**Vendor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Auditor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| 1. | Routine Scheduled Audit   * 1. Annual   2. Semi-annual   3. Other |
| 2. | Product driven Audit   * 1. Product received by the Prime Vendor that does not meet specification requirements.   2. Product that was installed or was being installed the does not meet specification requirements.   3. Product has failed in service and investigations show it did not meet specification requirements. |
| What specification is the Audit being performed to? | |
| 3. | Governing Specification: Mark the appropriate specification   * 1. MIL-STD-2132   2. NAVSEA 250-1500-01 (Welds)   3. MIL-STD-271 (F)   4. T9074-AS-GIB-010/271 ACN1   5. T9074-AS-GIB-010/271 Revision 1   6. Other |
| 4. | Program Type: Mark the appropriate program type   * 1. Level I / SubSafe   2. Nuclear Plant Material   3. Fly by Wire Ships Control System   4. Navy Propulsion Program   5. Naval Nuclear Propulsion Program   6. Deep Submergence Systems / Scope of Certification Program   7. Aircraft Launch and Recovery   8. Other |
| 5. | Does the vendor have an NDT Examiner?   * 1. In house   2. Contracted   3. Certified in the method   4. Available for the Audit   5. No Examiner |
| 6. | Is the NDT inspection program administration code or specification complaint?   * 1. Level III Approved written practice   2. Approved procedures      1. Level III      2. Prime contractor      3. Clearly specifies inspection requirements      4. Clearly specifies acceptance criteria      5. Qualified to find known defects   3. Approved technique sheet      1. Level III      2. Prime contractor      3. Clearly specifies inspection requirements      4. Clearly specifies acceptance criteria   4. Approved technical work documents      1. Level III      2. Prime contractor      3. Clearly specifies inspection requirements      4. Clearly specifies acceptance criteria   5. Inspector records      1. Is there a current eye examination      2. Certifications are current      3. Previous certifications included      4. Educational history   6. Workmanship standards      1. Available      2. Controlled |
| 7. | Are material controls in place?   * 1. Segregated (Level I, Subsafe, etc.)   2. Controlled   3. Traceable   4. Procedure for disposition |
| 8. | Are records maintained to confirm that all required inspection processes were performed?   * 1. Description and unique identification of item being inspected   2. Approved procedure identification   3. Acceptance standard used   4. Date of inspection   5. Signatures of inspectors   6. Disposition (accept / reject) of the item inspected   7. Retention (Where and how long) |
| 9. | 1. Technical Concerns: List the technical concerns associated with the method.    1. Pre-Weld Fit-up and Dimensional: Pre-weld dimensions and fit-up attributes should be verified when applicable.    2. Weld Contour (as welded or ground): An improper weld contour can have a detrimental effect on the integrity of the weld joint and higher level NDT methods such as MT, PT, UT and RT.    3. Weld size (minimum and maximum): Specified weld sizes are based upon engineering, design and service requirements. Weld size verification is an important attribute to ensure the engineered strength weld and component can meet its intended purpose.    4. Acceptance Criteria: Acceptance criteria can vary depending on joint design, weld classification and higher level NDT requirements (PT, MT, UT, RT). Inspection procedure and Acceptance criteria should be available to inspector at workstation    5. Inadequate Process Controls: Thorough and technically comprehensive VT procedures ensure the inspector has adequate and detailed direction to evaluate any weld or applicable surface.    6. Inadequate Technique: Inspector technique and methodology when performing visual weld inspection, especially measuring and dimensional verification of weld size and discontinuity size, are critical. Proper use of lighting is an important and helpful component of the inspection to enhance identification of surface discontinuities. Shadow formation caused by ridges and crevices are more readily visible and identifiable with proper flashlight angulation. |
| 10. | Known Process Problems: List the known process problems   * 1. Required inspection tools available   2. Inspection tools calibrated (when required)   3. Is the lighting adequate (is there a procedure requirement?) |
| Checklist Instructions: Be specific and ask follow-up questions as appropriate.   * 1. Any condition that is considered to be non-compliant must be specifically documented as to what the deficiency is.      1. Specification      2. Page      3. Paragraph      4. Detailed description of what was observed   2. Document comments or observations on the checklist at each checkpoint or the comment section, as needed, no matter if the checkpoint is satisfactory or unsatisfactory.   3. Comments on any checkpoint may be positive, as well as negative.   4. If it is observed that an attribute requires additional attention but does not invalidate the inspection, mark the Needs Improvement (NI) column and provide a recommendation in the comments area. | |
