

325 MHz Test Area at Meson Detector Building – Overview and Remote Key Tree Instructions

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MCR OPS NOTES

There are two main parts of the 325 MHz Test area at the Meson Detector Building. One part is known as the 325 MHz RF Cage, and the other part is the 325 MHz Cavity Test Cave. One 325 MHz klystron, modulator RF system provides RF to the cage or to the cave. RF is directed to the desired locations by the use of waveguides, waveguide switches, waveguide shutters, and a coax switch. There are also dummy loads connected to the waveguides.

The 325 MHz RF cage is a test area for RF devices. There are no ionizing radiation (X-ray) hazards associated with the RF Cage. However there is a non-ionizing RF wave hazard associated with the cage. The cage was specifically designed to intercept any potential RF waves emanating from the end of the waveguide, so that RF waves cannot escape the cage.

The 325 MHz Cavity Test Cave is a test area for RF cavities. Ionizing radiation can be produced, thus the familiar concrete cave structure was built for radiation shielding. Because of cryogenics, the cave may also be posted as an ODH 1 area.

The MCR Remote Key Tree for the 325 MHz Test area is located at the Meson Detector Building in a small room adjacent to the ILCTA (CC2) (325 MHz Test Area) remote key tree near the roll-up door on the east side. Currently the only function of this key tree is to hold keys for the 325 MHz Test Area. This key tree does not make up any permits for the 325 MHz Test area system or enable any devices. There are 5 keys for the facility at this time. They are described in the following section. When the key(s) are properly placed in the key tree, the key status signal can be viewed on the safety system page.

The only responsibilities for MCR OPS are to verify the identity, training, and authorization of the person attempting to check out key(s) from the remote key tree. There is an MCR remote camera for viewing the person at the key tree to verify their identity. 325 MHz Test Area Operators may also request to transfer possession of the keys to another qualified 325 MHz Test Area Operator via a telephone call to the MCR.

If a person is not authorized to have these key(s), the key logger will provide an alert. The key logger will check the person's Radworker and ODH training status (if applicable), and match their ID to a list of ID's of persons authorized to check out the key(s). All other persons are required to have RSO authorization.

At the conclusion of 325 MHz operations for the day, or anytime the 325 MHz Test Area is unattended by a qualified 325 MHz Test Area operator, the authorized 325 MHz Test

Area operator is required to return the keys to this remote key tree. The 325 MHz Test Area operator is required to call the MCR to have the key tree door “buzzed” open so that he can return the keys. It is not MCR OPS’ responsibility to ensure that these key(s) are returned to the key tree at the end of the day, nor when the 325 MHz Test Area cave is unattended by a qualified 325 MHz Test Area operator. That responsibility lies with the 325 MHz Test Area Operators and administrative oversight of AD RAD SAFETY. If the 325 MHz Test Area Operator needs to leave the area and they want to transfer responsibility of the 325 MHz test area keys to another 325 MHz test Area Operator, the MCR must be called to transfer possession of the keys. This ensures that only qualified personnel are issued the keys and are authorized to operate the 325 MHz Test Area, and the key logger has the correct data about who has possession of the keys. The transfer of keys to another 325 MHz Operator can be done with a phone call to the MCR. It is not necessary to shut down the power and remove the keys from their chassis to complete the transfer of keys to another 325 MHz Operator.

In summary, MCR OPS’ only responsibility is to verify the identity and authorization of persons requesting keys from the Meson Detector Building remote key tree and to transfer possession of the keys to other authorized 325 MHz Test Area Operators when requested via telephone.

Note: At this time, the button that opens the ILCTA (CC2) Cave remote key tree simultaneously opens the 325 MHz Test Area remote key tree. This condition will be rectified in the future during a long shutdown so that each remote key tree will have its own switch to “buzz” them open.

If there are any questions, contact AD Radiation Safety: Gary Lauten or Mike Gerardi.

The following is an excerpt from the information given to the 325 MHz Test Area Operators. These instructions do NOT apply to MCR OPS personnel:

325 MHz Test Area

There are 5 keys that are stored in the MCR remote key tree at Meson Detector Building. The keylogger database ID number and description are as follows:

- # 4349 -- 325 MHz RF Cage S&S Reset**
- #4341 -- 325 MHz RF Cage Enter**
- #4359 -- 325 MHz Cavity Test Cave S&S Reset**
- #4351 -- 325 MHz Cavity Test Cave Enter**
- #4361 -- 325 MHz RF Permit**

All Keys must be returned daily to the remote key tree box at conclusion of operations, or whenever the 325 MHz Test Area is unattended by a Qualified 325 MHz Test Area Operator. If another qualified 325 MHz test Area Operator takes over operations of the facility, the MCR must be called to transfer possession of the keys to that person:

#4361 -- 325 MHz RF Permit Key – Used for enabling the RF Permit Chassis.

