

Structures Bulletin

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Number: EZ-SB-15-002

Date: 24 April 2015

Subject: Requirements for NDI Procedure Development, Validation, and Verification for Aircraft Structural Inspections During Operations and Support Phase

References:

- 1. MIL-STD-1530C, Aircraft Structural Integrity Program, 1 November 2005.
- 2. AFI 63-140, Aircraft Structural Integrity Program
- 3. AFMCI 63-1201, Implementing Operational Safety Suitability and Effectiveness (OSS&E) and Life Cycle Systems Engineering (LCSE)
- 4. TO 00-25-107 Technical Manual, Maintenance Assistance
- 5. TO 33B-1-2, Nondestructive Inspection General Procedures and Process Controls.
- 6. TO 00-5-3 Technical Manual, AF Technical Order Life Cycle Management
- 7. TO 00-5-15 Technical Manual, Air Force Time Compliance Technical Order Process
- 8. AFI 20-114 Air Force Instruction, Air and Space Equipment Structural Management
- 9. EN-SB-08-012, In-Service Inspection Flaw Assumptions for Metallic Structures
- 10. AFRL-RX-WP-TR-2008-4373, Recommended Processes and Best Practices for Nondestructive Inspection (NDI) of Safety-of-Fight Structures
- 11. MIL-HDBK-1823, Nondestructive Evaluation (NDE) System Reliability Assessment
- 12. TO 33B-1-1, Nondestructive Inspection Methods, Basic Theory
- 13. MIL-DTL-87929C, Technical Manuals, Operation and Maintenance Instructions in Work Package Format (For USAF Equipment)
- 14. MIL-PRF-83495, Technical Manuals On-Equipment Maintenance Manual Set

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Introduction:

The execution of effective nondestructive inspection (NDI) procedures is essential to maintain the structural integrity of USAF aircraft. Reference 1, paragraph 5.4.3.2 states "Implicit in damage tolerant structural designs are inspection requirements intended to ensure that damage never reaches the sizes that can cause catastrophic failure". Reference 1, paragraph 5.4.3.2.2 also states that "Selection of the inspection methods shall consider material, geometry, accessibility, human factors, and the resulting assumed detectable flaw size". Therefore, it is critical that inspection procedures and equipment are rigorously evaluated to ensure that the inspections are reliable and repeatable when performed by the typical field or depot level inspectors responsible for executing the inspections. This requires that inspection procedures are properly developed, validated and verified to ensure they are appropriate for the intended requirement and provide the detection capability necessary to support a safe inspection interval.

This Bulletin establishes the requirements for development, validation and verification of new or modified NDI procedures intended for use when performing NDI on any USAF aircraft structural component during operations and support phase.

The NDI procedure development, validation and verification process was established by consensus of the Air Force NDI Reliability Task Group comprised of the Air Force Sustainment Center (AFSC) Air Logistics Complex (ALC) NDI Program Managers, the Air Force NDI Program Office (AFLCMC/EZPT), representatives from the Air Force Research Laboratory Materials and Manufacturing Directorate (AFRL/RXCA and AFRL/RXSA) and the Air Force Life Cycle Management Center Engineering Directorate (AFLCMC/EZFS). The process is based on industry best practices, as well as the experience of the task group members.

Roles and Responsibilities:

Reference 2, paragraph 4.7.8 states that the Program Manager (PM) will, "Establish and document the life cycle inspection and modification actions and schedules required to maintain structural integrity of each aircraft system." Reference 3, paragraph 2.3.4.14 states, "The System Program Manager (SPM) in coordination with the Chief Engineer CE) shall....Develop and implement a process to review, validate and update inspection requirements". Paragraph 2.3.4.15 continues with, "Verify and validate changes to inspections, maintenance, and operating procedures prior to approval and publication, and assess operational impacts and burden on maintenance/manpower." It is therefore the responsibility of PM to ensure effective NDI procedures are properly vetted prior to publication, distribution and use. This requires close coordination with the ASIP Manager and the ALC NDI Program Manager (ALC NDI PM) to ensure effective execution of NDI procedure development, validation and verification prior to approval and release. For weapon systems not assigned to an ALC, the ASIP Manager should identify a USAF organization to provide qualified NDI Level 3 support to fulfill the roles and responsibilities of the ALC NDI PM.

