SANE Short Term Run Plan – Sun. 3/15 day/eve to Mon. 3/16 owl (end of run)

RUN PLAN *(SAVE previous run plans in the Run Plans binder)*

Sun. 3/15 day/eve to Mon. 3/16 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.

BEAM (for production runs):
Current : **85 to 105 nA**
- check that the **SR is ON** and configured for *20 mm diameter, 4.7 GeV beam.*
  Wavetek generators Preset 5: spiral = 1.16 V; circles 1 & 2 = 1.10 V
- **fast raster 1 x 1 mm**
  beam at **x = 0.0** (+/- 0.1)**, y = 1. mm on BPM 3H00A;**
  x = -1.0 (+/-0.1)**, y = 1. mm on BPM 3H00B**

DATA:

HMS: check that it is set at 3.2 GeV, 20.2°, electrons.

Make sure all detectors are ON, LED's off and retracted, prescale factors and trigger type correct, etc. before starting

- Put the Bottom target in the beam. Ask MCC for 70 nA and check centering of the beam on the target by looking at the slow raster y vs x ADC plot. Watch for the target cup rims showing as bright areas on the raster ADC plot.

- Take data with BOTTOM target **NEGATIVE** polarization.

- If the polarization rises *above 60% in ≤ 30 min*, wait until it is **at least 60% or 40 min, whichever comes LAST,** and then 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 60%. Move to the TOP target.

- If the polarization 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, move to the TOP target.

- 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 may have been underannealed. Take data at **85 nA**. When the polarization is down to around 62% take data at **95 nA**. Move to the TOP target when the polarization drops below 60%.

- Take data with TOP target **POSITIVE** polarization.
- Follow the guidelines for the BOTTOM target, but:

- If the polarization drops to 68% before **1 AM on Mon 3/16** go to ANNEAL

- Otherwise, continue taking data until beam goes off. See ramping down instructions.

ANNEAL

1. Target experts will conduct the anneal. Try a moderate overanneal.

2. Put C target in beam to help boiling off He in the nose. Ask for 120 nA. Take data while the nose is emptying (C+He). *Turn the beam off when the nose is empty, to start anneal.*

3. Target experts will finish the anneal.

4. Take data only with TOP target **POSITIVE** polarization until beam goes off

5. When ramping down the magnet, turn the shim heaters on 15 min before ramping and try using the HIGHEST ramp rates indicated in the Oxford manual: 0.5 A/min to 72 A, 1 A/min to 60 A, 2 A/min to 0.