**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. | Is the inspector certified in the technique in which they are being audited? 3 year cert, plus 9 months (271 ACN1) or 1 year (271R1) currency. | *Sat  Unsat  NI  N/A* |
| 1a. | For 271R1, in addition to annual currency, has at least 1 TPE been performed within 2 years of the certification/re-certification date? | *Sat  Unsat  NI  N/A* |
| 2. | Does the Level III regularly perform surveillances and technical performance evaluations for all inspection personnel? | *Sat  Unsat  NI  N/A* |
| 2a. | Is surveillance/TPE sufficient to assure satisfactory performance of the inspectors being observed? | *Sat  Unsat  NI  N/A* |
| 3. | Has the inspector received a J1 eye exam and is it current? | *Sat  Unsat  NI  N/A* |
| 3a. | If vision correction is required, were corrective lenses worn during inspection? | *Sat  Unsat  NI  N/A* |
| 4. | Is the Level III certified and is certification current? Is the Level III subcontracted or in-house? | *Sat  Unsat  NI  N/A* |
| 4a. | Is the Level III available for the audit? | *Sat  Unsat  NI  N/A* |
| 5. | Did the inspector have the most current procedure/technique at the examination site and refer to it during the examination? | *Sat  Unsat  NI  N/A* |
| 6. | Is the NDT procedure qualified, and approved/signed by the Examiner? | *Sat  Unsat  NI  N/A* |
| 6a. | Is the procedure certified to comply with TP 271 (if applicable)? | *Sat  Unsat  NI  N/A* |
| 6b. | Does the procedure qualification prove that discontinuities of a size near the threshold of acceptance/rejection can be reliably detected and evaluated? | *Sat  Unsat  NI  N/A* |
| 6c. | For new procedures qualified to TP 271 R1, are the discontinuities of a size near the threshold of acceptance/rejection criteria? | *Sat  Unsat  NI  N/A* |
| 7. | 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* |
| 8. | For castings (if applicable), is an approved Radiographic Shooting Sketch (RSS) being utilized? | *Sat  Unsat  NI  N/A* |
| 9. | For castings (if applicable), does the RSS contain all required information as required by the applicable specification? | *Sat  Unsat  NI  N/A* |
| 10. | Does the contract/work order clearly define the inspection requirements, required quality level, etc? | *Sat  Unsat  NI  N/A* |
| 10a. | Is the extent of coverage clearly defined; e.g. 60/360 degrees, 100%, etc.? | *Sat  Unsat  NI  N/A* |
| 11. | If applicable, does the Level III Examiner perform regular overviews of the inspector by performing reinspections of previously accepted hardware? (NSTR-99 only) | *Sat  Unsat  NI  N/A* |
| 12. | Are there any corrective actions previously issued for the method/technique being observed, that will impact this inspection and, if applicable, have the changes in the response been implemented? | *Sat  Unsat  NI  N/A* |
| 13. | Are the product and materials used to perform the tests controlled and traceable throughout the process? | *Sat  Unsat  NI  N/A* |
| **Pre-Exposure Attributes** | | |
| 14. | Were all good safety practices (including radiological) being followed? | *Sat  Unsat  NI  N/A* |
| 15. | Have the film cassettes been inspected for damage/light leaks? | *Sat  Unsat  NI  N/A* |
| 16. | Have the intensifying screens been inspected for cleanliness/damage? | *Sat  Unsat  NI  N/A* |
| 16a. | Have the correct intensifying screens been selected for the job? | *Sat  Unsat  NI  N/A* |
| 17. | Has the film been properly handled during loading? | *Sat  Unsat  NI  N/A* |
| 18. | Has the proper type film and size been selected for the part? | *Sat  Unsat  NI  N/A* |
| 19. | Was the film being used within the expiration date or if it is out of date, has it been tested to extend the expiration date? | *Sat  Unsat  NI  N/A* |
| 20. | Are the safe lights being properly utilized during film loading? | *Sat  Unsat  NI  N/A* |
| 21. | Was the unexposed (green) film properly stored in a cool, dry environment away from radiation? | *Sat  Unsat  NI  N/A* |
| 22. | Has the weld joint/part been properly identified? | *Sat  Unsat  NI  N/A* |
| 23. | Has the surface of the weld/part been properly prepared for inspection? | *Sat  Unsat  NI  N/A* |
| 24. | Is the inspection performed in the final surface and heat treat condition unless otherwise allowed? | *Sat  Unsat  NI  N/A* |
| 24a. | If inspection is performed prior to final machining, does the inspection account for the finish machined condition per specification requirements? | *Sat  Unsat  NI  N/A* |
| 25. | Has the correct technique been selected for radiography of the part; i.e. single-wall exposure/single-wall view, double-wall exposure/single-wall view, double-wall exposure/double-wall view. | *Sat  Unsat  NI  N/A* |
| 26. | Have the location markers been properly arranged that it is evident the required inspection coverage has been obtained? | *Sat  Unsat  NI  N/A* |
