



NDT Supplier Bulletin

SNB-0019
November 2024



Subject: Updates to Standard Clause 76-24 and RSSS Film Review Checklist

REFERENCES

- (a) Electric Boat Standard Clause 76-24 Revision 9, Dated 29 April 2024, "Requirements for Radiography Castings"
- (b) NAVSEA Technical Publication T9074-AS-GIB-010/271 Revision 0, ACN-1, Dated 16 February 1999, "Requirements for Nondestructive Testing Methods"
- (c) Electric Boat Standard Clause 76-25 Revision 1, Dated 23 March 2021, "Electric Boat ONLY Film Packaging Requirements"

ENCLOSURES

- (1): Electric Boat RSSS Checklist Revision 1, Dated 25 October 2024, "RSSS Film Review Checklist"

BACKGROUND

Electric Boat has recently noticed a large amount of disapprovals in Radiographic Standard Shooting Sketch (RSSS) film submittals in the supply base. In order to reduce the amount of rework and improve the cycle time of reviews, Electric Boat has released revision 9 of Standard Clause (SC) 76-24 and made revisions to the RSSS checklist used by Electric Boat when reviewing supplier RSSS film submittals.

Electric Boat is sending out this quality bulletin to bring awareness of these changes and support the improvement of the first time quality of RSSS submissions.

DISCUSSION

Reference (a) adds new requirements to the previous revision of SC 76-24. When submitting a new RSSS in accordance with Reference (b), in addition to the existing requirements in section 4, the penetrometer placement on the part must also be included, along with a drawing that shows both the location markers and their orientation. The submitted radiographs must show overlapping coverage with unique identifiers to validate that the required coverage is achieved, and lead station markers shall be maintained on the casting during radiography to verify the overlapping coverage. These

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requirements are already stated in Reference (b), but have been added to Reference (a) for clarity. Additionally, the packaging for film submittals shall follow the guidelines of Reference (c).

When deviations to a previously approved RSSS are made, it may not require re-approval provided the deviation is listed under the acceptable variations in section 5 of Reference (a). In revision 9, the list expands to allow variations in exposure time to not require RSSS re-approval. Furthermore, when submitting a production radiograph with an acceptable variation to the approved RSSS, the deviation and its justification must be included in the submittal. This requirement does not apply to deviations due to changes in source strength in curies. For more guidance on deviations to approved RSSSs, please refer to SNB-0004.

Section 8 of Reference (a) lists the information that must be included in the description block when electronically submitting a new RSSS VPAR. In addition to the existing required information from revision 8, Reference (a) requires the inclusion of information such as the RT procedure's VPAR approval number, the casting type (whether structural or other), and the casting process utilized for manufacturing as defined within the applicable fabrication specification, e.g. investment, centrifugal, sand, etc.

Reference (a) is available on General Dynamics Electric Boat's Supplier web page, and suppliers are encouraged to utilize it now to improve the cycle time and rate of approval. Suppliers are recommended to utilize this checklist to review their RSSSs before submitting them to Electric Boat for approval.

TAKE-AWAYS

To help speed up the review process of RSSSs and increase the rate of approval, Electric Boat recommends utilizing Revision 9 of SC 76-24, as the added requirements provide useful information to reviewers and will improve cycle time. Furthermore, it is recommended to use the enclosed RSSS review checklist before submitting to Electric Boat. This checklist is used by Electric Boat reviewers and will help to improve the first time quality of RSSS submissions, reducing the amount of rework needed for resubmittals.

Suppliers are requested to share this bulletin with any sub-tiers that perform NDT services.

Any questions or feedback regarding the content of this Quality Bulletin and/or checklist should be forwarded to Electric Boat NDT Supplier Support Group at EBSupplierNDTSupport@gdeb.com.

This bulletin is considered to be within the scope of each of the Electric Boat purchase orders awarded to your company and no changes in the price, terms, or schedule, price of the purchase orders are authorized as a result of this bulletin.

This bulletin has been reviewed and approved by the manager of Welding and NDT Engineering - Suppliers and Strategic Sourcing.