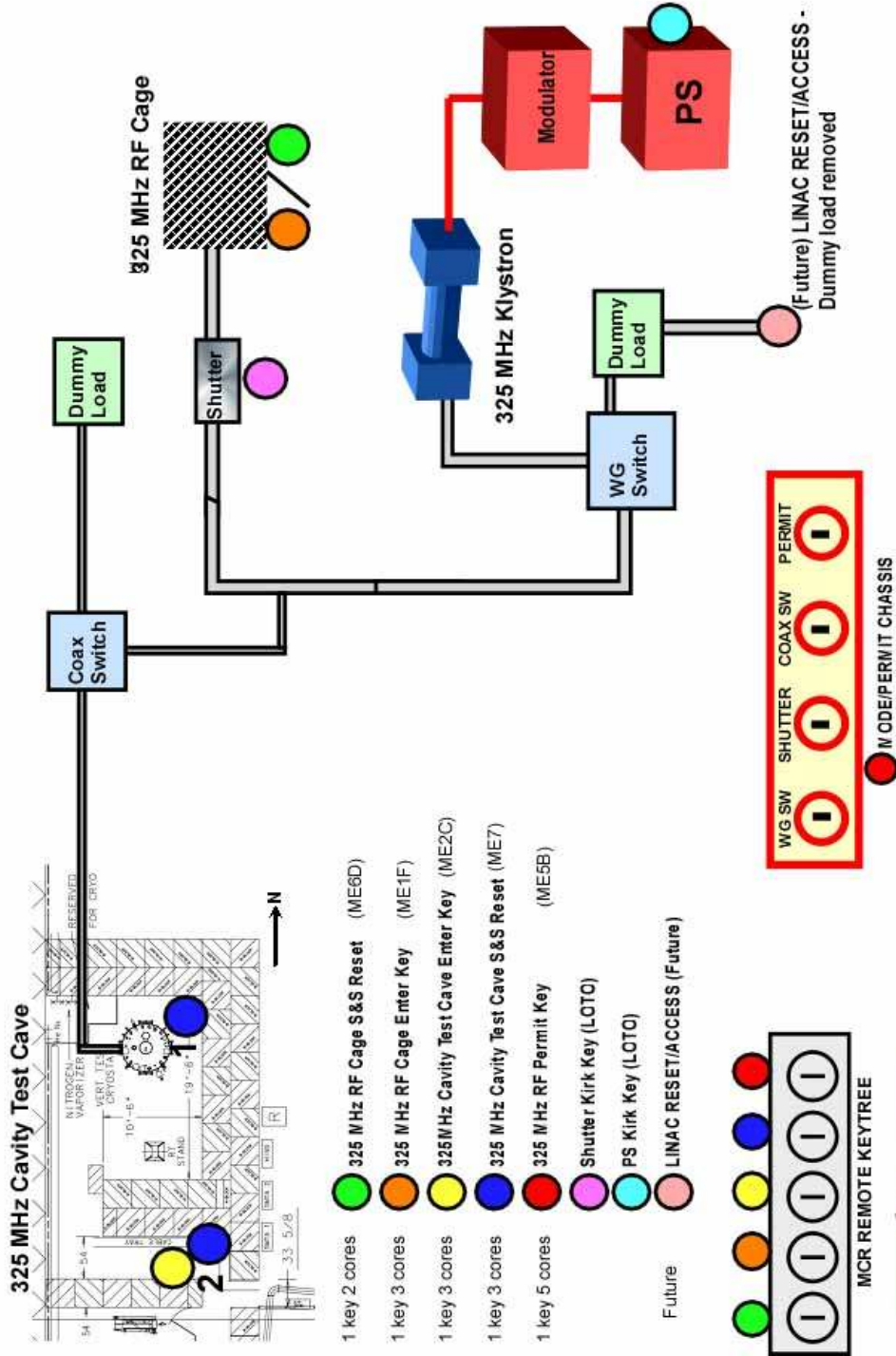
#4341 -- 325 MHz RF Cage Enter. – Used for opening the 325 MHz Test Area cage gate and provides a permit at the RMSS chassis. Note: When the gate is opened, the 325 MHz RF Cage S&S permit is dropped. A new S&S of the cave by a qualified 325 MHz Test Area operator with the **# 4349--325 MHz RF Cage S&S Reset** key is required to reset the S&S permit.

#4351 -- 325MHz Cavity Test Cave Enter. – Used for opening the 325 MHz Cavity Test Cave gate and provides a permit at the RMSS chassis. Note: When the gate is opened, the 325 MHz Cavity Test Cave S&S permit is dropped. A new S&S of the cave by a qualified 325 MHz Test Area operator with the **#4359 -- 325 MHz Cavity Test Cave S&S Reset** key is required to reset the S&S permit.

The **#4341 -- 325 MHz RF Cage Enter** key and **#4351 -- 325 MHz Cavity Test Cave Enter** keys should be returned to the remote key tree daily upon completion of operations.

The **# 4349 -- 325 MHz RF Cage S&S Reset** and **#4359 -- 325 MHz Cavity Test Cave S&S Reset** keys may remain under the control of the person checking these keys out during the day, however if the 325 MHz Test Area Operator leaves for the day and operations cease, these keys should be returned to the MCR Remote key tree for safekeeping. These keys may also be returned to the remote key tree when no longer needed.

325 MHz Cavity Test Cave and RF Cage Keys



- 1 key 2 cores ● 325 MHz RF Cage S&S Reset (ME6D)
- 1 key 3 cores ● 325 MHz RF Cage Enter Key (ME1F)
- 1 key 3 cores ● 325 MHz Cavity Test Cave Enter Key (ME2C)
- 1 key 3 cores ● 325 MHz Cavity Test Cave S&S Reset (ME7)
- 1 key 5 cores ● 325 MHz RF Permit Key (ME5B)
- Shutter Kirk Key (LOTO)
- PS Kirk Key (LOTO)
- LINAC RESET/ACCESS (Future)

