

30 meter SANS move from NG-3 to NG-B top

Research Facility Operations Group

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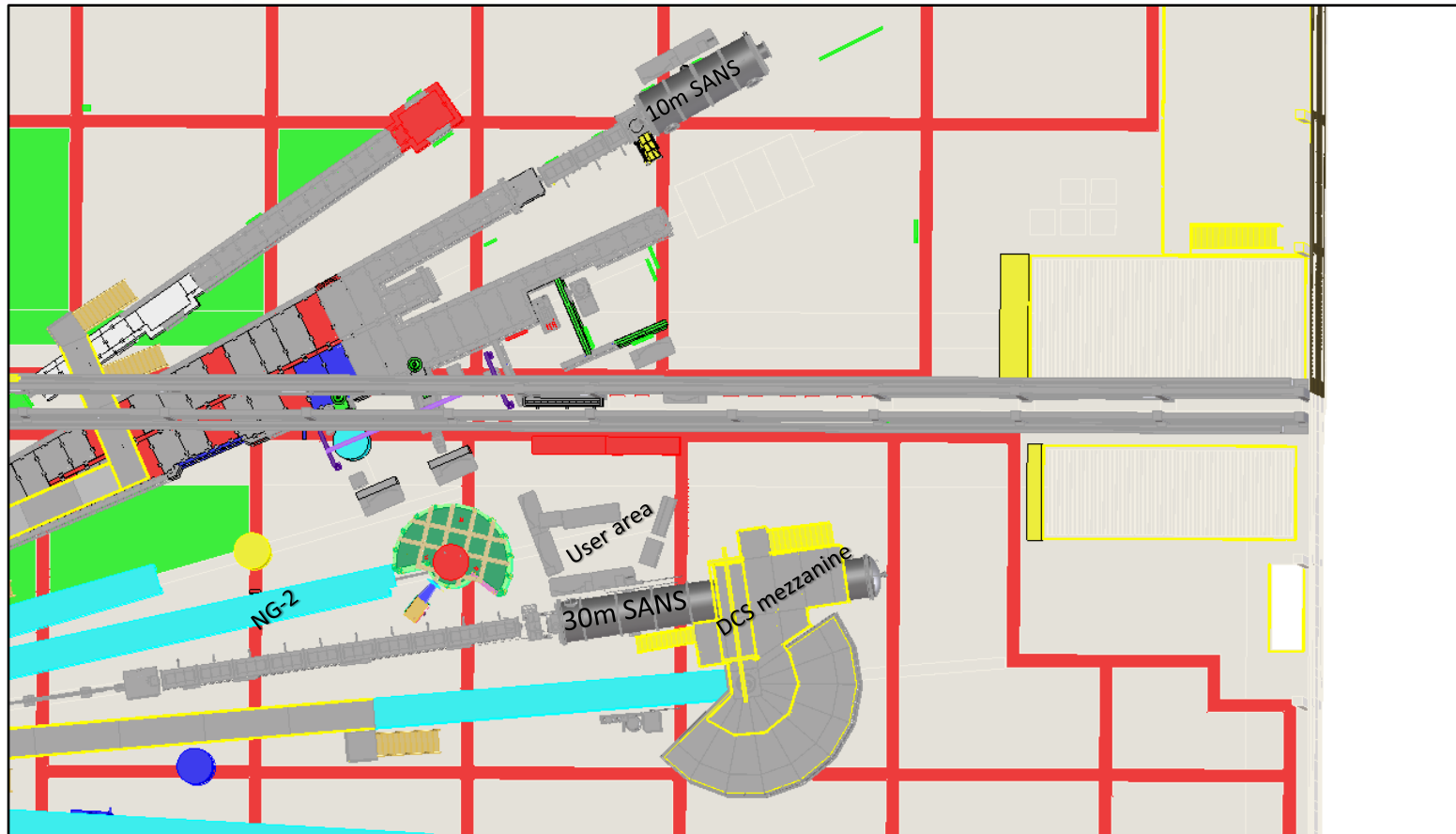


- Expansion context

- Predecessor for NG-6 Physics to move /develop NG-3
- Predecessor for VSANS installation on NG-6