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Applicability:

This Bulletin establishes the requirements for development, validation and verification of NDI procedures used to inspect structural components managed by the Air Force Aircraft Structural Integrity Program (ASIP). This Bulletin is applicable to both field and depot level inspections of aircraft structure performed by USAF personnel (to include aircraft that maintain an FAA Type certification). This Bulletin is NOT applicable for inspections of aircraft structure performed during production.

This Bulletin should also be considered for inspections of components managed by Propulsion System Integrity Programs (PSIP) and Mechanical Equipment and Subsystem Integrity Programs (MECSIP).

NDI procedures include, but are not limited to, those published in technical orders (TO), approved technical manual recommendation and replies (AFTO Form 22), approved technical order publication change requests (AFTO Form 252), nonconforming technical assistance request and replies (AFMC Form 202), TO 00-25-107 (Reference 4), process orders (PO), and those distributed by Time Compliance Technical Orders (TCTOs).

Recommendation:

During NDI procedure development, the ASIP Manager and ALC NDI PM must understand the limitations of the specific inspection requirements, and validate and verify all NDI procedures with consideration to the impact of access, geometry, material variations and human factors.

USAF or contractor organizations developing NDI procedures for aircraft structural components should use the standardized NDI procedures contained in TO 33B-1-2 (Reference 5), to the fullest extent practical.

The ASIP Manager and ALC NDI PM should ensure that validation and verification of new or modified NDI procedures are accomplished IAW the Appendix to this Bulletin, TO 00-5-3 (Reference 6), and TO 00-5-15 (Reference 7) as required.

The ALC NDI PM or designated USAF NDI Level 3 should perform the validation and verification process (IAW the Appendix to this Bulletin) for each new NDI procedure to be used in aircraft structure applications to ensure all of the requirements have been achieved and documented. The ALC NDI PM should archive a copy of all substantiating documentation and completed checklists derived during development, validation and verification for traceability and review. A copy of this documentation should also be provided to the ASIP manager for archive and traceability if requested.

Approved by:

Approved by:

7 Schrege

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Appendix

Validation and Verification of Nondestructive Inspection (NDI) Procedures

A.1. Objectives. The use of effective nondestructive inspection (NDI) procedures is essential to maintain the structural integrity of USAF aircraft. This Appendix establishes a standardized NDI procedure for validation and verification that must be used to evaluate all new or modified NDI procedures. The adherence to this process will enhance weapon system safety and readiness, while reducing the risk of operation of USAF aircraft that rely on NDI by ensuring the consistent performance capability and reliability of NDI procedures. The documentation of the process will ensure NDI procedures are technically adequate while providing a document trail for subsequent review.

A.2. Roles and Responsibilities. It is the responsibility of the ASIP Manager and the ALC NDI PM to ensure NDI procedures are properly vetted prior to publication, distribution and use. NDI procedures include, but are not limited to, those published in technical orders (TO), approved TO change request forms (AFTO Form 22 or 252), nonconforming technical assistance request and reply (AFMC Form 202), TO 00-25-107, process orders (PO), and those distributed by Time Compliance Technical Orders (TCTOs). The ALC NDI PM may designate a USAF NDI Level 3 to execute NDI procedure validation and verification.

The ASIP Manager must ensure that all NDI procedures are adequately reviewed, validated, verified and approved by the ALC NDI PM or designated USAF NDI Level 3. The ALC NDI PM or designated USAF NDI Level 3 must:

A.2.1. Ensure procedure validation and verifications are conducted as required by AFI 20-114 (Reference 8), TO 00-5-3, TO 00-5-15, and as further defined in this instruction on all new or modified NDI procedures.

A.2.2. Provide subject matter expert (SME) support throughout all phases of procedure development, validation and verification.

A.2.3. Ensure the NDI capability guidance of EN-SB-08-012 (Reference 9) is correctly applied to all procedure development projects.

