U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 25
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

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APPROVAL CA2006010017
(4th REVISION)
ISSUED BY THE COMPETENT AUTHORITY OF THE UNITED STATES
EXPIRATION DATE: August 16, 2028

APPROVAL HOLDER: Element Cleveland
5405 Schaaf Road
Cleveland OH 44131 US

1. **REGULATORY AUTHORITY:** 49 C.F.R. § 107.803 and § 178.35

2. **SYNOPSIS:** **DESIGNATION AS INDEPENDENT INSPECTION AGENCY –IA09**

Element Cleveland is hereby designated as an Independent Inspection Agency (IIA) by the United States Department of Transportation (DOT), and is assigned identification number, **IA09** for witnessing and verifying tests, inspections, verifications, and certifications pertaining to the manufacture of compressed gas cylinders. The approval holder is also authorized to perform inspections to make recommendations to DOT for approval of cylinder re-qualifiers, repairers, and rebuilders of DOT specification, UN/ISO, and Special Permit compressed gas cylinders, in accordance with the provisions of this letter, the attached addendum, and the applicable sections of 49 C.F.R.

3. **BASIS:** This approval is based on a written renewal application submitted by the approval holder on August 15, 2023, and an onsite inspection of the approval holder's inspection facility, and its certified inspectors as reviewed and conducted by PHMSA's Sciences and Engineering Division, and/or the Office of Hazardous Materials Safety's Field Operations Division.

4. **PERIOD OF VALIDITY AND CONDITIONS OF APPROVAL:** This approval does not provide relief from any requirements of 49 C.F.R. Part 107 or the Hazardous Materials Regulations, Parts 171-180, except as expressly stated herein. This approval does not grant any

additional authority or impose additional requirements except as stated herein.

This approval is renewable every five (5) years, subject to DOT onsite inspections of the approval holder's facility, records, and the qualifications of inspectors to verify the company's continued ability to perform the functions covered under the terms and provisions of this approval and compliance with applicable regulatory requirements. It shall remain valid until the posted expiration date above if the following conditions are met:

(a) All operations are conducted prior to the posted expiration date.

(b) The approval has not been terminated by the Associate Administrator for Hazardous Materials Safety (AAHMS).

(c) The approval holder maintains the necessary technical capabilities to witness and verify tests, inspections, and conduct verification testing, and certifications of DOT specification cylinders or UN pressure receptacles as required by 49 C.F.R. Parts 171-180 and as submitted for approval to PHMSA's Sciences and Engineering Division.

(d) No independent inspection agency may be engaged in the manufacture of cylinders for use in the transportation of hazardous materials, or be directly or indirectly controlled by, or have a financial involvement with, any entity that manufactures cylinders for use in the transportation of hazardous materials, except for providing services as an independent inspection agency. Approval and certification duties must be performed independent of any manufacturer, re-qualifier, repairer, and/or rebuilder, of DOT specification, DOT-approved UN/ISO, and Special Permit cylinders. Additionally, the approval holder must not be controlled by, or financially dependent on any entity that manufactures, requalifies, or markets compressed gas cylinders. To maintain an IIA approval, the approval holder's work, with respect to cylinders, must be limited to witnessing, examination, design and production testing, and evaluation only.

(e) The approval holder must use its officially registered mark on file with PHMSA, or the identification number identified in Section 3 of this approval, as its official IIA mark.

(f) The approval holder must notify PHMSA's Sciences and Engineering Division in writing within twenty (20) days of any changes in:

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(1) Facility name

(2) Address

(3) Ownership (including any change in majority ownership that has the effect of creating a new entity, or alters the legal status of the approval holder)

(4) Management

(5) Inspection personnel (including duties, qualifications etc.)

(6) Companies who perform testing on behalf of IIA

(7) Sub-contracted companies used to perform verification testing

(8) Any additional changes pertaining to information submitted to gain approval as an IIA

(9) Adding any new manufacturing client under contract or terminating a contractual relationship with a manufacturing client who manufactures DOT specification, DOT approved UN/ISO, and/or Special Permit cylinders, and/or rebuilds these cylinder types. The notification must include the name and contact information of the manufacturer, the approved specification produced or to be produced, and the names of the certifying and supervising inspectors assigned to each manufacturer by the approval holder.

