Prepared by: D. Beavis
May 19, 1997

Minutes for the RSC meeting of May 14,1997

Subject: B1 requested changes-Low Intensity Primary Operation (Part C)

Attending: A. McGeary, D. Lazarus, I.-H. Chiang, D. Phillips, A. Carroll, D. Beavis, D. Underwood, A. Stevens

The meeting covered several topics related to requests for changes in the B1 area. These minutes will only cover the part of the meeting for operating with low intensity primary protons.

Several items were unresolved and will be discussed at a meeting May 19, 1997.

The method of reducing the beam in the LINAC was not discussed since the experts were not available. It is expected that the AGS may have approx.10**11 p/spill.

The AGS and all beam lines will have the access system unchanged from primary protons. Only the B1 area will be allowed to have the Heavy ion (Low intensity) mode in operation. (CK-E926-01)(Liaison Physicist)

The Switchyard must have the quadrupoles locked off as in heavy ion operation. (Ck-E926_02)(Liaison Physicist).

The BC1 intensity collimator Procedure must be used to limit the beam intensity to the B target cave. (CK-E926-03)(Liaison Physicist)

The Intensity maximums for the AGS ring, B cave and B1 areas must be reviewed and established at the meeting May 19, 1997. They must be verified as part of the operation setup. (CK-E926-04)(Liaison Physicist)

The B1 area must have the protection system established as done for heavy ion operations. This includes the location of chipmunks, dual NMCs in the target cave, etc. (CK-E926-05)(liaison Physicist)

I.-H. Chiang said he would examine the faults studies of primary protons faults in the area of BC1. There are two concerns: 1) that the chipmunks will not allow operating with the beam on BC1; 2) That there are ALARA issues from elevated neutron levels from BC1 exterior to the shielding. After the meeting I.-H. Chiang reported that the FS #3 indicates that about (3-10)*10**10 p/pulse could be lost in the area of BC1 before the chipmunks interlock. This FS was done before some of the shielding improvements and indicates that the chipmunks will allow low intensity protons to hit the collimator at sufficient intensity for operations. Survey must be conducted for areas which may have elevated levels from the loss on BC1. (CK-E926-06)(HP)

The experiment request between 10**6 to 10**7 p/spill in the area. The expected beam size is between 0.1 to 1. cm**2. For the 1cm**2 area, the intensity would be at the top of the class II area rating. It was discussed at the meeting to have full beam enclosures. The manpower to build these barriers is substantial. After the meeting it has been proposed to not build these barriers but to have HP monitor the area during operations. This will be resolved at the May 19,1997 meeting.

The NMCs in the target cave will require dose to personnel and may be time consuming to install and remove. Another option is to place them external to the target cave. This allows the potential for intensity excursions to be transported to the experimental area (allowed if in target cave also) for a pulse or lost in the transport in the B1 secondary cave. It is proposed that the committee consider placing the NMCs at the end of the B1 secondary cave with the B5 area secured, B5 counting house, and the floor near the B1 secondary gate cleared of personnel. Protection will be provided by the current comparators and chipmunks.

The experiment is expected to use a target which is an interaction length long. This may create substantial area levels which need to be considered for ALARA and keeping all areas in compliance with their ratings. Heavy ion beams have been used in the area with equivalent intensities of 10**8 nucleons/pulse but only on thin targets, with the reminder of the beam deposited in a shielded area (ZCAL).