A.2.4. If EN-SB-08-012 is not applicable, develop detection capability estimations using the guidance of AFRL-RX-WP-TR-2008-4373 (Reference 10) or MIL-HDBK-1823 (Reference 11) to determine the detection capability as required.

A.2.5. Determine skill level required to perform inspection. If the procedure is designed for field use, then determination shall be made in conjunction with the appropriate NDI MAJCOM Functional Manager.

DISTRIBUTION A: Approved for public release; distribution unlimited. EZ-SB-15-002, Page 5 of 16 A.2.6. Determine if task specific training is required to perform inspection. If the procedure is designed for field use, then determination shall be made in conjunction with the MAJCOM NDI Functional Manager.

A.2.7. Review and approve contractor developed NDI procedures.

A.2.8. Ensure inspection procedures are properly validated and verified and the results properly documented per the Qualification Checklists (Attachment). This includes documentation and archive of the technical supporting data used to substantiate the inspection efficacy for traceability.

A.3 General Procedure Requirements

A.3.1. NDI procedures must meet the content and technical requirements of TO 33B-1-1 (Reference 12), MIL-DTL-87929C (Reference 13), MIL-PRF-83495 (Reference 14), and this Bulletin.

A.3.2. NDI procedure validation and verification must be accomplished, documented and approved by the designated USAF NDI Level 3 prior to procedure publication, distribution and use.

A.3.3. In addition to the validation and verification documentation, the technical supporting data used to substantiate the efficacy of the inspection development and approval must be archived for traceability using approved local practices.

A.3.4. Contractor developed procedures must have USAF NDI Level 3 review and approval prior to release. Contractor developed procedures must also be validated and verified IAW TO 00-5-3 (Reference 6) and TO 00-5-15 (Reference 7), as applicable, and this Bulletin.

A.4. Procedure Review Requirements. The NDI procedure review process includes two phases; procedure validation and procedure verification. The ALC NDI PM or designated USAF NDI Level 3 will assist the ASIP Manager in the planning the procedure reviews.

A.4.1. <u>Phase 1: Procedure Validation</u>. Procedure validation is the responsibility of the developing organization, whether organic or contractor. During validation, the NDI technique is expected to progress from initial concept to a written draft procedure. Progress will occur predominantly through laboratory environment testing such as: software-modeling, open-specimen trials (i.e. specimens with defects having known locations/orientations), and prototype demonstrations. Validation concludes with successful procedure performance on simulated or actual components. The ASIP Manager and responsible USAF or contractor NDI Level 3 will provide coordinated validation results to the ALC NDI PM for review and approval prior to Phase 2: *Procedure Verification*.

DISTRIBUTION A: Approved for public release; distribution unlimited. EZ-SB-15-002, Page 6 of 16 Procedure validation shall, as a minimum, accomplish the following objectives. The objectives are general in scope and are intended to guide the validation process, not to dictate how results are obtained.

A.4.1.1 Collect and analyze supporting data such as material, defect type, defect location, defect orientation, critical flaw size, capability desired, etc.

A.4.1.2 Determine the appropriate method, equipment and technique required to achieve the inspection requirements.

A.4.1.3 Design/manufacture prototype support equipment as necessary.

A.4.1.4 Determine reference standards requirements to effectively control set-up and inspection sensitivity.

A.4.1.5 Determine access, component removal and surface preparation requirements as necessary.

A.4.1.6 Determine the required technician certification-level and inspector team requirement for reliable procedure performance.

A.4.1.7 Determine and document defect sizing and reporting requirements.

A.4.1.8 Produce a clearly written and complete draft inspection procedure.

A.4.1.9 Design/manufacture test specimens containing actual or simulated discontinuities as necessary.

A.4.1.10 Conduct necessary tests and evaluations to demonstrate procedure feasibility to meet engineering expectations for detection capability (Reference 9). The ALC NDI PM shall determine what level of testing is necessary.

A.4.1.11 Perform and document validation per the Phase 1: Procedure Validation checklist.

A.4.1.12 Obtain approval from the ALC NDI PM for the procedure before proceeding to *Phase 2: Procedure Verification*.

