

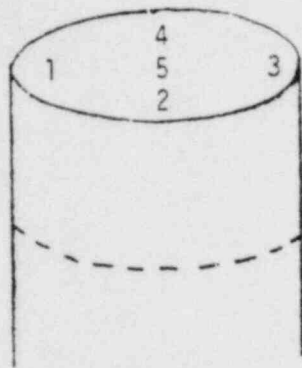
ATTACHMENT A

PROCEDURE FOR TESTING SCINTILLATION COUNTER CRYSTALS  
TO DETERMINE CRYSTAL FRACTURE OR DEGRADATION

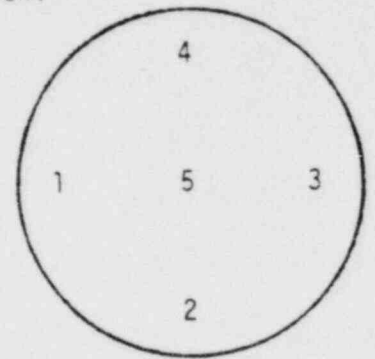
Materials needed: Small check source consisting of gamma emitter such as Cs-137. Source should be small in physical size, i.e., about 0.25" x 0.25".

Procedure

1. Remove detector assembly from monitor well. Detector cable assembly should remain connected to monitor.
2. Place source in first position as in diagrams, below:



CRYSTAL END  
OF DETECTOR  
ASSEMBLY



3. Make count determination, i.e., count rate, for position #1. Record count rate.
4. Repeat step 3 for positions 2, 3, 4, and 5.

Interpretation

Count rates at positions 1, 2, 3, and 4 should be approximately equal. Count rate at position 5 should be somewhat higher.

If count rate at any point varies substantially, this is indicative of either crystal internal fracture or separation of crystal from glass face plate. To verify, disconnect detector assembly from monitor cable and disassemble components. Inspect crystal visually for defects. Any visible crack in the crystal, any separation of crystal from glass face plate as evidenced by bubbles under glass, or apparent discoloration (yellowing of crystal) indicates a defective crystal and that crystal should be replaced.

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