C-AD
Radiation
Safety
Committee

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Minutes of Radiation Safety Sub-Committee of September 18, 2002

Changes in the Existing Tandem Interlocks

Present: M. Wiplich, J. Alessi, A. Etkin, N. Williams, C. Carlson, D. Meany, and D. Beavis

A new matrix of the logic for the Tandem was provided (see attachment 1). The major change is that the existing tandem security system will no longer use the low energy and high-energy Faraday cups but rather the new beam stops, which are at the low energy end of each tandem. The charging chains and pre-accelerator high voltage will not longer be turned off by the access control system except for the activation of an emergency stop. **The committee approved the new logic**.

M. Wiplich provided materials, which described how the interlocks would be modified (see attachment 2). The interlock wiring changes will be done by an appropriate E.C.N. process. The completion of the wiring changes and the documentation will satisfy check-off list item # 244.

The existing tandem interlocks provide for crash buttons, sweeps, and warning that potential radiation is imminent. The 30-second time delay will be provided by the new relay system via time delay on energize relays. These are currently listed as 2-second delays but will be changed to 30 seconds or longer (see attachment 3).

The barriers which enclose the area need to be inspected that they meet the committee standards for areas with greater than 50 rem/hr. It is believed that some barriers may need to be improved. **(ck-tandem-fy2003-deuterons-304)**.

J. Alessi provided documentation from past reviews. The TTB beam stops clearly meet all requirements for light ions. **This closes item 244**. (see attachment 4)

J. Alessi provided documentation of the design review of the new low energy beam stops (see attachment 5). The wiring for the new interlocks has been examined that the intensity monitors (chipmunks), harp removal, or access door opened will close the new beam stops. This **closes check-off items 236 and 274**. The new interlocks check that the target room beam plugs are in or the access doors are reset. This implies that beam can be delivered to the beam plugs with the room open. The plugs need to be examined for the ability to provide sufficient protection or this option removed. **(ck-tandem-deuterons-fy2003-305)**

J. Alessi noted that the minutes from the RSC meeting of Oct. 5, 2001 has an alarm limit of 20 nano-amps while his notes has 120 nano-amps. This will be checked prior to close of check-off list item 264, which specifies the alarm and interlock levels.

Attachments (file copy only):

1) Logic matrix for interlocks.
2) Memo M. Wiplich to J. Alessi
3) Draft of the new Tandem Relay Wiring
4) J. Alessi, Documentation of TTB beam stop reviews.
5) Documentation of Certification of new low energy beam stops.

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present