| **Review all findings with the vendor to be sure there is no confusion as to what the findings are before you leave the vendor site.** | |
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| **Administrative Attributes** | | |
| 1. | Are the UT inspection personnel currently certified in accordance with contract requirements (Shear wave, Longitudinal, Special technique, Are records available to include last certification cycle)? | *Sat  Unsat  NI  N/A* |
| 2. | Do the inspection personnel have current vision acuity examinations? | *Sat  Unsat  NI  N/A* |
| 3. | Is there an onsite NDT Level III Examiner qualified to contract requirements? | *Sat  Unsat  NI  N/A* |
| 4. | Did the inspector have the procedure/technique at the examination site and refer to it during the examination? Is the procedure/technique the latest revision? | *Sat  Unsat  NI  N/A* |
| 5. | Is the procedure/technique approved and signed by the Level III Examiner? If required, has the procedure/technique been approved/qualified by the prime contractor or customer? | *Sat  Unsat  NI  N/A* |
| 6. | Is the procedure/technique in accordance with the specifications called out for in the contract and meet all applicable inspection requirements? | *Sat  Unsat  NI  N/A* |
| 7. | Does the Level III regularly perform the required number of surveillances and technical performance evaluations for ultrasonic inspection personnel? | *Sat  Unsat  NI  N/A* |
| 8. | Are the product and materials used to perform the tests controlled and traceable throughout the process? | *Sat  Unsat  NI  N/A* |
| 9. | Procedure:   * Is equipment identified in the procedure or addendum and is it being used? * Instrument manufacturer * Instrument model no. * Transducer diameter * Transducer frequency * Transducer type * Beam angle * Search units, wedges, shoes, or saddles * Transducer focal length * Couplant * Scanning (manual or automatic) * Scanning (speed, overlap) * Calibration block identification * Reflector size * Reflector TMD's * Test mode used (straight,/angle beam, L or S-wave) * Inspection record requirements | *Sat  Unsat  NI  N/A* |
| **Calibration Process** | | |
| 10. | Is inspection and testing equipment of the required adequacy, accuracy, precision, and range to assure supplies produced comply with specifications and drawings? What Items were sampled and were they part of the supplier’s calibration program and within the calibration/check cycle? | *Sat  Unsat  NI  N/A* |
| 11. | Is the instrument currently qualified and labeled according to specification and procedure requirements? | *Sat  Unsat  NI  N/A* |
| 12. | Was the selection of transducer correct for the part and procedure requirements? | *Sat  Unsat  NI  N/A* |
| 13. | Was the screen range set correctly to a size that will cover the inspection range? | *Sat  Unsat  NI  N/A* |
| 14. | Were the calibration block(s) used for setting screen size and reference level correct for the product form and procedure? | *Sat  Unsat  NI  N/A* |
| 15. | Is the calibration block the same material and as-built dimensions as the inspection area? Does the cal block drawing have the required notch/FBH/SDH measurements to meet specification requirements for the item inspected and technique being used? | *Sat  Unsat  NI  N/A* |
| 16. | If required, was an acoustic compatibility check performed? Was a minimum of 3 areas checked for worst penetrability? If sensitivity adjustment was required, was it done correctly? | *Sat  Unsat  NI  N/A* |
| 17. | Was the screen range set correctly to a size that will cover the inspection range? | *Sat  Unsat  NI  N/A* |
| 18. | Was the exit point and angle of the transducer checked? (Shear Wave Only) | *Sat  Unsat  NI  N/A* |
| 19. | What is the search unit contact area on the component or material and how does that compare to the calibration standard? | *Sat  Unsat  NI  N/A* |
| 20. | Is the calibration block(s) surface equal to or rougher than the item being inspected? | *Sat  Unsat  NI  N/A* |
| 21. | Is the calibration block(s) correctly identified by material type and uniquely identified (serialized)? Record calibration blocks material type and identification number | *Sat  Unsat  NI  N/A* |
| 22. | Is instrument calibration checked prior to starting inspection, periodically during inspection, as required, and rechecked at the completion of inspection? Is equipment qualification/calibration current? | *Sat  Unsat  NI  N/A* |
| 23. | Does the UT instrument have a current calibration? Is a system in place to qualify equipment, including master transducers and calibration blocks? Instrument vertical and horizontal linearity checked within the requirement? | *Sat  Unsat  NI  N/A* |
| 24. | Was the reference level set accurately and correctly? (e.g. TCG set at correct level, amplitude of the highest peak set properly, range of exam covered) | *Sat  Unsat  NI  N/A* |
| 25. | Are acoustic compatibility/attenuation checks performed, if required? Were the areas of best and worst penetrability of the component or material checked and compared against the calibration standards? | *Sat  Unsat  NI  N/A* |