A.4.2 <u>Phase 2: Procedure Verification</u>. Procedure verification is a Government responsibility where the validated procedure is given to a production or field inspector to verify that the procedure can be accomplished as written. Other methods of verification can be performed under special circumstances, see paragraph A.4.2.2. Verification activities may include blind-specimen trials. The verification process must prove the suitability of an NDI procedure to perform its intended purpose to the satisfaction of the verification witnesses, inspectors, and the ALC NDI PM or designated NDI Level 3. All new or modified procedures

DISTRIBUTION A: Approved for public release; distribution unlimited. EZ-SB-15-002, Page 7 of 16 shall be verified IAW this Bulletin and TO 00-5-3 and TO 00-5-15 as required. The ALC NDI PM or designated USAF NDI Level 3 shall:

A.4.2.1. Ensure the procedure is thorough, understandable and logically written.

A.4.2.2. Ensure the procedure is understood and executable by the lowest certification-level technician expected to be approved to utilize the procedure.

A.4.2.3. Ensure the specified equipment performs as expected and is readily available to the intended end-user.

A.4.2.4. Ensure part, component and/or aircraft preparation requirements are adequate and can be accomplished as written.

A.4.2.5. Demonstrate the procedure meets engineering expectations for detection capability (Reference 9) if applicable.

A.4.2.6. Determine if the inspection capability is significantly affected by multiple human factors induced variances. The ALC NDI PM or designated USAF NDI Level 3 in coordination with the responsible structural engineer must take into consideration the human factors outlined in AFRL-RX-WP-TR-2008-4373 (Reference 10) when estimating application specific NDI capability. The USAF NDI Level 3 must assign an inspectability factor and perform capability adjustments, if necessary.

A.4.2.7. Determine the need for task specific training or certification. If it is determined that task specific training is required, task specific training must be developed.

A.4.2.8. Estimate inspection process labor hours, including all preparation operations.

A.4.2.9. Ensure human factor, environmental variables and safety issues are accounted for in the procedure as necessary.

A.4.2.10. Document verification per the *Phase 2: Procedure Verification* checklist.

A.4.2.11. Approve the procedure for publication, distribution and use.

A.4.2.12. <u>Methods of Verification</u>. The three methods of procedure verification are performance, simulation, and desk-top analysis, as defined below. Procedure verification must be accomplished by performance unless this requirement has been waived IAW TO 00-5-3 or TO 00-5-15 as applicable. The use of simulation or desk-top analysis methods can result in

DISTRIBUTION A: Approved for public release; distribution unlimited. EZ-SB-15-002, Page 8 of 16 the release of less than optimal procedures. Therefore, the use of these methods should be limited and requires the approval of both the ALC NDI PM and the ASIP Manager, in addition to the management requirements in TO 00-5-3 or TO 00-5-15. Justification and approvals for the simulation or desk-top analysis methods must be documented in writing by the responsible USAF NDI Level 3 and the ASIP Manager and filed with the procedure development records.

A.4.2.12.1 *Verification by Performance*. Verification by performance requires that written technical instructions be successfully accomplished on a production configured aircraft, engine or component in a maintenance environment.

A.4.2.12.1.1 All NDI procedures associated with Safety-of-Flight (SoF) Structures, critical safety items or nuclear certified equipment shall be verified by performance.

A.4.2.12.1.2 Verification by performance must be accomplished by the using commands lowest NDI certification-level expected to be approved to perform the inspection. Field level procedures must be verified by using field personnel.

A.4.2.12.1.3 If required by the ASIP Manager and the ALC NDI PM or designated USAF NDI Level 3, it may be necessary to determine procedure capability through PoD experiments or capability studies. All PoD or capability test plans shall be approved by the ALC NDI PM prior to the beginning of testing. All results should be shared with the USAF NDI Reliability Task Group.

A.4.2.12.1.4 For field level verifications, the ALC NDI PM or designated USAF NDI Level 3 and ASIP Manager will coordinate with the MAJCOM NDI Functional Manager.

A.4.2.12.2 Verification by Simulation. Verification by simulation is based upon first-hand working knowledge of the production configured aircraft or component and the proposed NDI procedural requirements.