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Before the move



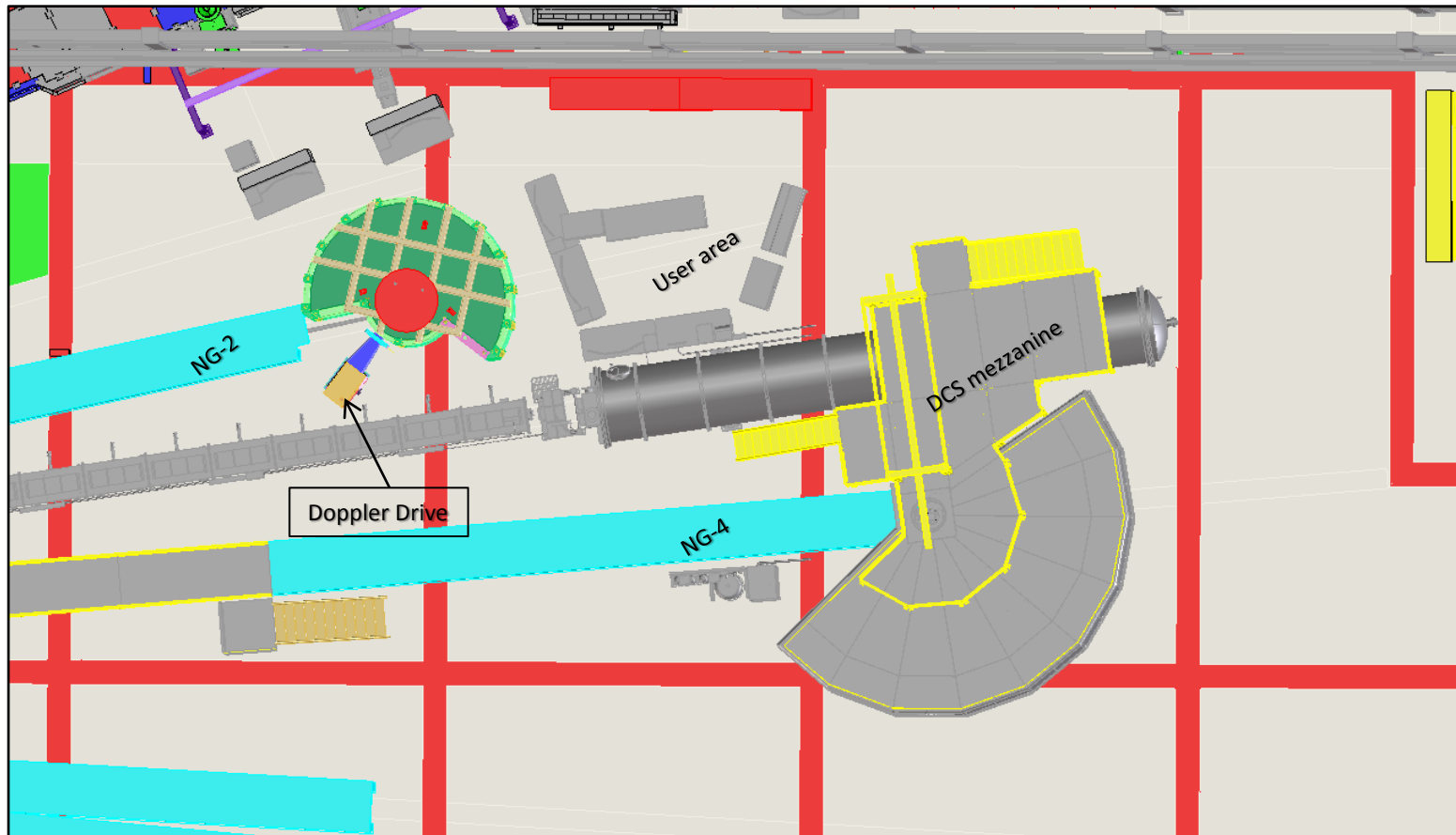


● Moving Options

- Slide vessel – Avoid taking apart DCS's mezzanine
 - Would need to remove Back Scattering's Doppler Drive
- If removing mezzanine can't be avoided:
 - Identify the bare minimum of mezzanine that has to be taken apart to accomplish the move
 - This will minimize electrical disassembly
 - Plan with Plant so they know their involvement with this project in advance
 - Contract a crane company to re-certify DCS crane

