

## REQUIREMENTS FOR RADIOGRAPHY OF CASTINGS

THE REQUIREMENTS CONTAINED HEREIN SHALL APPLY TO THE SELLER'S AND SUB-TIER SUPPLIER'S NDT ACTIVITY PERFORMING RADIOGRAPHY OF CASTINGS USED IN FULFILLING THE REQUIREMENTS OF THIS PURCHASE ORDER.

### A. RADIOGRAPHIC STANDARD SHOOTING SKETCH (RSSS).

1. ALL RADIOGRAPHY OF CASTINGS, WHEN INVOKED BY THIS PURCHASE ORDER OR ANY SUB-TIER DOCUMENTS (I.E., FABRICATION AND MATERIAL SPECIFICATIONS, DRAWINGS, ETC.) MUST BE PERFORMED IN ACCORDANCE WITH AN RSSS, WHICH SHOWS FILM PLACEMENTS AND RADIATION DIRECTIONS TO ASSURE ADEQUATE RADIOGRAPHIC COVERAGE AS SPECIFIED BY THE ENGINEERING DRAWING.
2. THE CONTRACTOR OR ACTIVITY PERFORMING THE RADIOGRAPHY SHALL PREPARE THE RSSS, WHICH SHALL BE VALIDATED BY A SIGNATURE OF A CERTIFIED RADIOGRAPHIC INSPECTOR. THE RSSS MAY BE DEVELOPED INDEPENDENTLY ON A FIRST ARTICLE CASTING OR AS PART OF THE PRODUCTION INSPECTION PROCESS. AS A MINIMUM, THE REQUIREMENTS OF 3.4.14 OF T9074-AS-GIB-010/271 PROVIDES SPECIFIC DETAILED REQUIREMENTS WHICH SHALL BE CONTAINED ON THE RSSS.
3. THE SELLER SHALL FORWARD TO THE BUYER THE RSSS, AS WELL AS ALL QUALIFYING RADIOGRAPHS VIA A PROPERLY COMPLETED VENDOR PROCEDURE APPROVAL REQUEST (VPAR, EB FORM 84-01-2974). THE BUYER MUST APPROVE THE RSSS PRIOR TO SHIPMENT OF HARDWARE.  
ALL RADIOGRAPHS REQUIRED TO APPROVE THE RSSS AT THE BUYER'S FACILITY MUST BE SENT TO THE ATTENTION OF THE BUYER'S PURCHASING DEPARTMENT.

### B. RADIOGRAPHY OF MORE THAN ONE CASTING PER FILM IS PROHIBITED.

C. THE FOLLOWING IDENTIFICATION SHALL APPEAR ON EACH RADIOGRAPH, AS A RESULT OF EXPOSURE OF THE FILM:

- 1) RT SERIAL NUMBER FOR THE PARTICULAR CASTING

2) FILM LOCATION MARKERS.

D. DATE OF EXPOSURE SHALL APPEAR ON EACH RADIOGRAPH (EITHER BY EXPOSURE OR BY PUNCHING).

E. IDENTIFICATION OF THE ORGANIZATION MAKING THE RADIOGRAPHS. THIS SHALL ALSO APPEAR ON THE REPORTS ACCOMPANYING THE RADIOGRAPH SUBMITTAL.

F. RADIOGRAPHY OF A REPAIRED AREA SHALL BE IN ACCORDANCE WITH THE SAME TECHNIQUE AS USED FOR ORIGINAL RADIOGRAPHY. RADIOGRAPHS SHALL BE IDENTIFIED WITH THE SAME SERIAL NUMBER USED FOR ORIGINAL RADIOGRAPHS FOLLOWED BY THE LETTER R AND A NUMERAL 1, 2, ETC., TO INDICATE THE NUMBER OF TIMES THE AREA INVOLVED HAS BEEN REPAIRED. (NOTE: ONLY ONE RT NUMBER PER CASTING).

G. REVISIONS TO RADIOGRAPHIC STANDARD SHOOTING SKETCHES(RSSS)TO REFLECT USE OF NAVSEA TECHNICAL PUBLICATION T9074-AS-GIB-010/271 OR NAVSEA TECHNICAL PUBLICATION T9074-AR-GIB-010/278 ARE NOT MANDATORY

H. DEVIATIONS FROM AN RSSS, EXCEPT FOR THE PERMISSIBLE VARIATIONS AS NOTED BELOW, SHALL BE SUBMITTED TO THE BUYER FOR RE-APPROVAL. PERMISSIBLE VARIATIONS ARE EITHER A SUBSTITUTION FOR, OR A CHANGE IN THE FOLLOWING

1. SOURCE STRENGTH.
2. FILM QUANTITY AND SIZE, PROVIDED INTENDED THICKNESS RANGE AND AREAS ARE SHOWN.
3. FILM TYPE PROVIDED APPLICABLE QUALITY LEVEL IS OBTAINED.
4. PENETRAMETER SIZE (SMALLER THAN APPROVED ONLY).
5. REDUCTION OF SOURCE-TO-FILM DISTANCE, IF WITHIN THE LIMITATION OF THE REQUIRED SPECIFICATION INVOKED BY THE PURCHASE ORDER.
6. SOURCE TYPE, IF ALLOWED BY SOURCE SUBSTITUTE TABLE BELOW:

SOURCE SUBSTITUTION TABLE

SOURCE SHOWN ON RSSS ALLOWABLE SUBSTITUTES (SEE NOTE 2)

COBALT-60	IRIDIUM-192,X-RAY(ANY VOLTAGE), BETATRON
BETATRON	IRIDIUM-192,X-RAY(ANY VOLTAGE), COBALT-60

IRIDIUM-192            COBALT-60, X-RAY 400 KV MAXIMUM  
(SEE NOTE 1)

X-RAY, 400 KV MAXIMUM    IRIDIUM-192

X-RAY, OVER 400 KV    IRIDIUM-192, X-RAY (ANY VOLTAGE),  
COBALT-60, BETATRON

NOTES:

1. IF THE APPROVED RSSS ALLOWS 4T SENSITIVITY FOR IRIDIUM-192, THIS ALLOWANCE DOES NOT APPLY TO THE SOURCE SUBSTITUTED.

2. WHERE A SUBSTITUTE SOURCE IS USED, THE MATERIAL THICKNESS VERSUS ENERGY RANGES USED MUST BE CONSISTENT WITH THOSE REQUIRED BY FIGURES 1, 2 AND 3 OF T9074-AS-GIB-010/271.

I. PERMISSIBLE VARIATIONS, INCLUDING RECORDING THE ACTUAL MATERIAL THICKNESS WHEN USING A PENETRAMETER LARGER THAN SPECIFIED ON THE RADIOGRAPHIC SHOOTING SKETCH, MUST BE IDENTIFIED ON A SUITABLE FORM AND ACCOMPANY THE RADIOGRAPH.