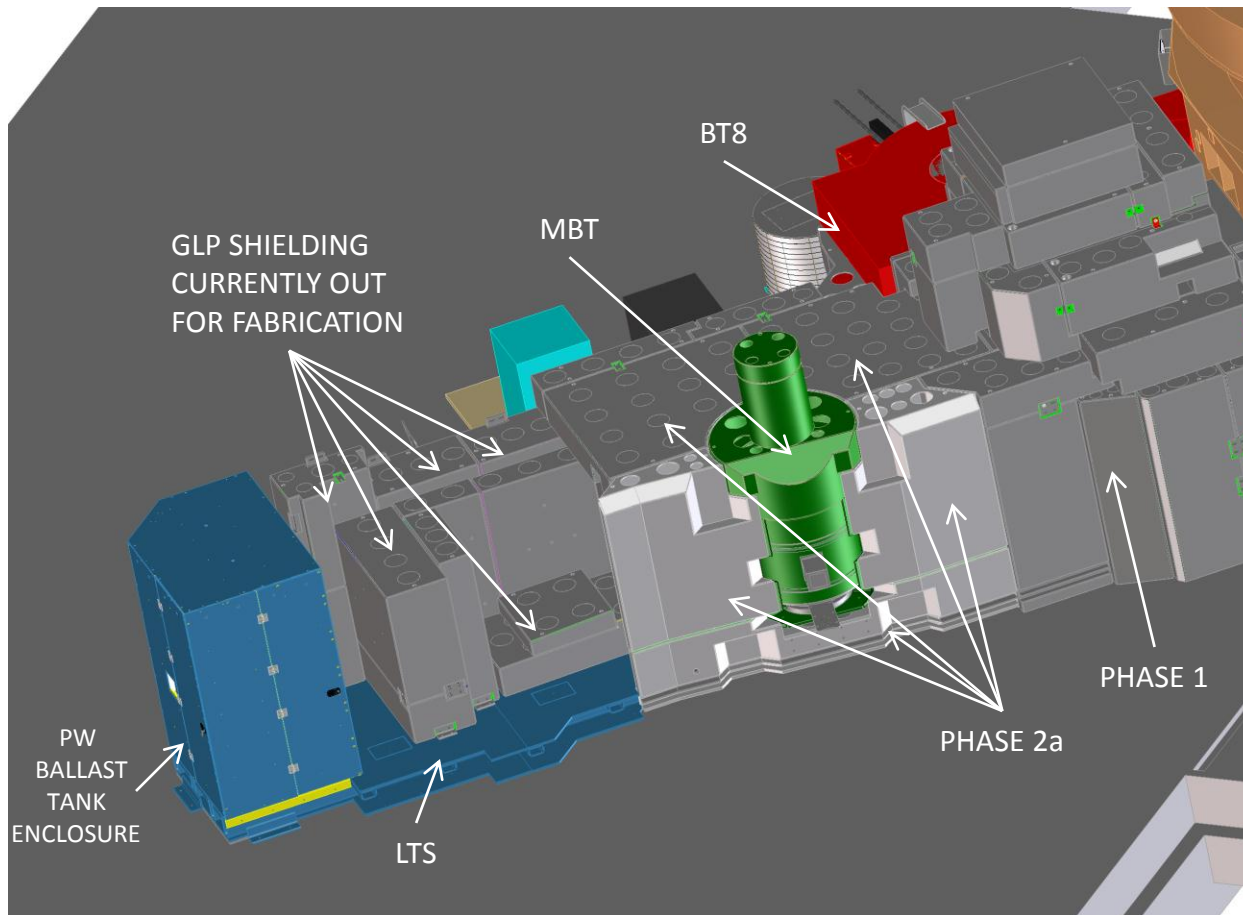
● Shielding

- *Cask/MBT area (post CFX/pre Get Lost Pipe) – All in house, dry fit, filled, and painted –final component installation June 2012*
- *Get Lost Pipe (GLP) area (post CASK) - detailed shielding design 100% complete, 40% of shields in fabrication queue, 10% in drafting, 50% awaiting drafting. GLP conceptually complete. First two sets due in late June.*
- *Monochromatic Cryogenic Filter Exchanger (MCFX) – design by and fabrication oversight by Merrick, delivery expected March 2011, arrived March 2012, testing complete, incorporation into analyzer in progress*
- *Cryogenic Filter Exchanger (CFX) – being completed by the Johns Hopkins University Instrument Development Group, delivery expected late Dec 2010, arrived January 2012*
- *Catwalk - egress platform around Reactor at ring header level for Reactor maintenance and limited instrumentation access*
 - *Conceptual design/layout - complete*
 - *Detailed design, Drafting, fabrication - 2012*