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Close-up on 30m SANS, Doppler Drive, and DCS mezzanine



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Overview of NG-3

➤ Location:

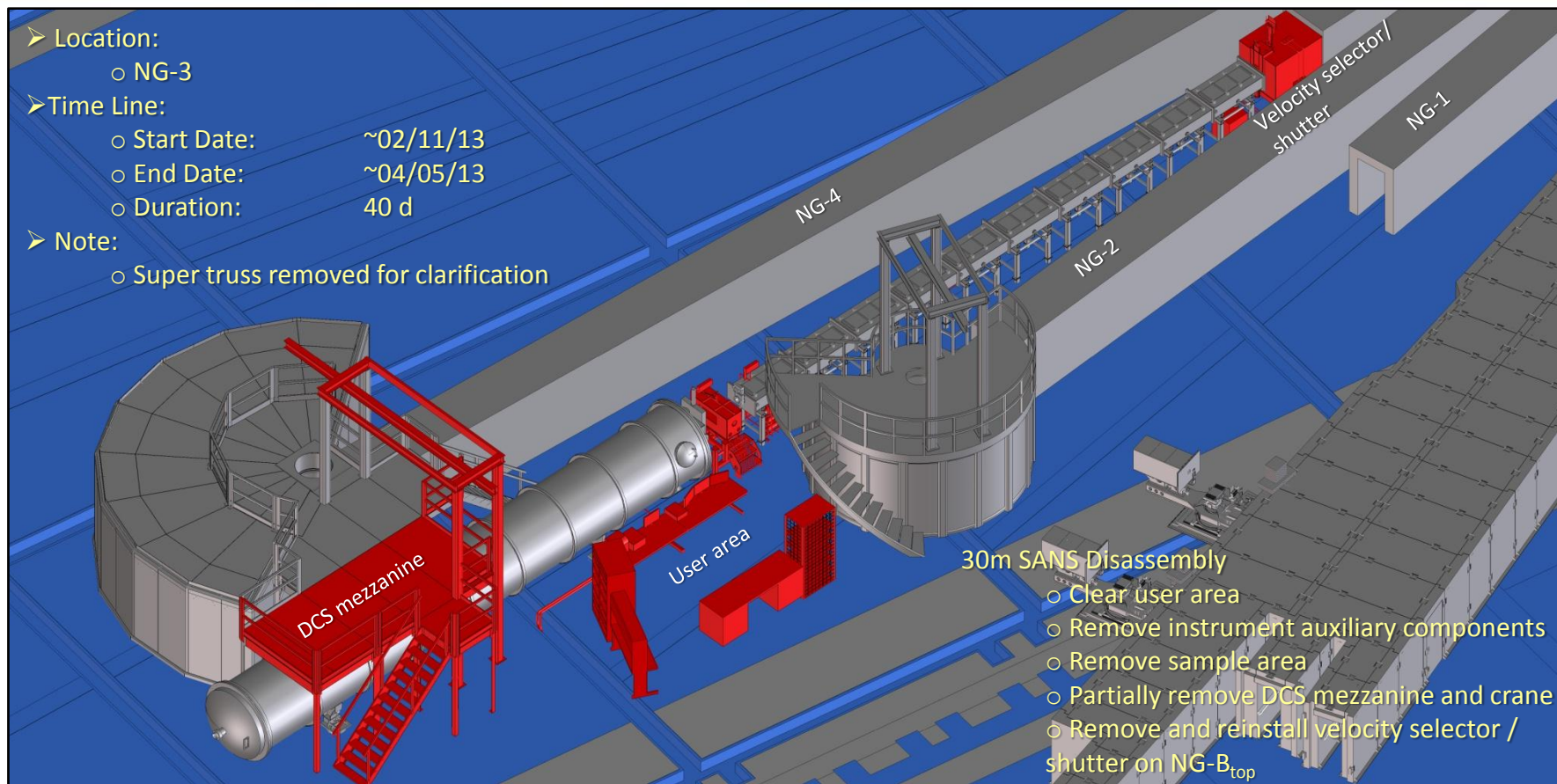
- NG-3

➤ Time Line:

- Start Date: ~02/11/13
- End Date: ~04/05/13
- Duration: 40 d

➤ Note:

- Super truss removed for clarification





● What is involved in moving 30m SANS?

