Instructions for target operators

- **1)** NEVER PUT UNRASTERED BEAMS ON BI OR LEAD TARGETS, (NO MATTER THE BEAM CURRENT!!)

- **2)** HARP SCANS AND TUNING OF THE BEAM MUST BE DONE WITH EMPTY OR CARBON TARGETS

- **3)** BEAM CURRENT ON BI OR PB MUST NEVER EXCESS 40 muA WITHOUT CONFIRMATION FROM KONRAD ANIOL OR/AND RUN COORDINATOR

- **4)** PLEASE READ THE PROCEDURES FOR TAKING BEAM OR ON OFF PB AND BI TARGETS.

- **5)** ASK MCC TO MASK TARGET MOVEMENT BEFORE ATTEMPTIN TO MOVE THE TARGET

- **6)** YOU MUST MONITOR TARGET STATUS WITH:

1. DETECTOR REPLAY SCREENS --> .x online.C+("coin",RUNNUMBER) inside analyzer

2. T3 RATES AND T3 TRIGGERS PER DELIVERED COULOMB

- **7)** MONITORIZING TARGET STATUS IS PARTICULARLY IMPORTANT WHEN THE TARGET IS PUT ON BEAM AGAIN AFTER SOME TIME IDLE

- **8)** PAY ATTENTION TO THE T3 RATES AND T3 PER COULOMB AND NOTICE ANY VARIATION FROM PREVIOUS RUNS. NOTIFY INMEDIATELY KONRAD ANIOL AND/OR RUN COORDINATOR IF T3 TRIGGERS PER COULOMB CHANGE BY MORE THAN 10%, OR IF T3 RATES VARIATIONS THAT CANNOT BE ATTRIBUTED TO BEAM INTENSITY CHANGES ARE OBSERVED

- **9)** TAKE DOWN (OR MAKE SURE SOMEONE DOES) OF THE T3 RATES AND TOTAL T3 TRIGGERS PER COULOMB FOR EVERY RUN

- **10)** PLEASE READ AND OBSERVE THE FOLLOWING PROCEDURES TO PUT THE PB or BI TARGETS UNDER AND OFF BEAM AFTER A WHILE, FOR INSTANCE IF THE BEAM WAS DOWN OR IF MEASUREMENTS WERE DONE WITH ANOTHER TARGET FOR SOME TIME DURING SHORT BEAM TRIPS OF LESS THAN A FEW MINUTES IT IS OK TO LEAVE THE TARGET IN PLACE

PROCEDURE TO PUT LEAD OR BI TARGETS ON THE BEAM AFTER NOT TAKING BEAM FOR A WHILE

1. Look up the T3 rates from the last run of the same target

2. Look up also the T3 total triggers for Coulomb from the same run

3. Verify that RASTER is ON.

4. Move the target to beam position (follow the procedures for moving the target)

5. Ask MCC for 10 muA and take a short run for 5-10 minutes. Verify T3 rates during the run, do the detector replay and examine the target raster menu. Compare T3 rates (normalized to beam current) and T3 total triggers per Coulomb with the ones from former runs. If changes are observed (even at the few percent level), call K. Aniol and/or run coordinator

6. If there is someone at the analysis room, inform them that you're changing to a new target and the run numbers so they can make a thorough inspection with physics replay

7. Ask MCC for 20 muA and follow steps 5 and 6 again

8. Ask MCC for 30 muA and follow steps 5 and 6

9. Ask MCC for 40 muA and take a normal run

IMPORTANT PROCEDURE TO PUT LEAD OR BI TARGETS OFF THE BEAM AFTER TAKING BEAM FOR A WHILE

Reduce the current gradually. Follow the steps 5. to 9. from the procedure to put beam on target but with reverse order of currents, that is, 40, 30, 20, 10 muA

THANKS FOR HELPING REDUCE THERMAL STRESS TO THE TARGET