**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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| 1. | *Did the Examiner/Supervisor conduct a pre-work brief?* | *Sat  Unsat  NI  N/A* |
| 2. | Was the component or joint being inspected clearly identified? | *Sat  Unsat  NI  N/A* |
| 3. | Was the inspection zone adequate (HAZ, 1/2" or 1” on either side of the weld, etc.)? | *Sat  Unsat  NI  N/A* |
| 4. | Is the lighting correct for the inspection? | *Sat  Unsat  NI  N/A* |
| 5. | Was the supplemental lighting manipulated as needed? | *Sat  Unsat  NI  N/A* |
| 6. | Were the tools in good condition? | *Sat  Unsat  NI  N/A* |
| 7. | Were the tools calibrated? (Mil-I-45208 3.3, ISO 9001 7.1.5) | *Sat  Unsat  NI  N/A* |
| 8. | Were the correct tools used for the inspection? | *Sat  Unsat  NI  N/A* |
| 9. | Was the inspectors’ eye at the correct distance and angle for the job? | *Sat  Unsat  NI  N/A* |
| 10. | Was the 5X magnification technique properly applied, when required? | *Sat  Unsat  NI  N/A* |
| 11. | For Class P-1 pipe socket welds, is the required scribe line present? | *Sat  Unsat  NI  N/A* |
| 12. | Were the pre-weld fit-up dimensions (end prep) within parameters for the applicable joint design? | *Sat  Unsat  NI  N/A* |
| 13. | Was there a proper evaluation of the part, including ID of pipe where applicable? | *Sat  Unsat  NI  N/A* |
| 14. | VT inspection required at the time of maximum accessibility for ID VT (before other welds were added that render the weld ID inaccessible for VT? | *Sat  Unsat  NI  N/A* |
| 15. | For pipe welds that are partially inaccessible for V T of the ID, is VT applied for defects that can be checked with extended mirrors and or flashlights, such as burn through, lack of penetration, and rejectable oxidation? | *Sat  Unsat  NI  N/A* |
| 16. | Do two-sided groove welds receive VT, or required inspection by production personnel, of back-gouged surfaces to the required acceptance criteria? | *Sat  Unsat  NI  N/A* |
| 17. | Are one-sided butt/groove welds without backing or consumable inserts free of lack of penetration on the ID? | *Sat  Unsat  NI  N/A* |
| 18. | For VT inspectors of pipe welds, does the surveillance/TPE performed by the Level III Examiner cover the inspection of weld IDs? | *Sat  Unsat  NI  N/A* |
| 19. | For castings, did the inspector correctly evaluate for all applicable acceptance criteria of the fabrication document or other applicable specifications? | *Sat  Unsat  NI  N/A* |
| 20. | For pressure containing welds, if discernable, is there evidence of at least two layers of weld material? | *Sat  Unsat  NI  N/A* |
| 21. | Was the reinforcement height / fillet size properly measured (once per weld or every 3 feet, highest / lowest area)? | *Sat  Unsat  NI  N/A* |
| 22. | For other than P-1 socket welds if the fitting edge is largely melted away, is there a scribe line to permit measurement of minimum fillet leg length on the pipe? | *Sat  Unsat  NI  N/A* |
| 23. | Is the weld free of sharp irregularities and rollover and are all angles on the weld surface and toes of the weld at least 90 degrees or greater? | *Sat  Unsat  NI  N/A* |
| 24. | Does the weld meet the required weld size (fillet, butt, pipe, structural, etc.)? List the class required and weld size. | *Sat  Unsat  NI  N/A* |
| 25. | Is the weld free of cracks, burn through and incomplete fusion? | *Sat  Unsat  NI  N/A* |
| 26. | Is joint offset present and does it exceed the maximum limit? List the maximum allowed. | *Sat  Unsat  NI  N/A* |
| 27. | Does the weld contain melt through? If it does, does it contain cracks, crevices, excessive oxidation or globules? | *Sat  Unsat  NI  N/A* |
| 28. | Does the weld contain convexity or concavity and does it exceed the maximum allowed? For one-sided pipe or other full penetration butt/groove welds without backing rings, is ID concavity/convexity correct? List the maximum allowed depth or height. | *Sat  Unsat  NI  N/A* |
| 29. | Does the weld contain crater pits? If it does, does it contain cracks and does convexity, concavity and weld thickness meet requirements? List maximum allowed depth or height. | *Sat  Unsat  NI  N/A* |
| 30. | Was the reinforcement height / fillet size properly measured (once per weld or every 3 feet, highest / lowest area)? | *Sat  Unsat  NI  N/A* |
| 31. | Does the weld contain oxidation, (oxide scale accompanied by a wrinkled or crystalline surface appearance)? Tightly adhering, iridescent temper films are acceptable. | *Sat  Unsat  NI  N/A* |
| 32. | Does the weld contain porosity and does it exceed the maximum size and summation? List the maximum size and summation allowed. | *Sat  Unsat  NI  N/A* |
