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December 7, 2023

TO PARTICIPANTS IN THE SCBA/PASS CERTIFICATION PROGRAM:

Reissue of SEI Respiratory Protection Equipment Manual

The Safety Equipment Institute (SEI) is pleased to enclose your controlled copy of the newly reissued SEI Respiratory Protection Equipment Manual, December 2023 Revision. The December 2023 Revision is a complete reissue of the previous Open-Circuit SCBA Manual and shall supersede all previous editions. Please discard any previous editions in their entirety and replace with the December 2023 revision.

The major revisions to the SEI Respiratory Protection Equipment Manual include the following:

- Updated to reflect the 2018 Editions of NFPA 1981 and NFPA 1982 throughout the manual
- Updated to include the 2022 Edition of NFPA 1984 for Wildland Respirators
- Updated to include the 2023 Edition of NFPA 1986 for Tactical and Technical Operations Protective Equipment

Thank you for your participation in the SEI Certification Program. If you have any questions, comments or require additional information, please do not hesitate to contact me.

Sincerely,

Stephen R. Sanders
Technical Director

Enclosure(s)

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Safety Equipment Institute

SEI Respiratory Protection Equipment Manual

SAFETY EQUIPMENT INSTITUTE

RESPIRATORY PROTECTION EQUIPMENT PROGRAM MANUAL

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1.0 INTRODUCTION

This *Open-Circuit SCBA Program Manual* provides guidance for the certification of the following products:

1) Open-Circuit, Self-Contained Breathing Apparatus (SCBA) to the NFPA 1981 Standard, 2018 Edition,
2) Open-Circuit, Self-Contained Breathing Apparatus (SCBA) to the NFPA 1986 Standard, 2023 Edition, and
3) Wildland Respirators to the NFPA 1984 Standard, 2022 Edition.

It is presented as a supplement to the *SEI Certification Program Manual*. In addition, guidance for the certification of Personal Alert Safety Systems (PASS) to the NFPA 1982 Standard, 2018 Edition is also addressed in this manual.

1.1 REVISION PROCEDURE

1.1.1 This Manual may be revised periodically to reflect changes in the subject covered.

1.1.2 A proposal to change language in this Manual must be submitted in writing to the Technical Director, accompanied by a statement of the need for the change. If the proposed change is acceptable, new and/or revised page(s) will be prepared and provided to the Committee on Certification Programs for approval. If the proposed change is not acceptable, the Technical Director will return it to the submitter, with a written statement of the objections and the accompanying rationale.

1.1.3 When the revision(s) receive approval, the revision(s), along with the initialed Revision Notice, will be distributed by the Technical Director. Previous editions will be filed accordingly.

1.1.4 This procedure shall be used for all revisions to the Exhibits.

1.1.5 Each holder of this Manual is responsible for maintaining the Manual current with all revisions.

1.1.6 Revisions to this *Respiratory Protection Equipment Program Manual* shall be controlled using the Revision Notice which follows this page.

SAFETY EQUIPMENT INSTITUTE
OPEN-CIRCUIT SCBA PROGRAM MANUAL

Section/ Subsection	**Description of Change**	**Date of Revision**	**Approval**
Revision Notice 1.1.6	Revision Notice Listing Changes to Integrated PASS/SCBA Protocol and Fee Schedule	02/1996	TGA
Exhibit C, Pages 4 and 5	Revised Fee Schedule for Integrated PASS/SCBA	02/1996	TGA
Exhibit F	Revised Test Protocol for Integrated PASS/SCBA	02/1996	TGA
Revision Notice 1.1.6	Revision Notice Listing Changes to Integrated PASS/SCBA Protocol	04/1996	TGA
Exhibit F	Revised Test Protocol for Integrated PASS/SCBA	04/1996	TGA
Complete Update of SCBA Manual Including:		11/1997	TGA
	Update to 1997 Edition of NFPA 1981		
Exhibit C	Criteria for SEI ISO 9000 Audit Recognition Program for Companies Certifying Products to NFPA Standards		
Exhibit D	Revised Fee Schedules		
Exhibit H	Independent Redundant End-of-Service-Time (EOST) Indicators		
Complete Reissue of SCBA Manual	Update to 2002 Edition of NFPA 1981	12/2003	SRS
Complete Reissue of SCBA Manual	Update to 2007 Edition of NFPA 1981 and 2007 Edition of NFPA 1982	11/2010	SRS

Complete Reissue of SCBA Manual	Update to 2013 Edition of NFPA 1981 and 2013 Edition of NFPA 1982	11/2010	SRS
Complete Reissue of SCBA Manual	Update to include the 2018 Edition of NFPA 1981; 2018 Edition of NFPA 1982; 2022 Edition of NFPA 1984; and 2023 Edition of NFPA 1986	12/2023	SRS

2.0 DEFINITIONS

2.1 SPECIFIC DEFINITIONS

2.1.1 ACCESSORY

An item, provided by the SCBA/Respirator manufacturer for use with that manufacturer's SCBA/Respirator, that is attached to the SCBA/Respirator during use, but is not necessary for the SCBA/Respirator to meet the requirements of NFPA 1981, 2018 Edition, NFPA 1986-2023 Edition, or NFPA 1984-2022 Edition, as applicable. (Also see Section 2.1.7 of this manual).

2.1.2 SUBASSEMBLY

A major grouping of SCBA/Respirator components, i.e., facemask, 1st stage regulator assembly, 2nd stage regulator assembly, backplate/harness, gauge/line, and cylinder/valve, etc.

2.1.3 CERTIFICATION/CERTIFIED

A system whereby a certification organization determines that 1) a manufacturer has demonstrated the ability to produce a product that complies with the requirements of a standard, 2) authorizes the manufacturer to use a label on listed products that comply with the requirements of the standard and 3) establishes a follow-up program conducted by the certification organization as a check on the methods the manufacturer uses to determine continued compliance of labeled and listed products with the requirements of the standard.

2.1.4 CHANGES

Class I changes are those that require testing and/or evaluation, if the changes affect the SCBA/Respirator model's form, fit or function in any way. Class II changes are those that do not require testing and/or evaluation. Examples of Class I and Class II changes are shown in Exhibit A of this manual.

2.1.5 CONFIGURATION

A designation given to an SCBA/Respirator model resulting from the assembly of various subassemblies (i.e., components) identified as “Variants” and “Accessories.”

2.1.6 SCBA/RESPIRATOR MODEL

A collective term used to identify a group of subassemblies (i.e., components) from a single manufacturer produced by the same basic manufacturing and quality assurance procedures that are covered by the same certification. An SCBA/Respirator model is a generic grouping of subassemblies (i.e., components) having common functional and/or design characteristics. Changes as described in Exhibit A, Subitem I of this manual shall constitute a different SCBA/Respirator model. A description of typical Class I changes are also shown in Exhibit A of this manual. An example of an SCBA/Respirator model with its variants and accessories is shown in Exhibit D of this manual.

2.1.7 SEI REFERENCE NUMBER

A reference designation assigned by SEI, given to various SCBA/Respirator “Variants” and “Accessories” as shown in Tables A-1 and A-2 of Exhibit A of this manual.

2.1.8 **SHALL**

Indicates a mandatory requirement.

2.1.9 **SHOULD**

Indicates a recommendation, or that which is advised, but not required.

2.1.10 **UPGRADE**

A retrofit of an earlier certified SCBA/Respirator or PASS model to meet the current Editions of NFPA 1981, NFPA 1982, NFPA 1986 and/or NFPA 1984, respectively.

2.1.11 **VARIANT**

A grouping of subassemblies (i.e., components) having common functional and/or design characteristics, with which the assembly of multiple variants results in an SCBA/Respirator Model Configuration. (Also see Section 2.1.7 of this manual).

3.0 PERTINENT STANDARDS

3.1 NFPA STANDARDS

3.1.1 NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Emergency Services*, 2018 Edition, is the pertinent standard utilized for structural fire-fighting SCBA certification. SCBA's shall be tested and certified to meet all of the requirements of this standard, and as a part of certification, the SCBA manufacturer shall be evaluated with respect to 1) it's Quality Assurance Program, Section 4.5 of NFPA 1981, 2018 Edition, 2) it's Investigation of Complaints and Returns, Section 4.7 of NFPA 1981, 2018 Edition, 3) it's Safety Alert and Product Recall System, Section 4.8 of NFPA 1981, 2018 Edition, and 4) the requirements set forth in the *SEI Certification Program Manual*.

3.1.2 NFPA 1982, *Standard on Personal Alert Safety Systems (PASS),* 2018 Edition, may also be applicable, if a PASS device is integrated into the design of the SCBA. Combination SCBA/PASS devices shall be tested and certified to meet the requirements of both NFPA 1981, 2018 Edition and NFPA 1982, 2018 Edition. In addition, the PASS manufacturer shall be evaluated with respect to 1) it's Quality Assurance Program, Section 4.5 of NFPA 1982, 2018 Edition, 2) it's Investigation of Complaints and Returns, Section 4.7 of NFPA 1982, 2018 Edition, 3) it's Safety Alert and Product Recall System, Section 4.8 of NFPA 1982, 2018 Edition, and 2) the requirements set forth in the *SEI Certification Program Manual*.

3.1.3 NFPA 1986, *Standard on Respiratory Protection Equipment for Tactical and Technical Operations*, 2023 Edition, is the pertinent standard utilized for tactical and technical use respirator certification. Respirators shall be tested and certified to meet all of the requirements of this standard, and as a part of certification, the respirator manufacturer shall be evaluated with respect to 1) it's Quality Assurance Program, Section 4.5 of NFPA 1986, 2017 Edition, 2) it's Investigation of Complaints and Returns, Section 4.7 of NFPA 1986, 2023 Edition, 3) it's Safety Alert and Product Recall System, Section 4.8 of NFPA 1986, 2023 Edition, and 4) the requirements set forth in the *SEI Certification Program Manual*.

3.1.4 NFPA 1984, *Standard on Respirators for Wildland Fire-Fighting Operations*, 2022 Edition, is the pertinent standard utilized for wildland fire-fighting respirator certification. Respirators shall be tested and certified to meet all of the requirements of this standard, and as a part of certification, the SCBA manufacturer shall be evaluated with respect to 1) it's Quality Assurance Program, Section 4.5 of NFPA 1984, 2022 Edition, 2) it's Investigation of Complaints and Returns, Section 4.7 of NFPA 1984, 2022 Edition, 3) it's Safety Alert and Product Recall System, Section 4.8 of NFPA 1984, 2022 Edition, and 4) the requirements set forth in the *SEI Certification Program Manual*.

3.2 OTHER PERTINENT STANDARDS

3.2.1 EN 136:1998, *Respiratory Protection Devices – Full Face Masks – Requirements, Testing, Marking.*

3.2.2 ISO 9001:2015, *Quality Management Systems – Requirements*.

3.2.3 Title 42, *Code of Federal Regulations*, Part 84, *Approval of Respiratory Protective Devices*, 1 October 2004.

3.2.4 *Statement of Standard for NIOSH CBRN SCBA Testing*, 2002.

3.2.5 UL 913, 6th Edition, *Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, III, Division 1, Hazardous (Classified) Locations.*

4.0 TESTING LABORATORY

4.1 SPECIFIC TESTING LABORATORY

4.1.1 The independent testing and evaluation laboratory for all SCBA, Respirator and PASS device certification is:

Intertek
3933 U.S. Route 11
Cortland, NY 13045

Attn: Mr. Stone Tanner
Email: Stone.Tanner@Intertek.com
Telephone: (607) 758-6374

4.1.2 Select test(s) from the various NFPA standards covered by the Manual may be subcontracted by Intertek to another laboratory(ies) which are either 1) ISO 17025 accredited (with an appropriate scope of accreditation) or 2) have been deemed competent by Intertek to conduct such testing.

5.0 TESTING AND EVALUATION

5.1 GENERAL

5.1.1 In general, the testing and evaluation procedures for all SCBA's, Respirators and PASS devices follow the procedures outlined in Sections 8.0, 9.0 and 10.0 of the *SEI Certification Program Manual*.

5.1.2 This Section of the *Respiratory Protection Equipment Manual* outlines specific procedure(s) relating to the testing and evaluation procedures for SCBA's, Respirators and PASS devices which 1) differ or 2) are in addition to those outlined in Sections 8.0, 9.0 and 10.0 of the *SEI Certification Program Manual*.

5.2 INITIAL SCBA CERTIFICATION PROGRAM SUBMITTAL (NFPA 1981 & NFPA 1986)

5.2.1 Manufacturers shall complete an SEI Certification Submittal Form for each SCBA model (see Form 8.0 from Section 8 of the SEI Certification Program Manual).

5.2.2 In addition to the item noted in 5.2.1 of this manual, each manufacturer shall submit a Test Plan Submittal Package to SEI for each SCBA model. The Test Plan Submittal Package shall be approved in writing by SEI before testing is conducted at the lab. The Test Plan Submittal Package shall include the following:

- NIOSH 42 CFR Part 84 Assembly Matrix or NIOSHCBRN Assembly Matrix, as applicable;

- SCBA Model Configuration and Test Plan Matrix (refer to Exhibit C of this manual for blank form and Exhibit D of this manual for an example);
- Engineering Drawing/Assembly Diagram for Each Major Component and Assembly;
- Rationale of Proposed Test Plan, including for variants if appropriate;
- Written statement which warrants that samples submitted are identical to those submitted for NIOSH approval;
- All training materials and user information related to the SCBA;
- Diagram or draft copy of product marking/label required by the applicable NFPA Standard;
- Product Recall Procedure;
- ISO 9001 Registration Certificate;
- For NFPA 1981 and NFPA 1986 submittals, UL 913 Certificate(s) for any electronic components employed on the SCBA;
- For NFPA 1981 submittals, Failure Modes and Effects Analysis (FMEA) for each End-of-Service Time Indicator (EOSTI) employed on the SCBA;
- For NFPA 1981 and NFPA 1986 submittals, CO_2 Test statement, indicating whether 1) CO_2 testing is to be conducted at Intertek, or 2) test reports from an ISO 17025 accredited test laboratory will be submitted; and
- For NFPA 1981 and NFPA 1986 (when applicable) submittals, Heads-Up Display (HUD) electrical information (cease proper operating voltage setpoint; low battery illumination voltage setpoint; nominal operating current; maximum operating current).

