

Control #



January 21, 1975

Mr. Douglas Collins
Materials Branch
Directorate of Licensing
United States Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. Collins:

recheck

As a result of suggestions made by Mr. Bill Allen, Region I Compliance, and of the opportunity to upgrade various checks and procedures related to our proposed new unit, we are submitting the following:

- a. Revised weekly and monthly safety and maintenance checks.
- b. Revised cell entry log.
- c. Revised Operating Procedure for routine operations (para 13.10.5).

Each of the above revisions is aimed at further clarifying and amplifying the previously submitted procedures.

In addition, we will initiate a log to record all maintenance performed on the control console. A complete safety check, in the form of the weekly maintenance check, will be performed under the supervision of the RPO following such maintenance.

Very truly yours,

George R. Dietz
George R. Dietz
President

GRD/km

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REGULATORY OPERATIONS**

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13.10.5 COBALT-60 IRRADIATOR

OPERATING INSTRUCTIONS

TO ENTER IRRADIATOR

(NOTE: SOURCE IS ASSUMED TO BE DOWN)

1. CHECK THAT LABYRINTH RADIATION MONITOR IS READING BACKGROUND LEVEL OF APPROXIMATELY 10. THE YELLOW ALERT AND RED HIGH LIGHTS SHOULD BE OFF. IF NOT PRESS THE GREEN MONITOR RESET BUTTON WHICH SHOULD EXTINGUISH THE ORANGE OR RED LIGHTS. IF BOTH LIGHTS DO NOT EXTINGUISH, CALL THE R.P.O.
2. CHECK THAT THE "GREEN" SOURCE DOWN LIGHT IS ILLUMINATED AND THAT SOURCE HOIST CYLINDER IS IN THE FULLY DOWN POSITION.
3. CHECK THAT THE MAGNAHELIC GUAGES READ A POSITIVE PRESSURE (INDICATING THAT THE CELL VENTILATING FAN IS ON).
4. CHECK THAT THE PORTABLE HAND MONITOR IS OPERATING CORRECTLY AND TURN IT ONTO THE LOW RANGE.
5. OPEN THE IRRADIATOR ACCESS DOOR WITH THE "MASTER KEY".
6. CARRYING THE PORTABLE HAND MONITOR, ENTER THE IRRADIATION CHAMBER THROUGH THE LABYRINTH. IF RADIATION LEVEL EXCEEDS 5 MILLIRAD/HR. DO NOT ENTER THE IRRADIATION CHAMBER. RETURN TO THE ENTRANCE. CLOSE THE DOOR, MAKE CERTAIN THAT IT IS LOCKED AND CALL THE R.P.O. DO NOT REENTER THE CHAMBER.
7. IF MONITOR READING IS BELOW 5 MILLIRAD/HR. IRRADIATION CHAMBER CAN BE ENTERED.

TO RAISE SOURCE

CHECK THAT THE MAIN AND BACKUP TIMERS ARE SET CORRECTLY FOR THE PRODUCT BEING IRRADIATED.

8. WHEN READY TO LEAVE IRRADIATION CHAMBER, CHECK THAT IT

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VACATED, AND THAT NO OBJECT IS IN A POSITION TO INTERFERE WITH THE MOVEMENT OF THE SOURCE.

9. ACTIVATE THE SAFETY DELAY TIMER INSIDE OF THE IRRADIATOR WITH THE "MASTER KEY".
10. CLOSE THE LABYRINTH DOOR AND CHECK THAT IT IS LOCKED.
11. ACTUATE THE INTERLOCK RESET BUTTON ON THE CONSOLE.
12. WITH THE "MASTER KEY" ACTUATE THE SOURCE SWITCH TO THE RAISE POSITION. (NOTE: IF THIS IS NOT DONE WITHIN 90 SECONDS OF ACTUATING THE SAFETY DELAY TIMER, STEPS 1 THROUGH 11 MUST BE REPEATED.)
13. TO DETERMINE THAT THE SOURCE IS FULLY UP, CHECK THAT THE RED SOURCE UP LIGHT IS ILLUMINATED, THE YELLOW SOURCE INTERMEDIATE LIGHT IS OFF, AND THAT THE SOURCE HOIST CYLINDER IS IN THE FULLY RAISED POSITION.

