

Thursday 14 July 1994

K. Reece

Minutes of meeting: Radiation Safety Committee, Thursday 14 July 1994.

Present: D.Beavis, H.Brown, G.Bunce, A.Etkin, W.Glenn, D.Lazarus, E.Lessard,
W.McGahern, A.McGeary, S.Musolino, K.Reece, J.Sandweiss, J.Spinner,
A.Stevens.

Subject(s): A3 - E864

An overview of the E864 operation was presented by J. Sandweiss and is summarized as follows;

- intensity requirement is for up to 10^7 Au⁷⁷ for normal operation but will use nominally 1% of this for most of the time this year.
- the target station is located in the upstream section of the A3 secondary cave and this station will have a target wheel and several possible targets (including a blank).
- the production target will be approximately 0.1 interaction length of Pb.
- a SWIC will be placed immediately before the target and used as the servo input for two upstream dipoles to keep the beam on the target.
- there will be a large vacuum chamber from just after the second dipole in the A3 area to just before the beam dump; there will be a small (6 ft.) accessible region just upstream of the beam dump.
- the beam dump will have a re-entrant cavity.
- the detectors will be located under the vacuum chamber (16 degree production angle).
- MCR (Glenn) will set-up the beamline tune to the "A" primary target station and Dana will help transport the beam further to the experimental target station in the A3 secondary area.
- the anticipated beam spot size at the target will be 2 - 3mm.
- in the A3 secondary area, the only "in beam" element in the primary beam path through the vacuum chamber other than the target will be a vacuum isolation valve (1/2") located immediately downstream of the target.

D. Beavis then went over his review of the A3 - E864 experimental area (AGS/EP&S Technical Note #142, "Dump It").

- this review assumes the intensity to be 10^8 Au⁷⁷.
- shielding for this area designed for 1mrem/hr outside the shielding.
- secondary beam operation not considered and NOT approved for this area.
- the labyrinth and cave trenches were not reviewed.
- there are two moveable collimators for this beamline (intend to run fully open); one at the "A" primary target station and the other upstream of A1D5.
- another (fixed) collimator is in the M1 magnet (first dipole in the A3 area).
- the beam switch is composed of the A1D4 & 5 magnet power supplies.

W. McGahern reviewed the shielding for the A3 secondary area. An "as built" shielding print for sidewall and roof shielding will be provided to the committee.

A sub-committee (D.Lazarus - A3 liaison physicist & sub-committee chair, D.Beavis, G.Bunce, A.Stevens) was appointed to consider the many RSC recommendations and to review the A3 - E864 area in general. Although there will be other recommendations from this sub-committee, the Action Items and RSC Check-off list items proposed from this meeting are listed below.

Action Items:

1. the A1 area must be reviewed and possible HI fault study done for a scraping loss in the A1D5-7 dipole string, (Lazarus sub-com).
2. pulsed radiation estimates must be done for the parking lot adjacent to the E864 trailer, (Lazarus sub-com).
3. provide an "as built" print for sidewall and roof shielding, (McGahern).
4. inspect shielding for the A3 area and the A1 primary cave; the left sidewall shielding next to A1D5-7 a concern, (Lazarus sub-com).
5. pulsed radiation estimates must be done for the A3 area labyrinth, trenches and roof (Lazarus sub-com).
6. as in other primary caves, the A3 cave lights must be dimmed when the cave is secured, (McGeary).
7. A3 cave crash button (2-3) locations must be defined, (Lazarus sub-com).
8. A3 cave reset station (2-3) locations must be defined, (Lazarus sub-com).
9. a time delay must be initiated after the A3 cave is reset to prevent immediate introduction of beam into the area, (McGeary).
10. pulsed radiation estimates must be done for the building wall that is "beam left" of the area where the shielding is not contiguous, (Lazarus sob-com).
11. should the A3 area dipoles have polarity checks/interlocks to prevent the beam from being deflected to the right ? (Lazarus sub-com).
12. should the A1D5-7 dipoles have polarity and/or minimum current checks/interlocks ? (Lazarus sub-com).
13. pulsed radiation estimates must be done for the adjacent power supply house, including the second floor, (Lazarus sub-com).
14. should the beam intensity be limited ? (eg: NMC's), (Lazarus sub-com).

RSC Check-off list items:

1. A3 secondary cave classification must be reviewed and presented to the full RSC for approval (Class II may be acceptable with internal barriers). This would permit the area to be secured by HP.
2. SEB minimum energy check (on the F10 ejector magnet power supply) must be redundant, (coupled w/A1D4&5, this is in the beam interlock system).
3. A1D7 moved to A3 position.
4. pulsed radiation estimates and/or fault studies for the A3 area complete.
5. "as built" security logic given to the RSC.

cc: RSC committee
RSC mtg minutes file