5.2.3 In developing the SCBA Model Configuration and Test Plan Matrix, where possible, each manufacturer shall attempt to cover all configurations of an SCBA model within the first three (3) test series. As a minimum, the first three (3) test series shall include the following configurations of an SCBA model:

- Heaviest SCBA (weighed with air and without accessories)
- Lightest SCBA (weighed with air and without accessories)
- Lowest cylinder pressure
- Highest cylinder pressure
- Largest cylinder diameter
- Smallest cylinder diameter

5.2.4 Additional configuration(s) of an SCBA model not covered in the first three (3) test series shall be also be included in the SCBA Model Configuration and Test Plan Matrix. Each manufacturer shall propose which series of tests the additional configuration(s) will require. SEI shall evaluate each Test Plan and shall either approve it or require revisions as appropriate to meet the requirements of the applicable NFPA Standard.

5.2.5 An example SCBA Model Configuration and Test Plan Matrix is shown as Exhibit D of this manual. This example is not intended to be all-inclusive and does not necessarily apply to all makes and models of SCBA. It is intended to aid in the development of a manufacturer's individual test plan. Each manufacturer’s Test Plan shall be evaluated on its own merits.

5.2.6 A special Test Protocol guideline for SCBA with Integrated PASS is shown as Exhibit E of this manual. It incorporates the requirements of NFPA 1981, 2018 Edition, as well as NFPA 1982, 2018 Edition.

5.3 SEI APPROVAL BEFORE SUBMISSION TO TESTING LABORATORY

5.3.1 SEI shall review and evaluate the submitted documentation listed in Sections 5.2.1 and 5.2.2 of this manual. When SEI has approved the Test Plan Submittal Package, the manufacturer shall be advised, with confirmation in writing, to submit the necessary product samples to the testing laboratory. The approved Test Plan Submittal Package shall be provided to the testing laboratory by SEI.

5.4 SUBMITTAL TO TESTING LABORATORY

5.4.1 After notification of SEI approval of the Test Plan Submittal Package, the manufacturer shall submit the following to the testing laboratory:

- The necessary number of SCBA samples to complete the SCBA Model Configuration and Test Plan Matrix.
- Appropriate fabric samples for a single test series of each fabric and thread for Test Category G as specified in NFPA 1981, 2018 Edition.
- Appropriate facepiece lens samples for a single test series of each facepiece lens for Test Category G as specified in NFPA 1981, 2018 Edition and Category F as specified in NFPA 1986-2023.
- Additional SCBA samples as required for testing of the additional configurations for which certification is requested.

- Appropriate facepiece/nosecup samples **or** test reports from and ISO/IEC 17025 accredited testing laboratory (with a scope of accreditation including EN 136) for a single test series of facepiece carbon dioxide (CO_2) content tests for Test Category A as specified in NFPA 1981, 2018 Edition or NFPA 1986, 2023 Edition. The samples or test report(s), whichever is submitted, shall cover the range of the facepiece/nosecup options offered for use with the SCBA being certified.

5.5 TESTING PRIOR TO NIOSH APPROVAL(S)

5.5.1 SCBA which have been submitted for NIOSH Title 42 CFR Part 84 and NIOSH CBRN approval, but which the certification is pending, may be submitted concurrently for testing for SEI Certification, provided the following requirements are fulfilled:

- All required documentation listed in Sections 5.2.1 and 5.2.2 of this manual shall be submitted to SEI.
- SEI shall approve the submitted documentation before submission of product samples to the testing laboratory. The Manufacturer shall warrant that the samples submitted for certification are identical to those submitted for NIOSH Title 42 CFR Part 84 approval and NIOSH CBRN approval. The testing laboratory may initiate testing prior to NIOSH approvals.

5.5.2 Concurrent NIOSH Title 42 CFR Part 84, NIOSH CBRN and NFPA 1981 SCBA submittals which incur noncompliant Title 42 CFR Part 84 and/or noncompliant CBRN test results and require design revision(s)/change(s) as corrective action(s), may be subject to NFPA 1981 or NFPA 1986 restesting, depending on the design revision(s)/change(s). The specific

corrective action(s) will be reviewed by SEI to determine what impact, if any, the corrective action(s) may have on any NFPA 1981 or NFPA 1986 testing already conducted, as well as testing yet to be conducted.

5.6 RESUBMITTAL AFTER NONCONFORMANCE (FAILURE OF A TEST)

5.6.1 In the event of a nonconformance, the notification and resubmittal procedure specified in Section 15.0 of the *SEI Certification Program Manual* shall apply.

5.6.2 Nonconformance to product standards will be categorized, according to its potential effect on the end-user as (1) Critical, (2) Major A, (3) Major B or (4) Minor, as defined in Section 15.0 A of the SEI Certification Program Manual and as specified in the Attributes & Variables portion of this Manual (see Exhibits F, G, H & I) for each program in which the manufacturer participates.

5.6.3 All revision(s)/change(s) resulting from a noncompliance during testing shall also be submitted by the Manufacturer for NIOSH Title 42 CFR 84 and NIOSH CBRN approval. Testing may proceed in accordance with Section 5.5.1 of this manual, however, certification will be held pending receipt of written confirmation of NIOSH CBRN approval (which incorporates NIOSH Title 42 CFR 84 approval).

6.0 QUALITY ASSURANCE PROGRAM

6.1 QUALITY ASSURANCE AUDITORS

SEI's independent Quality Auditor(s) for SCBA/Respirator and PASS certification are as noted in Section 7.3 of the *SEI Certification Program Manual*.

6.2 QUALITY AUDITS

6.2.1 Section 4.2 from standards NFPA 1981, 2018 Edition, NFPA 1982, 2018 Edition, NFPA 1986, 2023 Edition, and NFPA 1984, 2022 Edition requires that the certification organization audit the manufacturer's quality assurance program, including a follow-up inspection program of the manufacturing facilities of the certified product with at least two (2) visits per 12-month period. As a result, the SCBA/Respirator and PASS certification programs follow the requirements as designated in Sections 11.0 and 12.0 of the *SEI Certification Program Manual*.

6.2.2 The fee structure for this service is shown in Section 7.3 of the *SEI Certification Program Manual*. These fees shall be invoiced immediately following the audit.

7.0 CERTIFICATION

7.1 ISSUANCE OF CERTIFICATION LETTER

Certification for SCBA/Respirators and PASS shall not be issued by SEI until all of the following items have been received and, where appropriate, coordinated with NIOSH:

- Where required by the applicable NFPA standard, written correspondence with NIOSH regarding NIOSH 42 CFR Part 84 approval and/or NIOSH CBRN approval, with proper identification of model, configuration and component part numbers (i.e., NIOSH 42 CFR Part 84 and/or CBRN Assembly Matrix, NIOSH 42 CFR Part 84 and/or CBRN approval letter, applicable NIOSH-SEI Approval Confirmation Document – See Exhibit J);
- SEI Submittal Form (signed by authorized representative of the testing laboratory) and the testing laboratory report indicating that the SCBA/Respirator and/or PASS samples tested have met all construction and performance requirements;
- Quality Assurance Audit report indicating the manufacturer has successfully demonstrated compliance with respect to it's Quality Assurance Program which includes 1) Investigation of Complaints and Returns, 2) Safety Alert and Product Recall System, and 3) the requirements set forth in Section 11.0 of the *SEI Certification Program Manual*;
- Written proof that the manufacturer is registered to ISO 9001; and
- Written proof of Intrinsic Safety approval (UL 913) (only applicable for electronic components).

8.0 PROCEDURES TO HANDLE DESIGN CHANGES AND/OR COMPONENT ADDITIONS TO CERTIFIED SCBA'S/Respirators

8.1 GENERAL

8.1.1 In the normal course of events, SCBA/Respirator designs are likely to undergo changes and/or additions of various types. Some changes will have no effect on SCBA/Respirator performance, while others will almost certainly affect performance. SEI shall expect the manufacturer to submit for certification any SCBA/Respirator changes for which, in the manufacturer's judgment, known changes may affect performance relative to the NFPA 1981, NFPA 1986 and/or NFPA 1984 Standards. Such submittals shall be made as the changes occur or become known, and shall meet a subset of the requirements of Section 5.2 of this manual, as noted below:

- SEI Certification Submittal Form;
- NIOSH CBRN Assembly Matrix;
- SCBA Model Configuration and Test Plan Matrix (refer to Exhibit C of this manual for blank form);
- Applicable NIOSH Engineering Drawing/Assembly Diagram for the Assembly being changed or added;
- Written description of change/revision/addition
- Rationale of Proposed Test Plan;

- For SCBA certified to NFPA 1981, a written statement which warrants that samples submitted are identical to those submitted for NIOSH approval as 1) a positive pressure SCBA with a rated service life of at least 30 minutes and 2) a CBRN SCBA;
- For SCBA certified to NFPA 1986, a written statement which warrants that samples submitted are identical to those submitted for NIOSH approval as 1) a positive pressure SCBA and 2) a CBRN SCBA;
- For Respirators certified to NFPA 1984, a written statement which warrants that samples submitted are identical to those submitted for NIOSH approval as air purifying respirator or powered air purifying respirator.
- All training materials and user information related to the SCBA/Respirator, if changed/revised from initial submittal;
- Diagram or draft copy of product marking/label required by NFPA 1981, NFPA 1986 or NFPA 1984, if changed/revised from initial submittal;
- UL 913 Certificate(s) for any changed/added electronic components employed on the SCBA/Respirator;
- Failure Modes and Effects Analysis (FMEA) for each End-of-Service Time Indicator (EOSTI) employed on the SCBA, if changed or revised;
- CO_2 Test statement, indicating whether 1) CO_2 testing is to be conducted at Intertek, or 2) test reports from an ISO 17025 accredited test laboratory will be submitted, where applicable; and

- Heads-Up Display (HUD) electrical information (cease proper operating voltage setpoint; low battery illumination voltage setpoint; nominal operating current; maximum operating current), where applicable.

8.2 SPECIFIC PERFORMANCE REQUIREMENTS

8.2.1 The specific tests necessary for certification of changes to certified SCBA/Respirators are determined selectively, depending on the nature of the change, and its most stringent application.

8.2.2 For example, a change involving additional combustibility or a change in the material or arrangement of the existing combustible components of the SCBA/Respirator generally shall require Category D (Heat & Flame Resistance) testing. Similarly, a change involving the material or arrangement of structural, mechanical, or other physical components of the SCBA/Respirator generally shall require Category C (Vibration Resistance) testing on the heaviest potential application of the component. This is particularly pertinent for those changes of potential impact on the pneumatic system.

8.3 NIOSH APPROVAL(S)

8.3.1 Federal Regulation Title 42 CFR Part 84 requires that SCBA/Respirator manufacturer's submit an application for extension of the original certificate of approval, to cover any proposed design changes or revisions which affect the form, fit or function of the SCBA/Respirator. Additionally, NFPA 1981-2018 and NFPA 1986-2023 requires that all SCBA configurations also be CBRN approved by NIOSH. As a result, SEI requires that written confirmation of the extension of the original NIOSH CBRN approval be provided to SEI by NIOSH for any design changes or revisions proposed to an SCBA. Once received, SEI will work cooperatively with NIOSH with regard to the concurrent issuance of certification/approval letters.

8.4 TYPES OF CHANGES

8.4.1 Changes in SCBA/Respirator design are classified with regard to the extent of the change as it impacts the effect on an SCBA's/Respirator's performance, as noted in the following explanations:

8.4.1.1 **Changes that require a new SCBA/Respirator model designation**, as described in Exhibit A of this manual, require a new SCBA/Respirator model designation and shall therefore require a complete new resubmittal as detailed in Section 5.0 of this manual.

8.4.1.2 **Class I** changes, as described in Exhibit A of this manual, do not require a new SCBA/Respirator model designation. These changes shall require identification by appropriate additions and/or revisions to the NIOSH Assembly Matrix, SCBA/Respirator Model Configuration and Test Plan Matrix, Assembly Diagram(s), and Rationale of Proposed Test Plan.

8.4.1.3 **Class II** changes, are those changes which do not require additional testing. Class II changes shall also be reported to SEI and shall require identification by appropriate additions and/or revisions to the NIOSH Assembly Matrix, SCBA/Respirator Model Configuration and Test Plan Matrix (which in this case would not indicate any testing is necessary), Assembly Diagram(s), and Rationale of Proposed Test Plan.

9.0 ANNUAL RECERTIFICATION

9.1 GENERAL

9.1.1 Section 4.4 of NFPA 1981, 2018 Edition, requires annual recertification testing of SCBA. Within twelve (12) months from previous tests, certified SCBA shall meet the performance requirements of a single test series of Categories A, B, C, D, E, F, G, and H (from Table 4.3.9 of NFPA 1981, 2018 Edition). Every fifth year, or following the issuance of a revised standard, the initial testing protocol, as specified in Section 4.3 of NFPA 1981, 2018 Edition, is required.

