

**Instructions for Turning on and Ramping AGS Cold Snake Power Supplies**

Changes from last set of instructions dated 1/17/08, in blue:

**Turn On Instructions**

- 1) The ags beam permit should be tested at the beginning of every run for the AGS cold snake ps system. This can be done by turning on all of the p.s.'s at zero current and tripping the helical p.s. to a fault state. The AGS beam permit should drop. This is a reminder for D. Bruno.
- 2) Use TAPE to turn on the AGS cold snake ps's. From an x-terminal type "tape". In the left window click on AGS>Polarized Protons. Then in the middle window click on AGSColdSnakeOn.
- 3) If for some reason tape does not work you can use these scripts. From an x-terminal go into Wing's directory: "cd ~wing" and run these scripts.
- 4) Scripts are case sensitive:
  - a. For A20-csnk-t1-ps type: coldSnakeTrim1On
  - b. For A20-csnk-t2-ps type: coldSnakeTrim2On
  - c. For A20-csnk-sol-ps (Solenoid PS) type: coldSnakeSolOn
  - d. For A20-csnk-ps (Helical PS) type: coldSnakeHelOn
  - e. To turn on all power supplies with one script use: coldSnakeAllOn

**Clarification on changing setpoints or ramping the AGS Cold Snake p.s.'s**

- 1) Go to StartUp. Click on Start>AGS Applications>AGSSnakeCorrect and you can change the setpoints to these p.s.'s without knowing the ramp rates,
- 2) If the AGSSnakeCorrect program does not work then use the ramping instructions, below, with a pet page.
- 3) **The maximum current for the helical (A20-csnk-ps) is 290A for run 12.** The maximum current for the helical in Run 8 was 280A. The maximum current for the helical in run 7 was 300A. The maximum current for the helical in run 6 was 338A. Do not run the helical past 290A for run 11.
- 4) **The maximum current for the solenoid (A20-csnk-sol-ps) is 220A in run 12.** The maximum current for the solenoid was 200A for Run 8. The maximum current for the solenoid in run 7 was 300A. Do not run the solenoid past 220A for run 8.
- 5) The maximum current for the A20-csnk-t1-ps and A20-csnk-t2-ps is  $\pm 25A$  in run 8. No change from run 7. In run 6 the maximum current for A20-csnk-t1-ps and A20-csnk-t2-ps was  $\pm 40A$ .

**Maximum Current for Power Supplies**

- 1) **Do not exceed 290A for A20-csnk-ps (helical) the DC overcurrent is set for 300A. In run 7 we had run this ps to 300A max but not in run 8. In run 6 we had run this p.s. to 338A max but not this run.**
- 2) **Do not exceed 220A for A20-csnk-sol--ps (solenoid) the DC overcurrent is set for 230A.**
- 3) Do not exceed  $\pm 25A$  for the A20-csnk-t1-ps and A20-csnk-t2-ps (trim) p.s.'s.

**Ramping up (SEE RAMPING WAVEFORMS):**

- 1) Ramp the A20-csnk-sol-ps (solenoid) to 2A in 10 seconds. This is the park current. Make sure the current readback says 2A before ramping any further.
- 2) Ramp the helical (A20-csnk-ps) to 2A in 10 seconds. This is the park current. Make sure the current readback says 2A before ramping any further.
- 3) Ramp the helical (A20-csnk-ps) to its operating current no faster than 1A/sec and do not exceed 300A.
- 4) Ramp the A20-csnk-sol-ps, A20-csnk-t1-ps and A20-csnk-t2-ps at no faster than 3A/sec to their operating current.