- Clear user area
- Remove sample area
- Electrical disassembly
- Controls disassembly
- Mezzanine disassembly
- Instrument move
- Remove and reinstall velocity selector / shutter on NG-Btop
- Mezzanine reassembly
- Instrument re-installation



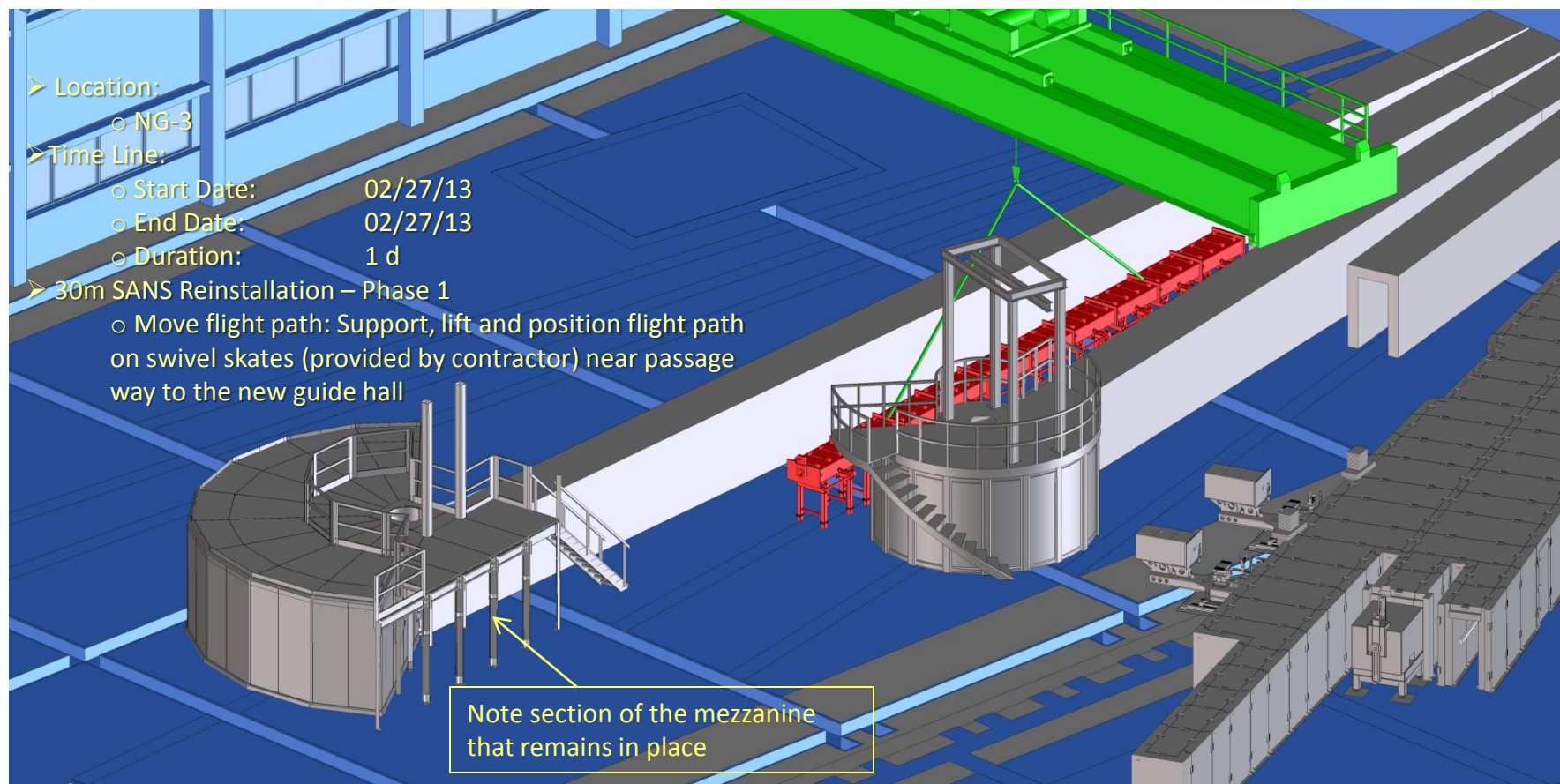
● Constraints & goals

- Execute move ~Q1/CY2013 (staff resources expected to be available then)
- Minimize disruption to SANS research program (stakeholders will be notified of accurate schedule well in advance)
 - Minimize loss of beam time to SANS research program (ideally no more than 1 cycle)
 - There are only minimal gains at NG-B; mostly due to new/re-aligned guide elements
- Minimize disruption to other beam lines
 - Primarily DCS; but also HFBS



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Lifting pre-sample flight path before placing on rollers



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Looking north on NG-3

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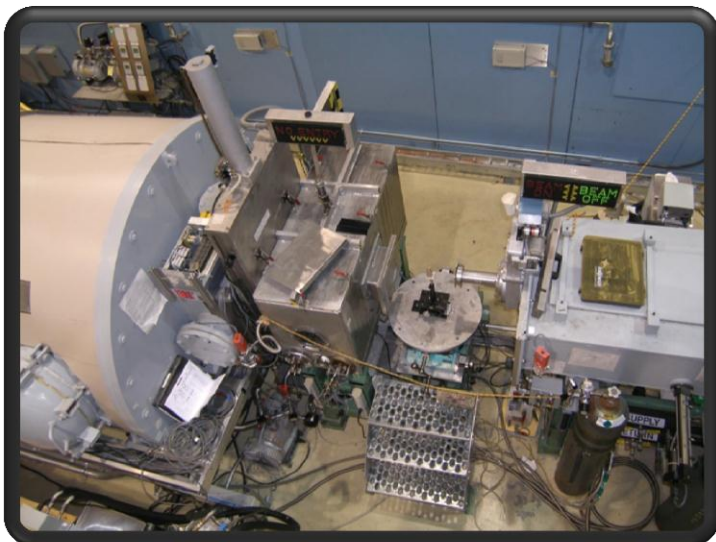