9.1.2 Section 4.4 of NFPA 1982, 2018 Edition, requires annual recertification testing of PASS. Within twelve (12) months from previous tests, certified PASS shall meet the performance requirements of a single test series of Specimens 1, 4, 7, 10, 13, 16, 19, and 22 (from Table 4.3.10a of NFPA 1982, 2018 Edition) or Specimens 1, 4, 7, 10, 13, 16, and 19 (from Table 4.3.10b of NFPA 1982-2018), as appropriate for the type of PASS device (i.e., stand-alone and removable integrated PASS vs. nonremovable integrated PASS. Every fifth year, or following the issuance of a revised standard, the initial testing protocol, as specified in Section 4.3 of NFPA 1982, 2018 Edition, is required.

9.1.3 Section 4.4 of NFPA 1984, 2022 Edition, requires annual recertification testing of Respirators. Within twelve (12) months from previous tests, certified SCBA shall meet the performance requirements of a single test series of Categories A, B, C, and D (from Table 4.3.9 of NFPA 1984, 2022 Edition). Every fifth year, or following the issuance of a revised standard, the initial testing protocol, as specified in Section 4.3 of NFPA 1984, 2022 Edition, is required.

9.1.4 Section 4.4 of NFPA 1986, 2023 Edition, requires annual recertification testing of SCBA. Within twelve (12) months from previous tests, certified SCBA shall meet the performance requirements of a single test series of Categories A, B, C, D, E, and F (from Table 4.3.9 of NFPA 1986, 2023 Edition). Every fifth year, or following the issuance of a revised standard, the initial testing protocol, as specified in Section 4.3 of NFPA 1986, 2023 Edition, is required.

9.1.5 Sections 8.0 and 10.0 of the *SEI Certification Program Manual* contains generic requirements for periodic and compliance testing on at least an annual frequency.

9.2 PURPOSE

9.2.1 Annual recertification testing is intended to ensure continued compliance with the standard.

9.3 QUALITY ASSURANCE AUDITS AND ANNUAL RECERTIFICATION SAMPLE CONFIGURATION SELECTION

9.3.1 The goal of sample selection is to achieve an annual SCBA and PASS Model configuration sampling which have been previously agreed upon between SEI and the manufacturer.

9.3.2 In order to accomplish this goal, SEI and the manufacturer will agree upon a representative SCBA Model and PASS configuration for annual recertification. Afterwards, an internal order shall be placed within the manufacturers production system whereby the agreed upon configuration(s) will 1) be produced from production line subassembly/component workstation(s) and 2) final assembled at final assembly workstation(s). The manufacturer shall agree that no enhancements, reworking or special testing, (other than what is 1) allowed by the applicable NFPA standard and/or 2) required by the manufacturers quality assurance system during production) shall be made or conducted prior to sending the samples to the test laboratory.

9.4 ANNUAL RECERTIFICATION SUBMITTAL

9.4.1 The annual recertification submittal package submitted by the manufacturer shall consist of a subset of the requirements of Section 5.2 of this manual, as noted below:

- SEI Certification Submittal Form;
- NIOSH CBRN Assembly Matrix;
- SCBA Model Configuration and Test Plan Matrix (refer to Exhibit C of this manual for blank form);
- ISO 9001 Registration Certificate;
- UL 913 Certificate(s) for any electronic components employed on the SCBA;
- CO_2 Test statement, indicating whether 1) CO_2 testing is to be conducted at Intertek, or 2) test reports from an ISO 17025 accredited test laboratory will be submitted; and
- Heads-Up Display (HUD) electrical information (cease proper operating voltage setpoint; low battery illumination voltage setpoint; nominal operating current; maximum operating current).

9.5 TIMING

It is desirable to complete the annual re-testing of all certified SCBA and/or PASS within the required twelve months from the initial certification or from previous annual re-testing. In so far as is possible, the re-testing shall be staggered to prevent over-loading the testing laboratory at any one time. SEI and the manufacturer shall agree on a date for sending the selected configuration of SCBA and/or PASS samples to the testing laboratory.

10.0 CERTIFICATION OF UPGRADED SCBA'S

10.1 GENERAL

10.1.1 All SCBA models submitted for certification for this upgrade program shall be divided into two categories:

10.1.2 SCBA, when modified by the submitted upgrade kits, have identical components to SCBA which have been certified to NFPA 1981, 2018 Edition.

10.1.3 SCBA, when modified by the submitted upgrade kits, do not have identical components to SCBA which have been certified to NFPA 1981, 2018 Edition.

10.1.4 Testing requirements for these categories may be different. Certification shall be for upgraded SCBA only, not upgrade kits, components or any related documentation.

10.2 PROGRAM REQUIREMENTS

10.2.1 Manufacturers shall complete an SEI Certification Submittal Form for each SCBA Model for which the participant is seeking to upgrade.

10.2.2 Manufacturers shall also submit to SEI a Test Plan Submittal Package for each SCBA Model. The Test Plan Submittal Package shall be approved by SEI before testing is conducted by the testing laboratory. The Test Plan Submittal Package shall include:

- NIOSH CBRN Assembly Matrix;
- Proposed Test Plan, including the SCBA Model Configuration and Test Plan Matrix for upgraded SCBA sample(s);
- Components List/Description of SCBA Model before upgrade;
- Components List/Description of upgrade items, if the SCBA Model, when modified by the submittal upgrade kit, does not have identical components to the SCBA Model which has been certified to NFPA 1981, 2018 Edition;
- Components List/Description of SCBA Model, if the SCBA, when modified by the submitted upgrade kit, does have identical components to SCBA which has been certified to the NFPA 1981, 2018 Edition
- Documentation which provides information on:
  a. Inspection criteria of SCBA to be upgraded;
  b. Instructions on upgrade techniques, methods and tests;
  c. Minimum qualifications required of persons authorized to perform upgrade; and
  d. Training program required of persons authorized to perform upgrade;
- A sample product marking/label described in 10.4.1 of this manual;

- Declaration indicating that the samples submitted are identical to those submitted for modification of the original NIOSH approval, along with a diagram of the revised NIOSH CBRN Assembly Matrix showing the new subassembly part numbers, if applicable.

10.2.3 SEI shall review and evaluate the Test Plan Submittal Package. When SEI has approved the package, the Manufacturer shall be advised to submit the necessary SCBA sample(s), and documentation to the testing laboratory.

10.2.4 The Manufacturer shall provide the testing laboratory (after SEI authorization) the following:

- Representative sample(s) of upgraded SCBA.

10.2.5 SEI reserves the right, to require the Manufacturer to send a representative(s) to the testing laboratory, at a mutually agreed time, to perform the upgrade of at least one (1) SCBA. The testing laboratory shall witness and evaluate the upgrade process as part of the certification testing program. Further upgrades may be accomplished at the manufacturer's facility for additional SCBA needed during testing, upon declaration by the manufacturer that the process is identical to that which was witnessed.

10.2.6 Each of the items listed in Section 10.2.7 of this manual for upgrading one (1) SCBA shall arrive at the testing laboratory at least seven (7) working days in advance of the scheduled witness upgrade process. This shall provide the testing laboratory personnel sufficient time to become familiar with the proposed upgrade program.

10.2.7 The Manufacturer shall provide the testing laboratory (after SEI authorization) the following:

- Representative sample(s) of SCBA to be upgraded;
- Sufficient upgrade components to upgrade one (1) SCBA; and
- Documentation which provides information on:
  a. Inspection criteria of SCBA to be upgraded;
  b. Instructions on upgrade techniques, methods and tests;
  c. Minimum qualifications required of persons authorized to perform upgrade; and
  d. Training program required of persons authorized to perform upgrade.

10.3 SPECIFIC PERFORMANCE REQUIREMENTS

10.3.1 SCBA, when upgraded, that have identical components to SCBA previously certified by SEI, but have not been tested previously as a system, shall be subjected to a single test series (Category A, B, C, D, E, F and H of NFPA 1981, 2018 Edition) requiring a minimum of six (6) SCBA samples. Consideration will be given to accepting suitable documentation confirming previous testing as a system to tests which are unchanged from a previous Edition of the NFPA 1981 Standard.

10.3.2 SCBA, when upgraded, that have identical components to SCBA previously certified by SEI, and that have been previously tested as a system to NFPA 1981, 2018 Edition shall at a minimum, be subjected to the Airflow Performance Test.

10.3.3 SEI accepts the position that re-testing of components is not necessary, and will accept documentation of satisfactory testing and certification of components to Category G tests. SEI will, however, require SCBA not previously tested as a system to perform to system testing at least consistent with that required for annual re-testing, as detailed in Section 9.0.

10.3.4 SCBA, when upgraded, that do not have identical components to SCBA previously certified by SEI to NFPA 1981, 2018 Edition shall be tested in accordance with a test plan approved by SEI.

10.3.5 The test plan shall define the performance testing necessary to demonstrate compliance of the upgraded SCBA to NFPA 1981, 2018 Edition, as detailed in the appropriate paragraph above.

10.4 LABELING REQUIREMENTS

10.4.1 The following language shall be provided in addition to the product labeling requirements outlined in Section 5.1.6 of NFPA 1981, 2018 Edition:

THIS SCBA HAS BEEN UPGRADED TO MEET THE REQUIREMENTS OF NFPA 1981, STANDARD ON OPEN-CIRCUIT SELF-CONTAINED BREATHING APPARATUS FOR EMERGENCY SERVICES, 2018 EDITION. CERTIFICATION IS BASED ON CONFORMANCE WITH MANUFACTURER'S UPGRADE PROCEDURES. FAILURE TO FOLLOW THESE PROCEDURES WILL VOID ALL NFPA CERTIFICATIONS.

10.4.2 The label required by Section 10.4.1 of this manual shall be placed in close proximity to the SCBA's original NFPA compliance label. All letters and numbers shall be at least 1 mm in height. The original NFPA compliance label shall not be removed or covered by the upgrade label.

10.4.3 Each upgraded SCBA that is subjected to the Heat & Flame Test shall have the upgrade label affixed. If the upgrade label is not available at the time of submittal, the initial certification label may be used provided it is of identical material and adhesion.

10.5 TEST REPORT

10.5.1 The testing laboratory shall issue a report which identifies the Manufacturer's product samples which were evaluated, the processes used to evaluate the samples, and the results of the testing laboratory's evaluations.

10.6 NIOSH APPROVAL(S)

10.6.1 Change(s) to SCBA which have received NIOSH Federal Regulation Title 42 CFR Part 84 and NIOSH CBRN approval requires the manufacturer to submit an application for modification of the original certificate of approval, to cover the proposed change(s). SEI therefore requires written confirmation of the modification of the original NIOSH Federal Regulation Title 42 CFR Part 84 and NIOSH CBRN approvals, for approval of the change(s) proposed to upgrade any SCBA. With documentation showing that the SCBA submitted to SEI is identical to the one submitted for modification of the original approval, a Manufacturer may initiate processing of an upgraded SCBA for testing for SEI certification prior to

receipt of the NIOSH modification of the original NIOSH Federal Regulation Title 42 CFR Part 84 and NIOSH CBRN approvals, as permitted in Section 5.5 of this manual. However, formal SEI certification is contingent upon receipt of written confirmation of the issuance by NIOSH of the modification of the original NIOSH Federal Regulation Title 42 CFR Part 84 and NIOSH CBRN approvals for the specific changes involved, with the new NIOSH CBRN Assembly Matrix showing the subassemblies which are approved. The SEI certification will be limited to the specific SCBA with the specific subassemblies identified.

10.7 **FEES**

10.7.1 The fees associated with the SCBA upgrade program are as follows:

• Lab Evaluation of Documentation (+)	$100/hour (min. 1 hour)
• Lab Witnessing of Upgrade Process (+)	$100/hour (min. 1 hour)
• Evaluation to NFPA 1981-2018	See Exhibit B of this manual
• Generation of Report	Included in above fees

(+) – When required by SEI.

11.0 CERTIFICATION OF SCBA WITH INTEGRATED PASS

11.1 PERTINENT STANDARDS

11.1.1 SCBA with Integrated PASS shall be tested and certified to the construction and performance requirements of either NFPA 1981, 2018 Edition **or** NFPA 1986, 2023 Edition and the latest Edition of NFPA 1982 (currently the 2018 Edition).

11.2 TEST PROTOCOL

11.2.1 A Test Protocol for Integrated SCBA/PASS (certified to both NFPA 1981 and 1982) is shown in Exhibit E of this manual.

11.3 PROCEDURES

11.3.1 The procedures outlined in Section 5.0 of this manual for an SCBA submittal shall be followed for an Integrated SCBA/PASS submittal.

11.3.2 Certified Integrated SCBA/PASS shall be shown in the SEI *Certified Product List* in a separate category under SCBA, with notation reflecting certification to either the NFPA 1981 **or** NFPA 1986 standards and the NFPA 1982 standard.

11.3.3 If it is intended that users are to install the PASS portion on existing SCBA in the field, the testing lab shall be required to evaluate the installation process, including reviewing the documentation listed in Section 10.2.2 (5th bullet point) of this manual (i.e., inspection criteria of SCBA to modified, instructions for installation of the PASS portion, minimum qualifications of persons authorized to do so, and training program required), and witnessing the installation process, per Sections 10.2.5 through 10.2.7 of this manual.

12.0 SCHEDULE OF FEES

12.1 TEST FEES

12.1.1 The Test Fee schedules for NFPA 1981, 2018 Edition; NFPA 1986, 2023 Edition; NFPA 1984, 2022 Edition; and NFPA 1982, 2018 Edition are shown in Exhibit B of this manual.

12.2 QUALITY AUDIT FEES

12.2.1 The Quality Audit Fee schedule for quality audits conducted in regard to NFPA 1981, 2018 Edition; NFPA 1986, 2023 Edition; NFPA 1984, 2022 Edition; and NFPA 1982, 2018 Edition are shown in Section 7.2 of the SEI Certification Program Manual (CPM).