TO LOWER SOURCE

1. WITH THE "MASTER KEY", TURN THE SOURCE SWITCH TO THE SOURCE LOWER POSITION OR PRESS THE STOP BUTTON ON THE CONSOLE.
2. WHEN THE SOURCE IS FULLY LOWERED, THE RED SOURCE UP LIGHT AND THE YELLOW SOURCE INTERMEDIATE POSITION LIGHT WILL BE OFF AND THE GREEN SOURCE DOWN LIGHT WILL BE ON.
3. CHECK THAT LABYRINTH RADIATION MONITOR IS READING BACKGROUND LEVEL OF APPROXIMATELY 10. THE YELLOW ALERT AND RED HIGH LIGHTS SHOULD BE OFF. IF NOT PRESS THE GREEN MONITOR RESET BUTTON WHICH SHOULD EXTINGUISH THE ORANGE OR RED LIGHTS. IF BOTH LIGHTS DO NOT EXTINGUISH CALL THE R.P.O.

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I N A N E M E R G E N C Y

PRESS THE STOP BUTTON ON THE CONSOLE.

ENTRY LOG

Month

[illegible]

MONTHLY OPERATIONAL CHECK

	Result	Initial
<u>Source Hoist and Anchor Cables</u> Inspect for broken strands and undue wear.		
<u>Pool Water Skimmer</u> Remove any debris from the pool skimmer.		
<u>Pool Deionizer</u> Check with portable Johnson or Eon meter for any build up in radioactivity.		
<u>Room Air Ventilation System</u> Check V belts on the exhaust fan motor. Lubricate the fan. Check the roughing and absolute filters with portable Johnson or Eon meter for any build up in radioactivity. Replace roughing filters if dirty.		

MONTHLY OPERATIONAL CHECK (continued)

	Result	Initial
<u>Wipe Test</u> With wipes, smear the interior of the irradiator at the following points: 1. Entrance ports to exhaust duct. 2. Wall nearest source. 3. Floor between source and exhaust duct.		
<u>Emergency Cable Test</u> 1. Attach the test cable to the emergency cable. 2. Raise the source using up procedures 1 through 13. 3. Pull on the test cable from outside of the irradiation chamber. The source should lower.		
<u>Emergency Power Failure Test</u> 1. Raise source. 2. Turn off power at switch box, Source should lower.		

WEEKLY OPERATION CHECK

Use Irradiator Procedures, Item 13.10.5

	Result	Initial
1. Follow start up procedures, 1 thru 13. Note any non conformity including lights not functioning etc.		
2. With "Source Up" remove the master key from the control console and attempt to unlock the access door to the labyrinth. Door should not unlock.		
3. When the source is fully down, radiation levels are at background in labyrinth, and the access door should open.		
4. Follow start up procedures 1 thru 12, but omit to carry out Step 11 (Closing & Locking the door). Source should <u>not</u> raise.		

WEEKLY OPERATION CHECK (continued)

	Result	Initial
<p>5. Follow start up procedures 1 thru 8.</p> <p>Hold the calibration source up to the radiation detector.</p>		
<p>The meter on the control console should exceed a reading of 300 mr/hr.</p>		
<p>The Orange alert light & The red Alarm light should illuminate.</p>		
<p>The high radiation alarm buzzer should sound.</p>		
<p>6. Follow start up procedures 1 thru 8</p> <p>Enter the irradiation chamber.</p> <p>Pull the emergency cable.</p> <p>Complete start up procedures 9 thru 12.</p> <p>THE SOURCE SHOULD NOT RAISE</p>		
<p>7. Follow start up procedures 1 thru 13 and raise the source.</p> <p>Press the Stop Button on the control console.</p> <p>The source should automatically return to the fully stored position.</p>		
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