

SLAC MEMORANDUM **DRAFT**

TO: E-166, Pep2 Ops, EOICs
FROM: Rick Iverson
SUBJECT: FFTB Startup Checklist for E166 "Polarized Positrons"

REV: Aug 24, 2005

Schedule: E-166 to run from Sep 6 to Oct 3, 2005

Purpose: Demonstrate undulator-based polarized positrons for linear colliders.

- _____ 1) Establish Electrons to CA11 PR-55 at 50GeV
Beam Energy: 50GeV, $1e+10$ electrons/bunch, 1-10pps
LI28 Emittance: "6 by 0.6" That is $x < 6.0e-5$ mr, $y < 0.6e-5$ mr.
Energy Spread: $< 0.2\%$. That is, minimum energy spread.

 - _____ 2) These are the configs to start with. After the first shift,
configs will be saved that are more current.

FFTB Magnet NOR#748 "-nice spot-clean backgrounds"
FFTB Mover NOR#287 "-e166 day"
FFTB BPM NOR#814 "-nice spot-clean backgrounds(E166)
COLLLI30 NOR#269 "-e166 day"

 - _____ 3) Check that the FFTB BCS and MPS are made up on the FFTB digital status
panel. All B406 devices should be active except the following:

MSLT FS#1,2 (There are no flow switches on the MSLT).
Plasma Oven (Removed when E164 is not running.)
Valve 6064,6070 and mirror 6071
(Removed when E164 is not running.)

 - _____ 4) Verify that the BAS is signed off and the beam containment devices
in the BAS are active.

 - _____ 5) When the experimenters are ready for beam,
-Go to no access, put in ST-62, reset and trim Q5,Q6,
pull the vacuum valves etc.
-Bring the beam to ST-62.
- *Note: It is not necessary to degauss 50-B1. Just do "LGPS OFF" and set the
launch with CA11,xcor 36 and ycor 37.
-Verify that CB00 Launch and FFTB FB31 Energy feedbacks
are working with the beam still on ST-62.
-Dump the beam on 2-9 and remove Prof 1090 and ST-62. Go to 1Hz

- and bring the beam to the main FFTB dump.
- Correct steering and energy until the bpms match the reference orbit listed above.
 - FFTB PLIC level should be $<2\text{mv}$ with beam current of $1\text{e}+10$. The Sector 30 PLIC level should be 50 to 100mV. The beam emittance may need tuning if the PLIC is too high.
 - Adjust sec-30 collimator settings as needed to reduce backgrounds.
 - Call the E-166 experimenters in building 407a (x5460) and let them know that the beam is ready.