(g) The approval holder must ensure that all personnel who perform tests, inspections, verifications, and certifications of DOT specification, DOT-approved UN/ISO, and Special Permit cylinders, and who perform inspections of cylinder re-qualification, repair, and/or rebuild facilities, have received appropriate training, in accordance with 49 C.F.R. § 172.700-704, and are fully qualified, with the appropriate education and/or experience level in accordance with PHMSA's IIA evaluation criteria to perform the audits related to that function. All IIA employee training documentation/ records must be retained in accordance with 49 C.F.R. § 172.704. This documentation must be made available to PHMSA upon request.

(h) Independent Inspection Agencies, authorized under § 107.803, are not authorized to act as a designated agent for U.S. Service for a client for which they currently act as the IIA, and may not apply for approval on behalf of an applicant for whom they provide IIA services. The applicant requesting the approval, or their designated agent for U.S. Service, under

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the provisions of 49 C.F.R. § 105.40, must submit the application for approval.

(i) This approval is non-transferrable, and therefore, any change of majority ownership resulting in a new entity voids the Competent Authority (CA) Approval.

(j) The approval holder must submit a semi-annual report in an electronic format (Excel spreadsheet-type format is recommended) to PHMSA's Approvals and Permits Division at approvals@dot.gov. The report for January 1 – June 30 must be received by PHMSA's Sciences and Engineering Division by July 15. The report for July 1 - December 31 must be received by the Sciences and Engineering Division by January 15. The report(s) shall include the following information:

(1) Any location where your company acted as the pre-approval inspector for the requalification of DOT specification, DOT-approved UN/ISO, and Special Permit cylinders in the last six (6) months.

(2) Any location (domestic or foreign) where production testing and inspections, verifications, or certifications of DOT specification, DOT-approved UN/ISO, and Special Permit cylinders were performed under your IIA authority in accordance with 49 C.F.R. § 178.35 for active cylinder manufacturing in the last six (6) months, and any location where you potentially may act as an IIA for manufacturing in the next six (6) months.

NOTE: *The report must include any location where the approval holder previously acted as an IIA for a cylinder manufacturer, along with the date of termination of IIA services to the manufacturer during the current reporting period.*

(3) Any location where the approval holder acts as an IIA for repair/rebuild operations under the provisions of a Competent Authority Approval.

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5. **SPECIAL PROVISIONS:**

Manufacturing and Verification Testing (as authorized by Section 3):

(a) The approval holder listed above is authorized to perform manufacturing inspections and verification testing of DOT cylinders manufactured under Special Permits and DOT Specifications **3A, 3E, 4B, as well as cylinders manufactured to the requirements of DOT-SP 7458** specification cylinders manufactured in accordance with 49 C.F.R., Part 178, as authorized.

(b) Verification testing must be conducted in accordance with the applicable requirements of the DOT-Special Permit, DOT or UN/ISO cylinder specification being tested. PHMSA's Sciences and Engineering Division must approve any additional testing, outside the scope of the cylinder specification. All testing procedures and results must be documented appropriately in report form and submitted to the Sciences and Engineering Division, upon completion of the verification testing. This report should include a cover page, specifically for DOT use, which includes the official evaluation of the inspection results, and any additional testing notes or concerns of the verification lab.

(c) Any verification testing conducted by a laboratory or company under contract or agreement with the approved IIA must be verified and certified, in writing by the approved IIA, prior to submittal to the Sciences and Engineering Division. Any company that the approval holder uses under contract to perform verification testing for U.S. DOT, must verify that all its personnel who perform verification testing of DOT specification, DOT-approved UN/ISO, and Special Permit cylinders have received appropriate training, in accordance with 49 C.F.R. §§ 172.700 and 172.704, and are fully qualified, with the appropriate education and/or experience level to perform the testing related to that function. All training documentation and records must be kept in accordance with the applicable sections of 49 C.F.R.