12.3 SEI PARTICIPATION AND ANNUAL FEES

12.3.1 The Annual Participation Fee and Miscellaneous Fee schedules for SEI Participants are shown in Sections 7.0 and 7.1 of the SEI Certification Program Manual, respectively. Additionally, the Annual Certification Fees that apply to NFPA 1981, 2018 Edition; NFPA 1986, 2023 Edition; NFPA 1984, 2022 Edition; and NFPA 1982, 2018 Edition are shown below:

Program Code	Model Type	Annual Model Certification Fees
SBA	Base Model	$4,000
	Variant Model	$200
	Accessory Model	$100
PAS	Base Model	$1,000
	Variant Model	$200
	Accessory Model	$50
WFR	Base Model	$2,000
	Variant Model	$200
	Accessory Model	$100
SBT	Base Model	$4,000
	Variant Model	$200
	Accessory Model	$100

13.0 REFERENCES

13.1 SPECIFIC REFERENCES

13.1.1 NFPA 1981, 2018 Edition

Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services

13.1.2 NFPA 1986, 2023 Edition

Standard on Respiratory Protection Equipment for Tactical and Technical Operations

13.1.3 NFPA 1984, 2022 Edition

Standard on Respirators for Wildland Fire-Fighting and Wildland Urban Interface Operations

13.1.4 NFPA 1982, 2018 Edition

Standard for Personal Alert Safety Systems (PASS)

13.1.5 Federal Regulation Title 42 CFR Part 84, “Approval of Respiratory Protective Devices,” 1 October 2004

13.1.6 *Statement of Standard for NIOSH CBRN SCBA Testing*, 2002

13.2 ADDITIONAL REFERENCES

13.2.1 MIL-STD-810E

Environmental Test Methods

13.2.2 NIOSH

Guide to Industrial Respiratory Protection

13.2.3 IFSTA (International Fire Service Training Association) publication

Self-Contained Breathing Apparatus

SCBA MODEL DEFINITION (Applies to NFPA 1981 & NFPA 1986)

"SCBA MODEL" is the collective term used to identify a group of subassemblies (i.e., components) from a single manufacturer produced by the same basic manufacturing and quality assurance procedures that are covered by the same certification. An SCBA Model is a generic grouping of subassemblies having common functional and/or design characteristics. Those changes noted below shall constitute a different SCBA model. Class I changes, as noted below, do not require a new SCBA model designation. All subassemblies for a particular SCBA Model shall be assigned to a specific Variant or Accessory SEI Reference Number. The specific SEI Reference Number for Variants and Accessories are shown in Tables A-1 and A-2, respectively. Some subassemblies may inherently be assigned to multiple SEI Reference Numbers.

Changes that require a new SCBA model designation:

1) Location of the 2nd stage regulator requiring a change to the air delivery hardware. For example, relocation of a regulator from the chest area to a facepiece (and thus removal of a breathing tube).
2) A design change in either 1st stage reducer or 2nd stage regulator such that the operating principle is modified to another operating principle. Examples of design which operate within an operating principle are:

    a. balanced (1st stage)
    b. unbalanced (1st stage)
    c. tilt valve (2nd stage)
    d. balanced (2nd stage)
    e. pilot (2nd stage)
    f. electronic (1st/2nd stage)

3) Combining separate 1st and 2nd stage assemblies into one assembly.
4) Separating 1st and 2nd stage assemblies from one assembly into two assemblies.
5) Change in state of the breathing air supply (gas, liquid, solid).

Class I - Examples of changes that should not require a new SCBA model designation (variants or accessories):

1) Materials change (metal, plastic, harness, etc.).
2) Cylinder configuration (high/low pressure, aluminum, filament type, etc.).
3) Accessories or attachments (PASS, radio, buddy breather, etc.).
4) Relocation of harness strapping.
5) Minor changes to pneumatic systems (high/low pressure, seat materials, etc.).
6) Alternate mask assemblies/sizes.
7) Changes that do not affect function of the SCBA.

TABLE A-1	
SEI Variant Reference No.	SCBA Assembly/Component Description
X01	1st Stage Regulators
X02	2nd Stage Regulators
X03	Facemasks
X04	Backpacks
X05	HUD's
X06	Cylinder & Valve Assemblies
X07	Intermediate Pressure Hoses
X08	Gauge & Hose Assemblies
X09	Upgrade Kits
X10	Integrated PASS
X11	Communications Devices

TABLE A-2	
SEI Accessory Reference No.	SCBA Component Description
X01	Spectacle Kits
X02	Communications Devices
X03	Cylinder Sleeve Kits
X04	Hood Kits
X05	Headnet Kits
X06	Chest Strap Kits
X07	Neck Strap Kits
X08	Auxiliary Air Connector Kits
X09	Airline Adapter Kits
X10	Anti-Fog Kits
X11	Accessory Gauges
X12	Hose Kits
X13	Waistbelt Extensions
X14	Hose Pouches
X15	Backpack Accessory Kits
X16	Not Assigned
X17	Not Assigned
X18	Not Assigned
X19	Not Assigned
X20	Miscellaneous

Where "X" is replaced by the respective Base Model Reference Number. For example, the Facemask Variant Reference Number for Base Model Reference Number 02 would be "203."

WILDLAND RESPIRATOR MODEL DEFINITION (Applies to NFPA 1984)

"WILDLAND RESPIRATOR MODEL" is the collective term used to identify a group of subassemblies (i.e., components) from a single manufacturer produced by the same basic manufacturing and quality assurance procedures that are covered by the same certification. A Wildland Respirator model is a generic grouping of components and subassemblies resulting in a Wildland Respirator with common functional and/or design characteristics. Those changes noted below shall constitute a different Wildland Respirator model. Class I changes, as noted below, do not require a new Wildland Respirator model designation.

Changes that require a new Wildland Respirator model designation:

1) Breathing air filtration method (i.e., powered vs. non-powered).
2) Filtration operating principle.

Class I - Examples of changes that should not require a new Wildland Respirator model designation:

1) Materials change (metal, plastic, etc.).
2) Alternate filtration media.
3) Alternate blower motor specifications (i.e., cfm).
4) Accessories or attachments.
5) Relocation of harness strapping.
6) Alternate mask assemblies/designs.
7) Alternate mask assemblies/sizes.
8) Changes that do not affect function of the Wildland Respirator.

PASS MODEL DEFINITION (Applies to NFPA 1982)

"PASS MODEL" is the collective term used to identify a group of subassemblies (i.e., components) from a single manufacturer produced by the same basic manufacturing and quality assurance procedures that are covered by the same certification. A PASS Model is a generic grouping of subassemblies having common functional and/or design characteristics. Those changes noted below shall constitute a different PASS model. Class I changes, as noted below, do not require a new PASS model designation.

Changes that require a new PASS model designation:

1) PASS design (i.e., integrated vs. stand-alone).
2) Motion sensing method.

Class I - Examples of changes that should not require a new PASS model designation:

1) Materials change (metal, plastic, etc.).
2) Enclosure assembly method change
3) Electronic circuit changes which do not affect overall operating principle
4) Electronic component changes which do not affect overall operation principle
5) Relocation of PASS on the user (i.e., move location from chest to hip)
6) Additional electronic capabilities (i.e., RF capability).
7) Changes that do not affect function of PASS.

1. SEI CERTIFICATION PROGRAM FEES

See *SEI Certification Program Manual* for Annual Participation Fees, Annual Certification Fees and Quality Assurance Audit Fees.

Specific fees regarding NFPA 1981, 2018 Edition, NFPA 1982, 2018 Edition, NFPA 1984, 2022 Edition, and NFPA 1986, 2023 Edition testing are covered in the following tables.

For convenience, these tables have been arranged in an identical manner to the Test Series tables from NFPA 1981, 2018 Edition, NFPA 1982, 2018 Edition, NFPA 1984, 2022 Edition, and NFPA 1986, 2023 Edition, respectively.

2a. SUMMARY OF TEST LABORATORY FEES FOR SCBA CERTIFICATION PROGRAM - SCBA ONLY

NFPA 1981-2018, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Emergency Services*

INITIAL CERTIFICATION TESTING - INDIVIDUAL TESTS								
Test Order	Category A	Category B	Category C	Category D	Category E	Category F	Category G	Category H See Note 8
1	Air Flow Sec. 8.1 - $ See Note 1	Air Flow Sec. 8.1 - $ See Note 3	Air Flow Sec. 8.1 - $ See Note 4	Air Flow Sec. 8.1 - $ See Note 5	HUD Visibility Performance Sec.'s 8.17, 8.18 & 8.19 - $3,450 See Note 6	Low Power Capacity Sec. 8.26 - $2,000	Fabric Flame Resistance Sec. 8.4 - $600 See Note 7	EOSTI Independent Activation Sec. 8.13 - $1,750
2	Facepiece Carbon Dioxide Content Sec. 8.12 - $ See Note 2	Breathing Air Cylinder and Valve Assembly Retention Sec. 8.22 - $1,500	Vibration Resistance Sec. 8.3 - $2,750	Heat and Flame Resistance Sec. 8.11 - $7,000	HUD Low Power Source Visual Alert Signal Sec. 8.16 - $2,000	Heat & Immersion Leakage Sec. 8.24 - $7,800	Fabric Heat Resistance Sec. 8.5 - $450 See Note 7	EOSTI Recognition Performance Sec. 8.14 - $1,750
3	Nonelectronic Communications Sec. 8.10 - $3,000	Cylinder Connections and Accessibility Sec. 8.23 - $400			Wiring Connection Strength Sec. 8.15 - $1,100		Thread Heat Resistance Sec. 8.6 - $250	Elevated Temperature Heat and Flame Resistance Sec. 8.29 - $7,000
4	Supplementary Voice Communications System Performance Sec. 8.25 - $3,000	RIC UAC Cylinder Refill Breathing Performance Sec. 8.20 - $2,000			Lens Radiant Heat Sec. 8.28 - $7,000		Facepiece Lens Abrasion Resistance Sec. 8.9 - $500	
5	Environmental Temperature Sec. 8.2 - $3,500	RIC UAC System Fill Rate Performance Sec. 8.21 - $1,000						
6	EBSS Cold Temp. Performance Sec. 8.27 - $3,500	EBSS Cold Temp. Performance Sec. 8.27 - See Note 11						
7	Particulate Resistance Sec. 8.8 - $5,000	Accelerated Corrosion Sec. 8.7 - $1,200						
8		Strength of Connection Sec. 8.30 - $550						

2a. SUMMARY OF TEST LABORATORY FEES FOR SCBA CERTIFICATION PROGRAM – SCBA ONLY (Continued)

NFPA 1981-2018, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Emergency Services*

INITIAL CERTIFICATION TESTING - ENTIRE SERIES								
	Category A	Category B	Category C	Category D	Category E	Category F	Category G	Category H See Note 9
Sec. 5 Label & User Info	$150							
Sec. 6 Design	$1500							
Min. 21 Units	$18,200 See Note 9	$6,650	$2,750	$7,000	$13,550 See Note 10	$9,800	$1,800	$10,500

Note 1 – Air Flow Test Fee is included as part of the Environmental Temperature Test Fee.

Note 2 – A test report for facepiece(s) where testing was conducted in accordance with Sec. 8.14 of EN 136:1998 by an ISO/IEC 17025 Accredited Laboratory (with a scope of accreditation including EN 136:1998) may be submitted in lieu of conducting Facepiece Carbon Dioxide Testing at Intertek. The fee associated with this test when a test report is submitted is as follows:

- Review of submitted test report - $200

Note 3 – Air Flow Test Fee is included as part of the RIC UAC Cylinder Refill Breathing Performance Test Fee.

Note 4 – Air Flow Test Fee is included as part of the Vibration Resistance Test Fee.

Note 5 – Air Flow Test Fee is included as part of the Heat and Flame Resistance Test Fee.

Note 6 – Individual fees for different HUD Visibility Performance tests are as follows:

HUD Visibility Performance – Darkness - $1,100; HUD Visibility Performance – Light - $1,100; HUD Visibility Performance – Obscuration - $1,250; HUD Visibility Performance – Disabling Glare - $ Included as part of HUD Visibility Performance – Darkness.

Note 7 – Fee includes both pre- and post-laundering and up to three (3) materials. Additional materials are $150 each.

Note 8 – Depending on an SCBA's specific EOSTI design, additional units may be required to complete Category H testing.

Note 9 – This cost assumes a review of submitted Facepiece Carbon Dioxide Test reports is conducted in lieu of testing.

Note 10 – This cost assumes that the HUD Visibility Performance - Obscuration Test is not necessary based on HUD/SCBA Facemask relationship (i.e., HUD located inside the facemask).

Note 11 – Fee covered by EBSS Cold Temp. Performance fee in Category A.

