**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? | *Sat  Unsat  NI  N/A* |
| 2. | Is the inspector eye exam J1? | *Sat  Unsat  NI  N/A* |
| 3. | Is vision correction required? (Verify) Was vision correction worn during inspection? | *Sat  Unsat  NI  N/A* |
| 4. | If required, can the inspector distinguish the colors used in the method during inspection? (Colorblind) | *Sat  Unsat  NI  N/A* |
| 5. | Is the PT procedure qualified, and approved/signed by the Examiner? Is the revision used current? | *Sat  Unsat  NI  N/A* |
| 6. | 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* |
| 7. | Is the procedure qualification maintained on file? | *Sat  Unsat  NI  N/A* |
| 8. | Does the procedure qualification test the extremities of the limits of the procedure (i.e., min/max temp, min/max time limits, etc.)? | *Sat  Unsat  NI  N/A* |
| 9. | Is the procedure qualified including NAVSEA high temp. approval if >150f? | *Sat  Unsat  NI  N/A* |
| 10. | Is there a statement that method A cannot be used for welds and method C for threaded surfaces? T-271 | *Sat  Unsat  NI  N/A* |
| 11. | Does the procedure contain the minimum requirements of T-271 Para 5.4.2, 5.4.3., 2132 App.C or D, 250-1500? | *Sat  Unsat  NI  N/A* |
| 12. | If the procedure differs from appendix C and D of 2132 is it approved? | *Sat  Unsat  NI  N/A* |
| 13. | Is the brand of materials used the same as stated in the procedure and of the same manufacturer? | *Sat  Unsat  NI  N/A* |
| 14. | Are the material batches current? Are certifications of all batches maintained and producible? MS 2132 para 7.1. | *Sat  Unsat  NI  N/A* |
| 15. | Are materials in accordance with AMS-2644 or Mil-I 25135 and listed in QPL-AMS-2644 (271)? | *Sat  Unsat  NI  N/A* |
| 16. | If materials are transferred to other containers are they traceable to the original batch number? | *Sat  Unsat  NI  N/A* |
| 17. | Is PT performed before UT, If UT was performed prior to PT was an approved cleaning method used? | *Sat  Unsat  NI  N/A* |
| 18. | Is PT performed in the final surface and heat treat condition and is the surface free of any extraneous material that could interfere with the test (I,e. slag, spatter etc.)? | *Sat  Unsat  NI  N/A* |
| 19. | Peening, shot or sand and vapor blasting is prohibited prior to PT. For 271 tumbling and 271, 2132, 250-1500 power wire brushing is also prohibited. Was the surface treated with any of the prohibited methods? | *Sat  Unsat  NI  N/A* |
| **Process** | | |
| 20. | Is the weld and the applicable area on either side of the weld cleaned and dried (evaporated) to the applicable specification requirements? | *Sat  Unsat  NI  N/A* |
| 21. | If an alternate cleaner was used (T-271), has it been qualified and documented by the Examiner? | *Sat  Unsat  NI  N/A* |
| 22. | Is the temperature of the part and material within the range of the applicable specification? | *Sat  Unsat  NI  N/A* |
| 23. | For the immersion application of penetrant, is the part dipped into the penetrant and then removed and allowed to drain from the part for the duration of the dwell time? The part should not be kept immersed in the penetrant. | *Sat  Unsat  NI  N/A* |
| 24. | Is the penetrant thoroughly applied to the inspection area including the applicable area on either side of the weld? Was the area kept wetted during penetration time? No beading or separation. | *Sat  Unsat  NI  N/A* |
| 25. | Was the correct penetration time observed? Was the inspection item controlled during penetration time? (No contamination of the item, inspector leaving the item unattended etc.) | *Sat  Unsat  NI  N/A* |
| 26. | (2132)Maintenance of reusable penetrants. Are materials tested in accordance with a written procedure with the frequency and method per mfg.'s recommendation to assure sensitivity is maintained? | *Sat  Unsat  NI  N/A* |
| **Penetrant Removal Method C, Group 1, and VII** | | |
| 27. | Is the area first cleaned with a dry cloth or absorbent paper? Can the surface be cleaned adequately without the use of cleaner/remover? If not, is the area wiped with a clean dampened cloth or absorbent paper? | *Sat  Unsat  NI  N/A* |