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Installation/ Phase 2b

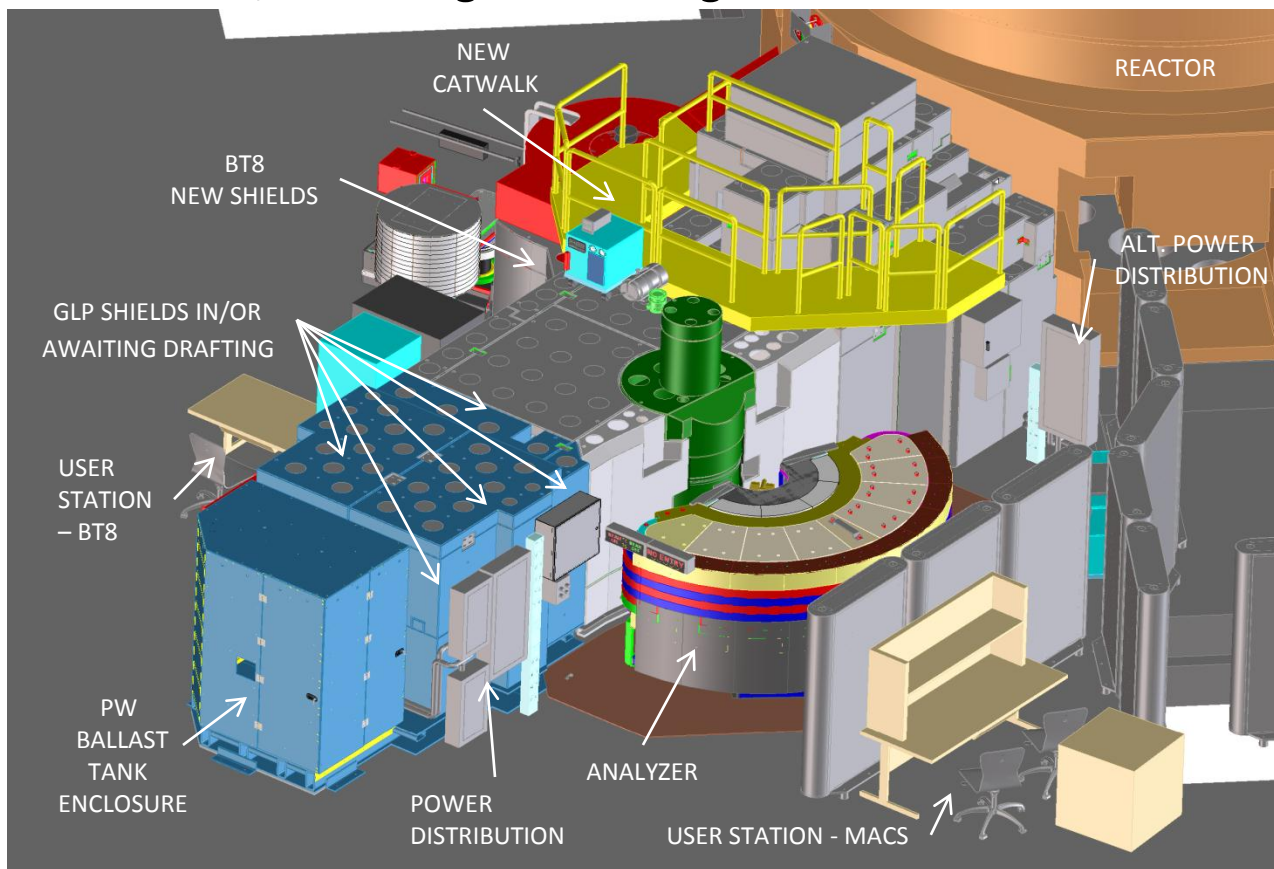
- MACS – continue installation of GLP bulk shielding and GLP as Health Physics allows - post shutdown, planned for July through August 2012



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Installation/ Phase 3

- MACS – continue installation of electrical hook ups, Air Pad Floor, Catwalk, and Analyzer as Health Physics and C100 access allows - post shutdown, late August through late December