| 33. | Does the weld and adjacent base metal contain arc strikes? Does the removal site cavity exceed the maximum depth allowed? Where required, was etching used to verify the removal of the HAZ? List the class and maximum depth allowed. | *Sat  Unsat  NI  N/A* |
| 34. | Does the weld and adjacent base metal contain gouges, grind marks or surface roughness? Are they rounded and free of notches and do they exceed the maximum depth allowed? List class and maximum depth. | *Sat  Unsat  NI  N/A* |
| 35. | Does the weld contain weld spatter and does it exceed the maximum size allowed? List class and maximum size allowed. | *Sat  Unsat  NI  N/A* |
| 36. | Does the weld contain slag and does it exceed the maximum size allowed? List class and maximum size allowed. | *Sat  Unsat  NI  N/A* |
| 37. | Is there undercut present and does it exceed the depth allowed? List class and maximum depth allowed. | *Sat  Unsat  NI  N/A* |
| 38. | Does the weld contain end-melt (Tee welds only) and does it exceed the maximum depth allowed? List the class and maximum depth allowed. | *Sat  Unsat  NI  N/A* |
| 39. | Were all discontinuities properly identified? | *Sat  Unsat  NI  N/A* |
| 40. | Were the discontinuities properly sized or dimensioned? | *Sat  Unsat  NI  N/A* |
| 41. | Did the inspector demonstrate knowledge of the correct acceptance criteria and how the acceptance criterion is determined? | *Sat  Unsat  NI  N/A* |
| 42. | Was the sample evaluated for all the conditions required by the procedure? | *Sat  Unsat  NI  N/A* |
| 43. | Was a report filled out correctly and with all the information required by the procedure with the proper disposition of any discontinuities? (TP-271 8.4, 250-1500-1 8.2) | *Sat  Unsat  NI  N/A* |
| 43a. | If welds are covered by TP 278 para 4.1.3, were results recorded on the required record? | *Sat  Unsat  NI  N/A* |
| 44. | Is vision correction required? (Verify) Was vision correction worn during inspection? (TP-271 1.6.6.2, 250-1500-1 6.7.5) | *Sat  Unsat  NI  N/A* |
| 45. | Did the examiner that was watching the TPE provide feedback (either positive or negative) to the inspector after the examination was completed? | *Sat  Unsat  NI  N/A* |
| 46. | Is there a corrective action system or remedial training plan in place for when inspector errors occur and is there evidence that it is followed? | *Sat  Unsat  NI  N/A* |
| Titanium Inspection: | | |
| 47. | Is the VT Inspector trained and certified to inspect titanium? | *Sat  Unsat  NI  N/A* |
| 48. | Is the VT Examiner trained and certified to inspect titanium? | *Sat  Unsat  NI  N/A* |
| 49. | Does the VT procedure cover titanium color inspection? | *Sat  Unsat  NI  N/A* |
| 50. | If required, can the inspector distinguish the colors used in the method during inspection? (Colorblind) | *Sat  Unsat  NI  N/A* |
| 51. | Do the color workmanship standards represent all colors and conditions? | *Sat  Unsat  NI  N/A* |
| 52. | Are the color workmanship standards available to the inspector? | *Sat  Unsat  NI  N/A* |
| 53. | Was the backside of the weld, regardless of thickness and joint type, shielded? If not was the temperature measured and below 500 F? | *Sat  Unsat  NI  N/A* |
| 54. | Is each pass inspected for color? | *Sat  Unsat  NI  N/A* |
| 55. | Who performs the inter-pass color inspection? | *Sat  Unsat  NI  N/A* |
| 56. | If the color was rejectable on the inter-pass bead, was the cause determined and corrective actions taken before welding resumed? | *Sat  Unsat  NI  N/A* |
| 57. | If the color was rejected for other than straw, was the weld bead removed for the minimum required depth? | *Sat  Unsat  NI  N/A* |
| 58. | Is there evidence of brushing, sanding, or grinding on the weld surface at the time of color inspection? | *Sat  Unsat  NI  N/A* |
| 59. | Is the backside of two-sided welds inspected for color in the as deposited condition? (Before sanding, grinding, etc.) | *Sat  Unsat  NI  N/A* |
| 60. | Is the I/D accessible for color inspection? If not was the dew point validated for exit purge gas for the specific weld involved? Confirmed by inspector? | *Sat  Unsat  NI  N/A* |
| 61. | Was the color and boundary of weld + 1/32” correctly identified? | *Sat  Unsat  NI  N/A* |
| 62. | Was the luster acceptable? | *Sat  Unsat  NI  N/A* |
| 63. | Was the color of the HAZ (> 1/32” from toe) correctly identified? | *Sat  Unsat  NI  N/A* |
| 64. | For welds not covered by TP-278 Paragraph 4.1.3, did the VT inspector record/certify acceptable color and specifically list the governing acceptance criteria? | *Sat  Unsat  NI  N/A* |

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