| 28. | Was the cleaning process compliant to spec./procedure? | *Sat  Unsat  NI  N/A* |
| 29. | Flushing of the item with any liquid after application of penetrant is prohibited. Was the item flushed with liquid? | *Sat  Unsat  NI  N/A* |
| **Method A, Grp III, IV** | | |
| 30. | Is the penetrant removed using a clean, lint free cloth saturated with clear water or spraying with water not exceeding 40 PSIG and 120F? | *Sat  Unsat  NI  N/A* |
| 31. | Was the item over/under washed?, If Type 1 penetrant was used, was the cleanliness verified with a blacklight? Blacklight calibration not required at wash station. | *Sat  Unsat  NI  N/A* |
| 32. | Are the temperature and pressure gages calibrated and relevant to the process? i.e. a 0-1000 PSI gage for water pressure would not give an accurate reading at 40 PSI. Review Calibration certificates | *Sat  Unsat  NI  N/A* |
| 33. | The gages should be in a location that the person washing the parts can see if the pressure or temperature exceeds the requirements. Are they located in an appropriate location? | *Sat  Unsat  NI  N/A* |
| **Application and dwell time of emulsifier. Method B, D, Group II, V, VI** | | |
| 34. | Emulsifier shall be applied per manufacturer instruction and the activities PT procedure. (271).  Was the application compliant? | *Sat  Unsat  NI  N/A* |
| 35. | There is no dwell requirement in 271 but mfg. instructions for Magnaflux lipophilic and hydrophilic emulsifier is 30 to 180 seconds. Emulsification time is extremely critical for detection of indications. Verify with mfg. of product used. Are the times observed compliant with the procedure /technique document? | *Sat  Unsat  NI  N/A* |
| 36. | There are no concentration requirements but for example, 1-5% for spray applications and 20% for immersion applications is recommended by Magnaflux. Are the concentration requirements of the mfg. adhered to? | *Sat  Unsat  NI  N/A* |
| 37. | Are the above items a part of procedure qualification? | *Sat  Unsat  NI  N/A* |
| 38. | Emulsifier shall be applied by dipping or spraying. Emulsification dwell time shall not be greater than 30 seconds. (2132) Is the dwell time compliant? | *Sat  Unsat  NI  N/A* |
| **Removal of emulsifier. Method B, D, Group II, V, VI** | | |
| 39. | Emulsifier shall be removed by a water spray not exceeding 40PSI and 120F. T-271 allows removal using mfg. specified cleaner. Was the removal compliant? | *Sat  Unsat  NI  N/A* |
| 40. | Was the item over/under washed?, If Type 1 penetrant was used, was the cleanliness verified with a blacklight? Blacklight calibration not required at wash station. | *Sat  Unsat  NI  N/A* |
| **Drying Method C, Grp, 1 and VII** | | |
| 41. | Drying shall be accomplished by normal evaporation or by blotting with paper or a clean lint free cloth. Was the drying method compliant? | *Sat  Unsat  NI  N/A* |
| 42. | Did surface drying after removal of excess penetrant prior to application exceed 10 minutes? | *Sat  Unsat  NI  N/A* |
| **Drying Method A,B,D II to VI** | | |
| 43. | 271 Drying shall be accomplished by normal evaporation, or by blotting with paper or a clean lint free cloth, or hot air circulating ovens with a max. temp of 160F or circulating air. Drying time per manufacturer instructions. Was the drying method compliant? | *Sat  Unsat  NI  N/A* |
| 44. | 2132 Drying shall be accomplished by circulating air, normal evaporation, or by blotting with paper or a clean lint free cloth. Was the drying method compliant? | *Sat  Unsat  NI  N/A* |
| 45. | 250-1500 Drying shall be accomplished by normal evaporation, or by blotting with paper or a clean lint free cloth. Circulating air other than normal ventilation shall not be used unless shown to be acceptable by objective testing. Was the drying method compliant? | *Sat  Unsat  NI  N/A* |
| 46. | No contaminating material may be introduced to the surface that may cause mis-interpretation during inspection. Was any contaminated material introduced to the surface? | *Sat  Unsat  NI  N/A* |
| 47. | Was the item removed from the dryer as soon as it was dry? | *Sat  Unsat  NI  N/A* |
| **Developer Application** | | |