A.4.2.12.2.1 Verification by simulation may only be conducted if justified and approved by the ASIP Manager and ALC NDI PM, and only if the performance verification has been waived IAW TO 00-5-3 and TO 00-5-15.

A.4.2.12.2.2 Instances where verification by simulation may be justified include: 1) revision of an existing qualified procedure to expand the area of interest, 2) implementation of an existing qualified procedure to similar structure elsewhere on the aircraft, 3)

DISTRIBUTION A: Approved for public release; distribution unlimited. EZ-SB-15-002, Page 9 of 16 when valid PoD or capability data is available and can be directly correlated to the inspection requirements at hand, and 4) emergency circumstances where time-constraints do not permit verification by performance to be accomplished.

A.4.2.12.2.3 Follow-up verification by performance must always be considered when verification by simulation is utilized. If procedural deficiencies are discovered during the follow-up verification, the inspection shall be re-issued with necessary improvements.

A.4.2.12.3 *Verification by Desk Top Analysis.* Verification by desk-top analysis is based solely on engineering assumptions gained through direct experience and comparison with similar procedural performance data.

- A.4.2.12.3.1 Verification by desk-top analysis is the least stringent method of verification and shall only be considered for use in extremely urgent or emergency situations or when the same inspection has already undergone verification by performance on the same part number on another application.
- A.4.2.12.3.2 Verification by desk-top analysis may only be conducted if justified and approved by the ASIP Manager and the ALC NDI PM, and only if the performance verification has been waived IAW TO 00-5-3 and TO 00-5-15.
- A.4.2.12.3.3 Follow-up verification by performance shall always be considered when verification by desk-top analysis is used. If procedural deficiencies are discovered during the follow-up verification, the inspection shall be re-issued with necessary improvements.

A.5. Procedure Review and Approval

A.5.1 All new and modified NDI procedures must be reviewed and approved by the ALC NDI PM prior to publication and use. Engagement with the ALC NDI PM early in the procedure development process will reduce the amount of time needed for review. In the event the ALC NDI PM is not involved in the development process, some or all of the validation and verification may have to be repeated at the discretion of the ALC NDI PM.

A.5.2 The ALC NDI PM may delegate approval authority to a USAF NDI Level 3. The ALC NDI PM will maintain a list of authorized Level 3's to provide a document trail.

A.5.3 In emergency circumstances where time-constraints do not permit the normal review and approval in which, the ALC NDI PM or designated NDI Level 3

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A.5.3.1 Contact the ALC NDI PM's engineering staff to determine if another Level 3 can provide the necessary review.

A.5.3.2 If a USAF NDI Level 3 other than the ALC NDI PM or designated NDI Level 3 performed the review and approval, the ASIP Manager will document which USAF NDI Level 3 performed the review so that the ALC NDI PM can follow up and provide a secondary review. The reviewing and approving USAF NDI Level 3 shall contact the ALC NDI PM as soon as possible with a status report.

A.5.3.3 In the event the review and approval from the ALC NDI PM or their staff cannot be obtained prior to release, the ASIP Manager should allow up to three (3) business days after the release to get the review and approval of the ALC NDI PM. The ASIP Manager will be prepared to release an update or addendum to the NDI procedures if deemed necessary by the ALC NDI PM.

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Validation and Verification Checklists

