SANE Short Term Run Plan – <u>Tue. 3/3 eve – Wed. 3/4 owl/day</u>

<u>RUN PLAN</u> *(SAVE previous run plans in the Run Plans binder)*

Tue. 3/3 eve to Wed. 3/4 owl/day. Opportunistic accesses: when switching targets, during anneals (check with the target experts) or to delay or move up anneal times to avoid annealing between midnight and 6:00 AM. Keep < 30 min. long if possible.

BEAM (for production runs):
Current : **<u>85 to 105 nA</u>**

- check that the **<u>SR is ON</u>** and configured for *20 mm diameter, <u>4.7 GeV beam.</u>*
  Wavetek generators Preset 5: spiral = 1.16 V; circles 1 & 2 = 1.10 V
- **fast rater 1 x 1 mm**
  beam at **x = -2.7, y = 0.06 mm on BPM 3H00A;**
  x = -3.8, y = 0.62 mm on BPM 3H00B (*run 72857 in hclog entry* 177929)

DATA:

HMS: should be set to central momentum to 3.585 GeV, 22.3°, protons.

- *<u>Make sure all detectors are ON, LED's off and retracted, prescale factors and trigger type correct, etc. before starting</u>*

- Ask for 65 nA. Check target and beam centering Take a short run (<10 min) and look at the slow raster ADC plot. **Neither** the rims of the cup or a *bright vertical band* on the left edge (suspected to be the downstream beam extension) should be visible at the edges of the raster.
- If the *band* is visible on the left or the rim on the right, ask MCC to put the beam within about +/–0.25 mm of the BPM 3H00A and 3H00B positions indicated above, as needed. *Do NOT move the beam more than +/-0.3 mm from the settings shown above*.

- Take data with the BOTTOM target with **NEGATIVE** polarization. Watch the polarization rate of increase. Wait up to 30 min. from the start of polarizing:

- If it takes *more than 30 min to get to 50%*, it might improve with beam. Ask for **105 nA** and start taking data.
  - If the polarization increases with beam continue at 105 nA for up to one hour after the polarization starts dropping, then take data at **90 nA** until the polarization drops below 60%.
  - If the polarization does not increase after 2 h of beam, switch to TOP target.

- If the polarization rises *above 60% in ≤ 30 min*, ask for **90 nA,** take ~1 h long runs. If the polarization continues to increase with beam, ask for **100 nA**, but reduce the

current back to **90 nA** once the *maximum* polarization is attained. When the polarization is around 62% take data at **105 nA**. Continue with 1 h runs until the polarization is at ~ 0.75 of its maximum value or 60%, **whichever is <u>higher</u>**.

- If the polarization rises quickly but it does not get significantly above 70%, and it starts dropping as soon as beam is turned on, take data at **85 nA.** When the polarization is around 62% take data at **95 nA**. Switch to TOP target when the polarization drops below 60%.

- Take data with the TOP target with **NEGATIVE** polarization, **90 nA,** until polarization is at ~ 0.75 of its maximum value. Follow the guidelines on beam current for the BOTTOM target

ANNEAL

1. Target experts will conduct the anneal.

2. Put C target in beam to help boiling off He in the nose. Ask for 150 nA. Take a 20 min run *AFTER the nose is empty. Watch the HMS or BigCal rates: the nose will be empty when the rates stop changing after dropping, <u>start the run then.</u>*

3. Target experts will finish the anneal.