

Target Change Schedule

Hall D SRC/CT Analysis Meeting on 11/15/2021

Axel Schmidt

Draft target change schedule

| Day | Time | Activity |
|-----------------|---------------|--|
| Friday 11/19 | | Helium production running |
| | | |
| | | |
| Saturday 11/20 | 3:00 - 11:00 | Ramp down magnet |
| | 11:00 - 19:00 | Compton running |
| | 19:00 - 22:00 | Access for Chris, radcon to switch from helium target to deuterium, begin magnet ramp up |
| | | |
| Sunday 11/21 | 3:00 | Finish switch to deuterium target, finish ramp up, begin production on deuterium |
| | | |
| | | |
| Monday 11/22 | | |
| | | |
| | | |
| Tuesday 11/23 | | |
| | | |
| | 11:00 - 12:00 | Access for Chris, radcon to purge target, add nitrogen, begin warming |
| | 12:00 - 0:00 | Empty target running while target is warming up |
| Wednesday 11/24 | 0:00 - 8:00 | Ramp down magnet |
| | 08:00 - 12:00 | Access for Chris, techs, radcon to install C target ladder |
| | 12:00 - 20:00 | Ramp up magnet, pump down target chamber |
| | 20:00 | Begin production on C target |

First draft produced after discussion today with Chris Keith.

Plan will be run by Chris, Hall D experts, Hall D staff, etc. to confirm that man-power is available and that nothing was missed.

Summary

Original Plan

- He-4: 12 days
- D: 2 days
- C-12: 9 days

ρ^0 Events (t>2)

20 k

4.5 k

10 k

ρ^0 SRC Events (t>2)

10 k

1 k

6 k

New Plan

- He-4: 10.5 days
- D: 2.3 days
- C-12: 11 days

ρ^0 Events (t>2)

17.5 k

5 k

12 k

ρ^0 SRC Events (t>2)

9 k

1 k

7 k

This plan adds production time.

Here are the costs:

- No survey of the Carbon target before running.
 - Detailed survey will be completed at the end of the run
- Magnet ramp up after Compton calibration will occur while Chris does the Helium ---> Deuterium change
- No empty target running during He-4.
 - All empty target running comes at the end of deuterium while the target cell is warming.

Detailed view

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Detailed view continued...

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|-----------------|---------------|---|
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Alternatives

- We switch to deuterium before Thanksgiving, and switch to carbon after.
 - Dramatically increases deuterium time at the expense of Carbon
- We add back the Carbon survey, Helium-4 empty running
 - Reduces how much production time we can get on Helium-4

*IMHO, we don't have too many decision points. We **DO** need to make sure that everyone (Hall D, techs, Chris, RadCon) are aware of and approve of the plan.*

Our Carbon target ladder

