

Hall A/C Collaboration Meeting

Installation and Upgrades

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Friday, July 09, 2021

Jefferson Lab



Objectives

The purpose of this presentation is to provide an update on the SBS installation schedule and equipment upgrades in the Hall. The following information will be discussed:

- Where we started
- Where we are headed (GMn equipment layout)
- Original schedule and planning
- Progress and obstacles
- Current status
- Remaining work/challenges
- Projected schedule and timeline for completion
- Summary
- Questions

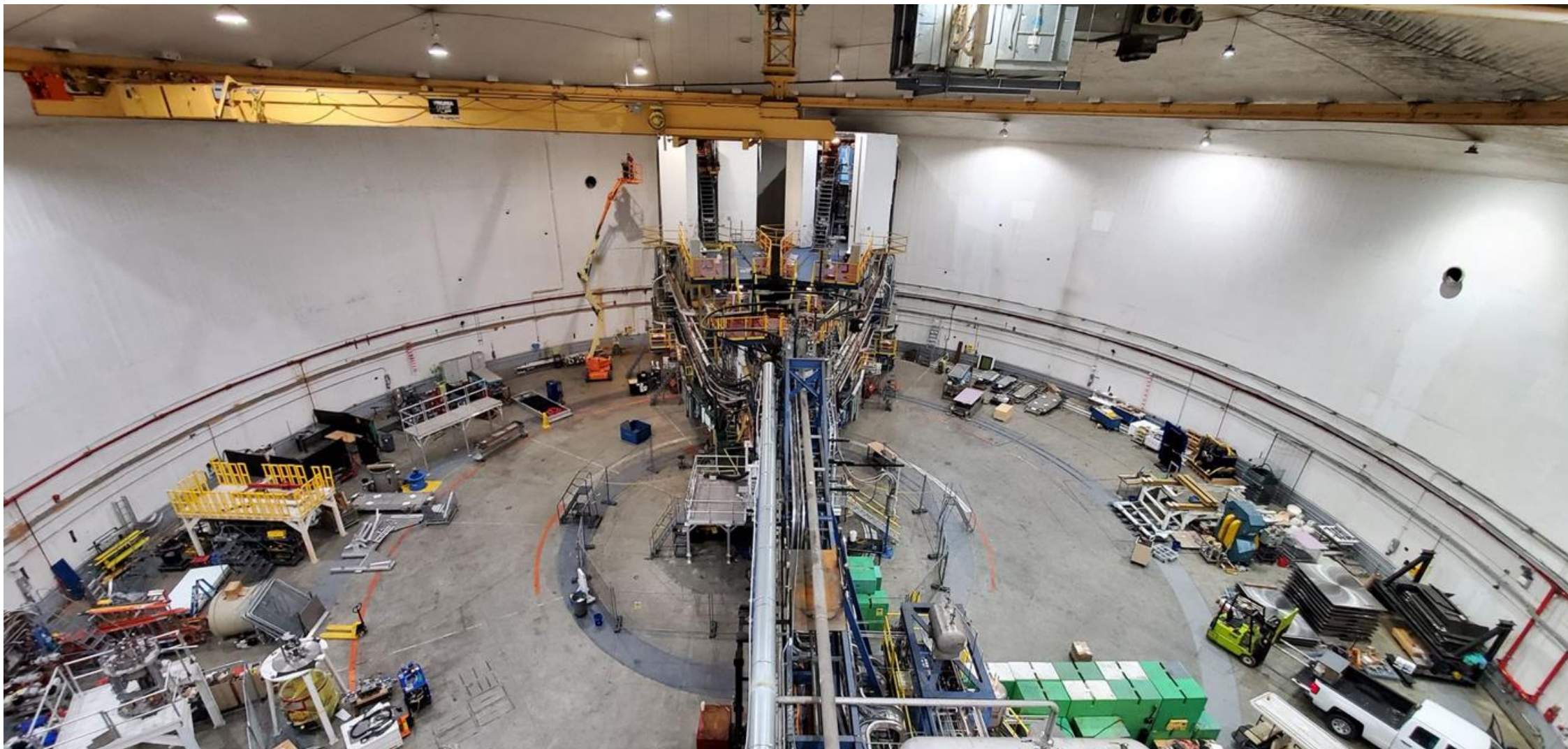
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Where We Started

