

THIS DOCUMENT CONTAINS  
POOR QUALITY PAGES



Westinghouse  
Electric Corporation

Water Reactor  
Divisions

PWR Systems Division

Box 355  
Pittsburgh Pennsylvania 15230

October 25, 1978

WRD-LS&S-578

(NRC PUBLIC DOCUMENT ROOM)

U. S. Nuclear Regulatory Commission  
Office of Nuclear Material Safety & Safeguards  
Division of Safeguards  
Washington, D.C. 20555

Attention: Mr. Bernard Singer, Chief  
Radioisotopes Licensing Branch

Gentlemen:

Subject: Request for Exemption, License SNM-47, Docket 70-48

The Westinghouse Electric Corporation hereby requests authorization for exemption from the requirements of 10 CFR 20.203, paragraph C6, regarding the installation of entry control devices in the hot cell at our R & D facility at Churchill, Pa. to prevent any individual from inadvertently entering a high radiation area.

The detailed justification regarding our request for exemption is based on the use of alternative methods to accomplish the same objective as the regulation, and is provided on page 9.3 of section 9.1 of our license documentation. A copy of the applicable information is attached to this letter for your convenience.

The granting of this request will not adversely affect the health safety or welfare of the general public.

If you have any questions regarding this matter, please contact me at the above location or telephone me on (412) 373-4652.

Very truly yours,

NOV 1 1978  
SECTION  
REG.

*Ronald P. DiPiazza*  
Ronald P. DiPiazza, Manager  
NES License Administration

slw/Attachment

50 11 WM 03 100 826

11111

RECEIVED

781221024/

## 9.1 Radiation and Nucleonics Laboratory (continued)

the hot cell and changing the winch hook from the first source holder to the second source holder. In addition, the winch is assigned to a particular source holder by locking the movable pulley into either the "<sup>137</sup>Cs position" or the "<sup>60</sup>Co position" (Figure 9.1-6), with spring-loaded pins. These operations cannot be performed using the manipulators.

Figure 9.1-7 is a schematic of the door and source control electrical system. Note that the hot cell door lift motor can be operated at any time to bring down (close) the door; the only interruption being the door travel limit switch when the door is closed. However, the door's upward (opening) motion is restricted first by the requirement that a restricted access key is required to activate the "up" pushbutton, and secondly by the necessity of having all four interlocks closed in the coil circuit of relay K<sub>1</sub>. The two independent radiation interlocks M<sub>1</sub> and M<sub>2</sub> are normally closed when the radiation intensity in and around the hot cell is satisfactory for continuous occupancy; they open when this is not so, as when one of the sources is out of its shielding container. Placement of the sensors for M<sub>1</sub> and M<sub>2</sub> is shown in Figure 9.1-3. The two source holder lid switches are mounted adjacent the cavities of the two shielding containers, and the switch arms are activated during the last inch or so of travel as the source holder is lowered into its cavity. Thus the personnel door cannot be opened if either source holder is not seated, or if the radiation interlocks are activated. In addition, the radiation warning lights will come on, and the door between the hot cell area and the adjacent Chemistry Lab will be locked to persons in the Chemistry Lab.

The door's being down establishes the initial condition for use of the radiation sources inside the hot cell: one pole of the door travel limit switch removes power from the coil of relay K<sub>2</sub>, the contact of which then makes power available to the lock control pushbutton (and which turns on the "down" door position light). Then if the Chemistry Lab Door interlock contacts (with attached radiation warning sign) have been plugged in, and the operator has secured the second restricted access key, power may be applied to the electronic combination lock. If the proper sequence of pushbuttons has been activated, this lock will in turn apply power to the chosen lock solenoid which releases the source. Manual operation of the winch then brings up the source for use.