IIA Inspection of Cylinder Requalification Facility (as authorized by Section 3):

(d) This approval authorizes the approval holder listed above to conduct pre-approval inspections of the following periodic retest methods: hydrostatic pressure test, proof pressure test, (and Eddy Current test in accordance with 49 C.F.R. Part 180 Appendix C, when applicable), ultrasonic test (under special permit), acoustic emission test (under special

permit), and visual requalification of acetylene gas cylinders.

(e) The approval holder listed must conduct the inspection of cylinder requalification applicants in accordance with 49 C.F.R. § 180.205, § 180.207, § 180.209, § 180.213, § 180.215, and §§ 172.700-172.704, to ensure compliance with the applicable requirements. Additionally, the approval holder must review the process and procedures the RIN holder uses to requalify any DOT specification, DOT-approved UN/ISO, and applicable DOT Special Permit cylinders to ensure the cylinders are being tested in compliance with the requirements of the Special Permit(s) as authorized, and/or the requirements of Appendix C of Part 180, when applicable. The approval holder listed above must also ensure that all training documentation and test records are kept in accordance with the applicable sections of 49 C.F.R. This would include a review of the test records on file with the RIN holder for the last 5 years, or last retention period in accordance with the provisions of 49 CFR § 180.215 to ensure proper testing and that the required information is listed. When conducting inspections of new RIN applicants, without prior test records, the approval holder listed above must ensure that the test records to be used, meet the sections listed above, and discrepancies are noted in the IIA inspection report submitted in accordance with 49 C.F.R. §§ 107.805 and the requirements of this approval.

(f) The approval holder must certify that a RIN applicant has met the training and documentation requirements in accordance with 49 C.F.R. §§ 172.700-704. If the RIN applicant has not met the training requirements at the time of the inspection, the IIA is required to annotate this on the inspection report. Training provided by the IIA, within thirty (30) days of the IIA inspection, must be documented on the IIA inspection report and the lack of training must be identified, and the training provided listed as a corrective action taken. If the RIN applicant contracted with the IIA (in advance) to provide hazardous material training required by 49 C.F.R. §§ 172.700-704, and to complete the pre-approval inspection, the IIA must identify this on the IIA inspection report.

(g) Following the inspection for approval of a cylinder requalification facility, the approval holder must provide the applicant with a recommendation for approval or denial of the facility, and a copy of the IIA inspection report. The report provided shall include, at a minimum the information listed in *Addendum A*. It is the responsibility of the RIN applicant to submit the inspection report as part of their completed application for RIN approval, in accordance with § 107.805. In addition, the IIA must provide the Sciences and Engineering Division a copy of the IIA inspection report and a letter of

recommendation for approval or denial. These documents must be submitted on company letterhead and must reflect the findings of the onsite IIA inspection, which includes any discrepancies noted, the applicable CFR or DOT-Special Permit references, and/or any corrective actions taken onsite during the time of the inspection or received prior to the required submittal date of the letter to PHMSA. PHMSA's Sciences and Engineering Division must receive the IIA inspection report and the recommendation for approval or denial from the IIA within fifteen (15) days of the completed onsite inspection.

IIA Inspection of cylinder repair/rebuild facility (as authorized by Section 3):

(h) This approval authorizes the approval holder listed above to conduct pre-approval inspections of repair and rebuild operations. All repair and rebuild operations must be conducted in accordance with the applicable sections of 49 C.F.R., Part 180, and the inspection report must include the required information outlined in *Addendum A* attached to this approval.

(i) Following the inspection for approval of a cylinder repair and rebuild facility, the approval holder must provide the applicant with a recommendation for approval or denial of the facility, and a copy of the IIA inspection report. The report provided shall include, at a minimum the information listed in Addendum A. It is the responsibility of the RIN applicant to submit the inspection report as part of their completed application for approval (K and/or RIN), in accordance with § 107.805. In addition, the IIA must provide the Approvals and Permits Division a copy of the IIA inspection report and a letter of recommendation for approval or denial, submitted on company letterhead and based on the findings of the onsite inspection, which includes any discrepancies noted, the applicable CFR or DOT-Special Permit references, and/or any corrective actions taken onsite during the time of the inspection, or received prior to the required submittal date of the letter to PHMSA. PHMSA's Sciences and Engineering Division must receive the IIA inspection report and recommendation for approval or denial from the IIA within fifteen (15) days of the completed onsite inspection.