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Risk Management



● *Schedule Conflicts*

- *Mezzanine – staging platform for auxiliary equipment and sample environment personnel*
- *Due to a few scheduling and physical interferences from the PeeWee project and the Ring Header project the Mezzanine will most likely slip into the first quarter of 2013.*

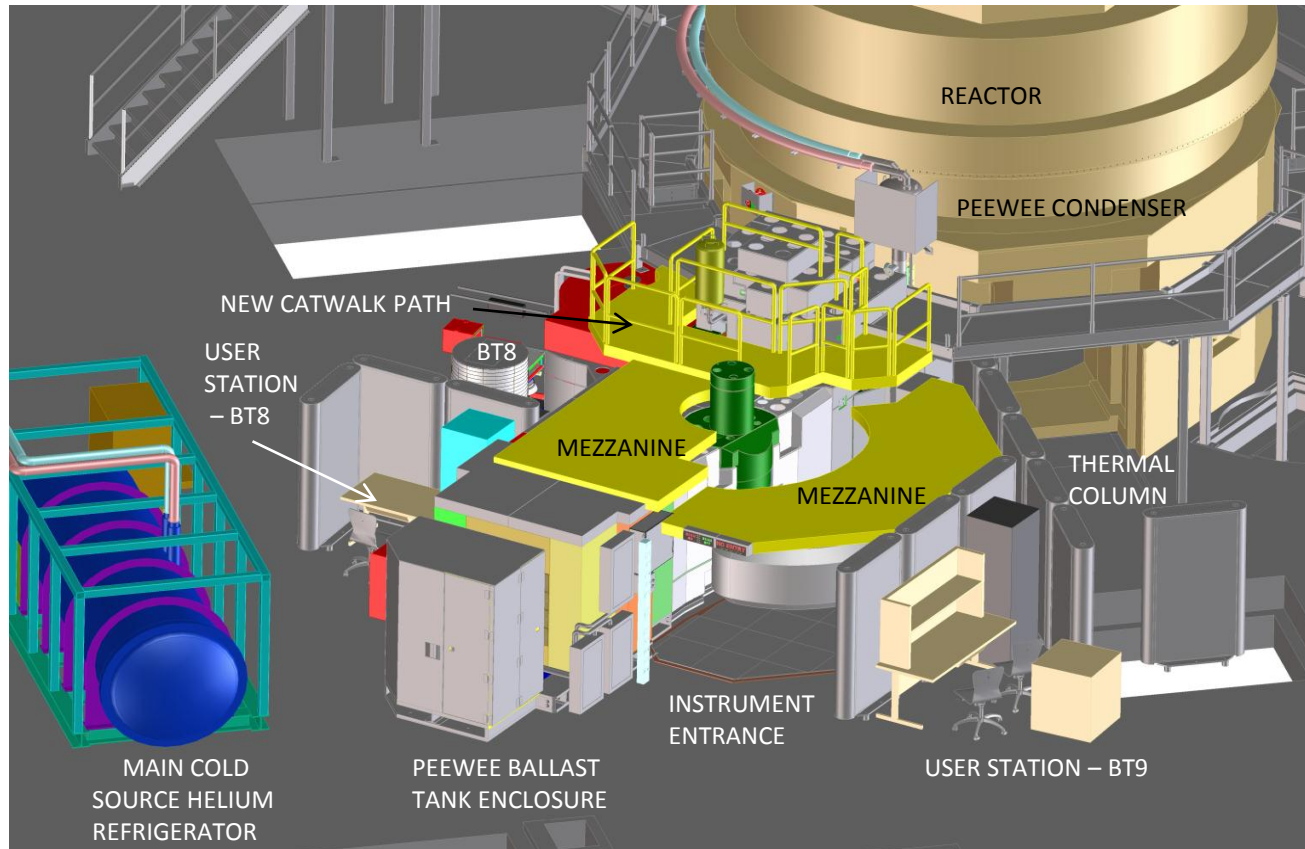
● *Delivery Delays*

- *Both the CFX and the MCFX were delivered a year later than anticipated.*
- *Delays possible getting work through the acquisition process.*
- *Late deliveries from outside fabricators.*
- *Lack of timely C100 access.*
- *Plant Division schedule conflicts.*

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Installation/Phase 4

● *MACS – PLANNED MEZZANINE, March 2013*



MACS ON BT-9 Schedule



Semi-Rolled UP SCHEDULE

