

Thursday 8 February 1996

K. Reece

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Minutes of Meeting: Radiation Safety Committee

Date: Wednesday 7 February 1996

Present: H. Brown, A. Etkin, P. Ingrassia, E. Lessard, W. MacKay, A. McGeary,  
S. Musolino, K. Reece, T. Robinson.

Subject(s): ATR/g-2 gates without PASS.

HISTORY: At the beginning of the AGS Heavy Ion Physics (HIP) program for this operating year, the RHIC/ATR/g-2 access control system (PASS) had not been approved by the laboratory Accelerator Readiness Review (ARR) committee due to incomplete system wiring/installation documentation. As a result, credit for this system could not be taken and administrative means of prohibiting and controlling access to the FEB areas were put into place. Also, since PASS uses new technology, (PLC based), there was no AGS experience with the design and operation of such a system. During ATR operation, the appropriate FEB area access gates were physically padlocked with two dissimilar locks and these gates were inspected every few hours. Experience acquired during this period has shown with regard to the PASS system that,

1. test procedures adequately challenge the system and PASS responds with the necessary interlocks.
2. PASS does produce failsafe conditions during system tests and operation. These states are, in some cases, redundantly failsafe in that not only the primary pair of critical devices interlock but the "reachback" pair of critical devices also interlocks when "permits" are removed by one or both PLC division.
3. visual gate inspections have found no attempts to inappropriately access secured areas.
4. PASS has provided indications when access gates were opened, closed and reset.

PRESENT STATUS: The PASS system documentation will not be complete for review by the ARR and RSC until mid-March. Also, g-2 FEB extraction commissioning is not scheduled to begin until shortly after that date. Therefore, during AGS set-up and operation for SEB, no credit for PASS may be taken. The consideration for this committee is to define the operating guidelines for this AGS mode of **AGS extracting to SEB areas and FEB extraction LOTO.**

1. This review is ONLY to permit beam to be accelerated in and extracted from the AGS to the SEB areas. FEB extraction to the g-2 target station NOT approved.
2. Any two of the following must be LOTO at all times with protons in the AGS ring, **(CK-AGS-01)**.
  1. G09 bumps.
  2. H11 bumps.
  3. G10 kicker.
3. The H10 ejector and U-line 4° bend (UD1&2 aka UARC4) must be LOTO whenever beam is in the AGS until the PASS system is accepted for routine use and connected to the AGS security system, **(CK-AGS-02)**.
4. New procedures for the FEB areas (U, W upstream and V target blockhouse) must be written and approved **(CK-AGS-03)**, including
  1. Search and secure of these areas.
  2. Controlled access, (access to ~ 50' of gate permitted w/o removing all locks).
  3. Restricted access.
5. The existing AGS chipmunks at the FEB stub line and FEB zero degree port must be in place with their interlock function operating, (except during studies), **(CK-AGS-04)**.
6. PASS may or may not be connected to the AGS security system as required for system tests. When testing of PASS is complete, MCR should monitor the status of the PASS system ~ once per shift during AGS operation, (whether it is connected to the AGS security system or not). Any anomalous status will be reported to the Security Group.
7. The following gates must again be padlocked **(CK-AGS-05)** using two dissimilar locks at each gate;
  1. UGE1.
  2. UGE2.
  3. WGS1.
  4. VTGE1, (until area is documented to be safe by AGS ring fault studies).
8. During AGS operation, someone from the AGS Safety Group (W. Sims, et al.) will inspect these gates once per day (during weekdays) and maintain a log, **(CK-AGS-06)**.
9. re: item #7.4 above, AGS FEB area fault studies (FS) include **(CK-AGS-07)**;
  1. Produce a circulating beam fault at or near the H14 magnet, (AGS FS)
  2. Set-up FEB extraction and place the AGS beam into the H10 septum (OFF), (AGS FS).
  3. Set-up FEB extraction and place the AGS beam into the UD1&2 magnet (OFF), (FEB FS).

Members of the RSC who were unable to attend this meeting should provide comments as quickly as possible for consideration.

cc: RSC            RSC file            W. vanAsselt            W. Sims