6. **GENERAL PROVISIONS:**

(a) Failure to comply with the terms and conditions of this approval, 49 C.F.R., Part 107, Subpart I, or the Hazardous

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Materials Regulations (HMR), may result in the modification, suspension, or termination of your authority to use this approval. Failure to comply may also subject you to penalties prescribed by 49 U.S.C. §§ 5123 and 5124. This approval may be modified, suspended, or terminated because of a change in circumstances or because the application contained inaccurate or incomplete information. Unless immediate modification, suspension or termination is necessary to avoid a risk of significant harm to persons or property, before action is taken, the approval holder will be notified and provided with an opportunity to show why the proposed action should not be taken.

(b) Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this approval must be provided training on the requirements and conditions of this approval in addition to the training required by §§ 172.700 through 172.704.

(c) If the application for renewal of this document is submitted at least 60 days prior to the posted expiration date, is complete, and conforms to the general requirements of 49 C.F.R. §§ 107.705 and §§ 107.803, the approval will not expire until final administrative action on the application for renewal has been completed. Notwithstanding the requirements of 107.705(c), the submittal of a complete application, as stated above, will be considered as meeting the requirement for written notice of extension under this section.

(d) **This approval, as revised, supersedes all previous versions.**

Issued in Washington D.C.

Dated: August 16, 2023

Duane M. Cassidy

for William Schoonover
Associate Administrator for Hazardous Materials Safety

(Attached: Addendum A)

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ADDENDUM A:

Following an inspection for approval of a cylinder requalification, or repair and rebuild facility, the Independent Inspection Agency (IIA) that performs the inspection, shall provide the applicant, and PHMSA in accordance with the provisions of section 6 above, with a recommendation for approval or denial of the facility, and a copy of the IIA inspection report which shall include at a minimum, the following information:

1. Type of inspection: new or renewal, and if a renewal, provide the DOT registration identification number (RIN) and a copy of the facility registration approval letter.

   (a) For renewal inspections, the IIA must document on the IIA inspection report that the RIN applicant's requalification test records were reviewed for the last approval period of the RIN applicant and must specify the date span of the records reviewed. (i.e., Month/Year through Month/Year).

2. Company name, address, and phone number.

3. Company officer, owner, or another responsible person.

4. Names of all qualified cylinder test operators.

5. DOT specification and special permit cylinders being requalified, repaired and/or rebuilt.

6. Types of cylinder test methods and equipment being used (e.g., make, model, serial numbers of testing apparatus, gauges, and calibrated cylinders).

7. As applicable, the cylinder requalification, repair, and rebuild facility must have available the following:

   (a) A current copy of Title 49, Code of Federal Regulations (49 C.F.R.), or current applicable sections of 49 C.F.R. related to the facility operation, or access to the online version of the current C.F.R.

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(b) Current copies of cylinder special permits listed by the requalifier as currently being requalified or demonstrated access to the online version.

(c) Copies of Compressed Gas Association (CGA) pamphlets and/or the information contained in each applicable CGA, or ASTM standard incorporated by reference in 49 C.F.R. § 171.7 applicable to the requalifier' s activities.

(d) The minimum tools and parts required for performing cylinder requalification in accordance with the applicable requirements of 49 C.F.R. and the applicable CGA pamphlets (including mirrors, inspection light(s), methods of marking cylinders, stamps, etc.); additionally, tools required for performance of acetylene cylinder requalification (if applicable) in accordance with CGA C-13 (including clearance gauges, tools for removal, and installation of felts and screens, lights, mirrors, etc.).

(e) Written examination procedures applicable to the test equipment it uses to perform eddy current examinations in accordance with 49 C.F.R. Part 180, Appendix C (if performing eddy current examinations).

(f) If the facility is performing **acoustic emission or ultrasonic testing**:

(1) A current copy of the DOT applicable special permit(s) authorizing acoustic emission or ultrasonic testing.

(2) Cylinder calibration sections with certificates of calibration for each section, specific to the cylinder diameters for which the ultrasonic test system is designed.