PHASE 1: Validation

1. Procedure Name/Description/Purpose:

2. Inspection Area Description and Figures: (Attach Figures as Required) 3. Detection Capability Requirements: Critical Flaw Size: Goal a _{90/95} : Threshold a _{90/95} : 4. Inspection Criticality: a. Identified as a Safety-of-Flight Inspection b. Identified by the Force Structure Maintenance Plan c. If SOF, is it identified as a SOF inspection in the procedure 7. Inspection Procedure Considerations: a. Initial procedure is complete and clearly written Yes No b. Method, equipment, kits, reference standards and technique are
3. Detection Capability Requirements: Critical Flaw Size: Goal a _{90/95} : 4. Inspection Criticality: a. Identified as a Safety-of-Flight Inspection Yes No b. Identified by the Force Structure Maintenance Plan Yes No c. If SOF, is it identified as a SOF inspection in the procedure Yes No 5. Inspection Procedure Considerations:
Critical Flaw Size: Goal a _{90/95} : Threshold a _{90/95} : 4. Inspection Criticality:
4. Inspection Criticality: a. Identified as a Safety-of-Flight Inspection b. Identified by the Force Structure Maintenance Plan Yes No c. If SOF, is it identified as a SOF inspection in the procedure Yes No a. Initial procedure is complete and clearly written Yes No b. Method, equipment, kits, reference standards and technique are
4. Inspection Criticality: a. Identified as a Safety-of-Flight Inspection YesNo b. Identified by the Force Structure Maintenance Plan YesNo c. If SOF, is it identified as a SOF inspection in the procedure YesNo 5. Inspection Procedure Considerations:
a. Identified as a Safety-of-Flight Inspection YesNo b. Identified by the Force Structure Maintenance Plan YesNo c. If SOF, is it identified as a SOF inspection in the procedure YesNo 5. Inspection Procedure Considerations: a. Initial procedure is complete and clearly written YesNo b. Method, equipment, kits, reference standards and technique are YesNo
b. Identified by the Force Structure Maintenance Plan YesNo c. If SOF, is it identified as a SOF inspection in the procedure YesNo 5. Inspection Procedure Considerations: a. Initial procedure is complete and clearly written YesNo b. Method, equipment, kits, reference standards and technique are YesNo
c. If SOF, is it identified as a SOF inspection in the procedure Yes No 5. Inspection Procedure Considerations:
5. Inspection Procedure Considerations: a. Initial procedure is complete and clearly written YesNo b. Method, equipment, kits, reference standards and technique are YesNo
a. Initial procedure is complete and clearly written Yes No b. Method, equipment, kits, reference standards and technique are Yes No
b. Method, equipment, kits, reference standards and technique are Yes No
appropriate and available
c. Equipment is readily available and does not require long lead time Yes No
acquisition or logistics considerations for implementation (kits, probes,
reference standards, instruments, materials).
d. Inspection location clearly and correctly identified Yes No
e. Coating removal or other part preparation is defined Yes No
f. Required access defined and appropriate Yes No
g. Inspector certification level is appropriate Yes No
h. Inspection team requirements are defined Yes No TBD
i. Redundant inspection is required Yes No TBD
i. Human factors are addressed and incorporated in procedure Yes No
k. Defect mapping / defect recording criteria defined Yes No
I. Inspection successfully demonstrated on representative structure or Yes No
coupons with actual or simulated discontinuities
m. POD capability demonstrated or established and documented Yes No
n. Level 3 and engineering oversight provided during development Yes No
Comments (provide a summary of any element marked NO or TBD above):
6 Personnel Qualification Recommendation
a Civilian (NAS410) \cdot Level 2 Level 1 Yes No TBD
h Military: 2A772: 2A752: 2A732 Yes No TBD

 c.
 Task specific training requirements identified:
 Yes _____ No ____ TBD___

 The following endorsements attest that the validation of the subject procedure_has been

completed and documented and the results support continuation to Phase 2 Verification.

Designated USAF NDI Level 3		ALC NDI PM		
Name:	_Org:	Name:	_Org:	
Signature:		Signature:		

PHASE 2: Verification

1. Procedure Identification/Description:		
2. ALC NDI PM / Designated NDI Level 3:		
3. Structural Engineering POC:		
4. Type of Verification: (Check One)		
a. Performance:		
D. Simulation :		
Justification/Approval if Applicable:		
5. Flight Safety Critical Structure:	Yes	No
6. Summary of Verification Activities		
a. Logistical Details:		
Date: Location:		
Participants: (provide list)		
Inspection Method: MT, PT, RT, UT, ET, Other	Vaa	
b. Procedure is indrough, understandable and logically written c owest skill-level defined and is appropriate:	res	INU
	Yes	No
Skill Level (Civilian/Military)		
d. Equipment/kits requirements are clearly identified in the procedure and	Yes	No
are appropriate and available	Voc	No
and the maintenance required to accomplish is clearly defined	165	INO
f. Describe specimens or calibration standards used during verification:		
g. Inspection process labor hours estimate:		
h. Human factors (e.g. non-direct line of site access, inspector comfort,		
etc.) and environmental issues (e.g. temperature, fuel vapors, etc.)	Yes	No
adequately addressed in the procedure and are appropriate:		
Describe the human factors/environmental issues encountered during		
verification:		
i Sofoty include are considered and adaptionally addressed in the		
n. Salety issues are considered and adequately addressed in the procedure	Yes	No
F		
Describe any safety issues:		

