

**Subject:** Re: A0 North Cave  
**Date:** Fri, 14 Apr 2000 15:42:16 -0500  
**From:** Mike Gerardi <gerardi@fnal.gov>  
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**References:** 1

Hi,

We have reviewed the facility shielding and believe it is installed as requested. The necessary Interlock System Tests have also been successfully completed. We believe operation of the A0 North Cave Superconducting RF facility from the radiological standpoint can proceed as follows:

A list identifying the required training has been generated, once an individual has completed the required training their name will be added to the keytag identifying them as qualified to sign-out the operating key.

Operations will issue the key to those listed on the keytag initially with prior RSO approval. The approval is necessary so that the radiation surveys, noted below as holdpoints, can be discussed and arranged.

Once the surveys have been satisfactorily accomplished the issue of the key via the MCR will no longer require prior RSO approval and could be routinely issued to those with the appropriate training.

This summarizes the radiological concerns. I believe we can safely begin the startup/commissioning phase.

Thanks,  
Mike

"G. Lauten" wrote:

Status of the A0 North Cave Superconducting RF (SCRf) device start up/commissioning from BD ES&H Radiation Safety's perspective: 1. Training issues. At this time, I recommend that the following training should be required for operators of the SCRf: Radiation Worker, LOTO2, ODH, Search and Secure, and SCRf Device Operation. SCRf Device Operation is training from a person deemed a knowledgeable person in operating the SCRf, analogous to modulator training given at the Photoinjector. I will provide Search and Secure training next week or when we (SCRf personnel and myself) agree to do so. 2. Radiation detectors. We have installed 2 interlocked chipmunks set to trip at 5 mrem/hr (2-152 and 2-153 are the chipmunk on the roof and on the gate respectively), and 2-154 is the scarecrow inside the cave. The scarecrow is for monitoring purposes only; it is not interlocked. The interlock group has verified the interlock system, however they will do an additional, final verification of the interlock for the SCRf when all the devices have been hooked up. I also installed a meter for the scarecrow outside the cave above the gate for a visual readout of the radiation rates inside the cave. Additional detectors may be installed at a later date depending on the results of radiation surveys. 3. Additional shielding: They have added shielding as described in Karl Koepke's paper "Separator Cavity Shielding Analysis (July 6, 1999) The cave shielding is acceptable based on visual inspection. Shielding will of course be modified as required based upon the results of actual radiation measurements during start up/commissioning. 4. Upon start up/commissioning, we plan to conduct radiation surveys of the outside perimeter of the cave and the roof. The purpose of these surveys will be to ascertain that radiation rates around the sides of the cave are less than 1 mR/hr (design criteria), and less than 5 mR/hr on the roof of the cave. Surveys are planned to be conducted when the inside cave radiation rates reach about 1/4 rad/hr, 1 rad/hr, 4 rad/hr, and 10 rad/hr at approximately 1 meter from the dewar. See "Separator RF RUN Plan for A0 North Cave" (March 30, 2000). The scarecrow was installed for monitoring dose rates inside the cave. 5. Control of the A0 North Cave Reset Key: It still needs to be determined how the key will be issued from the MCR. Will SCRf personnel need to have RSO permission prior to being issued the key? The Separator personnel do not get prior RSO authorization to obtain the key; will it be different for SCRf personnel? 6. Appropriate sign offs and approvals need to be given before operation of the SCRf commences. Thanks, Gary Lauten

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