(3) A copy of each acoustic emission or ultrasonic tester's nondestructive testing (NDT) certificate for the level required in the specific special permit.

(g) If the facility is performing **repair/rebuild** of cylinders:

(1) A current copy of the DOT approval or special permit authorizing the rebuild/repair of cylinders.

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(2) A copy of the cylinder repair/rebuild standard operating procedures manual, including welding procedures and welder certifications.

8. The IIA is responsible for conducting thorough inspections of responsible person(s)/test operator(s). The IIA must conduct an inspection which addresses the company's ability to meet and perform the requirements set forth in 49 C.F.R. §§ 172.704, and 180.205-180.215. Any deficiencies noted during the IIA inspection must be listed along with any onsite corrective actions performed (the IIA may also include any corrective action they receive prior to submitting their recommendation for approval or denial to PHMSA.

9. The independent inspector performing the inspection of a cylinder requalification, repair, and/or rebuild facility must include a signed certification statement with each facility recommendation, for approval or denial, stating that on the date of the inspection, all relevant information required in Addendum A was reviewed and documented with the responsible persons at that facility, and found acceptable or unacceptable, in the opinion of the independent inspector.

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This document provides guidance for IIAs on the criteria PHMSA considers in evaluating the provisions of their approvals requiring appropriate technical capabilities, education, and experience.

GUIDANCE DOCUMENT FOR THE TECHNICAL REVIEW OF APPLICATIONS FOR INDEPENDENT THIRD PARTY INSPECTION AGENCIES

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IIA Evaluation Criteria

The information in this document can aid PHMSA in the development of Evaluation Criteria for IIA Approvals. This checklist provides guidance to Technical Officers when processing Applicants requesting to certify:

- Manufacture of DOT specification packagings
- Requalification facilities using hydrostatic testing methods
- Requalification facilities using non-destructive evaluation
- Repair and rebuild facilities

Applicants Requesting Approval to Certify Manufacture of DOT-approved Specification Packagings

For Applicants requesting approval to certify the manufacture of DOT-approved specification packaging, the Technical Officer reviews the application to confirm it includes:

- Certification of demonstrated knowledge of all regulations and specifications relevant to the type of manufacturing inspection for which the IIA is applying. For example, Applicants applying for certification of DOT Seamless Steel Cylinders must have knowledge of 49 C.F.R. Part 178 and all referenced standards related to the cylinder design, manufacturing, and testing (e.g., CGA pamphlet, ASTM, ISO).
- Standard Operating Procedures (SOPs) and inspection checklists covering each aspect of manufacturing, testing, quality control, and reporting which clarifies witness points vs. verification points during the manufacturing process.
- Personnel Training Program: Documentation of the training that employees (inspectors) of the IIA must receive. The program must meet the requirements of 49 C.F.R. §172.700 and

outline personnel training requirements and maintenance of professional education and certification requirements for all inspectors employed by the IIA.

Applicants Requesting Approval to Certify Requalification Facilities Using Hydrostatic Testing Methods

For Applicants requesting approval to certify requalification facilities using hydrostatic testing methods, the Technical Officer reviews the application to confirm it includes:

- Certification of demonstrated knowledge of all regulations pertaining to retesting and inspection of DOT-authorized cylinders that are being requalified under the provisions of 49 C.F.R. Part 180. This includes demonstrated knowledge of the Hazardous Materials Regulations (HMR) pertaining to the requalification of DOT-approved cylinders by hydrostatic test methods, and knowledge of applicable materials (such as CGA C-1, relevant C-6 requirements, ISO 6406, etc.)
- Personnel Training Program: Documentation of the training that employees (inspectors) of the IIA must receive. This must include the procedures the inspector will follow during certification of the hydrostatic testing facility. The program must meet the requirements of 49 C.F.R. §172.700 and outline relevant personnel training requirements such as operation of equipment, visual inspection process, usage of relevant standards (e.g. CGA C-1, C-6) and preparation of test reports. The training documents must be maintained for all inspectors employed by the IIA.
- Note: Personnel training for the requalification of hydrostatic testing facilities may be performed by the IIA or in accordance with national or international technical standards (CGA, ASTM, and UN/ISO). If national or international standards have been used, the IIA must specify the part, or the entire standard that applies to the facility.
- Standard Operating Procedures (SOPs) and inspection checklists covering each aspect of requalification methods such as visual inspection, calibration procedures, pass/fail criteria, quality control, and reporting which clarifies witness points vs. verification points during the hydrostatic testing requalification process. The SOP for hydrotest requalification methods must be developed based on the relevant standards referenced in 49 C.F.R.

