SANE Short Term Run Plan – <u>Wed. 2/25 day/eve – Thurs. 2/26 owl</u>

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

Wed. 2/25 day/eve to Thurs. 2/25 owl. 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.

This is the last run plan for 5.9 GeV - 80°.

BEAM (for production runs):
Current : **<u>85 to 110 nA,</u>** as needed depending on the response of the polarization.

- **check that the <u>SR is ON</u>** and configured with *New Settings for 5.9 GeV Beam* as explained in hclog entry **175618 (20 mm dia.) S**piral: 1.37 V; circles 1 & 2: 1.28 V *If needed, adjust Slow Raster to have 20 mm diameter* **(hclog 177048)**
- **fast raster 1 x 1 mm**
  beam at **x = -1.5, y = -0.66 mm on BPM 3H00A;**
  x = -2.0, y = -0.3 mm on BPM 3H00B
- Enter all required variables in the on-line Run Sheets, including the target polarization at the beginning and end of each run

DATA:
<u>HMS:</u> should be set at central momentum to 4.4 GeV/c, 15.4°, electrons for resonance asymmetries.

- Check target and beam centering. Look at the slow raster ADC plot on the replay output. No indications of the cup walls should be visible at the edges of the raster. Use target encoder values of hclog **176791.**

- If beam centering is needed, follow run plan for 2/13/09, in the binder and on the wiki. *Don't steer the beam more than +/- 0.5 mm from above positions*.

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

- 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 may be *<u>over annealed</u>* , it probably can/will improve with beam. Ask for **110 nA** and start taking data.
  - If the polarization increases with beam continue at 110 nA for up to one hour after the polarization starts dropping, then take data at **95 nA** until the polarization drops below 60%.

- If the polarization does not increase after 2 h of beam, proceed to Anneal & Moller.

- If the polarization rises *above 60% in ≤ 30 min*, anneal was OK. Ask for **95 nA,** take ~1 h long runs. If the polarization continues to increase with beam, ask for 100 nA, but reduce the current 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 higher.

- If the polarization rises quickly but it does not get significantly above 70%, and it starts dropping as soon as beam is turned on, it probably is *under annealed*: 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. Watch the polarization rate of increase. Wait up to 30 min. from the start of polarizing. Follow the guidelines on beam current for the BOTTOM target. Take data until ramp down

- RAMP DOWN: The magnet needs to be ramped down for chicane alignment, start at 5:30AM.