

**NAV03 - NONDESTRUCTIVE TESTING (ISO 4.9)**

NOTE - ALL QUESTIONS ON THIS AUDITOR'S PROCESS GUIDE ARE CONSIDERED PRIORITY CODE "A" EXCEPT QUESTION #24 WHICH IS CODED "B"

1.	a. Identify types of nondestructive testing performed at the facility being audited:			
	___MT	___UT	___PT	___ET
	___RT	___VT		
	___ Other (specify):			
	b. Identify which test processes were witnessed and which were verified by objective quality evidence.			
2.	Are applicable NDT procedures available and approved (IF REQUIRED)? Identify procedure number, revision, date and applicable Approval Number (if required).			
	MT Procedure _____	Rev. ___	Date _____	# _____
	PT Procedure _____	Rev. ___	Date _____	# _____
	UT Procedure _____	Rev. ___	Date _____	# _____
	VT Procedure _____	Rev. ___	Date _____	# _____
	ET Procedure _____	Rev. ___	Date _____	# _____

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	RT Procedure _____	Rev. ____	Date _____	# _____	
<b>Personnel Qualification:</b>					
3.	Are all NDT personnel, including the examiner, recertified by examination at a minimum interval as required by specification?				___ Yes ___ No
4.	Are adequate records available to administer personnel qualification; e.g. name, evidence of examination given, grade, re-certification dates, signature of examiner?				___ Sat ___ Unsat
5.	Do records include evidence of performance of applicable NDT during the last 6 months to maintain qualification?				___ Sat ___ Unsat
6.	a. Are vision test records available?				___ Sat ___ Unsat
	b. Do these records indicate a J1 Jaeger test or equivalent and brightness discrimination, on an annual basis?				___ Sat ___ Unsat
7.	Do vision test records note corrective aids (glasses) when applicable?				___ Sat ___ Unsat
<b>NDT Witnessing: The following questions are to be answered as a result of observing NDT being performed and/or observation of the applicable work area:</b>					
<b>Magnetic Particle (MT):</b> ___ Sat ___ Unsat ___ N/A ___ Witnessed ___ Review of Records					
8.	a. Is the correct procedure readily available to the inspector?				___ Yes ___ No
	b. Is performance in accordance with the method/set-up of the procedure? (Unidirectional vice multidirectional)				___ Yes ___ No

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9.	Is the inspector qualified?	___Yes ___No
10.	Is the amperage within the procedure range?	___Yes ___No ___N/A
11.	Is the lighting adequate per procedure?	___Yes ___No ___N/A
12.	Are correct accept/reject criteria being applied?	___Yes ___No ___N/A
13.	Do inspection records indicate heat off date when required? (For 24 hour or 7 day MT)?	___Yes ___No ___N/A
14.	Are records of MT performed adequate i.e. inspector and date, joint or piece inspected, equipment used, number and type of defects, repair description?	___Yes ___No ___N/A
15.	Is equipment calibration current?	___Yes ___No ___N/A
16.	Is material being demagnetized after testing, as required by procedure?	___Yes ___No
<b>Liquid Penetrant (PT):</b> ___Sat ___Unsat ___N/A ___Witnessed ___Review of Records		

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17.	a. Is the correct procedure available to the inspector?	<input type="checkbox"/> Yes <input type="checkbox"/> No
	b. Is performance in accordance with the procedure?	<input type="checkbox"/> Yes <input type="checkbox"/> No
18.	Is the inspector qualified?	<input type="checkbox"/> Yes <input type="checkbox"/> No
19.	Is the lighting adequate per procedure?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
20.	Are correct accept/reject criteria being applied?	<input type="checkbox"/> Yes <input type="checkbox"/> No
21.	Is the proper test method being utilized for the type of inspection being performed i.e. Group I for welds, other than Group I for fasteners?	<input type="checkbox"/> Yes <input type="checkbox"/> No
22.	a. Are the penetrant materials used as listed in the approved procedure (cleaners, penetrants, solvent, developer)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
	b. Are penetrant materials traceable to the certifications?	<input type="checkbox"/> Yes <input type="checkbox"/> No
23.	Are the correct precleaning, penetrant and inspection developer dwell times being used?	<input type="checkbox"/> Yes <input type="checkbox"/> No
24.	Is proper post inspection cleaning of the part performed?	

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		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Not Observed
25.	Are there adequate records of PT performed?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b><u>Radiography (RT):</u></b> <input type="checkbox"/> Sat <input type="checkbox"/> Unsat <input type="checkbox"/> N/A <input type="checkbox"/> Witnessed <input type="checkbox"/> Review of Records		
26.	a. Is the correct procedure readily available to the inspector?	<input type="checkbox"/> Yes <input type="checkbox"/> No
	b. Is performance in accordance with the method/set-up of the procedure?	<input type="checkbox"/> Yes <input type="checkbox"/> No

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27.	a. Is a sketch, drawing, procedure or equivalent record available to show the set-up used to make each radiograph?	<input type="checkbox"/> Yes <input type="checkbox"/> No
	b. Is the sketch, drawing or procedure legible?	<input type="checkbox"/> Yes <input type="checkbox"/> No
28.	Is there a system for positive identification of RT film correlating to the part inspected?	<input type="checkbox"/> Yes <input type="checkbox"/> No
29.	Are the RT location markers maintained on the part to permit coordination with their images on the film?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
30.	Is the film viewing facility constructed to exclude objectionable background lighting and contain a film viewed with a cooling device and densitometer?	<input type="checkbox"/> Yes <input type="checkbox"/> No
31.	Are penetrameters correctly identified with lead numbers or engraved strips indicating material thickness?	<input type="checkbox"/> Yes <input type="checkbox"/> No
32.	Are penetrameters permanently identified by material or principal alloy?	<input type="checkbox"/> Yes <input type="checkbox"/> No
33.	Is the correct penetrameter being used?	<input type="checkbox"/> Yes <input type="checkbox"/> No
34.	Are appropriate calculations of source half-life/exposure time being performed?	<input type="checkbox"/> Yes <input type="checkbox"/> No

