

# ARGONNE NATIONAL LABORATORY

## HIGH ENERGY PHYSICS DIVISION

# AWA

## ARGONNE WAKEFIELD ACCELERATOR

### AWA ELECTRON-LINAC, BUILDING 366 RADIATION SAFETY TESTING PROCEDURE, RF ONLY CONDITION

Approved:

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HEP-ESH Administrator: Leon T. Reed (signed copy in the manual) Date: 3/19/09

**RADIATION SAFETY TESTING**  
**RF ONLY CONDITION**  
**(February 1999)**

Date Tested \_\_\_\_\_

By \_\_\_\_\_  
**ESH** **AWA**

The test is started with the following conditions:

- A. Tunnel Door #1 - closed
  - B. Tunnel Door #2 - open
  - C. Survey Box #1 keys - captive position
  - D. Survey Box #2 keys - captive position
  - E. AC Cabinet Doors - open
1. Verify that relay K-14 (Safety Switches Closed) in AC Cabinet is energized if all key switches are in the captive (run) position and de-energizes if any key switch is turned to the non-captive (safe) position.

	Box #1		Box #2	
	ESH	AWA	ESH	AWA
Key #1	_____	_____	_____	_____
Key #2	_____	_____	_____	_____
Key #3	_____	_____	_____	_____
Key #4	_____	_____	_____	_____
Key #5	_____	_____	_____	_____
Key #6	_____	_____	_____	_____

2. Starting with Door #1 closed and Door #2 open, verify that survey cancels at end of timing if any safety key switch is in the non-captive position and door #2 closed prior to end of timing. K-13 (Survey Complete) in the AC Cabinet is de-energized.

	Box #1		Box #2	
	ESH	AWA	ESH	AWA
Key #1	_____	_____	_____	_____
Key #2	_____	_____	_____	_____
Key #3	_____	_____	_____	_____
Key #4	_____	_____	_____	_____
Key #5	_____	_____	_____	_____
Key #6	_____	_____	_____	_____

3. Starting with Door #2 closed and Door #1 open, verify that survey cancels at end of timing if any safety key switch is in the non-captive position and door #1 closed prior to end of timing. K-13 (Survey Complete) in the AC Cabinet is de-energized.

	Box #1		Box #2	
	ESH	AWA	ESH	AWA
Key #1	_____	_____	_____	_____
Key #2	_____	_____	_____	_____
Key #3	_____	_____	_____	_____
Key #4	_____	_____	_____	_____
Key #5	_____	_____	_____	_____
Key #6	_____	_____	_____	_____

4. With all Key Safety Switches in the "run" position, verify that a tunnel survey cannot be made, using either start survey switch, with both tunnel doors closed.

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5. With all Key Safety Switches in the “run” position, re-open Door #1 and complete a survey. Verify that the red strobe lights adjacent to the tunnel doors operate and K-13 in the AC Cabinet is energized and that the lights and relay de-energize when Door #1 is opened and do not re-energize when the door is closed.

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6. Resurvey the Tunnel as in step #5. Verify that the red strobe lights adjacent to the tunnel doors operate and K-13 in the AC Cabinet is energized and that the lights and relay de-energize when Door #2 is opened and do not re-energize when the door is closed.

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7. With all Key Safety Switches in the “run” position and Door #2 open, complete a survey. Verify that the red strobe lights adjacent to the tunnel doors operate and K-13 in the AC Cabinet is energized and that the lights and relay de-energize when Door #2 is opened and do not re-energize when the door is closed.

8. Resurvey the Tunnel as in step #7. Verify that the red strobe lights adjacent to the tunnel doors operate and K-13 in the AC Cabinet is energized and that the lights and relay de-energize when Door #1 is opened and do not re-energize when the door is closed.

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9. Resurvey the tunnel as in step #7. Verify that placing any key safety switch in the “safe” position cancels the survey (K-13 in AC cabinet de-energizes). and does not re-energize when key is returned to the “run” position.

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	Box #1		Box #2	
	ESH	AWA	ESH	AWA
Key #1	_____	_____	_____	_____
Key #2	_____	_____	_____	_____
Key #3	_____	_____	_____	_____
Key #4	_____	_____	_____	_____
Key #5	_____	_____	_____	_____
Key #6	_____	_____	_____	_____