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i Incraction E			
	desults:	Vaa	Ne
T) was in	spector able to effectively perform inspection:	res	INO
2) Were t	arget defects detected as required (if used):	Yes	No
2) 110101		100	
k. Capability h	as been assessed and is appropriate for the requirement:	Yes	No
Human fac capability e	tors considerations have been taken into account in stimates	Yes	No
Describe m	ethod for establishing capability:		
Recommer	nded a _{90/95} capability:		
EN-SB-08-	U12 Reference (if applicable):	6 abova)	
		/-	
7 Procedure Impl	ementation Considerations:		
a. Routine Sc	heduled Inspection:	Yes	No
b. TCTO:		Yes	No
c. Equipment	Availability:	Yes	No
i. Stan	dard inventory items:	Yes	No
ii. Spec	ialized equipment necessary:	Yes	No
	tted:	Yes	No
1) Ki		100	
1) Ki 2) No	on-Kitted:	Yes	No
1) Ki 2) N 3) Si	on-Kitted: PO/Command Funded:	Yes	No No
1) Ki 2) N 3) Si 4) Lc	on-Kitted: PO/Command Funded: cal Funding:	Yes Yes Yes	No No No
1) Ki 2) N 3) S 4) Lo d. Equipment	on-Kitted: PO/Command Funded: cal Funding: durability adequate for application:	Yes Yes Yes Yes	No No No No
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1) Ki 2) N 3) Si 4) Lo d. Equipment e. Alternate e f. Alternate E g. Task Spec i. Ind	on-Kitted: PO/Command Funded: Decal Funding: durability adequate for application: quipment allowed: quipment Approval process identified: fic Training Requirements (check one or more as required) ividual	Yes Yes Yes Yes Yes Yes	No No No No No
1) Ki 2) N 3) Si 4) Lo d. Equipment e. Alternate e f. Alternate E g. Task Spec i. Inc ii. Tra	on-Kitted: PO/Command Funded: ocal Funding: durability adequate for application: quipment allowed: quipment Approval process identified: fic Training Requirements (check one or more as required) ividual in the Trainer b Based	Yes Yes Yes Yes Yes	No No No No No
1) Ki 2) Ni 3) Si 4) Lo d. Equipment e. Alternate e f. Alternate E g. Task Spec i. Ind ii. Tra iii. We iv. Re	on-Kitted: PO/Command Funded: ocal Funding: durability adequate for application: quipment allowed: quipment Approval process identified: ific Training Requirements (check one or more as required) ividual in the Trainer b Based	Yes Yes Yes Yes Yes	No No No No No
1) Ki 2) Ni 3) Si 4) Lo d. Equipment e. Alternate e f. Alternate E g. Task Spec i. Inc ii. Tra iii. We iv. Re	on-Kitted: PO/Command Funded: ccal Funding: durability adequate for application: quipment allowed: quipment Approval process identified: fic Training Requirements (check one or more as required) ividual in the Trainer b Based curring Interval commended Source	Yes Yes Yes Yes Yes	No No No No
1) Ki 2) Ni 3) Si 4) Lo d. Equipment e. Alternate e f. Alternate E g. Task Spec i. Ino ii. Tra iii. We iv. Re v. Re vi. Re	on-Kitted: PO/Command Funded: ocal Funding: durability adequate for application: quipment allowed: iquipment Approval process identified: fic Training Requirements (check one or more as required) ividual in the Trainer ab Based curring Interval commended Source commended Location	Yes Yes Yes Yes Yes	No No No No
1) Ki 2) Ni 3) Si 4) Lo d. Equipment e. Alternate e f. Alternate E g. Task Spec i. Ind ii. Tra iii. We iv. Re v. Re v. Re vi. Re vii. No	on-Kitted: PO/Command Funded: ocal Funding: durability adequate for application: quipment allowed: iquipment Approval process identified: ific Training Requirements (check one or more as required) ividual in the Trainer ab Based curring Interval commended Source ne	Yes Yes Yes Yes Yes	No No No No No