Applicants Requesting Approval to Certify Requalification Facilities Using Non-destructive Examination (NDE)

For Applicants requesting approval to certify requalification facilities using NDE methods, the Technical Officer reviews the application to confirm it includes:

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- Certification of demonstrated knowledge of DOT regulations and the ability to follow training and qualification requirements, personnel qualification requirements for requalification facilities that perform periodic inspection and testing in accordance with 49 C.F.R. Part 180 or under permits using ultrasonic examination (UE) or combined acoustic emission and ultrasonic examination (AE/UE).

- Documentation of personnel qualifications and certificates - The IIAs requesting approval to certify cylinder requalification facilities using non-destructive examination (NDE) methods must meet the following requirements:

    - A certified ASNT Level III in relevant NDE method (e.g., Ultrasonic Testing); **or**,
    - A certified Professional Engineer (PE) with a minimum of 2 years documented experience in Non-Destructive Evaluation (NDE) of pressure vessels or pipelines using the relevant NDE method such as ultrasonic examination technique; **or**,
    - A PhD degree in a discipline of Engineering/Physics with documented experience in NDE of pressure vessels or pipelines using the NDE technique or research/thesis work and authoring/co-authoring of technical papers published, in recognized technical journals, in the fields of ultrasonic testing methods; **or**,
    - Equivalent work experience.

- Standard Operating Procedures (SOPs) and inspection checklists covering each aspect of requalification methods such as visual inspection, evaluation method for review of NDE calibration- cylinder and the relevant simulated defects, NDE system calibration and testing confirmation (e.g., UE), quality control, and reporting which clarifies witness points vs. verification points during the NDE requalification process. The SOP for NDE requalification methods must be developed based on a relevant standard that is referenced in 49 C.F.R. (e.g., ISO 6406) or the special permits (e.g., DOT-SP 10922, DOT-SP 14206).

- Personnel Training Program: NDE personnel training and examination - Personnel training must be developed in accordance with an approved national or international standard such as American Society of Nondestructive Testing (ASNT-TC-1A) or ISO 9712. The program must outline personnel training requirements and maintenance of professional education and certification requirements for all inspectors employed by the IIA.

Applicants Requesting Approval to Certify Repair and Rebuild Facilities

For Applicants requesting approval to certify a DOT specification repair facility, the Technical Officer reviews the application to confirm it includes:

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- Certification of demonstrated knowledge of all regulations relevant to specification and repair of the DOT specification of the cylinders (domestic and UN) for which the IIA is applying. For example, an applicant applying for certification of DOT welded steel cylinders must have knowledge of 49 C.F.R. Part 178 and § 180.211 and all referenced standards related to the cylinder design, manufacturing, and testing (e.g., CGA pamphlet, ASTM, ISO).

- Standard Operating Procedures (SOPs) and inspection checklists that cover each aspect of the repair or rebuild process including, but not limited to testing procedures, quality control processes, and verification of training and documentation pursuant to 49 C.F.R. Part 180, and specifically clarify witness points vs. verification points during the repair/rebuild process. The IIA must have full knowledge and understanding of the SOPs and checklists in place for the repair or rebuild of the cylinder specification.

- Personnel Training Program: Documentation of the training that employees (inspectors) of the IIA must receive. The program must meet the requirements of 49 C.F.R. §172.700 and outline personnel training requirements such as grinding procedure, visual inspection before and after repair, usage of ultrasonic thickness gauge, low stress stamping, process, usage of relevant regulations and standards (e.g., C-6) and preparation of test reports. The training documents must be maintained for all inspectors employed by the IIA.

- IIAs seeking to operate outside the United States must submit function and location specific SOP documents.

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