**SEE NEXT PAGE FOR MORE RAMPING DOWN INSTRUCTIONS.**

**Ramping down to any current including zero (SEE RAMPING WAVEFORMS):**

- 1) FIRST, ramp the A20-csnk-sol-ps, A20-csnk-t1-ps and A20-csnk-t2-ps down to the desired current at no faster than 3A/sec.
- 2) Once A20-csnk-sol-ps, A20-csnk-t1-ps and A20-csnk-t2-ps are at the desired current you can ramp the helical (A20-csnk-ps) down at no faster than 0.25A/s but you must stop at 30A for approximately 30 seconds if you intend to go lower than 30A. Then you can continue to ramp down from 30A to zero in 0.1A /s

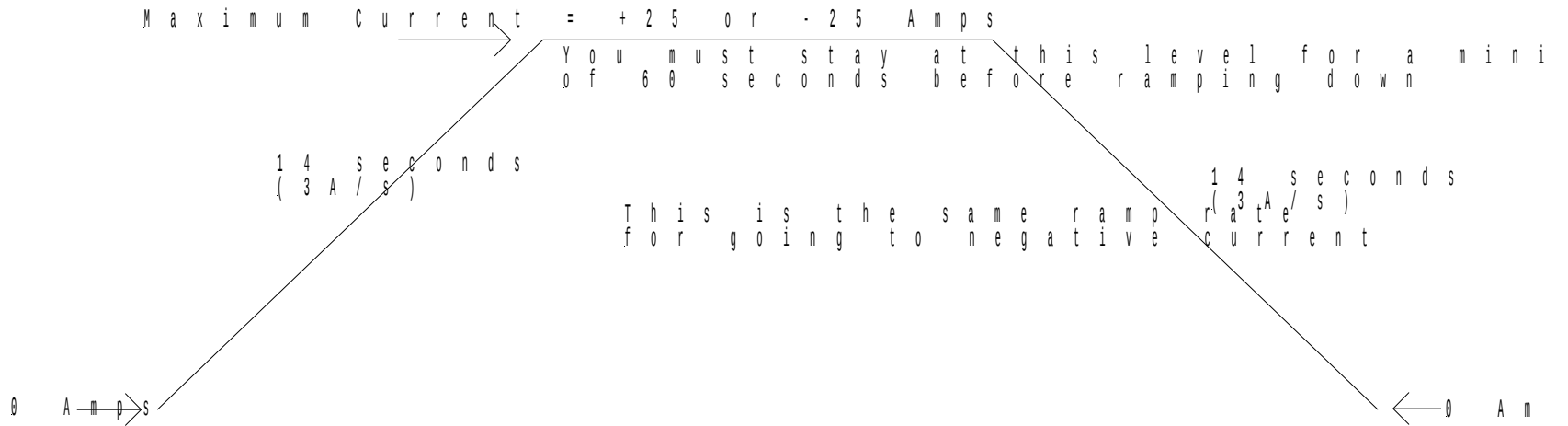
**Ramping down to zero current:**

- 1) FIRST, ramp the A20-csnk-sol-ps, A20-csnk-t1-ps and A20-csnk-t2-ps down to zero at no faster than 3A/sec.
- 2) Once A20-csnk-sol-ps, A20-csnk-t1-ps and A20-csnk-t2-ps are at zero current put the helical (A20-csnk-ps) into STBY while it is sitting at its operating current. There is a slow discharge circuit that will take over and discharge the magnet without quenching it.