2b. SUMMARY OF TEST LABORATORY FEES FOR SCBA CERTIFICATION PROGRAM - SCBA ONLY

NFPA 1981-2018, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Emergency Services*

ANNUAL RECERTIFICATION TESTING - INDIVIDUAL TESTS								
Test Order	Category A	Category B	Category C	Category D	Category E	Category F	Category G	Category H See Note 8
1	Air Flow Sec. 8.1 - $ See Note 2	Air Flow Sec. 8.1 - $ See Note 3	Air Flow Sec. 8.1 - $ See Note 5	Air Flow Sec. 8.1 - $ See Note 5	HUD Visibility Performance Sec.'s 8.17, 8.18 & 8.19 - $1,700 See Note 6	Low Power Capacity Sec. 8.26 - $850	Fabric Flame Resistance Sec. 8.4 - $600 See Note 7	EOSTI Independent Activation Sec. 8.13 - $750
2	Facepiece Carbon Dioxide Content Sec. 8.12 - $ See Note 2	Breathing Air Cylinder and Valve Assembly Retention Sec. 8.22 - $600	Vibration Resistance Sec. 8.3 - $1,250	Heat and Flame Resistance Sec. 8.11 - $2,400	HUD Low Power Source Visual Alert Signal Sec. 8.16 - $850	Heat & Immersion Leakage Sec. 8.24 - $2,600	Fabric Heat Resistance Sec. 8.5 - $450 See Note 7	EOSTI Recognition Performance Sec. 8.14 - $750
3	Nonelectronic Communications Sec. 8.10 - $1,250	Cylinder Connections and Accessibility Sec. 8.23 - $200			Wiring Connection Strength Sec. 8.15 - $525		Thread Heat Resistance Sec. 8.6 - $250	Elevated Temperature Heat and Flame Resistance Sec. 8.29 - $2,400
4	Supplementary Voice Communications System Performance Sec. 8.25 - $1,250	RIC UAC Cylinder Refill Breathing Performance Sec. 8.20 - $1,000			Lens Radiant Heat Sec. 8.28 - $2,400		Facepiece Lens Abrasion Resistance Sec. 8.9 - $500	
5	Environmental Temperature Sec. 8.2 - $1,500	RIC UAC System Fill Rate Performance Sec. 8.21 - $500						
6	EBSS Cold Temp. Performance Sec. 8.27 - $1,250	EBSS Cold Temp. Performance Sec. 8.27 - See Note 11						
7	Particulate Resistance Sec. 8.8 - $2,000	Accelerated Corrosion Sec. 8.7 - $550						
8		Strength of Connection Sec. 8.30 - $550						

2b. SUMMARY OF TEST LABORATORY FEES FOR SCBA CERTIFICATION PROGRAM – SCBA ONLY (Continued)

NFPA 1981-2018, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Emergency Services*

ANNUAL RECERTIFICATION TESTING - ENTIRE SERIES								
	Category A	Category B	Category C	Category D	Category E	Category F	Category G	Category H See Note 9
Sec. 5 Label & User Info	$150							
Sec. 6 Design	$500							
Min. 7 Units	$7,450 See Note 9	$3,400	$1,250	$2,400	$5,475 See Note 10	$3,450	$1,800	$3,900

Note 1 – Air Flow Test Fee is included as part of the Environmental Temperature Test Fee.

Note 2 – A test report for facepiece(s) where testing was conducted in accordance with Sec. 8.14 of EN 136:1998 by an ISO/IEC 17025 Accredited Laboratory (with a scope of accreditation including EN 136:1998) may be submitted in lieu of conducting Facepiece Carbon Dioxide Testing at Intertek. The fee associated with this test when a test report is submitted is as follows:

- Review of submitted test report - $200

Note 3 – Air Flow Test Fee is included as part of the RIC UAC Cylinder Refill Breathing Performance Test Fee.

Note 4 – Air Flow Test Fee is included as part of the Vibration Resistance Test Fee.

Note 5 – Air Flow Test Fee is included as part of the Heat and Flame Resistance Test Fee.

Note 6 – Individual fees for different HUD Visibility Performance tests are as follows:

HUD Visibility Performance – Darkness - $550; HUD Visibility Performance – Light - $550; HUD Visibility Performance – Obscuration - $600; HUD Visibility Performance – Disabling Glare - $ Included as part of HUD Visibility Performance – Darkness.

Note 7 – Fee includes both pre- and post-laundering and up to three (3) materials. Additional materials are $150 each.

Note 8 – Depending on an SCBA's specific EOSTI design, additional units may be required to complete Category H testing.

Note 9 – This cost assumes a review of submitted Facepiece Carbon Dioxide Test reports is conducted in lieu of testing.

Note 10 – This cost assumes that the HUD Visibility Performance - Obscuration Test is not necessary based on HUD/SCBA Facemask relationship (i.e., HUD located inside the facemask).

Note 11 – Fee covered by EBSS Cold Temp. Performance fee in Category A.

3a. SUMMARY OF TEST LABORATORY FEES FOR SCBA/PASS CERTIFICATION PROGRAM - STAND ALONE AND INTEGRATED REMOVABLE PASS DEVICES

NFPA 1982-2018, *Standard on Personal Alert Safety Systems (PASS)* and if applicable, when PASS device is integrated with SCBA, NFPA 1981-2018, *Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*

INITIAL CERTIFICATION TESTING - INDIVIDUAL TESTS (See Note 1)								
Test Order	Specimens 1 - 3	Specimens 4 - 6	Specimens 7 - 9	Specimens 10 - 12	Specimens 13 - 15	Specimens 16 - 18	Specimens 19 - 21	Specimens 22 - 24
1	Sound Pressure Sec. 8.2 - $2,000	Shock Sensitivity Sec. 8.7 - $800	Electronic Temp. Stress (Elevated) Sec. 8.3.5 - $ See Note 4	Water Drainage Sec. 8.11 - $1,000	Case Integrity Sec. 8.6 - $1,000	Impact Vibration Sec. 8.9 - $ See Note 9	Tumble Vibration Sec. 8.17 - $2,500	Signal Frequencies Sec.'s 8.14 & 8.15 - $1,500
2	Alarm Signal Muffle Sec. 8.18 - $1,000	Impact Acceleration (Ambient) Sec. 8.8 - $ See Note 3	Electronic Temp. Stress (Low) Sec. 8.3.6 - $ See Note 4	Corrosion Resistance Sec. 8.4 – $ See Note 7	Retention System Sec. 8.10 - $1,000		Point-to-Point RF Attenuation Sec. 8.19 – $ See Note 10	
3		Impact Acceleration (Cold) Sec. 8.8 - $ See Note 3	Electronic Temp. Stress (Shock) Sec. 8.3.7 - $ See Note 4	Product Label Durability Sec. 8.16 – $ See Note 8	High Temperature Functionality Sec. 8.12 - $1,500		Loss-of-Signal Alarm Sec. 8.20 – $ See Note 10	
4	Heat/Flame Test 1 Sec. 8.13.5.8 - $ See Note 2	Impact Acceleration (Elevated) Sec. 8.8 - $ See Note 3	Product Label Durability Sec. 8.16 – $ See Note 5				RF Interference Sec. 8.21 – $ See Note 10	
5	Heat/Flame Test 2 Sec. 8.13.5.9 - $ See Note 2		Heat & Immersion Leakage Sec. 8.5 – $ See Note 6				RF Multipath Sec. 8.22 – $ See Note 10	
6	Heat/Flame Test 3 Sec. 8.13.5.10 - $ See Note 2		Product Label Durability Sec. 8.16 - $300				RF Multi-hop Sec. 8.23 – $ See Note 10	

3a. SUMMARY OF TEST LABORATORY FEES FOR SCBA/PASS CERTIFICATION PROGRAM - STAND ALONE AND INTEGRATED REMOVABLE PASS DEVICES (Continued)

NFPA 1982-2018, *Standard on Personal Alert Safety Systems (PASS)* and if applicable, when PASS device is integrated with SCBA, NFPA 1981-2018, *Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*

INITIAL CERTIFICATION TESTING - ENTIRE SERIES (See Note 1)								
	Specimens 1 - 3	Specimens 4 - 6	Specimens 7 - 9	Specimens 10 - 12	Specimens 13 - 15	Specimens 16 - 18	Specimens 19 - 21	Specimens 22 - 24
Sec. 5 Label & User Info	$500							
Sec. 6 Design	$500							
Min. 24 Units	$6,000 See Note 11	$3,300	$10,600 See Note 11	$2,800 See Note 11	$3,500	$2,500 See Note 11	$11,750	$1,500

Note 1 – SEI's scope of accreditation does not include the capability to determine compliance with ANSI/UL 913, *Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II or III Hazardous Locations* **or** FCC regulations (i.e., Title 47, Code of Federal Regulations, Subchapter A, General, Telecommunications, Chapter I, Federal Communications Commission, Part 15, Radio Frequency Devices. Evidence of Certification to ANSI/UL 913 and to FCC requirements (when optional RF PASS compliance is requested) is required to be submitted to SEI prior to the issuance of SEI Certification to NFPA 1982, 2018 Edition.

Note 2 – Individual Test Fee for Heat/Flame Test 1, 2 and 3 for Stand Alone PASS Devices is $3,000 for all three operational modes, respectively (alarm, sensing, sensing). For Integrated Removable PASS Devices, this test is conducted as part of the SCBA testing and as a result, the fee is included as part of the SCBA Heat & Flame Test Fee ($7,000) for all three operational modes, respectively (alarm, sensing, sensing).

Note 3 – Individual Test Fee for Impact Acceleration Testing is $2,500 for all three conditions (ambient, cold, and elevated).

Note 4 – Individual Test Fee for Electronic Temperature Stress Testing is $2,500 for all three conditions (elevated, low, and shock).

Note 5 – Individual Test Fee for Product Label Durability (Post Electronic Temperature Stress Test) is covered in the Individual Test Fee for the Electronic Temperature Stress Test.

Note 6 – Individual Test Fee for the Heat & Immersion Leakage Test is $7,800 for Stand Alone PASS Devices. For Integrated Removable PASS Devices, this test is conducted as part of the SCBA testing and as a result, the fee is included as part of the SCBA Heat & Immersion Leakage Test Fee ($7,800).

Note 7 – Individual Test Fee for the Corrosion Resistance Test is $1,800 for both Stand Alone and Integrated Removable PASS Devices (in conjunction with SCBA testing).

Note 8 – Individual Test Fee for Product Label Durability (Post Corrosion Resistance Test) is covered in the Individual Test Fee for the Corrosion Resistance Test.

Note 9 – Individual Test Fee for the Impact Vibration Test is $2,500 for Stand Alone PASS Devices. For Integrated Removable PASS Devices, this test is conducted as part of the SCBA testing and as a result, the fee is included as part of the SCBA Impact Vibration Test Fee ($2,750).

Note 10 – Individual Test Fee(s) for optional RF PASS Testing is $9,250, collectively, and $1,850 for each individual test.

Note 11 – Note 11 – This cost assumes that the unit being tested is a Stand-Alone PASS Device.

3b. SUMMARY OF TEST LABORATORY FEES FOR SCBA/PASS CERTIFICATION PROGRAM - STAND ALONE AND INTEGRATED REMOVABLE PASS DEVICES

NFPA 1982-2018, *Standard on Personal Alert Safety Systems (PASS)* and if applicable, when PASS device is integrated with SCBA, NFPA 1981-2018, *Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*

ANNUAL RECERTIFICATION TESTING - INDIVIDUAL TESTS (See Note 1)								
Test Order	Specimens 1 - 3	Specimens 4 - 6	Specimens 7 - 9	Specimens 10 - 12	Specimens 13 - 15	Specimens 16 - 18	Specimens 19 - 21	Specimens 22 - 24
1	Sound Pressure Sec. 8.2 - $1,000	Shock Sensitivity Sec. 8.7 - $500	Electronic Temp. Stress (Elevated) Sec. 8.3.5 - $ See Note 4	Water Drainage Sec. 8.11 - $500	Case Integrity Sec. 8.6 - $500	Impact Vibration Sec. 8.9 - $ See Note 9	Tumble Vibration Sec. 8.17 - $1,000	Signal Frequencies Sec.'s 8.14 & 8.15 - $1,000
2	Alarm Signal Muffle Sec. 8.18 - $500	Impact Acceleration (Ambient) Sec. 8.8 - $ See Note 3	Electronic Temp. Stress (Low) Sec. 8.3.6 - $ See Note 4	Corrosion Resistance Sec. 8.4 – $ See Note 7	Retention System Sec. 8.10 - $500		Point-to-Point RF Attenuation Sec. 8.19 - $ See Note 10	
3		Impact Acceleration (Cold) Sec. 8.8 - $ See Note 3	Electronic Temp. Stress (Shock) Sec. 8.3.7 - $ See Note 4	Product Label Durability Sec. 8.16 – $ See Note 8	High Temperature Functionality Sec. 8.12 - $500		Loss-of-Signal Alarm Sec. 8.20 - $ See Note 10	
4	Heat/Flame Test 1 Sec. 8.13.5.8 - $ See Note 2	Impact Acceleration (Elevated) Sec. 8.8 - $ See Note 3	Product Label Durability Sec. 8.16 – $ See Note 5				RF Interference Sec. 8.21 - $ See Note 10	
5	Heat/Flame Test 2 Sec. 8.13.5.9 - $ See Note 2		Heat & Immersion Leakage Sec. 8.5 – $ See Note 6				RF Multipath Sec. 8.22 - $ See Note 10	
6	Heat/Flame Test 3 Sec. 8.13.5.10 - $ See Note 2		Product Label Durability Sec. 8.16 - $100				RF Multi-hop Sec. 8.23 - $ See Note 10	

3b. SUMMARY OF TEST LABORATORY FEES FOR SCBA/PASS CERTIFICATION PROGRAM - STAND ALONE AND INTEGRATED REMOVABLE PASS DEVICES (Continued)

NFPA 1982-2018, *Standard on Personal Alert Safety Systems (PASS)* and if applicable, when PASS device is integrated with SCBA, NFPA 1981-2018, *Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*

ANNUAL RECERTIFICATION TESTING - ENTIRE SERIES (See Note 1)								
	Specimens 1 - 3	Specimens 4 - 6	Specimens 7 - 9	Specimens 10 - 12	Specimens 13 - 15	Specimens 16 - 18	Specimens 19 - 21	Specimens 22 - 24
Sec. 5 Label & User Info	$500							
Sec. 6 Design	$500							
Min. 24 Units	$3,000 See Note 11	$1,500	$4,700 See Note 11	$1,300 See Note 11	$1,500	$1,000 See Note 11	$7,600	$1,000

Note 1 – SEI's scope of accreditation does not include the capability to determine compliance with ANSI/UL 913, *Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II or III Hazardous Locations* **or** FCC regulations (i.e., Title 47, Code of Federal Regulations, Subchapter A, General, Telecommunications, Chapter I, Federal Communications Commission, Part 15, Radio Frequency Devices. Evidence of Certification to ANSI/UL 913 and to FCC requirements (when optional RF PASS compliance is requested) is required to be submitted to SEI prior to the issuance of SEI Certification to NFPA 1982, 2018 Edition.