| 26. | Is the inspector familiar with the equipment used to perform the Calibration/Testing? | *Sat  Unsat  NI  N/A* |
| **Scanning** | | |
| 27. | Were all good safety practices being followed? | *Sat  Unsat  NI  N/A* |
| 28. | Has the weld joint/part been properly identified? | *Sat  Unsat  NI  N/A* |
| 29. | Has the surface of the weld/part been properly prepared for inspection? | *Sat  Unsat  NI  N/A* |
| 30. | Is the surface finish of the piece being tested in accordance with the procedure? | *Sat  Unsat  NI  N/A* |
| 31. | Was the area to be inspected properly cleaned and prepared? | *Sat  Unsat  NI  N/A* |
| 32. | Are proper scanning techniques used? (overlap, scanning speed, oscillation, sensitivity, signal monitoring, etc.) Note 1,2 | *Sat  Unsat  NI  N/A* |
| 33. | Are the proper inspection angles being used? (0, 45, 60, etc.) Note 1,2 (Shear Wave Only) | *Sat  Unsat  NI  N/A* |
| 34. | Was the couplant that was used for the examination also used for the calibration? | *Sat  Unsat  NI  N/A* |
| 35. | Did the inspector get proper coverage of weld and HAZ and all required directions? Note 1,2 | *Sat  Unsat  NI  N/A* |
| 36. | Did the inspector leave the job during the inspection? Was a calibration check performed? | *Sat  Unsat  NI  N/A* |
| 37. | Are these products in the there final form or configuration? If these products are not in the final form (fastener, hollow round pressure containing part, etc.) are they being inspected to the requirements of their final form and at the latest stage of manufacture? | *Sat  Unsat  NI  N/A* |
| 38. | For complex shaped components or materials does the inspection ensure adequate examination of the entire volume from all available surfaces (scan plan showing coverage)? Note 1,2 | *Sat  Unsat  NI  N/A* |
| 39. | Was the Inspector attentive to the instrument display during examination? | *Sat  Unsat  NI  N/A* |
| 40. | If required, was the back echo monitored and Loss of Back Reflection (LOBR) properly evaluated? (Longitudinal Wave Only) | *Sat  Unsat  NI  N/A* |
| 41. | Is couplant promptly and completely removed upon completion of inspection? | *Sat  Unsat  NI  N/A* |
| 42. | Was the calibration checked at the conclusion of the exam prior to turning off the equipment? Was it within acceptable limits when/if checked? | *Sat  Unsat  NI  N/A* |
| 43. | If the inspector did not follow the procedure or was not following best practices, did the Level III address the inspector and instruct the inspector on the proper techniques and procedure requirements after the audit? | *Sat  Unsat  NI  N/A* |
| **Ultrasonic Evaluation** | | |
| 44. | Are indications properly evaluated and documented? Note 1,2 | *Sat  Unsat  NI  N/A* |
| 45. | Are inspection records adequate to meet procedural requirements and include at least the following:   * Description and unique identification * Approved procedure identification * Instrument manufacturer, model number, and serial number * Transducer size and type * Search beam angle * Test frequency * Couplant * Calibration standard number * Acceptance standard used * Date of inspection * Signature(s) of inspector(s) * Disposition (accept/reject)of the item inspected | *Sat  Unsat  NI  N/A* |
| 46. | When a discontinuity was discovered, did the inspector use proper sizing techniques? Note 1,2 | *Sat  Unsat  NI  N/A* |
| 47. | Did the inspector demonstrate knowledge of the correct acceptance criteria? Note 1,2 | *Sat  Unsat  NI  N/A* |
| 48. | Are inspection records adequate and maintained to confirm that all required inspection processes were performed? | *Sat  Unsat  NI  N/A* |
| |  | | --- | | **NOTES:** | | **(1)** If the inspector’s certification includes weld inspection see note 2 for attributes that shall be observed and evaluated. In the  event the attribute was not witnessed for any reason, the auditor should validate the inspector’s knowledge and ability to comply  with the related procedural requirements by a line of questioning, when appropriate. | | **(2)** Critical factors for weld scanning and indication evaluation and recording shall Include.  a. Butt, Tee and Corner weld scanning; for tee weld scanning, volumetric vs root only, altered inspection zones and angles,  mandatory thru-member backside scanning, thru-member indications, etc.  b. Longitudinal and transverse scanning under various accessibility conditions.  c. Calibration.  d. Evaluation and recording of indications including those equal to and above DRL/below ARL | | **(3)** The UT Consolidated attribute list does not list the paragraph numbers of the specification publications it is designed for  (MIL-STD 2132, NSTP 271, NS 250-1500-1 and MIL-STD 2035). Each organization may choose to insert the paragraph  numbers for the particular specification(s) they are working to and to provide assistance to audit personnel as needed. | | | |

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| Concerns/Comments   |  | | --- | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |