

INTRODUCTION

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- American Society for Nondestructive Testing NDT Level III / ACCP Professional Level III
- American Welding Society – Certified Welding Inspector
- Association of Technology Management and Applied Engineering – Certified Technical Professional
- FAA A&P / Commercial Pilot
- **Nathan Elledge** –
- BSc – Mechanical Engineering
- American Society for Nondestructive Testing NDT Level III
- FAA Repairman (NDT)
- Engineer-In-Training





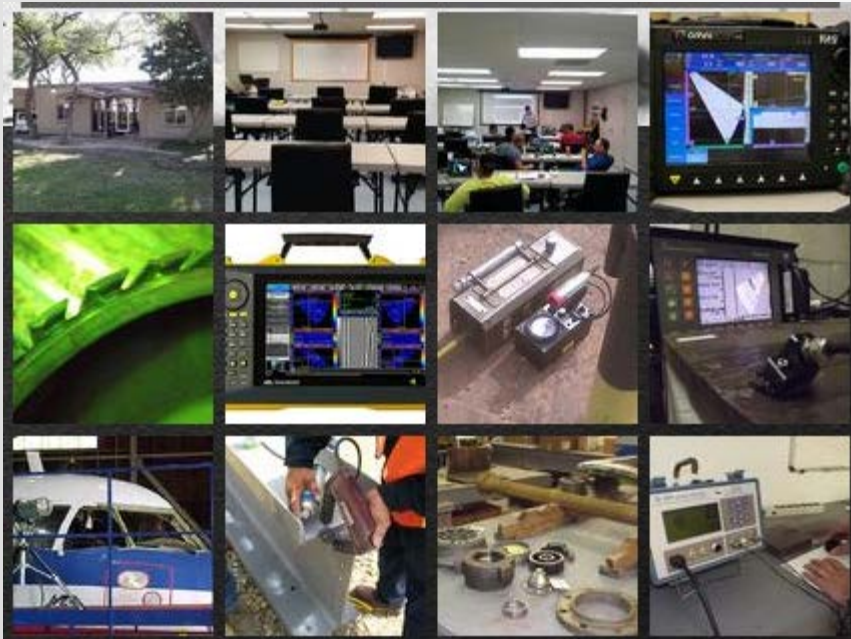
Welcome to BRL Consultants, Inc

Established in 1993, BRL has provided quality NDT training and consulting services to many facets of industry. BRL is a woman-owned business enterprise (WBE), and is certified by the SCTRCA as a small business enterprise.

BRL offers training and OJT necessary for personnel certification. Whether you need formal classroom instruction, or need the OJT to meet certification requirements, we can help. BRL can meet the requirements of ASNT SNT-TC-1A, NAS 410, or CP-189 for Level I, II, and Level III refresher courses. Training can be performed at our facility or our customer location. BRL offers hands-on-training and certification exams for clients.

BRL can provide Level III NDT services, QA/QC surveillance, third party services, CWI, expert witness, auditing, procedure and technique development as well as equipment recommendations.

ASNT - Corporate Partner Member
ACIL - Member



Inspections performed using methods and techniques that don't damage or harm the part or area being evaluated. Several methods available: RT, UT, ET, PT, MT, VT, IR, AE etc.

CERTIFICATION – QUALIFICATION -
Personnel is the topic, *not* NDT procedures

NDT, NDE, NDI – ALL THE SAME

NEED FOR NDT

- Liability
- Compliance
- Quality control
- Product reliability
- Increase in profitability

REGULATIONS / STANDARDS

- FAA / governing agencies outside USA
- Manufacturer's requirements ; Cessna, Learjet, Beechcraft, Dassault, Boeing, Airbus, Canadair, etc.
- MIL-STD's, ASTM,
- Industry requirements

QUALIFICATIONS / CERTIFICATIONS









- Company NDT program or outside agency program.
- Personnel certification program ASNT-SNT-TC-1A, NAS-410, ATA-105, etc.
- Training and OJT (experience necessary)

Since there are a several NDT certification programs, and a global environment exists, it is important to be aware of the changes or variations that may be encountered. Currently there are pending programs and requirements that may affect how things are done in the NDT community – regardless of the sector of involvement. It appears that much effort is being placed on a more valid means of NDT personnel certification. ISO currently implements a certification requirement, not simply in-house credentials. ASNT's ACCP is similar and Canada utilizes a regulatory board. The trend “appears” to be, at least using a 3rd party entity to administer certification exams in the future.

ISO9712 ?????????????? **WHY SO MANY PROGRAMS?**



CERTIFICATION PROGRAMS

- ASNT SNT TC 1A – recommended practice 
- ANSI / ASNT CP 189 – standard  
- AIA NAS 410 – standard 
- ATA 105 – recommended practice 
- ISO 9712 – international standard 
- PCN (EN)- scheme 
- CGSB NDT (48.9712)- standard 
- Others to follow



TERMINOLOGY

- ASNT: American Society for Nondestructive Testing. Founded in 1941 dedicated to the field of NDT. World-wide. "ASNT exists to create a safer world by promoting the profession and technologies of nondestructive testing."
- ACCP: ASNT Centralized Certification Program.
- CERTIFICATION: Written testimony that the individual meets the applicable requirements. – **EMPLOYER?**
- EXPERIENCE (OJT): Actual performance of NDT conducted in the work environment – not part of formal training
- FORMAL TRAINING: Organized, documented program of instruction to impart knowledge and skills to be qualified
LEVEL: Qualification / Certification levels commensurate with appropriate duties and responsibilities
- ISO: International Organization for Standardization. World-wide federation of certification bodies
- NAS: National Aerospace Standard . NDT personnel NAS 410 (MIL-STD-410)
- QUALIFICATION: Education, skills, knowledge, and experience required to meet a specified NDT Level.
- RECOMMENDED PRACTICE: Employer's methods and procedure for qualifying and certifying NDT personnel

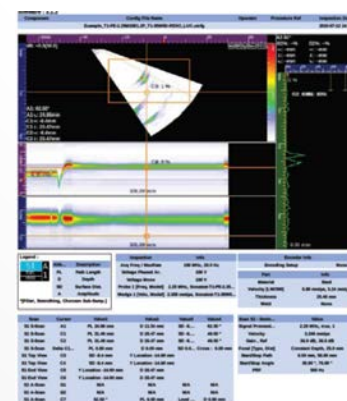
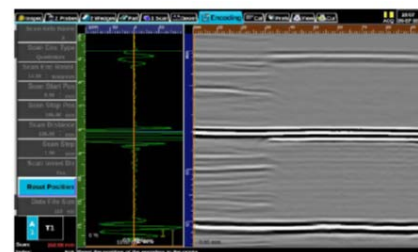
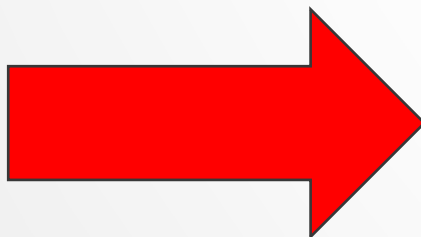
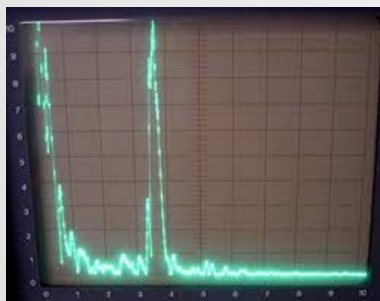
- ASNT SNT TC 1A – 1966 (Latest 2011)
 - Mid 70's Level III certification initial "grandfathering" – no longer approved under most recognized programs.
 - Level's I, II, III including duties and responsibilities
 - CP-189 (1995) standard – not recommendation.
 - CP-105 Topical outlines for training
 - Methods / Techniques of NDT defined – continually updated based on advances in technology and industry (PAUT, ToFD, CR,)
 - Industry/Employer specific
 - ACCP- individual certification
 - ASNT-vs-ISO (and others)
-

ADVANCING TECHNOLOGY - UT

Evolving technological advances and changes within industry require the changes be made to certification programs or processes -

1980

2014



NDT CERTIFICATION PROGRAM COMPARISONS

	SNT TC 1A	ISO 9712
Vision	J2	J1
Training Hrs. Lev 2 (ET,PT)	80,12	88,40
Practical Ex	1	1-3

- One size doesn't fit all
- Unique differences
- Company / Airline specific
- Sector specific



NDT CERTIFICATION PROGRAM COMPARISONS ATA-105

	ATA 105	ISO 9712
Vision – (J) Snellen	J1 20/25 @ ?	J1 @ 30cm
Training Hrs. Lev 2 (ET,PT)	80,24	88,40
Visual Inspection	NA	Y
Grading	70	Weighted based on Level
Practical Ex	2	1-3

- Grandfathering – no provision; not allowed in anything other than ATA105
- Visual – not addressed in ATA 105. - FAA AC 43-204, over 80% of inspection VT*
- FAA NDI checklist for NDI including VT (attached)

* 2. RELATION OF VISUAL INSPECTION TO NONDESTRUCTIVE INSPECTION (NDI).
 Visual inspection is an essential part of airplane maintenance. The visual inspection component of NDI requires trained and experienced inspection personnel, using validated procedures and appropriate calibration standards with effective, well-maintained equipment in a well-managed maintenance environment.



FAA NDI CHECKLIST

Table of Contents

SYSTEMATIC NDI EVALUATION PROCESS

General	4
Certification	5
Documentation	5
Organization	6
Environment	7
Calibration	8
Training	9
Audit/Evaluation and Surveillance	10
Documentation	10
Organization	10
Environment	11
Calibration	11
Training	11

NDI METHODS

Visual Inspection	13
Liquid Penetrant Inspection	15
Magnetic Particle Inspection	17
Eddy Current Inspection	20
Ultrasonic Inspection	22
Radiography	24



NONDESTRUCTIVE INSPECTION (NDI) EVALUATION CHECKLIST

The NDI evaluation checklist is a tool to be used in certification, audit/evaluation, and surveillance of non destructive testing facilities. This checklist is designed to provide a standardized approach to evaluate an NDI facility.

