

Radiation Safety Committee
Minutes of Meeting [Thursday 10 March 1994]

RSC
K. Reece

Present: D.Beavis, H.Brown, A.Carroll, D.Dayton, A.Etkin, J.W.Glenn, P.Ingrassia, E.Lessard, A.McGeary, K.Reece, J.Spinner, D.Trbojevic, K.Woodle, T.Vetter.

Subject(s): Procedures and C1 line.

The present system for review of Procedures by the Radiation Safety Committee was considered to be not efficient and alternatives to improve this process were proposed. The OPM allows latitude as to the manner in which these Procedures can be reviewed; for the RSC, the RSC chairman may decide the method to be used. In order to simplify the process, one suggestion was to reduce the number of "official" reviewers for any individual Procedure. The RSC chairman proposed that two RSC members plus the liaison physicist for the area should act as reviewers for each Procedure the RSC must consider. Additionally, it was suggested that all RSC members be sent copies of the Procedures that pass through the RSC for review and that their comments be forwarded to the appropriate review group for consideration. (Committee members were encouraged to volunteer to review a procedure at this time). The RSC chairman will inform T. Vetter as to who will be reviewing each procedure. The time for the review to be completed and the Procedure to be returned to T. Vetter should be 30 days from the time it is given to the RSC chairman.

A list of Procedures remaining open for review was distributed (attached) and a first pass at associating RSC members to each Procedure was made. The final review groups will be assigned by the RSC chairman.

A recent problem with the Access Control System was noted by E.Lessard for consideration by the committee. In summary, while the Booster was on Controlled Access but not accepting beam, a fuse in the Access Control System blew and dropped the Booster to Restricted Access. Since the Booster was not operating at the time, this state change was not recognized for several hours. Although the Radiation Safety interlocks were not compromised, Restricted Access would have allowed anyone to access the Booster enclosure with a "256 key" without having the appropriate lock-out/tag-outs having been applied. An RSC sub-committee was defined (A.Etkin, P.Ingrassia, A.McGeary, J.Spinner, W.vanAsselt) for the purpose of proposing hardware changes to primary beam enclosures to prevent the possibility of this happening again. They will report to the committee by 15 April 1994.

A.Carroll presented the proposed operating scenario for the C1 beamline for FY94 with an associated radiation safety analysis (attached). The following is a summary of concerns expressed in committee that must be addressed prior to beginning operation.

1. The AGS F10 ejector magnet power supply will have a current window defined that will interlock the power supply at setpoints below 24.1 GeV/c. An effective lower current limit must be defined as close to the 24.1 GeV/c setpoint as possible; but at least 22.9 GeV.
2. Momentum collimators in the C1 beamline will limit the beam momentum shift to less

than 1%.

3. C1D3 & D4 power supplies will each have dual current monitors/interlocks that will interlock the power supplies at setpoints corresponding to momenta greater than 20.5GeV/c. A 4 hour test of the C1D4 power supply with an interlock limit at 25.6mV allowed operation a 25.4mV without tripping.

4. Q: Quadrupole steering must be thoroughly considered; can this allow higher momenta to be transported? Should the quadrupole power supply polarities be locked/tagged?

5. Q: What effect does the C2 compensating dipole have on the C1 beamline momentum acceptance?

6. Q: What effect does CP3 have on the C1 beamline momentum acceptance? This may be used to help reduce the acceptance if needed.

7. Q: Is it possible for a beamline magnet to reach a necessary setpoint and stabilize to 1% in 2.5 seconds such that 24.1GeV/c beam could be transported to the C1 platform? (within one AGS extracted pulse).

8. Dual NMC units at the exit of C1P5 will interlock the beamline at intensities greater than 2×10^8 particles/pulse.

Fault studies must be done including at least one operating momentum of 16GeV/c. An RSC sub-committee (D.Beavis, H.Brown, A.Carroll, D. Trbojevic) will consider items 4,5,6 & 7 and fault studies for the area. [C1 beamline check-off list]

Note from RSC Chairman: The Experimental Safety Committee has requested a review by the RSC concerning methods to control the polarity switches for the C1/C5 beamline elements. The recommendations will be included into the RSC Check-off lists for these beamlines. [C1 beamline check-off list, C5 beamline check-off list]

Attachment (file only):

1. A.Carroll, "Radiation Safety Analysis for C1 Beamline", Updated 12/10/93.

RSC Check-Off List items:

1. C1 item #1: fault studies at an operating momentum of at least 16GeV/c, (additions possible as result of sub-committee review).
2. C1 item #2: control of polarity switches for shared C1/C5 beamline elements.
3. C5 item #1: control of polarity switches for shared C1/C5 beamline elements.