**SEE NEXT PAGE FOR RAMPING WAVEFORMS.**

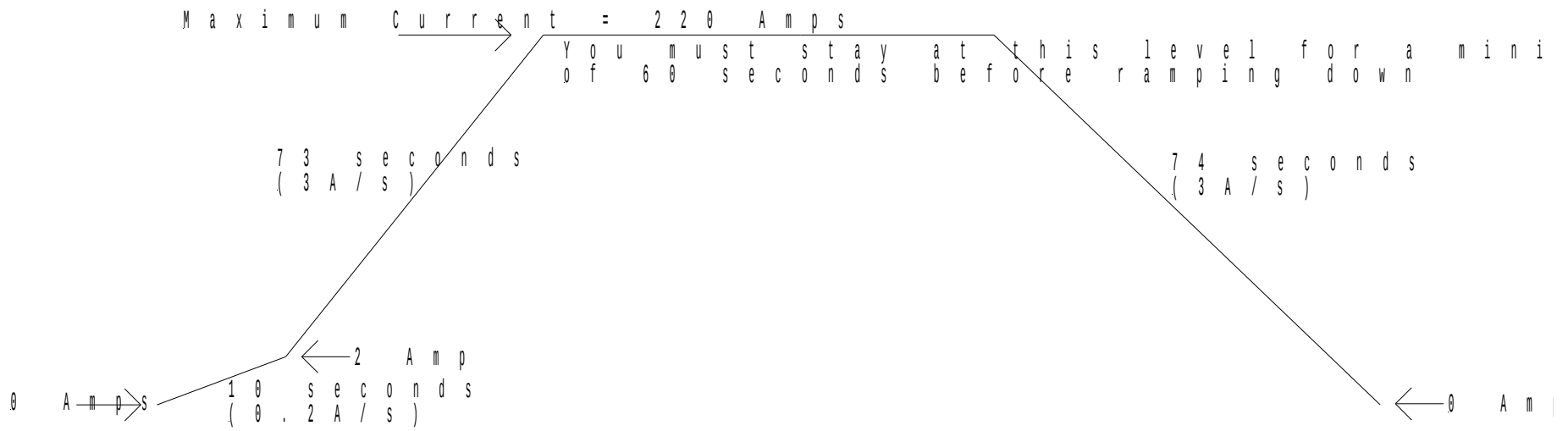
T h i s R a m p A p p l i e s t o O N L

A 2 0 - c s n k - t 1 - p s  
A 2 0 - c s n k - t 2 - p s



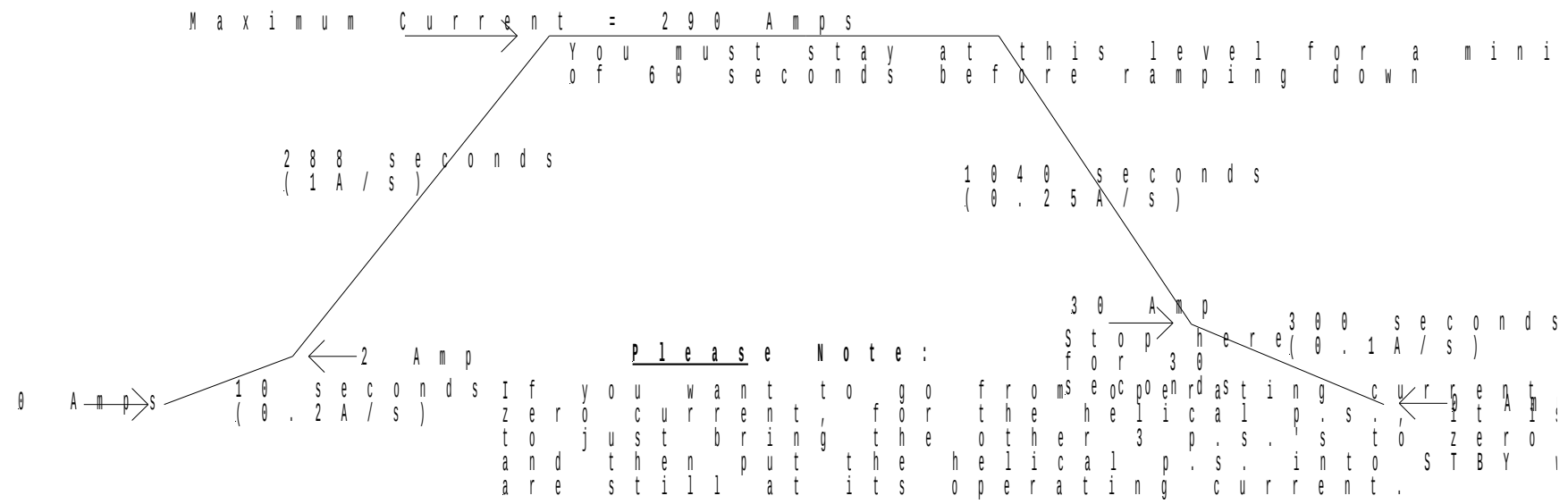
t 1 - r a m p - 4 - 1 1 - 0 7 . s k f  
4 / 1 1 / 0 7

T h i s   R a m p   A p p l i e s   t o   O N L  
A 2 0 - c s n k - s o l - p s



s o l - r a m p - 1 2 - 4 - 1 1 . s k f  
1 2 / 4 / 1 1

This Ramp Applies to O N L  
A 2 0 - c s n k - p s ( H e l i c a l )



hel - ramp - 12 - 4 - 11 . s k f  
12 / 4 / 11