Bird's Eye View of Hall A



Where We Started

PREX/CREX (pivot) Equipment – Beam Left



PREX/CREX (pivot) Equipment – Beam Right

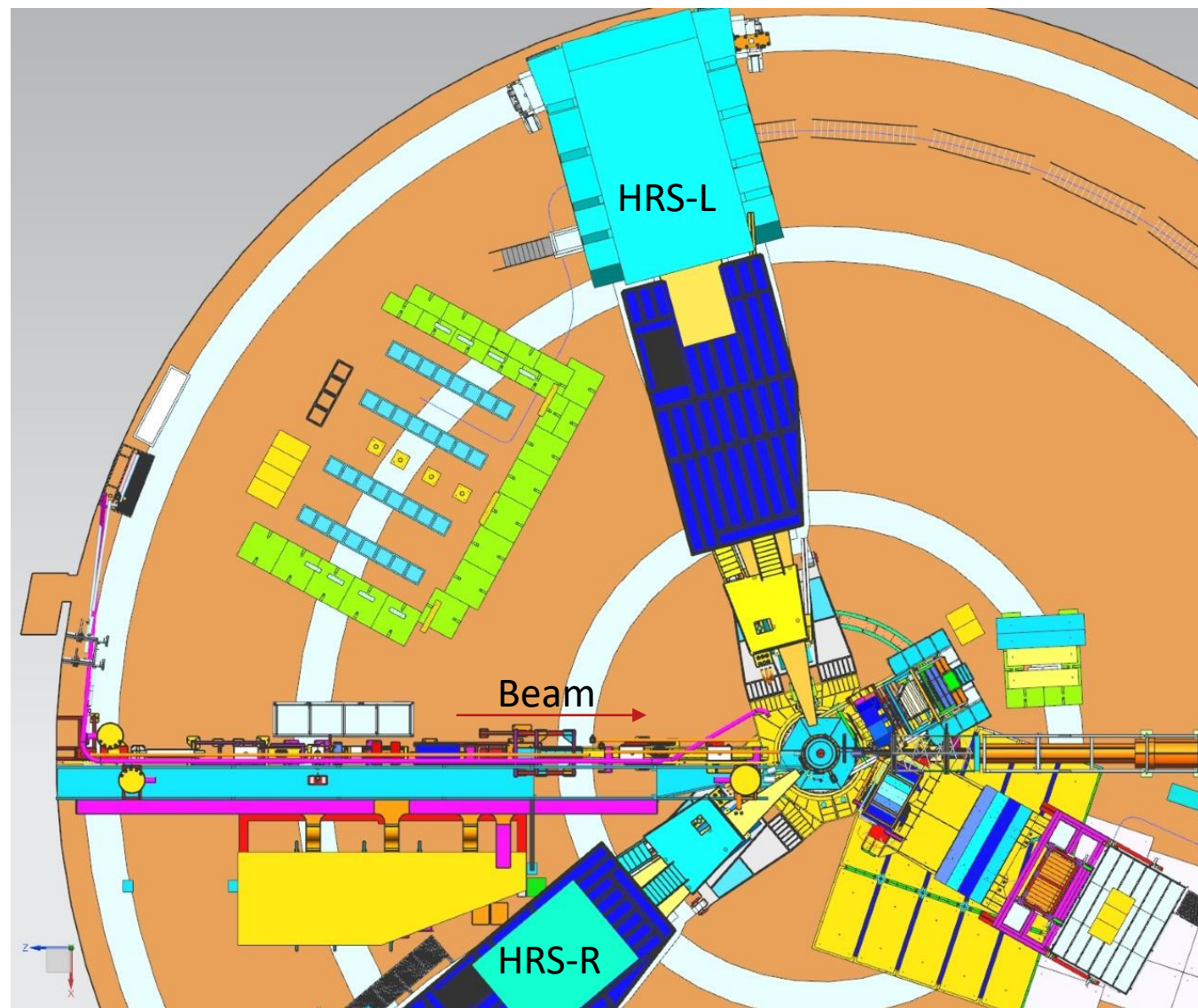


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Where We Are Headed (GMn Equipment Layout)



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Original Schedule and Planning

- The original installation schedule was projected to run from September 21, 2020 thru September 30, 2021
- List of major activities
 1. Remove PREx/CREx equipment
 2. Warm up (and later cool down) cryogenic systems in the Hall
 3. Decommission RHRS
 4. Install SBS equipment
 5. LCW upgrade
 6. 2MVA power upgrade
 7. Repair ground water leak along entrance beamline
 8. Counting House renovation
 9. Replace main AHU
 10. Perform maintenance and upkeep on standard equipment in Hall

*****Ultimately, the schedule housed more than 300 activities for the installation*****

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Progress and Obstacles

- To see our progress, let's revisit the list of major activities
 1. Remove PREx/CREx equipment – Complete!
 2. Warm up (and later cool down) cryogenic systems in the Hall – Warm up is Complete: Cool down is in-progress with estimated completion date of early August
 3. Decommission RHRS – Complete!
 4. Install SBS equipment – Equipment installation: Hook up and testing has started
 5. LCW upgrade – Complete!
 6. 2MVA power upgrade – Complete!
 7. Repair ground water leak along entrance beamline – Repair is complete: Equipment is currently being re-install
 8. Counting House renovation – In-progress (see Ole talk for complete update)
 9. Replace main AHU – In-progress (estimated completion date is Aug 6)
 10. Perform maintenance and upkeep on standard equipment in Hall – Mostly done.