- A: Electronic  
Lock Control  
P: Patch Panel  
M: Radiation  
Monitor  
Sensor  
\*Lead & Steel

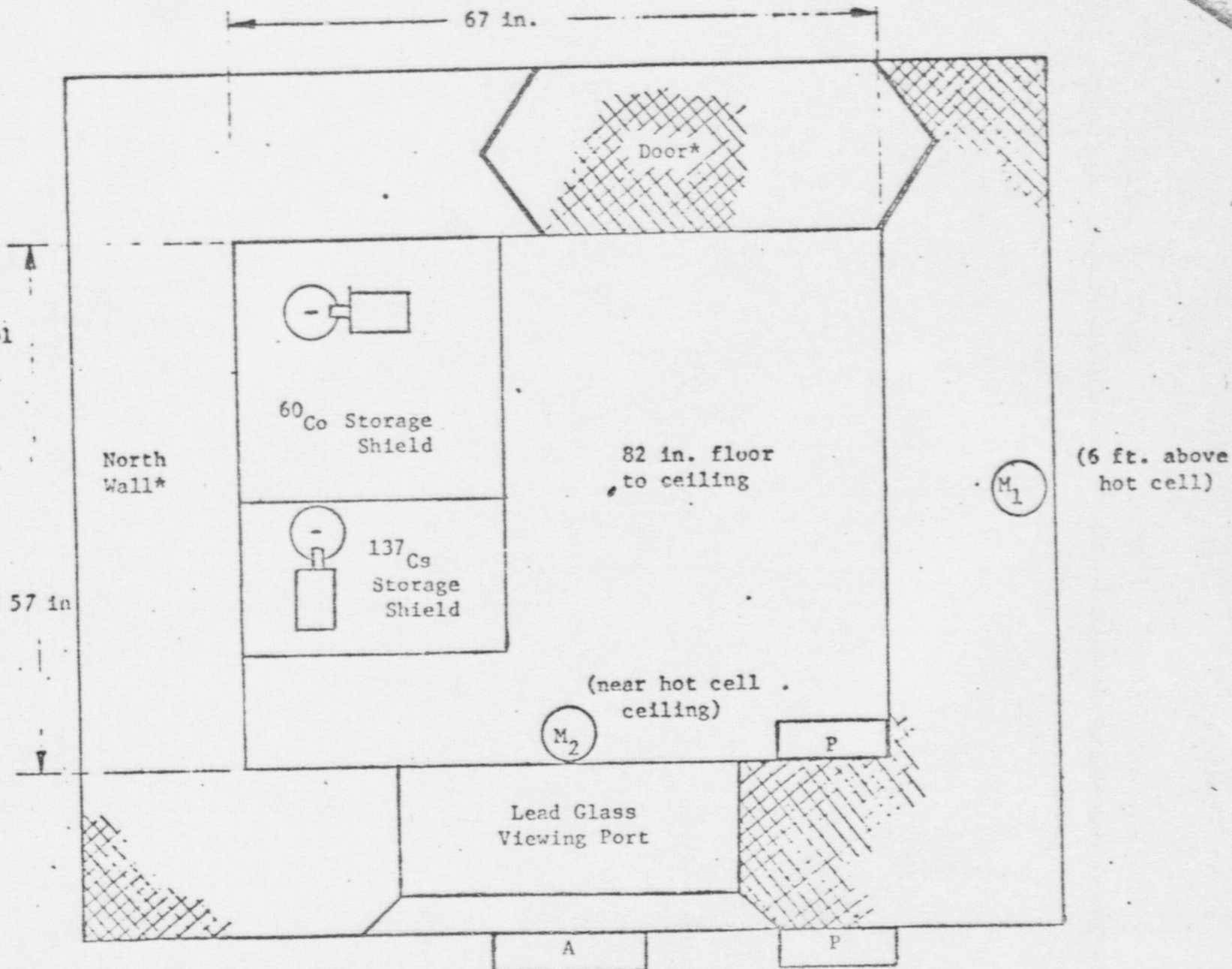