DCS's mezzanine

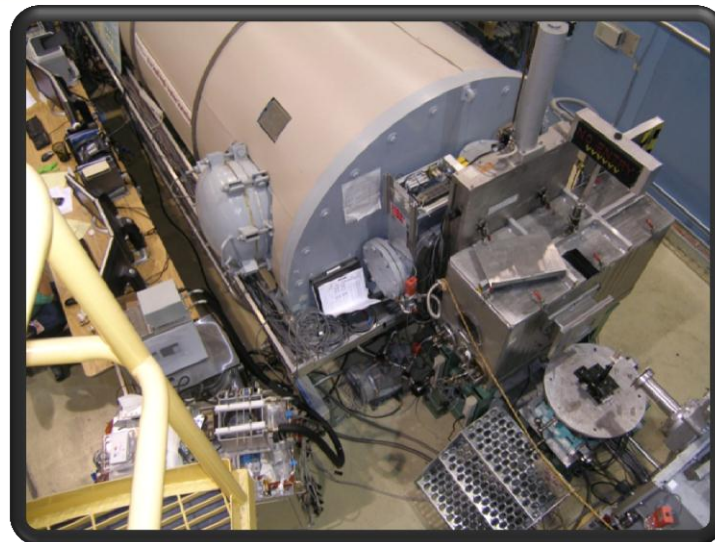


30m SANS vessel

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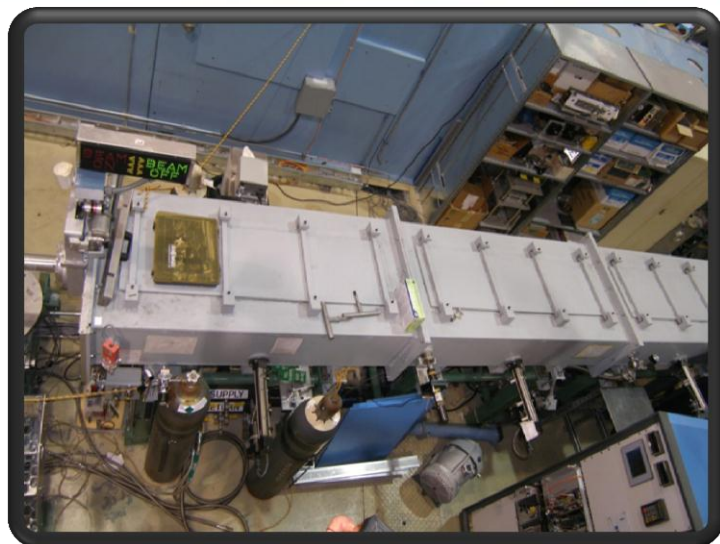


Sample area & control cables

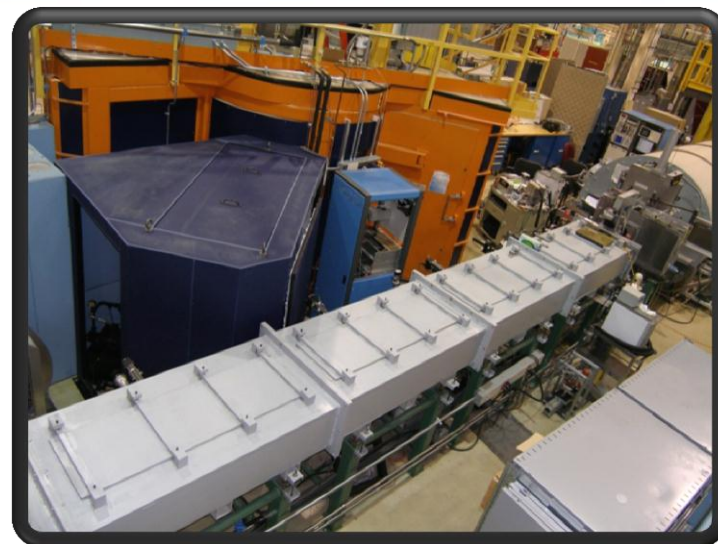


Sample area & control cables

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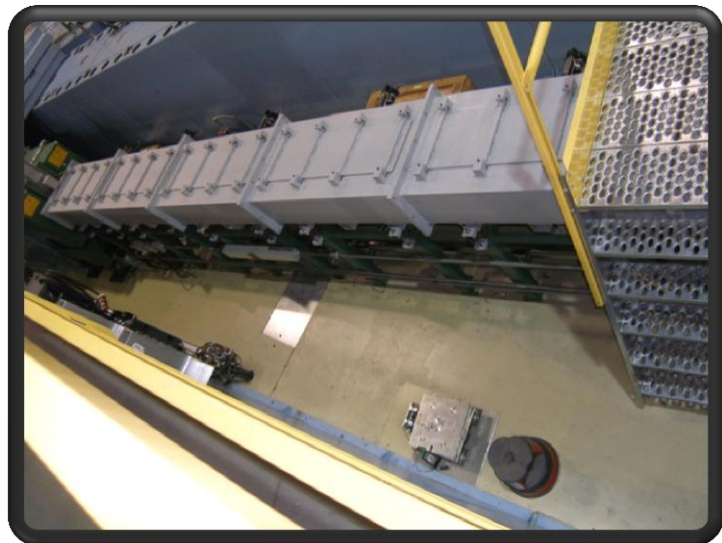