Ultimately, the schedule housed more than 300 activities for the installation

Progress and Obstacles

- Obstacles

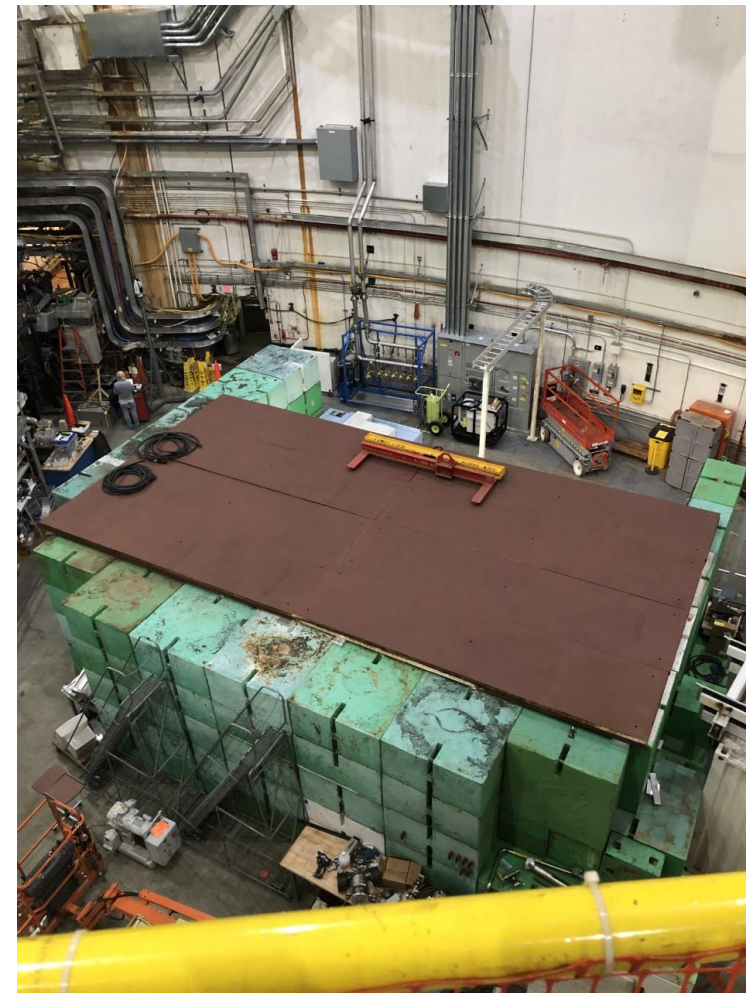
1. Overhead crane is down
 - Lost a wheel bearing in early November and was de-rated to 50%
 - Wheels and bearings were replaced on Feb. 11th.
 - Crane was de-rated back to 50% on Feb 12th.
 - Crane was completely removed from service on Feb 19th.
2. Complete SBS installation using a mobile crane
 - Required us to revisit the schedule
 - Reevaluate the order of installation
 - Consideration of the limitation of using a mobile crane vs an overhead crane
3. New chamber window did not fit.
 - Explore parallel paths
 - Work on an in-house repair.
 - Procure a replacement window
4. Working/scheduling around all the other work that is taken place in the Hall
 - Ground water leak repair
 - AHU replacement
 - Power upgrade
 - Etc....
5. COVID

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Current Status



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Remaining Work/Challenges

- Install the shielded exit beamline
- Finish installing work platform and remaining equipment
- Install the target chamber windows and leak check
- Install the target (target group)
- Alignment of SBS equipment
- Change out the aperture plate in the dump (RADCON/Installation group)
- Re-install entrance beamline equipment
- Finish cooling down cryogenic systems
- Start up and testing of magnets and power supplies
- Connect and test detectors and instrumentation (collaboration)
- Replace the overhead AHU
- Complete HCO and pre-beam checklist

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Projected Schedule and Timeline for Completion

- The plan is to lock the Hall up for beam on September 3rd.
- The mobile crane will be onsite from July 12 – August 6, 2021
- While the crane is onsite, we will install the beamline, put together the target chamber, install remaining hardware (i.e., GEMs, racks, etc.), and install the new AHU
- We will begin starting up and testing power supplies as soon as power is connected (resistive) or as soon as they are cold (superconducting)
- Detector hook up, Counting House renovation, and all other work will continue in parallel

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Summary

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Overall messages:

- The installation is currently on schedule
- There are still a few challenges to overcome
- We will continue to work with the mobile crane subcontractor to install the equipment
- The plan is to begin hooking up and testing detectors and magnets as soon as possible

- Installation and Upgrade Presentation