1) Ki 2) No 3) Si 4) Lo d. Equipment e. Alternate e f. Alternate E g. Task Spec i. Ind ii. Tra iii. We iv. Re v. Re v. Re vi. Re vi. Re vi. Re	on-Kitted: PO/Command Funded: bcal Funding: durability adequate for application: quipment allowed: iquipment Approval process identified: ific Training Requirements (check one or more as required) lividual in the Trainer b Based curring Interval commended Source commended Location ne	Yes Yes Yes Yes Yes	No No No No No
1) Ki 2) Ni 3) Sl 4) Lo d. Equipment e. Alternate e f. Alternate E g. Task Spec i. Ind ii. Tra iii. We iv. Re v. Re vi. Re vi. Re Vi. Re Vi. Re Vi. Re Vi. Re Vi. Re	on-Kitted: PO/Command Funded: ocal Funding: durability adequate for application: quipment allowed: quipment Approval process identified: ific Training Requirements (check one or more as required) lividual in the Trainer b Based curring Interval commended Source commended Location pector(s)	Yes Yes Yes Yes Yes	No No No No No
1) Ki 2) Ni 3) Si 4) Lo d. Equipment e. Alternate e f. Alternate E g. Task Spec i. Ind ii. Tra iii. We iv. Re v. Re v. Re vi. Re vi. Re vi. No 8. Verification Insj Comments:	on-Kitted: PO/Command Funded: ocal Funding: durability adequate for application: quipment allowed: iquipment Approval process identified: ific Training Requirements (check one or more as required) lividual ain the Trainer ab Based curring Interval commended Source commended Location ne Dector(s)	Yes Yes Yes Yes Yes	No No No No No
1) Ki 2) Ni 3) Si 4) Lo d. Equipment e. Alternate e f. Alternate E g. Task Spec i. Ino ii. Tra iii. We iv. Re v. Re vi. No Vi. No Vi. Re Vi. Re Vi. No Vi. Re Vi. Re Vi. Re Vi. Re Vi. Re Vi. Re Vi. No Vi. No Vi. Re Vi. Re Vi. No Vi.	on-Kitted: PO/Command Funded: ocal Funding: durability adequate for application: quipment allowed: quipment Approval process identified: iquipment Approval process identified: itric Training Requirements (check one or more as required) lividual in the Trainer ain the Trainer b Based curring Interval commended Source commended Location ne Dector(s) Org.:	Yes Yes Yes Yes Yes	No No No No No
1) Ki 2) Ni 3) Si 4) Lo d. Equipment e. Alternate e f. Alternate E g. Task Spec i. Ino ii. Tra iii. We iv. Re v. Re vi. Re vi. Re vi. Re Vi. Re Vi. Re Comments: Name: Certification:	on-Kitted: PO/Command Funded: ocal Funding: durability adequate for application: quipment allowed: iquipment Approval process identified: ific Training Requirements (check one or more as required) lividual ain the Trainer ab Based curring Interval commended Source commended Location ne Dector(s) Org.: Level 2; Level 1; Other	Yes Yes Yes Yes Yes	No No No No No

9. Contractor/OEM Level 3 Witne	SS	
Comments:		
Newser	0	
Name:	Org.:	
Signatura	Deter	
Signature.	Date.	
10 Structures Engineering With	222	
Procedure Approved / Disapprov	ved for release (circle as appropriate)	
Comments:		
Name:	Org.:	
Signature:	Date:	
11. Designated USAF NDI Level 3	3	
Procedure Approved / Disapprov	ved for release (circle as appropriate)	
Comments:	2	
Name:	Org.:	
Signatura	Deter	
Signature.	Dale.	
12. ALC NDI PM		
Procedure Approved / Disapprov	/ed for release (circle as appropriate)	
Comments:	0	
	Org.:	
Signaturo	Date:	
Signature.	Dale.	