

## Minutes of the RSC Sub-Committee to Examine the Radiation Protection Outside the North Conjunction Area, May 26, 1994

Attendees: W. van Asselt, L. Ahrens, J. Glenn, E. Lessard, A. Pendzick, E. Njoku, H. Brown, G. Bunce

The objective of the meeting was to establish the criteria needed to make the area outside the North Conjunction Area available for construction workers as an Uncontrolled Area. Additionally, chronic levels near in Building 919 were discussed in terms of making that Building a Controlled Area.

The closest Uncontrolled Building in the path of the chronic mixed radiation field emanating from the North Conjunction Area appears to be Building 919 F or the site boundary.

Facts:

No particular construction worker will spend longer than 80 hours at the g-2 site.

The BNL limit for an Uncontrolled Area exposure from a single source is 25 mrem.

It is requested that the yard around the g-2 site be an Uncontrolled Area in order to facilitate construction work.

There is no significant problem if Building 919 becomes a Controlled Area, with a film badge required for workers staying more than 80 hours per year. Persons entering a Controlled Area must be GERT Trained and a limit of 100 mrem per year applies.

To achieve an Uncontrolled Area with 80 hour occupancy, less than 0.31 mrem/hour must be achieved at any location at the work site.

To achieve a Controlled Area at Building 919, with a film badge required for workers staying more than 80 hours per year, less than 1.25 mrem/hour must be achieved.

Next year, the yard around the g-2 site would be elevated to a Radiation Area, and occupancy would no longer be a factor. Building 919 would remain a Controlled Area.

Two years from now, Building 919 would become a Radiation Area.

Conclusions

The nearest Uncontrolled Building past Building 919 should be identified. (E. Lessard)

Ten more shield blocks at the hottest spots at the North Conjunction Wall shield must be added. (A. Pendzick)

A memorandum stating that no particular construction worker will spend longer than 80 hours at the g-2 site must be sent to the RSC files. (A. Pendzick/ C. Pearson)

A quality factor study must be undertaken before and after the new shield block is added. The locations must be close in near the shield and far away near Building 919. (E. Njoku)

A long term solution to the shield design/modification at the North Conjunction Area must be presented to the RSC. (W. van Asselt)

Health Physics Techs should continue to do daily surveys for the g-2 construction site and Building 919 and plan to do for the rest of the proton running period. (E. Njoku)

A fault study for placement of the area-radiation monitor for chronic radiation conditions at the appropriate construction location should be completed. (K. Reece)

Existing fault studies for placement of an area-radiation monitor to protect against fault levels should be reviewed. (W. Glenn)

The location of the area-radiation monitor should be optimally chosen on the basis of survey data following placement of the new shield and the location of workers. A monitor should be set to keep dose ALARA from chronic levels. Another area-radiation monitor may also have to be optimally placed to protect persons from a fault. The fault studies, quality factor measurements and survey data must be reviewed. (RSC sub committee)

This RSC sub committee should meet again at 11:30 on May 27 in the SCR.

E. Lessard