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Electric Boat Radiographic Standard Shooting Sketch Checklist

29 October 2024

GENERAL DYNAMICS
Electric Boat

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RSSS FILM REVIEW CHECKLIST

Enclosure (1)

VPAR#:		RSSS#:		DATE:	
SC 76-24 REQUIREMENTS – SECTION 4					
1.		Drawing Provided that shows:			
2.		Location Markers and Orientation			
3.		Film Placement			
4.		Radiation Directions in relation to the part			
5.		Penetrameter Placement on the part			
6.		Drawing view(s) that provides the design dimensions used to determine material thicknesses for penetrameter selection and are legible.			
SC 76-24 REQUIREMENTS – SECTION 6					
7.		Does each film have a unique ID relating it to the item being inspected?			
8.		Following information shall appear on the film or within the records submitted:			
9.		A.	Identification of the organization making the radiograph		
10.		B.	Date of exposure		
11.		C.	Unique ID of the part		
12.		D.	Whether the radiograph is of the “Original” area or a “Repair” area		
SC 76-24 REQUIREMENTS – SECTION 7					
13.		If any repairs were performed, radiography shall be in accordance with original technique. Same serial shall be used followed by “R” and a number (1, 2, etc.).			
SC 76-24 REQUIREMENTS – SECTION 8					
14.	VPAR submittal of NEW Shooting Sketches shall contain the following in the “Description of Document” block.				
15.		1.	A statement describing the purpose of the submittal (e.g., New Shooting Sketch)		
16.		2.	Part Name		
17.		3.	Part Number		
18.		4.	Drawing Number		
19.		5.	Base Material Type		
20.		6.	RT Procedure identified by Performing Activity: Procedure Number, Revision, and Date (and any addenda), and VPAR Approval number		
21.		7.	RT Performance Specification		
22.		8.	Fabrication Specification		
23.		9.	Acceptance Criteria		
24.		10.	Type of Casting (Structural or Other)		
25.		11.	Casting Process (Investment, Centrifugal, Sand, etc.)		
TP-271 REQUIREMENTS – SECTION 3.3.1.1					
26.		Signature of Radiography Level II or Level III validating the RSSS			

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RSSS FILM REVIEW CHECKLIST

Enclosure (1)

TP-271 REQUIREMENTS – SECTION 3.4.14		
27.		Number of films
28.		Film Type
29.		Location of each film on the radiographed item
30.		Orientation of location markers
31.		Location of radiation source;
32.		Source to film distance
33.		Approximate angle of beam
34.		For X-Ray Machines (<i>Verify information in referenced approved procedure</i>)
35.		The Kilo-voltage or Megavoltage
36.		Focal Spot size
37.		For Isotope Sources (<i>Verify information in referenced approved procedure</i>)
38.		Isotope Type
39.		The intensity (in Curies)
40.		Focal Spot size (physical dimensions)
41.		Type of Material
42.		Material thickness
43.		Shims or Blocks for Castings
44.		Shim or Blocks Material
45.		Shim or Blocks Thickness
46.		Whether Original or Repair
47.		If Repair; Was original film submitted with repair film?
48.		Part and Drawing Number
49.		Penetrameter(s)
50.		Size or Designator
51.		Material Group (<i>Verify notches to Fig. 6</i>)
52.		MIL-STD Type
53.		ASTM Type
54.		Required quality level
55.		Source side
56.		Film side
57.		Film Viewing
58.		Single Wall
59.		Double Wall
60.		Type and thickness of intensifying screens and filters
61.		Applicable acceptance standard
62.		Signature of the Radiographic Operator
63.		Approved RT procedure identification

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RSSS FILM REVIEW CHECKLIST

Enclosure (1)

64.		Notation of acceptable and rejectable discontinuities
65.		Any questionable discontinuity in the area of interest which is due to a surface condition shall be visually verified and noted.
66.		Date of Interpretation
67.		Disposition (accept/reject) of the item radiographed
68.		Signature of the Radiographic Inspector
TP-271 REQUIREMENTS – SECTION 3.5.5.2		
*** If one penetrameter shows acceptable sensitivity at the most dense and the second penetrameter shows acceptable sensitivity at the least dense, these two penetrameters shall serve to qualify the radiograph within the density limits. *** The Penetrameter covering the most dense area shall cover the <u>minus 15%</u> and the penetrameter covering the least dense shall cover the <u>plus 30%</u> density range. Everything in the middle shall be within 1.5 to 4.0 density.		
SC 76-25 REQUIREMENTS		
69.		Each exposure shall have its own inner leaf inside the envelope
70.		Each serial number shall be in its own envelope
71.		VPAR number shall be written on the envelope
72.		Inspection reports, RSSS # paperwork, and if, if there are any “casting” weld repairs, the weld map, shall be submitted with each of the film envelopes.
73.		It is recommended that the supplier put the film in a water-proof plastic bag, wrap the film with bubble wrap, and place in a cardboard box for shipping.
NOTES		