



UNIVERSITY OF MISSOURI

Research Reactor Facility

March 26, 1986

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Columbia, Missouri 65211  
Telephone (314) 882-4211

Director of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Attention: Cecil O. Thomas, Chief  
Standardization & Special  
Projects Branch

SUBJECT: Revision #21 to Standard Operating  
Procedures Manual No. 28 and 29.

Dear Mr. Thomas:

In the revision mailed to you March 24, 1986, page SOP/VIII-27 was inadvertently printed without initials in the "App'd" line. Please remove that page and insert the page that is attached to this letter.

I apologize for the inconvenience.

Walt A. Meyer, Jr.  
Acting Reactor Manager

Attachments

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an equal opportunity institution

- 8. The vacuum pump shall be hooked up and started before ]  
the reactor is taken critical. The vacuum should be ]  
applied slowly so that suction will not pull out the ]  
filter parts. ]
- 9. A beamport radiation survey shall be completed after ]  
the reactor is started up at 10 MW. ]
- B. Adjustments to Beamport F Center Tube ]  
The center tube shall only be adjusted with the reactor ]  
subcritical. Adjustments include changing the distance ]  
the center tube is from the core and pulling or adding ]  
parts from the center tube. ]
- 1. Take the reactor subcritical before adjusting the ]  
center tube. ]
- 2. If the center tube is moved, insure it is not closer ]  
than 1/4 inch from being fully inserted. ]
- 3. After adjustments are made and vacuum restored, return ]  
reactor to normal operations, and perform a Beamport F ]  
radiation survey. ]
- C. Removing Center Tube from Beamport F ]  
The center tubes may be very activated. Therefore, close ]  
Health Physics assistance is required. Minimize the ]  
number of personnel in Beamports D, E, and F areas while ]  
transferring the center tube.
- 1. The center tube should be allowed to decay before ]  
moving from the beamport; preferably at least three ]  
days because of the sodium activity.
- 2. Place a plastic tube (~18 feet) over the center tube ]  
and tape the exposed end.
- 3. After loosening the packing nut, pull the center tube ]  
back slowly; when it is within one to two feet of ]  
being fully withdrawn, attempt to gently close the ]  
ball valve (be careful not to score the valve or the ]  
center tube).
- 4. When the ball valve closes, stop withdrawing the center ]  
tube; close the surge tank line valve, then open the ]  
vent and drain valves.

5. Completely remove the center tube, pull the plastic tube over the end and tape.
6. Transfer the center tube to a beamport storage hole, log the change in the storage book, and survey around the storage hole.

Cautions:

- Insure center tube is not left fully inserted; allow at least 1/4 inch for thermal expansion.
- After the center tube is inserted, verify the drain and vent valves are shut.
- To prevent a partially filled beam tube leaving a crack for radiation, be sure the vent tank has water in it.
- To limit handling of a very radioactive filter tube, pull the tube back four feet and let it decay for > 2 days before withdrawing it. Have Health Physics coverage.
- To limit tritium release, limit leakage of water.
- To prevent excessive personnel exposure, make sure filter parts are in tube and pushed forward to reactor end of filter tube. Apply vacuum slowly so that parts are not sucked up. Have Health Physics coverage on startup.
- After startup, check Health Physics readings against previous readings with similar filters.
- Make it a habit to stay out of beams, whether they are open or "closed".

Note: The experimental can may be flooded or drained only when the reactor is shut down.

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8. The vacuum pump shall be hooked up and started before the reactor is taken critical. The vacuum should be applied slowly so that suction will not pull out the filter parts. ]
9. A beamport radiation survey shall be completed after the reactor is started up at 10 MW. ]
- B. Adjustments to Beamport F Center Tube ]
 

The center tube shall only be adjusted with the reactor subcritical. Adjustments include changing the distance the center tube is from the core and pulling or adding parts from the center tube. ]

  1. Take the reactor subcritical before adjusting the center tube. ]
  2. If the center tube is moved, insure it is not closer than 1/4 inch from being fully inserted. ]
  3. After adjustments are made and vacuum restored, return reactor to normal operations, and perform a Beamport F radiation survey. ]
- C. Removing Center Tube from Beamport F ]
 

The center tubes may be very activated. Therefore, close Health Physics assistance is required. Minimize the number of personnel in Beamports D, E, and F areas while transferring the center tube. ]

  1. The center tube should be allowed to decay before moving from the beamport; preferably at least three days because of the sodium activity. ]
  2. Place a plastic tube (~18 feet) over the center tube and tape the exposed end. ]
  3. After loosening the packing nut, pull the center tube back slowly; when it is within one to two feet of being fully withdrawn, attempt to gently close the ball valve (be careful not to score the valve or the center tube). ]
  4. When the ball valve closes, stop withdrawing the center tube; close the surge tank line valve, then open the vent and drain valves. ]

5. Completely remove the center tube, pull the plastic tube over the end and tape.
6. Transfer the center tube to a beamport storage hole, log the change in the storage book, and survey around the storage hole.

Cautions:

- Insure center tube is not left fully inserted; allow at least 1/4 inch for thermal expansion.
- After the center tube is inserted, verify the drain and vent valves are shut.
- To prevent a partially filled beam tube leaving a crack for radiation, be sure the vent tank has water in it.
- To limit handling of a very radioactive filter tube, pull the tube back four feet and let it decay for > 2 days before withdrawing it. Have Health Physics coverage.
- To limit tritium release, limit leakage of water.
- To prevent excessive personnel exposure, make sure filter parts are in tube and pushed forward to reactor end of filter tube. Apply vacuum slowly so that parts are not sucked up. Have Health Physics coverage on startup.
- After startup, check Health Physics readings against previous readings with similar filters.
- Make it a habit to stay out of beams, whether they are open or "closed".

Note: The experimental can may be flooded or drained only when the reactor is shut down.

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