

Friday 8 August 1997

K. Reece



Minutes of Meeting: Radiation Safety Committee

Date: Wednesday 6 August 1997

Present: L. Ahrens, D. Beavis, A. Etkin, R. Frankel, W. Glenn, L. Goudikian, R. Heyder, P. Ingrassia, E. Lessard, W. MacKay, Y. Makdisi, S. Musolino, K. Reece, T. Robinson, J. Sandberg, A. Stevens, R. Thern.

Subject: Key-Tree Proposal - R. Frankel.

A proposal for key-tree access to RHIC beam enclosures was developed by RHIC staff with suggestions from the MCR Operations. The proposal (attached) was presented by R. Frankel for consideration by the RSC. Although many comments, questions and concerns were voiced in the discussion, the committee approved the *principle* of using key-trees for access into RHIC (PASS supervised) areas. However, several principal issues remain unresolved and must be further developed and submitted to the RSC for review.

As must be weighed by the Project in any effort, the capital costs of certain options were noted as considerations in several aspects of this proposal.

[Comment from Chair: these initial expenditures should be compared with any long term maintenance needs, programming complexity, possible operational confusion and resultant deviation from accepted practice in access controls systems].

Following are listings of items agreed to and approved by the committee and unresolved issues (including committee comments and suggestions) that must be re-considered and submitted to the committee for review.

Approved by the RSC:

1. The principle of key-tree access to RHIC (PASS supervised) areas is approved by the RSC.
2. The key-trees for Controlled Access (CA) and Sweep & Reset (S/R) *must* be an integral part of the PASS system, (Frankel).

8 August 1997

3. The key-tree for Restricted Access (RA) shall *not* be involved with the PASS system. [No safety reason to hold-off the accelerator due to a missing RA key. The area sweep removes this concern], (Robinson).
4. ALL external gates used for CA will have CATV, (Frankel).
5. A policy and procedure for key control must specify that "if ANY CA key cannot be accounted for, the key-tree must be replaced with a new, unique key code and the lock cylinders re-keyed", (Musolino).
6. Each RA card reader will have appropriate local indicators of area status, (Frankel).
7. Key-tree keys must be "unique"; copies not obtainable through uncontrolled channels, (Etkin).
8. The 90 second "latch" of simultaneous release from MCR must be eliminated; simultaneous release ONLY active when physically asserted from MCR, (Frankel).
9. ALL CA keys must be captive in the MCR key-tree before the Reset will function, (Frankel).
10. CA keys (including those presently in use) that are not fully accounted for *cannot* be used in a CA key-tree, (Etkin).

Unresolved issues for re-consideration by the RSC:

1. Details of the RA "sign-out, sign-in" must be specified, (RSC sub-committee).
2. Updating/maintaining the training database and operation of the RA key-tree card reader unit, (Ingrassia, Frankel, Auerbach).
3. The number of CA and RA keys in each key-tree must be defined, (RSC).
4. Controlled Access methods must be developed and presented to the RSC for review; for supervision of CA both remotely and locally, (Glenn, Reece, Ingrassia, MacKay). Also consider the use of a "special" CA key for "group" CA under local log-in/log-out supervision.

8 August 1997

5. Several RSC members expressed concern for the proposal to permit CA through "internal gates" w/o CATV, (using telephone only). Use of CATV for all CA would be an approach consistent with accepted access controls methods. [Must be re-considered by the committee].

6. Circuit designs for the CA and S/R key-trees must be considered in an engineering review, (Sandberg, Frankel, Etkin, Thern). Recommendations from this sub-committee will be distributed to the full RSC.

7. The type of card reader suggested for use (magnetic, bar code, "key-punch") must be reviewed (Sandberg, Frankel, Etkin, Thern) from an engineering perspective for durability, weather tolerance, etc. and also for its flexibility (programmable to interpret database information such as training requirements and level of training by individual, etc.).

8. For Restricted Access (RA), two suggestions, (RSC sub-committee);

8.1 RA keys are controlled by MCR (during operations) or another identified responsible person/group. A numbered RA key would be "signed-out" to an individual.

8.2 RA keys are issued from a key-tree. This key-tree would have a card reader and each person must swipe their card in the unit (therefore recording the individuals identity and confirming their training) to release *a single RA key*.

9. CA, RA and S/R keys should have an attached tag as a physical reminder to the user that they have a key in their possession that must be returned to MCR, (Ingrassia).

10. For the CA key-tree, requiring a "master" (e.g. 12 CA keys w/13th key to allow release of any CA key) provides tighter control over these keys. This would reduce the possibility of someone removing a CA key inappropriately (e.g. with beam stored in RHIC) and forcing the accelerator to a Safe State, (=> abort the stored beam), (Glenn, Reece, Ingrassia, MacKay). This is a standard feature of Kirk Lock systems.

11. Implementation of key-trees for any existing PASS supervised area must be proposed to and reviewed by the RSC, (Robinson).

8 August 1997

12. The necessity of dropping the Sweep (ref: attachment p.3) was questioned; it was noted that sweeping areas is personnel intensive and time consuming and that if there is no "value added", then the appropriate Sweep(s) should be maintained, (Glenn, Reece, Ingrassia, MacKay).

13. Installation of RA card readers at all gates may prove to be cost effective in the long run (time saving during operation), (Robinson, MacKay, Musolino, Etkin).

14. The requirement for a simultaneous release in Crash mode (Safe State) should be eliminated, (the safety necessity for these feature is not apparent), (Robinson).

15. The option to be able to sweep an area while it is in Restricted Access Mode does not seem to be necessary and should be re-considered, (Robinson).

cc: RSC without attachment
RSC file