Pre-sample flight path



Pre-sample flight path

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Pre-sample flight path

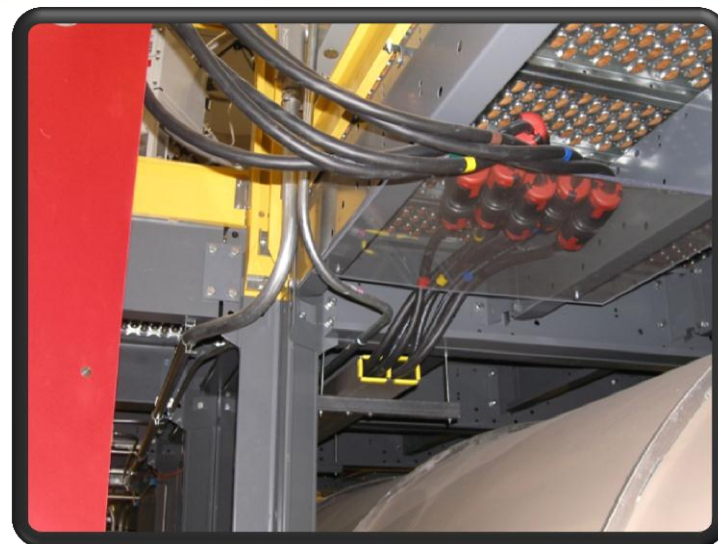


Velocity selector / shutter

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Nitrogen tanks and piping



Electrical conduit and cables
under mezzanine

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Mezzanine straddles vessel tightly