Note 2 - Individual Test Fee for Heat/Flame Test 1, 2 and 3 for Stand Alone PASS Devices is $1,500 for one operational mode, (i.e., either alarm, sensing, or sensing). For Integrated Removable PASS Devices, this test is conducted as part of the SCBA testing and as a result, the fee is included as part of the SCBA Heat & Flame Test Fee ($2,400) for one operational mode (i.e., either alarm, sensing, or sensing).

Note 3 – Individual Test Fee for Impact Acceleration Testing is $1,000 for worst case condition (either ambient, cold, and elevated).

Note 4 – Individual Test Fee for Electronic Temperature Stress Testing is $2,000 for all three conditions (elevated, low, and shock).

Note 5 – Individual Test Fee for Product Label Durability (Post Electronic Temperature Stress Test) is covered in the Individual Test Fee for the Electronic Temperature Stress Test.

Note 6 – Individual Test Fee for the Heat & Immersion Leakage Test is $2,600 for Stand Alone PASS Devices. For Integrated Removable PASS Devices, this test is conducted as part of the SCBA testing and as a result, the fee is included as part of the SCBA Heat & Immersion Leakage Test Fee ($2,600).

Note 7 – Individual Test Fee for the Corrosion Resistance Test is $800 for both Stand Alone and Integrated Removable PASS Devices (in conjunction with SCBA testing).

Note 8 – Individual Test Fee for Product Label Durability (Post Corrosion Resistance Test) is covered in the Individual Test Fee for the Corrosion Resistance Test.

Note 9 – Individual Test Fee for the Impact Vibration Test is $1,000 for Stand Alone PASS Devices. For Integrated Removable PASS Devices, this test is conducted as part of the SCBA testing and as a result, the fee is included as part of the SCBA Impact Vibration Test Fee ($1,250).

Note 10 – Individual Test Fee(s) for optional RF PASS Testing is $6,600, collectively, and $1,320 for each individual test.

Note 11 – This cost assumes that the unit being tested is a Stand-Alone PASS Device.

3c. SUMMARY OF TEST LABORATORY FEES FOR SCBA/PASS CERTIFICATION PROGRAM - INTEGRATED NONREMOVABLE PASS DEVICES

NFPA 1982-2018, *Standard on Personal Alert Safety Systems (PASS)* and when PASS device is integrated with SCBA, NFPA 1981-2018, *Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*

INITIAL CERTIFICATION TESTING - INDIVIDUAL TESTS (See Note 1)							
Test Order	Specimens 1 - 3	Specimens 4 - 6	Specimens 7 - 9	Specimens 10 - 12	Specimens 13 - 15	Specimens 16 - 18	Specimens 19 - 21
1	Sound Pressure Sec. 8.2 - $2,000	Shock Sensitivity Sec. 8.7 - $800	Electronic Temp. Stress (Elevated) Sec. 8.3.5 - $ See Note 4	Water Drainage Sec. 8.11 - $1,000	Case Integrity Sec. 8.6 - $1,000	Tumble Vibration Sec. 8.17 - $2,500	Signal Frequencies Sec.'s 8.14 & 8.15 - $1,500
2	Alarm Signal Muffle Sec. 8.18 - $1,000	Impact Vibration Sec. 8.9 – $ See Note 3	Electronic Temp. Stress (Low) Sec. 8.3.6 - $ See Note 4	Corrosion Resistance Sec. 8.4 – $ See Note 7	High Temperature Functionality Sec. 8.12 - $1,500	Point-to-Point RF Attenuation Sec. 8.19 – $ See Note 9	
3			Electronic Temp. Stress (Shock) Sec. 8.3.7 - $ See Note 4	Product Label Durability Sec. 8.16 – $ See Note 8		Loss-of-Signal Alarm Sec. 8.20 – $ See Note 9	
4	Heat/Flame Test 1 Sec. 8.13.5.8 - $ See Note 2		Product Label Durability Sec. 8.16 – $ See Note 5			RF Interference Sec. 8.21 – $ See Note 9	
5	Heat/Flame Test 2 Sec. 8.13.5.9 - $ See Note 2		Heat & Immersion Leakage Sec. 8.5 – $ See Note 6			RF Multipath Sec. 8.22 – $ See Note 9	
6	Heat/Flame Test 3 Sec. 8.13.5.10 - $ See Note 2		Product Label Durability Sec. 8.16 - $300			RF Multi-hop Sec. 8.23 – $ See Note 9	

3c. SUMMARY OF TEST LABORATORY FEES FOR SCBA/PASS CERTIFICATION PROGRAM - INTEGRATED NONREMOVABLE PASS DEVICES (Continued)

NFPA 1982-2018, *Standard on Personal Alert Safety Systems (PASS)* and when PASS device is integrated with SCBA, NFPA 1981-2018, *Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*

INITIAL CERTIFICATION TESTING - ENTIRE SERIES (See Note 1)							
	Specimens 1 - 3	Specimens 4 - 6	Specimens 7 - 9	Specimens 10 - 12	Specimens 13 - 15	Specimens 16 - 18	Specimens 19 - 21
Sec. 5 Label & User Info	$500						
Sec. 6 Design	$500						
Min. 21 Units	$3,000	$800	$2,800	$2,800	$2,500	$11,750	$1,500

Note 1 – SEI's scope of accreditation does not include the capability to determine compliance with ANSI/UL 913, *Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II or III Hazardous Locations* **or** FCC regulations (i.e., Title 47, Code of Federal Regulations, Subchapter A, General, Telecommunications, Chapter I, Federal Communications Commission, Part 15, Radio Frequency Devices. Evidence of Certification to ANSI/UL 913 and to FCC requirements (when optional RF PASS compliance is requested) is required to be submitted to SEI prior to the issuance of SEI Certification to NFPA 1982, 2018 Edition.

Note 2 – Individual Test Fee for Integrated Nonremovable PASS Devices is conducted as part of the SCBA testing and as a result, the fee is included as part of the SCBA Heat & Flame Test Fee ($7,000) for all three operational modes, respectively (alarm, sensing, sensing).

Note 3 – Individual Test Fee for Integrated Nonremovable PASS Devices is conducted as part of the SCBA testing and as a result, the fee is included as part of the SCBA Impact Vibration Test Fee ($2,750).

Note 4 – Individual Test Fee for Electronic Temperature Stress Testing is $2,500 for all three conditions (elevated, low, and shock).

Note 5 – Individual Test Fee for Product Label Durability (Post Electronic Temperature Stress Test) is covered in the Individual Test Fee for the Electronic Temperature Stress Test.

Note 6 – Individual Test Fee for Integrated Nonremovable PASS Devices is conducted as part of the SCBA testing and as a result, the fee is included as part of the SCBA Heat & Immersion Leakage Test Fee ($7,800).

Note 7 – Individual Test Fee for the Corrosion Resistance Test is $1,800 for Integrated Nonremovable PASS Devices (in conjunction with SCBA testing).

Note 8 – Individual Test Fee for Product Label Durability (Post Corrosion Resistance Test) is covered in the Individual Test Fee for the Corrosion Resistance Test.

Note 9 – Individual Test Fee(s) for optional RF PASS Testing is $9,250, collectively, and $1,850 for each individual test.

3d. SUMMARY OF TEST LABORATORY FEES FOR SCBA/PASS CERTIFICATION PROGRAM - INTEGRATED NONREMOVABLE PASS DEVICES

NFPA 1982-2018, *Standard on Personal Alert Safety Systems (PASS)* and when PASS device is integrated with SCBA, NFPA 1981-2018, *Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*

ANNUAL RECERTIFICATION TESTING - INDIVIDUAL TESTS (See Note 1)							
Test Order	Specimens 1 - 3	Specimens 4 - 6	Specimens 7 - 9	Specimens 10 - 12	Specimens 13 - 15	Specimens 16 - 18	Specimens 19 - 21
1	Sound Pressure Sec. 8.2 - $1,000	Shock Sensitivity Sec. 8.7 - $500	Electronic Temp. Stress (Elevated) Sec. 8.3.5 - $ See Note 4	Water Drainage Sec. 8.11 - $500	Case Integrity Sec. 8.6 - $500	Tumble Vibration Sec. 8.17 - $1,000	Signal Frequencies Sec.'s 8.14 & 8.15 - $1,000
2	Alarm Signal Muffle Sec. 8.18 - $500	Impact Vibration Sec. 8.9 - $ See Note 3	Electronic Temp. Stress (Low) Sec. 8.3.6 - $ See Note 4	Corrosion Resistance Sec. 8.4 – $ See Note 7	High Temperature Functionality Sec. 8.12 - $500	Point-to-Point RF Attenuation Sec. 8.19 – $ See Note 9	
3			Electronic Temp. Stress (Shock) Sec. 8.3.7 - $ See Note 4	Product Label Durability Sec. 8.16 – $ See Note 8		Loss-of-Signal Alarm Sec. 8.20 – $ See Note 9	
4	Heat/Flame Test 1 Sec. 8.13.5.8 - $ See Note 2		Product Label Durability Sec. 8.16 – $ See Note 5			RF Interference Sec. 8.21 – $ See Note 9	
5	Heat/Flame Test 2 Sec. 8.13.5.9 - $ See Note 2		Heat & Immersion Leakage Sec. 8.5 – $ See Note 6			RF Multipath Sec. 8.22 – $ See Note 9	
6	Heat/Flame Test 3 Sec. 8.13.5.10 - $ See Note 2		Product Label Durability Sec. 8.16 - $100			RF Multi-hop Sec. 8.23 – $ See Note 9	

3d. SUMMARY OF TEST LABORATORY FEES FOR SCBA/PASS CERTIFICATION PROGRAM - INTEGRATED NONREMOVABLE PASS DEVICES (Continued)

NFPA 1982-2018, *Standard on Personal Alert Safety Systems (PASS)* and when PASS device is integrated with SCBA, NFPA 1981-2018, *Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*

ANNUAL RECERTIFICATION TESTING - ENTIRE SERIES (See Note 1)							
	Specimens 1 - 3	Specimens 4 - 6	Specimens 7 - 9	Specimens 10 - 12	Specimens 13 - 15	Specimens 16 - 18	Specimens 19 - 21
Sec. 5 Label & User Info	$500						
Sec. 6 Design	$500						
Min. 21 Units	$1,500	$500	$2,100	$1,300	$1,000	$7,600	$1,000

Note 1 – SEI's scope of accreditation does not include the capability to determine compliance with ANSI/UL 913, *Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II or III Hazardous Locations* **or** FCC regulations (i.e., Title 47, Code of Federal Regulations, Subchapter A, General, Telecommunications, Chapter I, Federal Communications Commission, Part 15, Radio Frequency Devices. Evidence of Certification to ANSI/UL 913 and to FCC requirements (when optional RF PASS compliance is requested) is required to be submitted to SEI prior to the issuance of SEI Certification to NFPA 1982, 2018 Edition.

Note 2 – Individual Test Fee for Integrated Nonremovable PASS Devices is conducted as part of the SCBA testing and as a result, the fee is included as part of the SCBA Heat & Flame Test Fee ($2,400) for one operational mode (i.e., either alarm, sensing, or sensing).

Note 3 – Individual Test Fee for Integrated Nonremovable PASS Devices is conducted as part of the SCBA testing and as a result, the fee is included as part of the SCBA Impact Vibration Test Fee ($1,250).

Note 4 – Individual Test Fee for Electronic Temperature Stress Testing is $2,000 for all three conditions (elevated, low, and shock).

Note 5 – Individual Test Fee for Product Label Durability (Post Electronic Temperature Stress Test) is covered in the Individual Test Fee for the Electronic Temperature Stress Test.

Note 6 – Individual Test Fee for Integrated Nonremovable PASS Devices is conducted as part of the SCBA testing and as a result, the fee is included as part of the SCBA Heat & Immersion Leakage Test Fee ($2,600).

Note 7 – Individual Test Fee for the Corrosion Resistance Test is $800 for Integrated Nonremovable PASS Devices (in conjunction with SCBA testing).

Note 8 – Individual Test Fee for Product Label Durability (Post Corrosion Resistance Test) is covered in the Individual Test Fee for the Corrosion Resistance Test.

Note 9 – Individual Test Fee(s) for optional RF PASS Testing is $6.600, collectively, and $1,320 for each individual test.