| 48. | Only non-aqueous wet developer is allowed for Method C and 250-1500. 2132 Only non-aqueous wet developer is allowed unless otherwise approved. Examination shall be within 7-30 minutes after the developer has dried. Was the developer application compliant? | *Sat  Unsat  NI  N/A* |
| 49. | 250-1500, 2132 A brush or similar applicator can be used for developer application if qualified. If used, is the use qualified? | *Sat  Unsat  NI  N/A* |
| 50. | Was the developer agitated? | *Sat  Unsat  NI  N/A* |
| 51. | Was the developer applied in a uniform thin coating? | *Sat  Unsat  NI  N/A* |
| 52. | Were there evidence of pooling or globs of developer from inadequate agitation? | *Sat  Unsat  NI  N/A* |
| 53. | 271 Was the dry powder applied to dry surfaces? Was a thin uniform dusty appearance evident? | *Sat  Unsat  NI  N/A* |
| 54. | Was inspection performed within 10-30 minutes after application of dry developer and 7-30 minutes for NAWD? | *Sat  Unsat  NI  N/A* |
| 55. | 2132 Dry developer is prohibited on visible dye materials. When approved for fluorescent dye, is the powder applied on dry surfaces and time kept to a minimum? | *Sat  Unsat  NI  N/A* |
| **Lighting** | | |
| 56. | 271 Was adequate lighting used for inspection? | *Sat  Unsat  NI  N/A* |
| 57. | 271 R1 If LED light is used, is the light specifically approved by the examiner or the examiner's designated representative? | *Sat  Unsat  NI  N/A* |
| 58. | 2132, 250-1500 Was 50 fc of light available at the inspection surface? How is this controlled/verified? | *Sat  Unsat  NI  N/A* |
| 59. | 2132 Do areas of limited access have sufficient light to the satisfaction of the examiner? See 3.2.2 for definition | *Sat  Unsat  NI  N/A* |
| 60. | For battery powered LED black lights does the procedure include a process to ensure the depleting battery life does not result in unacceptable black light intensity during inspection? | *Sat  Unsat  NI  N/A* |
| 61. | For fluorescent, is the minimum light at the test surface 800 microwatts per centimeter squared? 2132,271 | *Sat  Unsat  NI  N/A* |
| 62. | For LED black lights that do not require a 5-minute warm up, has the examiner approved and documented an alternative warm up time in the procedure? | *Sat  Unsat  NI  N/A* |
| 63. | Is the intensity checked after a 5 minute warm up? | *Sat  Unsat  NI  N/A* |
| 64. | Is the check performed daily or when the bulb has been changed? | *Sat  Unsat  NI  N/A* |
| **Inspection** | | |
| 65. | 271 Fluorescent PT. Was the inspection performed in a darkened area? | *Sat  Unsat  NI  N/A* |
| 66. | 250-1500 Are tools used to measure indications accurate within 1/64" ? Verify calibration | *Sat  Unsat  NI  N/A* |
| 67. | Is the inspection area clean and free of matter which may interfere with inspection? | *Sat  Unsat  NI  N/A* |
| 68. | Does the inspector have the procedure, technique and acceptance standards? | *Sat  Unsat  NI  N/A* |
| 69. | Are indications properly classified, interpreted, and dispositioned in accordance with applicable acceptance standards? | *Sat  Unsat  NI  N/A* |
| 70. | Are relevancy checks performed correctly and documented in accordance with the applicable spec? | *Sat  Unsat  NI  N/A* |
| 71. | 271 Are all indications in weld craters considered relevant? | *Sat  Unsat  NI  N/A* |
| **Records** | | |
| 72. | Description/ID of piece being examined | |
| 73. | Procedure and acceptance standard | |
| 74. | Material manufacturer and type ID | |
| 75. | Date of inspection | |
| 76. | Signature of inspector:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| 77. | Disposition | |
| **Cleaning** | | |
| 78, | Are penetrant materials cleaned immediately after in accordance with applicable specification? | *Sat  Unsat  NI  N/A* |
| 79. | If the supplier’s Level III Examiner is present, did the Level III Examiner exhibit excessive coaching or provide unreasonable assistance? Did examiner provide a debrief on inspectors performance? If no indications are available for disposition did the Examiner give a hypothetical indication to evaluate? | *Sat  Unsat  NI  N/A* |

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