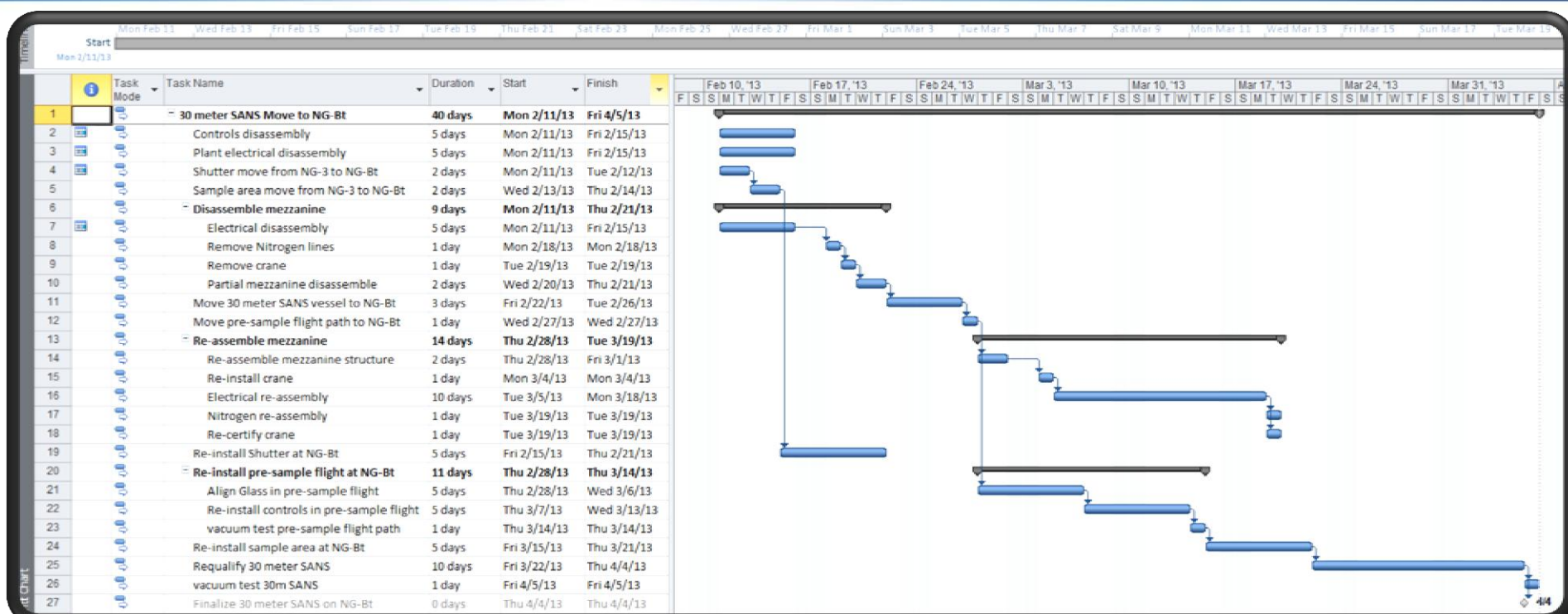
Lighting fixtures might remain in place



● Risk mitigation

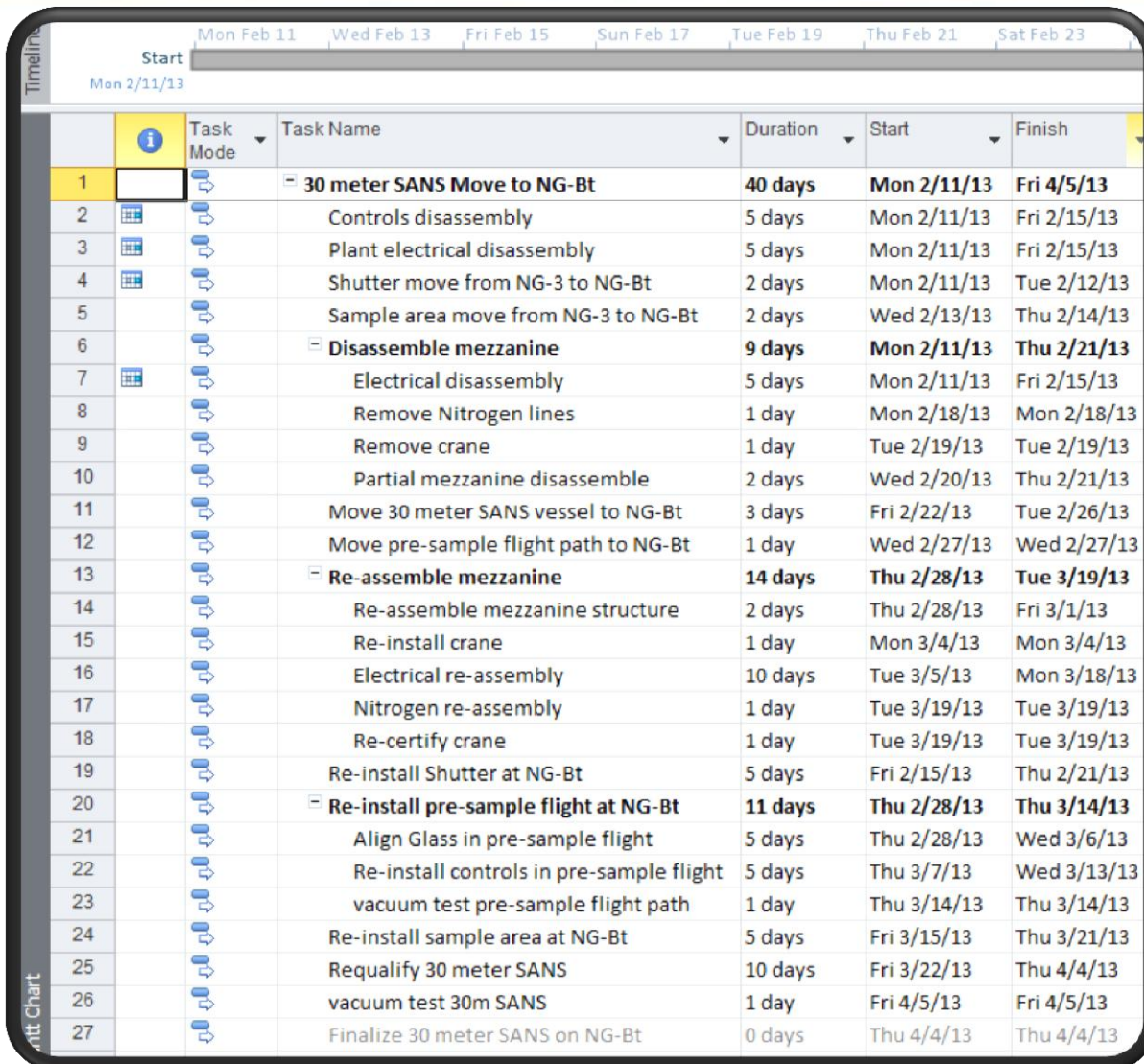
- A well thought out plan will save us time
- Longer lead time items
 - Plant needs to know their involvement by 8/31/12
 - Contracting riggers – depending on the cost, this could take a few months to get awarded

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Expected project duration: 40 days

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