The NDI evaluation checklist is organized around five elements which are used to assess the facility's ability to perform NDI functions. These five elements comprise a systematic NDI evaluation process that can be utilized in evaluation of any NDI organization, from manufacturing to maintenance. The five elements: documentation, organization, environment, calibration, and training, are defined below:

Documentation - written procedures, processes, specifications and/or methods used by air operators or air agencies in the performance and control of NDI activities.

Organization - relationship of NDI organization to management.

Environment - the general physical condition of the facility, e.g., housekeeping, storage, safety, consumable management, equipment.

Calibration - process by which an item is checked against a standard.

Training - methods used and records maintained to train and retrain NDI personnel.

These elements represent the underlying system that needs to be in place for a satisfactory NDI operation. Using the NDI evaluation checklist provides the Aviation Safety Inspector (ASI) with a standardized approach to assess compliance. Not all questions in the checklist need to be



FAA NDI CHECKLIST CONT'D



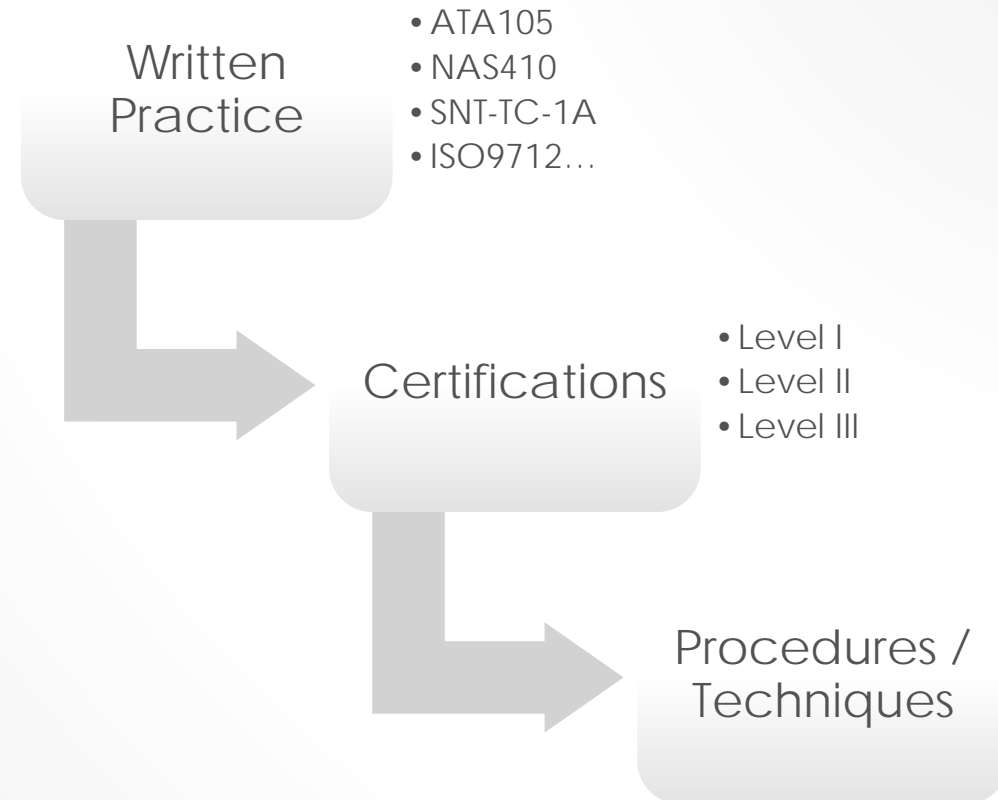
TRAINING (CLASSROOM, OJT AND DEMONSTRATION OF PERFORMANCE)

- Are training requirements identified in the manual for the methods used?
- Are training, qualification, and certification done in accordance with criteria such as:
 - SNT-TC-1A Recommended Practice for Personnel Qualification and Certification in Nondestructive Testing
 - Mil Standard 410-E
 - ATA 105
 - Other _____
- Are there procedures for maintaining training records for NDI personnel?
- Is there a procedure to include OJT requirements and is it recorded?
- Is there a procedure to include demonstration of performance and is it recorded?
- Is all data pertinent to individual training/certification/recertification on file?
- Is there a procedure for recertification/decertification of NDI personnel?



REQUIREMENTS

- Written Practice
- Certification
- NDT Procedures
- NDT Manual (all inclusive?)
- NDT Quality Control (Process Controls)
- Calibration



SUMMARY

Many FAR 121 Operators have programs that are “approved” or accepted by the FAA and are different from any of the “recognized” industry standards or practices.

Since there are varied programs... verify and comply with what is applicable. “ACCEPTABLE TO THE ADMINISTRATOR” or as documented in YOUR program.

VERIFY