| 27. | Are the location markers being maintained on the part to permit coordination with their images on the film? | *Sat  Unsat  NI  N/A* |
| 28. | Does the part layout include a positive reference system (e.g. flow arrows, component reference marking, etc.) so that the layout can be duplicated after removing the location markers? | *Sat  Unsat  NI  N/A* |
| 29. | Has the correct penetrameter size been selected? | *Sat  Unsat  NI  N/A* |
| 29a. | Is the penetrameter properly identified with lead numbers or engraved strips? | *Sat  Unsat  NI  N/A* |
| 29b. | For NSTP 271 applications and for casting and forgings thickness that exceeds the nominal thickness of the finished piece, is the penetrameter size based on a thickness which is not greater than 20 percent more than the nominal thickness of the finished piece, or 1/4", whichever is greater? | *Sat  Unsat  NI  N/A* |
| 30. | Is the penetrameter being used checked for dimensional accuracy and is there a record of this verification; e.g. certification certificate, etc? | *Sat  Unsat  NI  N/A* |
| 31. | Is the penetrameter of the correct material type/group (or lower) number? | *Sat  Unsat  NI  N/A* |
| 32. | Has the correct number of penetrameters per the inspection specification been utilized? | *Sat  Unsat  NI  N/A* |
| 33. | Is the penetrameter properly placed and oriented on the part? | *Sat  Unsat  NI  N/A* |
| 34. | Has the proper shim material/thickness been selected and is the material type marked on the shim? | *Sat  Unsat  NI  N/A* |
| 35. | Does the shim exceed the penetrameter on all sides (or at least one side as applicable to the specification)? | *Sat  Unsat  NI  N/A* |
| 36. | If utilized, did the radiographer demonstrate satisfactory placement of any slotted shims or root contour comparator shims utilized in the radiographic technique? | *Sat  Unsat  NI  N/A* |
| 37. | If utilized, is the separate block material correct and has it been properly placed? | *Sat  Unsat  NI  N/A* |
| 38. | Has the lead letter "B" been properly placed? | *Sat  Unsat  NI  N/A* |
| 39. | Has the film cassette been properly placed as close as possible to the part being radiographed? | *Sat  Unsat  NI  N/A* |
| 40. | Has the back filter been properly placed? | *Sat  Unsat  NI  N/A* |
| 41. | Is the film identification correct? | *Sat  Unsat  NI  N/A* |
| 42. | Are the energies being utilized within the allowed kV range for the thickness of the part (per NSTP 271, these are recommended voltages)? (i.e. X-Ray voltages, Gamma radioisotope selection) | *Sat  Unsat  NI  N/A* |
| 43. | Is the minimum calculated source-to-film-distance (SFD) being maintained? | *Sat  Unsat  NI  N/A* |
| 44. | If a film gap exists, has the SFD been properly increased to account for that film gap? | *Sat  Unsat  NI  N/A* |
| 45. | If applicable, has the SFD been properly increased to account for radioisotope sizes greater than 1/8"? | *Sat  Unsat  NI  N/A* |
| 46. | Was the direction of the radiation beam central to the area being examined? | *Sat  Unsat  NI  N/A* |
| **Post-Exposure Darkroom/Film Viewing Facility Attributes** | | |
| 47. | Is the automatic film processor being regularly maintained? | *Sat  Unsat  NI  N/A* |
| 48. | Is the film being properly handled during film development? | *Sat  Unsat  NI  N/A* |
| 49. | Are the safe lights being properly utilized during film development? | *Sat  Unsat  NI  N/A* |
| 50. | Were the film viewing facilities and dark room clean and constructed to exclude objectionable lighting? | *Sat  Unsat  NI  N/A* |
| 51. | Was the film viewer in good working order with variable intensity controls? | *Sat  Unsat  NI  N/A* |
| 52. | Did the film viewer have adequate cooling fans to prevent warping of the film after one minute of continuous contact at the viewing port? | *Sat  Unsat  NI  N/A* |
| 53. | Per the requirements of ASTM E1079, are the densitometers in good working condition and calibrated within 90 days, and is there a record of this calibration? | *Sat  Unsat  NI  N/A* |
| 54. | Was the aperture of the densitometer being used not greater than 2mm in diameter? | *Sat  Unsat  NI  N/A* |
| 55. | Was there a density strip being used to verify accuracy of the densitometer within ±0.05 density units of the density strip readings? | *Sat  Unsat  NI  N/A* |
| 55a. | Is the densitometer verification conducted prior to each shift and is there a record of this verification check? | *Sat  Unsat  NI  N/A* |
| 56. | Is the calibrated density strip still current and within 4 years of its package being opened, and is it properly documented? | *Sat  Unsat  NI  N/A* |
| 57. | Did the inspector demonstrate proper use of the densitometer? | *Sat  Unsat  NI  N/A* |
| 58. | If applicable, are any reference radiographs and/or workmanship samples being properly maintained? | *Sat  Unsat  NI  N/A* |