Fig. 9.1-3 Hot Cell Plan View



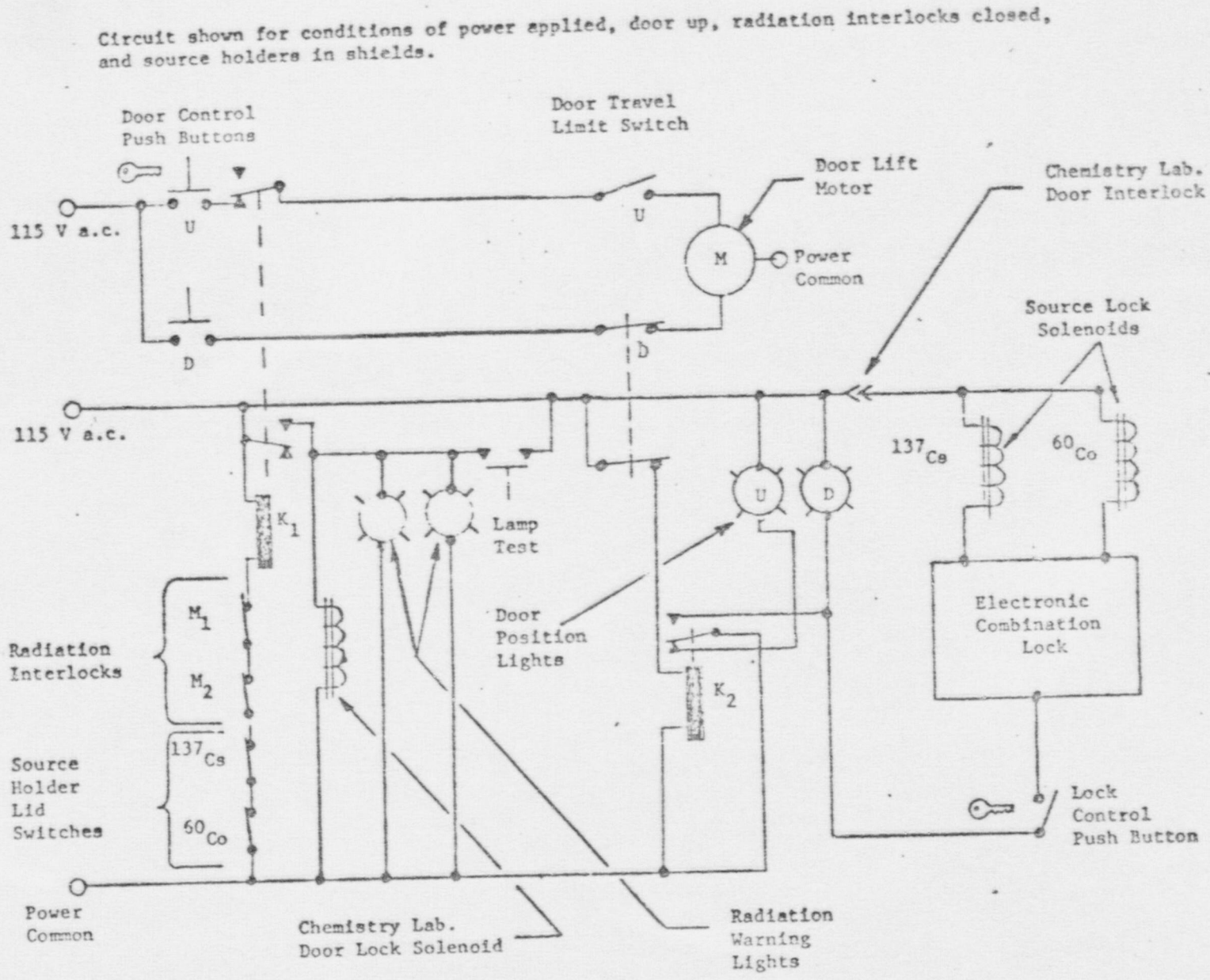


Fig. 9.1-7--Hot Cell Door and Radiation Source Control