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35.	Are radiographic film storage areas adequate?	___ Yes ___ No ___ N/A
36.	Are radiographic film packages adequately maintained? (i.e. torn, wet damaged)	___ Yes ___ No ___ N/A
37.	Are all artifacts identified and dispositioned on the reader sheet?	___ Yes ___ No ___ N/A
38.	Do RT records contain the following:	___ Yes ___ No
	a. Correct penetrameter size used	___ Sat ___ Unsat ___ N/A
	b. Correct penetrameter material used	___ Sat ___ Unsat ___ N/A
	c. Proper shim material and thickness used	___ Sat ___ Unsat ___ N/A
	d. Correct source-to-film distance used	___ Sat ___ Unsat ___ N/A
	e. Film density on block image is not greater than 15% of the density in area of interest	___ Sat ___ Unsat ___ N/A
	f. Film density (single film viewing) is 1.5 to 4.0 in area(s) to be examined	___ Sat ___ Unsat ___ N/A

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	g. Film density (double film viewing) is 1.5 to 4.0 in area(s) to be examined	___ Sat ___ Unsat ___ N/A
	h. Radiograph(s) show complete coverage	___ Sat ___ Unsat ___ N/A
	i. Complete coverage of repaired area(s)	___ Sat ___ Unsat ___ N/A
	j. Original radiographs of repaired area(s) included with overread package if applicable)	___ Sat ___ Unsat ___ N/A
	k. RSS provided with overread package	___ Sat ___ Unsat ___ N/A
	l. Shooting sketch specifies wall thickness of item	___ Sat ___ Unsat ___ N/A
	m. Sketch (es) showing location(s), size(s), shape(s) of repaired area(s) included with over read package	___ Sat ___ Unsat ___ N/A
	n. Film processing defects and artifacts have been	___ Sat ___ Unsat ___ N/A
	o. Radiographic Inspection Report has Contractor Approval when required by the purchase order/contract	___ Sat ___ Unsat ___ N/A



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<b>Ultrasonic Inspection (UT):</b> ___ Sat ___ Unsat ___ N/A ___ Witnessed ___ Review of Records		
39.	a. Is the correct procedure readily available to the inspector?	___ Yes ___ No
	b. Are performance and methods/set-up in accordance with the procedure? (longitudinal vice transverse)	___ Yes ___ No
40.	Is the inspector qualified?	___ Yes ___ No
41.	Is a system in place to qualify equipment, including master transducers and calibration blocks?	___ Yes ___ No
42.	Is the surface finish of the piece being tested in accordance with the procedure?	___ Yes ___ No ___ N/A
43.	Is the calibration block/s correctly identified by material type and uniquely identified (serialized)?	___ Yes ___ No ___ N/A
44.	Is the couplant removed at the completion of testing?	___ Yes ___ No ___ N/A ___ Not Observed
45.	a. Is calibration checked/rechecked at the beginning and completion of testing?	___ Yes ___ No ___ N/A

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	b. Is equipment calibration current?	___Yes ___No
46.	Are inspection records adequate?	___Yes ___No
<b><u>Eddy Current Inspection (ET):</u></b> ___Sat ___Unsat ___N/A ___Witnessed ___Review of Records		
47.	a. Is the correct procedure available to the inspector?	___Yes ___No
	b. Is performance in accordance with the procedure?	___Yes ___No ___N/A
48.	Is the inspector qualified?	___Yes ___No
49.	Is the surface finish/configuration of the part adequate to allow free movement of the probe?	___Yes ___No ___N/A
50.	Is the calibration standard utilized by material type and uniquely identified?	___Yes ___No
51.	Is the instrumentation used calibrated as required by procedure?	___Yes ___No
52.	Is the frequency setting correct for the probe used?	___Yes ___No

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53.	Is the scanning technique and speed in accordance with the procedure?	<input type="checkbox"/> Yes <input type="checkbox"/> No
54.	Are ET rejectable indications being dispositioned properly (i.e., ET rejects verified by MT)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
55.	Are inspection records adequate to meet procedural requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Visual Inspection (VT):</b> <input type="checkbox"/> Sat <input type="checkbox"/> UnSat <input type="checkbox"/> N/A <input type="checkbox"/> Witnessed <input type="checkbox"/> Review of Records		
56.	a. Is the correct procedure readily available to the inspector?	<input type="checkbox"/> Yes <input type="checkbox"/> No
	b. Is performance in accordance with the procedure?	<input type="checkbox"/> Yes <input type="checkbox"/> No
	c. When applicable, is the correct magnification used?	<input type="checkbox"/> Yes <input type="checkbox"/> No
57.	Is the inspector qualified?	<input type="checkbox"/> Yes <input type="checkbox"/> No
58.	Are adequate gages and measuring devices available to perform inspection in accordance with the procedure?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
59.	Is lighting adequate?	<input type="checkbox"/> Yes <input type="checkbox"/> No
60.	For VT of welds, do inspections and records adequately cover the cover the following:	

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	* Weld size _____	___ Yes ___ No
	* Weld configuration _____	___ Yes ___ No

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	* Surface uniformity _____	___ Yes ___ No
	* Surface cleanliness _____	___ Yes ___ No
	* Physical defects _____	___ Yes ___ No
	* Contour of welded and/or ground surface _____	___ Yes ___ No
61.	For VT of items other than welds, are records available?	___ Yes ___ No

**Additional Comments/Concerns:**