4a. SUMMARY OF TEST LABORATORY FEES FOR WILDLAND RESPIRATOR CERTIFICATION PROGRAM

NFPA 1984-2022, *Standard on Respirators for Wildland Fire-Fighting and Wildland Urban Interface Operations*

INITIAL CERTIFICATION TESTING - INDIVIDUAL TESTS				
Test Order	Category A Respirator #1	Category B Respirator #2	Category C Respirator #3	Category D Component Test
1	Communication Sec. 8.6 - $2,200	Storage Integrity Sec. 8.3 - $2,500	Accelerated Corrosion Sec. 8.7 - $750	Lens Abrasion Sec. 8.4 - $750
2	Heat Resistance Sec. 8.1 - $500	Donning Performance Sec. 8.5 - $750		
3		Flammability Sec. 8.2 - $700		
Sec. 5 Label & User Info	$150			
Sec. 6 Design	$300			
Min. 9 Units	$2,700	$3,950	$750	$750

4b. SUMMARY OF TEST LABORATORY FEES FOR WILDLAND RESPIRATOR CERTIFICATION PROGRAM

NFPA 1984-2022, *Standard on Respirators for Wildland Fire-Fighting and Wildland Urban Interface Operations*

ANNUAL CERTIFICATION TESTING - INDIVIDUAL TESTS				
Test Order	Category A Respirator #1	Category B Respirator #2	Category C Respirator #3	Category D Component Test
1	Communication Sec. 8.6 - $900	Storage Integrity Sec. 8.3 - $1,100	Accelerated Corrosion Sec. 8.7 - $400	Lens Abrasion Sec. 8.4 - $500
2	Heat Resistance Sec. 8.1 - $350	Donning Performance Sec. 8.5 - $400		
3		Flammability Sec. 8.2 - $450		
Sec. 5 Label & User Info	$150			
Sec. 6 Design	$300			
Min. 3 Units	$1,250	$1,950	$400	$500

5a. SUMMARY OF TEST LABORATORY FEES FOR SCBA CERTIFICATION PROGRAM - SCBA ONLY

NFPA 1986-2023, *Standard on Respiratory Protection Equipment for Tactical and Technical Operations*

INITIAL CERTIFICATION TESTING - INDIVIDUAL TESTS						
Test Order	Category A	Category B	Category C	Category D	Category E	Category F
1	Air Flow Sec. 8.1 - $500	Air Flow Sec. 8.1 - $500	Air Flow Sec. 8.1 - $500	Air Flow Sec. 8.1 - $500	Low Power Capacity Sec. 8.22 - $500	Facepiece Lens Abrasion Resistance Sec. 8.6 - $500
2	Facepiece Carbon Dioxide Content Sec. 8.9 - $ See Note 1	Breathing Air Pressure Vessel and Valve Assembly Retention Sec. 8.18 - $1,500	EOSTI Recognition Sec. 8.10 - $1,800	Flame Resistance Sec. 8.8 - $7,000	Immersion Leakage Sec. 8.19 - $7,500	
3	Nonelectronic Communications Sec. 8.7 - $2,000	Breathing Air Pressure Vessel Connections and Accessibility Sec. 8.20 - $400	HUD Visibility Performance Sec.'s 8.13, 8.14 & 8.15 - $2,000 See Note 3			
4	Supplementary Voice Communications System Performance Sec. 8.21 - $4,000	RIC UAC Breathing Air Pressure Vessel Refill Breathing Performance Sec. 8.16 - $2,000	HUD Low Power Source Visual Alert Signal Sec. 8.12 - $1,650			
5	Environmental Temperature Sec. 8.2 - $2,300	RIC UAC System Fill Rate Performance Sec. 8.17 - $990	Wiring Connection Strength Sec. 8.11 - $1,100			
6	EBSS Cold Temp. Performance Sec. 8.23 - $2,200	EBSS Cold Temp. Performance Sec. 8.23 - See Note 2	Vibration Resistance Sec. 8.3 - $3,300			
7	Particulate Resistance Sec. 8.5 - $5,000	Accelerated Corrosion Sec. 8.4 - $1,800				

5a. SUMMARY OF TEST LABORATORY FEES FOR SCBA CERTIFICATION PROGRAM - SCBA ONLY (Continued)

NFPA 1986-2023, *Standard on Respiratory Protection Equipment for Tactical and Technical Operations*

INITIAL CERTIFICATION TESTING - ENTIRE SERIES						
	Category A	Category B	Category C	Category D	Category E	Category F
Sec. 5 Label & User Info	$150					
Sec. 6 Design	$300					
Min. 15 Units	$16,200 See Note 4	$7,190	$10,350	$7,000	$8,000	$500

Note 1 – Test Reports for facepieces where testing was conducted in accordance with Sec. 8.14 of EN 136:1998 by an ISO/IEC 17025 Accredited Laboratory (with a scope of accreditation including EN 136:1998) may be submitted in lieu of conducting Facepiece Carbon Dioxide Testing at Intertek. The fees associated with this test when test reports are submitted are as follows:

- Review of submitted test reports - $200

Note 2 – Fee covered by EBSS Cold Temp. Performance fee in Category A.

Note 3 – Individual fees for different HUD Visibility Performance tests are as follows:

HUD Visibility Performance – Darkness - $1,000; HUD Visibility Performance – Light - $1,000; HUD Visibility Performance – Disabling Glare - $ Included as part of HUD Visibility Performance – Darkness.

Note 4 – This cost assumes a review of submitted Facepiece Carbon Dioxide Test reports is conducted in lieu of testing.

5b. SUMMARY OF TEST LABORATORY FEES FOR SCBA CERTIFICATION PROGRAM - SCBA ONLY

NFPA 1986-2023, *Standard on Respiratory Protection Equipment for Tactical and Technical Operations*

ANNUAL RECERTIFICATION TESTING - INDIVIDUAL TESTS						
Test Order	Category A	Category B	Category C	Category D	Category E	Category F
1	Air Flow Sec. 8.1 - $500	Air Flow Sec. 8.1 - $500	Air Flow Sec. 8.1 - $500	Air Flow Sec. 8.1 - $500	Low Power Capacity Sec. 8.22 - $500	Facepiece Lens Abrasion Resistance Sec. 8.6 - $500
2	Facepiece Carbon Dioxide Content Sec. 8.9 - $ See Note 1	Breathing Air Pressure Vessel and Valve Assembly Retention Sec. 8.18 - $600	EOSTI Recognition Sec. 8.10 - $1,100	Flame Resistance Sec. 8.8 - $2,400	Immersion Leakage Sec. 8.19 - $2,500	
3	Nonelectronic Communications Sec. 8.7 - $750	Breathing Air Pressure Vessel Connections and Accessibility Sec. 8.20 - $200	HUD Visibility Performance Sec.'s 8.13, 8.14 & 8.15 - $1,100 See Note 3			
4	Supplementary Voice Communications System Performance Sec. 8.21 - $1,900	RIC UAC Breathing Air Pressure Vessel Refill Breathing Performance Sec. 8.16 - $950	HUD Low Power Source Visual Alert Signal Sec. 8.12 - $750			
5	Environmental Temperature Sec. 8.2 - $1,100	RIC UAC System Fill Rate Performance Sec. 8.17 - $450	Wiring Connection Strength Sec. 8.11 - $525			
6	EBSS Cold Temp. Performance Sec. 8.23 - $1,100	EBSS Cold Temp. Performance Sec. 8.23 - See Note 2	Vibration Resistance Sec. 8.3 - $1,500			
7	Particulate Resistance Sec. 8.5 - $2,000	Accelerated Corrosion Sec. 8.4 - $785				

5b. SUMMARY OF TEST LABORATORY FEES FOR SCBA CERTIFICATION PROGRAM - SCBA ONLY (Continued)

NFPA 1986-2023, *Standard on Respiratory Protection Equipment for Tactical and Technical Operations*

ANNUAL RECERTIFICATION TESTING - ENTIRE SERIES						
	Category A	Category B	Category C	Category D	Category E	Category F
Sec. 5 Label & User Info	$150					
Sec. 6 Design	$300					
Min. 5 Units	$7,550 See Note 4	$3,485	$5,475	$2,900	$3,000	$500

Note 1 – Test Reports for facepieces where testing was conducted in accordance with Sec. 8.14 of EN 136:1998 by an ISO/IEC 17025 Accredited Laboratory (with a scope of accreditation including EN 136:1998) may be submitted in lieu of conducting Facepiece Carbon Dioxide Testing at Intertek. The fees associated with this test when test reports are submitted are as follows:

- Review of submitted test reports - $200

Note 2 – Fee covered by EBSS Cold Temp. Performance fee in Category A.

Note 3 – Individual fees for different HUD Visibility Performance tests are as follows:

HUD Visibility Performance – Darkness - $550; HUD Visibility Performance – Light - $550; HUD Visibility Performance – Disabling Glare - $ Included as part of HUD Visibility Performance – Darkness.

Note 4 – This cost assumes a review of submitted Facepiece Carbon Dioxide Test reports is conducted in lieu of testing.

SCBA MODEL CONFIGURATION AND TEST PLAN MATRIX

Manufacturer:_____ **SCBA Model:** _____

Description			Configuration 1	Configuration 2	Configuration 3	Configuration 4 (as needed)	Configuration 5 (as needed)
Components							
		Category A Category B Category C Category D Category E Category F Category G Category H					

EXAMPLE SCBA MODEL CONFIGURATION AND TEST PLAN MATRIX

Manufacturer: Air-Tite Respirators, Inc. **SCBA Model:** 2245, 4545, 4566, 4587

Description		2245	4545	4587	4566			
Components		5 Each Config. 1, Wt. = 23 lbs. (lightest)	5 Each Config. 2, Wt. = 25 lbs.	5 Each Config. 3, Wt. = 35 lbs. (heaviest)	1 Each Additional Config. Wt. = 35 lbs.	1 Each Additional Config.	1 Each Additional Config.	1 Each Additional Config.
Mask Assembly	890-093 890-141 890-222 890-232	X	X	X	X			
Regulator Assembly	890-025 890-145 890-026 890-146	X	X	X	X			
Harness Assembly	890-152	X	X	X	X			
Cylinder Assembly	890-003 890-006 890-037 890-177	X	X	X	X			
Voice Amp	190-004			X				
Chest Strap	980-031			X				
Neck Strap	890-226	X						
NFPA 1981 Test Series	Category A Category B Category C Category D Category E Category F Category G Category H	X X X X X X See List X	X X X X X X X	X X X X X X X	 X 			

Note: Indicate lightest and heaviest units and their respective weights.

TEST PROTOCOL
Integrated PASS/SCBA
(NFPA 1982, 2018 Edition and NFPA 1981, 2018 Edition)

1. For Integrated PASS/SCBA in which *the PASS device is designed and intended to be readily removed from the SCBA to be used alone* (PASS device not previously certified):

Total sample requirements for initial testing:

Eighteen (18) identical SCBA with PASS device installed
Three (3) additional PASS devices installed on SCBA Backframes and provided with activation means
Three (3) additional PASS devices with activation means and connection leads

These requirements are itemized as follows:

Three (3) SCBA with PASS device installed will be used for:
- Category E SCBA Testing (NFPA 1981)
- Case Integrity Test (Section 8.6 of NFPA 1982)
- Retention System Tests (Section 8.10 of NFPA 1982)
- High Temperature Functionality (Section 8.12 of NFPA 1982)

Three (3) SCBA with PASS device installed will be used for:
- Category C SCBA Testing (NFPA 1981)

- Vibration Tests (Section 8.9 of NFPA 1982)

Three (3) SCBA with PASS devices installed will be used for:
- Category F SCBA Testing (NFPA 1981)
- Electronic Temperature Stress Test - Elevated (Section 8.3.5 of NFPA 1982)
- Electronic Temperature Stress Test – Low (Section 8.3.6 of NFPA 1982)
- Electronic Temperature Stress Test – Shock (Section 8.3.7 of NFPA 1982)
- Post Electronic Temperature Stress Product Label Durability Test (Section 8.16 of NFPA 1982)
- Heat & Immersion Leakage Tests (Section 8.5 of NFPA 1982)
- Post Heat & Immersion Leakage Product Label Durability Test (Section 8.16 of NFPA 1982)

Three (3) SCBA with PASS devices installed will be used for:
- Category A SCBA Testing (NFPA 1981)
- Shock Sensitivity Test (Section 8.7 of NFPA 1982)
- Impact Acceleration - Ambient- Test (Section 8.8 of NFPA 1982)
- Impact Acceleration - Cold - Test (Section 8.8 of NFPA 1982)
- Impact Acceleration - Elevated - Test (Section8.8) of NFPA 1982)

TEST PROTOCOL
Integrated PASS/SCBA
(NFPA 1982, 2018 Edition and NFPA 1981, 2018 Edition)

Three (3) SCBA with PASS devices installed will be used for:
- Category B SCBA Testing (NFPA 1981)
- Water Drainage Test (Section 8.11 of NFPA 1982)
- Corrosion Test (Section 8.4 of NFPA 1982)
- Post Corrosion Product Label Durability Test (Section 8.16 of NFPA 1982)

Three (3) SCBA with PASS devices installed will be used for:
- Category D SCBA Testing (NFPA 1981)
- Sound Pressure Test (Section 8.2 of NFPA 1982)
- Alarm Signal Muffle Test (Section 8.18 of NFPA 1982)
- Heat/Flame Test #1 - Manual Mode (Section 8.13.5.9 of NFPA 1982)
- Heat/Flame Test #2 - Automatic Mode (Section 8.13.5.10 of NFPA 1982)
- Heat/Flame Test #3 - Automatic Mode (Section 8.13.5.11 of NFPA 1982)

Three (3) PASS devices (installed on SCBA Backframes and provided with activation means) will be used for:
- Tumble Vibration Tests (Section 8.17 of NFPA 1982)
- Point-to-Point RF Attenuation Tests (Section 8.19 of NFPA 1982)
- Loss-of-Signal Alarm Tests (Section 8.20 of NFPA 1982)
- RF Interference Tests (Section 8.21 of NFPA 1982)
- RF Multipath Tests (Section 8.22 of NFPA 1982)
- Multi-Hop Tests (Section 8.23 of NFPA 1982)

Three (3) PASS devices (provided with activation means and connection leads) will be used for:
- Signal Frequencies Test (Section 8.14 of NFPA 1982)

TEST PROTOCOL
Integrated PASS/SCBA
(NFPA 1982, 2018 Edition and NFPA 1981, 2018 Edition)