| 59. | Were the rules, overlays, etc. used for taking measurements on the film properly calibrated? | *Sat  Unsat  NI  N/A* |
| **Post-Exposure Radiographic Technique Verification Attributes** | | |
| 60. | Did the inspector verify the correct radiographic technique was utilized? | *Sat  Unsat  NI  N/A* |
| 61. | Is the film free from blemishes, processing marks, and other artifacts that may interfere with interpretation? | *Sat  Unsat  NI  N/A* |
| 62. | Are all acceptable film blemishes, processing marks, and artifacts identified and dispositioned on the radiographic report? | *Sat  Unsat  NI  N/A* |
| 63. | Was it evident on the film that backscatter controls used during radiography were effective (e.g. lead letter 'B' images)? For darker images of the lead letter 'B' on a lighter background, does it interfere with the film evaluation? | *Sat  Unsat  NI  N/A* |
| 64. | Was the part properly identified on the film? | *Sat  Unsat  NI  N/A* |
| 65. | Was it evident on the film through the proper use of location marker placement that complete inspection coverage was obtained? | *Sat  Unsat  NI  N/A* |
| 66. | Was it evident location markers were properly positioned in relation to the edge of the weld? (not applicable for castings) | *Sat  Unsat  NI  N/A* |
| 67. | Did the inspector verify the correct penetrameter size and material group was utilized for all film? | *Sat  Unsat  NI  N/A* |
| 68. | Was the required radiographic quality level obtained? | *Sat  Unsat  NI  N/A* |
| 69. | Was the overall film density in the area of interest within requirements? | *Sat  Unsat  NI  N/A* |
| 70. | Regarding penetrameter/shim densities, was the density over the required penetrameter T-hole not greater than 15% more than the lightest density in the area of interest? For castings and forgings per NSTP 271, does the density over the required T-hole vary more than plus 30% to minus 15% more than the lightest density in the area of interest? | *Sat  Unsat  NI  N/A* |
| 71. | Did the inspector verify the shim exceeds the penetrameter on all sides (or at least one side as applicable to the specification)? | *Sat  Unsat  NI  N/A* |
| 72. | Was the penetrameter/shim location verified to be properly located in relation to the edge of the weld? (not applicable for castings) | *Sat  Unsat  NI  N/A* |
| **Post-Exposure Film Interpretation Attributes** | | |
| 74. | For welds, did the inspector demonstrate satisfactory knowledge and application of the acceptance criteria? | *Sat  Unsat  NI  N/A* |
| 75. | For castings, did the inspector demonstrate satisfactory knowledge and application of the applicable reference radiographs? | *Sat  Unsat  NI  N/A* |
| 76. | If applicable, did the inspector demonstrate satisfactory application of any workmanship samples being used? | *Sat  Unsat  NI  N/A* |
| 77. | If applicable, did inspector demonstrate satisfactory knowledge in the application of any slotted shims or root contour comparator shims utilized in the radiographic technique? | *Sat  Unsat  NI  N/A* |
| 78. | Did the inspector evaluate the entire inspection area imaged on the film? | *Sat  Unsat  NI  N/A* |
| 79. | Did the inspector properly address and adjudicate any inadvertent radiography imaged on the film (e.g. adjacent weld joints, base material indications, etc)? | *Sat  Unsat  NI  N/A* |
| 80. | If applicable, did the inspector verify any surface conditions noted by checking the surface of the part? | *Sat  Unsat  NI  N/A* |
| 81. | Are all welding and/or casting discontinuities imaged on the film recorded on the radiographic report? | *Sat  Unsat  NI  N/A* |
| 82. | Did the inspector satisfactorily disposition all welding and/or casting discontinuities imaged on the film? | *Sat  Unsat  NI  N/A* |
| 83. | Did the inspector demonstrate adequate use of measuring instruments in sizing discontinuities? | *Sat  Unsat  NI  N/A* |
| **Radiographic Inspection Report Attributes** | | |
| 84. | Did radiographic inspection personnel correctly complete the radiographic inspection record as required by the procedure? | *Sat  Unsat  NI  N/A* |
| 85. | Does the inspection record contain all the required information applicable to the specification as called out in the contract? (i.e. MIL-STD 2132, NSTP 271, NS 250-1500-1) | *Sat  Unsat  NI  N/A* |
| 86. | Does the inspection report include a sketch, drawing, or reference to a technique or equivalent record to show the radiographic set-up utilized to produce each radiograph? | *Sat  Unsat  NI  N/A* |
| 87. | Was a report filled out correctly and with all the information and signatures required by the procedure, applicable specification and with proper disposition/recording of the discontinuities? | *Sat  Unsat  NI  N/A* |

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