2. For Integrated PASS/SCBA in which *the PASS device is not designed or intended to be readily removed from the SCBA to be used alone* (PASS device not previously certified):

Total sample requirements for initial testing:

Fifteen (15) identical SCBA with PASS device installed
Three (3) additional PASS devices (installed on SCBA Backframes and provided with activation means)
Three (3) additional PASS devices with activation means and connection leads

These requirements are itemized as follows:

Three (3) SCBA with PASS device installed will be used for:
- Category E SCBA Testing (NFPA 1981)
- Case Integrity Test (Section 8.6 of NFPA 1982)
- High Temperature Functionality (Section 8.12 from NFPA 1982)

Three (3) SCBA with PASS device installed will be used for:
- Category C SCBA Testing (NFPA 1981)
- Shock Sensitivity Test (Section 8.7 of NFPA 1982)
- Vibration Tests (Section 8.9 of NFPA 1982)

Three (3) SCBA with PASS devices installed will be used for:
- Category F SCBA Testing (NFPA 1981)
- Electronic Temperature Stress Test - Elevated (Section 8.3.5 of NFPA 1982)
- Electronic Temperature Stress Test – Low (Section 8.3.6 of NFPA 1982)
- Electronic Temperature Stress Test – Shock (Section 8.3.7 of NFPA 1982)
- Post Electronic Temperature Stress Product Label Durability Test (Section 8.16 of NFPA 1982)
- Heat & Immersion Leakage Tests (Section 8.5 of NFPA 1982)
- Post Heat & Immersion Leakage Product Label Durability Test (Section 8.16 of NFPA 1982)

TEST PROTOCOL
Integrated PASS/SCBA
(NFPA 1982, 2018 Edition and NFPA 1981, 2018 Edition)

Three (3) SCBA with PASS devices installed will be used for:
- Category B SCBA Testing (NFPA 1981)
- Water Drainage Test (Section 8.11 of NFPA 1982)
- Corrosion Test (Section 8.4 of NFPA 1982)
- Post Corrosion Product Label Durability Test (Section 8.16 of NFPA 1982)

Three (3) SCBA with PASS devices installed will be used for:
- Category D SCBA Testing (NFPA 1981)
- Sound Pressure Test (Section 8.2 of NFPA 1982)
- Alarm Signal Muffle Test (Section 8.18 of NFPA 1982)
- Heat/Flame Test #1 - Manual Mode (Section 8.13.5.9 of NFPA 1982)
- Heat/Flame Test #2 - Automatic Mode (Section 8.13.5.10 of NFPA 1982)
- Heat/Flame Test #3 - Automatic Mode (Section 8.13.5.11 of NFPA 1982)

Three (3) PASS devices (installed on SCBA Backframes and provided with activation means) will be used for:
- Tumble Vibration Tests (Section 8.17 of NFPA 1982)
- Point-to-Point RF Attenuation Tests (Section 8.19 of NFPA 1982)
- Loss-of-Signal Alarm Tests (Section 8.20 of NFPA 1982)
- RF Interference Tests (Section 8.21 of NFPA 1982)
- RF Multipath Tests (Section 8.22 of NFPA 1982)
- Multi-Hop Tests (Section 8.23 of NFPA 1982)

Three (3) PASS devices (provided with activation means and connection leads) will be used for:
- Signal Frequencies Test (Section 8.14 of NFPA 1982)

TEST PROTOCOL
Integrated PASS/SCBA
(NFPA 1982, 2018 Edition and NFPA 1981, 2018 Edition)

3. For Integrated PASS/SCBA in which *the PASS device portion is designed and intended to be readily removed from the SCBA to be used alone* (PASS device is previously SEI Certified, and has been modified for integration with the SCBA):

   In order to avoid unnecessary redundant testing, the requirements of Section 1 of this Exhibit, may be reduced in accordance with the following general guidelines. Because of the complexity of the integrated product, each submittal will be evaluated on a case-by-case basis. (Section numbers refer to the NFPA 1982 Standard).

   - Sound Pressure Level, Section 8.2: Should not require retesting if 1) the case around the sound cavity(ies) does not change, 2) the location on the SCBA is similar to what has been previously tested, and 3) the electronics associated with driving the sound pressure do not change. (If the methods of attachment to the SCBA create potential sound path interference, additional testing may be required).

   - Electronic Temperature Stress, Sections 8.3.5, 8.3.6 & 8.3.7: Retest necessary if significant number of electronic components are changed or additional electronic components are added.

   - Corrosion, Section 8.4: Should not require retesting unless there are hardware changes, or additional components are added to the exterior or through the exterior of the device.

   - Heat & Immersion Leakage, Section 8.5: Should not require retesting if the case does not change and/or if the integration means does not penetrate the exterior of the device.

   - Case Integrity, Section 8.6: Should not require retesting if the case does not change and any potential new internal components are not placed so close to the inner case as to cause concern for the integrity of the case during impact.

   - Shock Sensitivity, Section 8.7: Should not require retesting unless new internal components are added or there is any rearrangement of components, either internally or externally.

   - Impact-Acceleration Resistance, Section 8.8: See Shock Sensitivity , Section 8.7 testing, above.

   - Vibration Resistance, Section 8.9: Testing will be necessary with the PASS device installed on the SCBA, to cover it as an accessory to the SCBA.

- Retention System, Section 8.10: Should not require retesting unless the retention system has changed.

- Water Drainage, Section 8.11: Should not require retesting unless the Sound Pressure Level Test, Section 8.2, is required or the case around the sound cavity(ies) is changed.

- High Temperature Functionality, Section 8.12: Should not require retesting unless the Sound Pressure Level Test, Section 8.2, is required or the materials used to construct the enclosure have changed, or additional items are added to the exterior. The definition of enclosure includes the materials used to support the piezo (sounder).

- Heat and Flame Resistance, Sections 8.13.5.8, 8.13.5.9 & 8.13.5.10: Testing will be necessary, with the PASS device installed on the SCBA, to confirm that the PASS still complies with this test, despite its new location on the SCBA.

- Signal Frequencies, Section 8.14 & 8.15: Should not require retesting if the case around the sound cavity(ies) does not change and the electronics associated with generating the signal frequency does not change.

- Product Label Durability, Section 8.16: Retest necessary if there is any change in the product labels.

- Tumble Vibration, Section 8.17: Testing will more than likely be required, to test the integrity of the integration/activation means with the SCBA.

- Alarm Signal Muffle, Section 8.18: Testing will be necessary with the PASS device installed on the SCBA, to confirm that the PASS still complies with this test, despite its new location on the SCBA.

- Radio System Tests for RF PASS, Sections 8.19 through 8.23: Should not require retesting unless new internal components are added or there is any rearrangement of components, either internally or externally.

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ATTRIBUTES AND VARIABLES CHECKLIST

Open-Circuit Self-Contained Breathing Apparatus for Emergency Services (NFPA 1981)

Category of N/C	Element	Para-graph	Test Method Paragraph	Pass/Fail Criteria
Critical	Airflow performance	7.1	Section 8.1	Facepiece pressure shall be between 0.0 and 3.5 inches of water column. Additionally, the EOSTI's shall activate & operate and HUD shall display visual info and alert signal.
Critical	Environmental Temperature Performance	7.2	Section 8.2	After exposure to the four conditions (hot, cold, hot-to-cold, cold-to-hot) the facepiece pressure shall meet the requirements in 7.1. Additionally, EOSTI's shall activate & operate and HUD shall display visual info and alert signal. Data Logging shall also operate properly.
Critical	Vibration Resistance	7.3	Section 8.3	After 3 hour exposure to vibration, the facepiece pressure shall meet the requirements in 7.1. Additionally, there shall be no movement of the CGA fittings. Additionally, EOSTI's shall activate & operate and HUD shall display visual info and alert signal. Data Logging shall also operate properly.
Critical	Heat and Flame Resistance	7.11	Section 8.11	Facepiece pressure shall meet the requirements in 7.1, no afterflame beyond 2.2 seconds, nothing shall fall from position, face piece vision > 20/100. Additionally, EOSTI's shall activate & operate and HUD shall display visual info and alert signal. Data Logging shall also operate properly.
Critical	Heat and Immersion Leakage Performance	7.18	Section 8.24	Electronics shall function in accordance with manufacturer's instructions for normal use and all power source compartments or enclosures shall remain dry. Data Logging shall also operate properly.
Critical	Lens Radiant Heat Resistance Performance	7.21	Section 8.28	After exposure the facepiece pressure shall meet the requirements in 7.1. Additionally, the duration of the test shall not be less than 80% of the NIOSH-rated duration for the lowest volume cylinder offered for the SCBA.

ATTRIBUTES AND VARIABLES CHECKLIST

Open-Circuit Self-Contained Breathing Apparatus for Emergency Services (NFPA 1981) (Continued)

Category of N/C	Element	Para-graph	Test Method Paragraph	Pass/Fail Criteria
Critical	Elevated Temperature Heat and Flame Resistance Performance	7.22	Section 8.29	After exposure the facepiece pressure shall meet the requirements in 7.1. Additionally, the duration of the test shall not be less than 80% of the NIOSH-rated duration for the lowest volume cylinder offered for the SCBA.
Critical	Strength of Interface Between Facepiece and Second Stage Regulator Performance	7.23	Section 8.30	Facepiece and 2nd Stage Regulator Components shall remain connected.
Major A	Design Evaluation	6.1 through 6.5	Specific Language in Standard for various design characteristics, including, but not limited to intrinsic safety, EOSTI's, HUD's and RIC/UAC fittings	Laboratory Inspection Checklist
Major A	Particulate Resistance	7.8	Section 8.8	After exposure the facepiece pressure shall meet the requirements in 7.1. Additionally, the EOSTI's shall activate & operate and HUD shall display visual info and alert signal.
Major A	Cylinder Refill Breathing Performance	7.15.1	Section 8.21	Facepiece pressure shall meet the requirements in 7.1 during test.
Major B	Fabric Flame Resistance	7.4	Section 8.4 and ASTM D6413	Before and after laundering, and after exposure to flame, specimens shall have: Avg. char length < 4.0 in. Avg. afterflame of < 2.0 sec and shall not melt or drip.
Major B	Fabric Heat Resistance	7.5	Section 8.5	Before and after laundering, and after exposure to heat, specimens shall not melt or ignite.
Major B	Thread Heat Resistance	7.6	Section 8.6	Specimens shall not melt or ignite.

ATTRIBUTES AND VARIABLES CHECKLIST

Open-Circuit Self-Contained Breathing Apparatus for Emergency Services (NFPA 1981) (Continued)

Category of N/C	Element	Para-graph	Test Method Paragraph	Pass/Fail Criteria
Major B	Accelerated Corrosion Resistance	7.7	Section 8.7 and ASTM B117	Must function after exposure and meet the facepiece pressure requirements in 7.1. Additionally, EOSTI's shall activate & operate and HUD shall display visual info and alert signal. Data Logging shall also operate properly.
Major B	Facepiece lens abrasion	7.9	Section 8.9	Average delta haze <14%.
Major B	Mechanical Diaphragm Performance	7.10	Section 8.10	Speech Transmission Index (STI) not be less than 0.55.
Major B	EOSTI Independent Activation	7.13.1	Section 8.13	Activation of the alarm for each EOSTI shall be independent of any other EOSTI.
Major B	EOSTI Alarm Recognition	7.13.2	Section 8.14	Each EOSTI alarm shall be recognized in 10 seconds or less.
Major B	HUD Wiring Connection Strength	7.14.1	Section 8.15	After wiring connection is tested, the HUD shall remain functional.
Major B	HUD Low-Power Source Visual Alert Signal	7.14.2	Section 8.16	After draining batteries, the HUD shall display visual information and visual alert signal for 2 hours after low battery visual alert signal activates.
Major B	HUD Visibility	7.14.3	Section 8.17	Informational display and visual alert signal shall be observable, distinct and identifiable in both darkness and bright light.
Major B	HUD Obscuration	7.14.4	Section 8.19	Where HUD is external to facepiece, the informational display and visual alert signal shall be observable, distinct and identifiable after obscuration.
Major B	HUD Disabling Glare	7.14.5	Section 8.20	Test subject shall be able to read at least 9 out of 10 selected letters when visual alert signal is activated.
Major B	RIC UAC System Fill Rate	7.15.2	Section 8.21	Maximum allowable fill time shall be 3 minutes.
Major B	Cylinder Connections & Accessibility	7.15.3	Section 8.23	RIC UAC system shall be connected in at least 15 seconds and disconnected in no more than 15 seconds.
Major B	Supplementary Voice Communications System	7.17	Section 8.25	Speech Transmission Index (STI) not less than 0.60.

ATTRIBUTES AND VARIABLES CHECKLIST

Open-Circuit Self-Contained Breathing Apparatus for Emergency Services (NFPA 1981) (Continued)

Category of N/C	Element	Para-graph	Test Method Paragraph	Pass/Fail Criteria
Major B	Low Power Capacity Test	7.19	Section 8.26	Electronics shall continue to properly function at max. power consumption for at least 2 hours following activation of the low power source visual alert signal
Major B	Emergency Breathing Safety System Cold Temperature Performance	7.20	Section 8.27	During testing, the facepiece pressure of both the donor SCBA and receiving SCBA shall meet the requirements in 7.1. Additionally, the donor SCBA's EOSTI's shall activate & operate and HUD shall display visual info and alert signal.
Minor	Label Content; User Information	5.1 and 5.2	Specific language in standard for product label and user instructions	Laboratory Inspection Checklist
Minor	Carbon Dioxide (CO_2) Content	7.12	Section 8.12 and Section 8.14 of EN 136	CO_2 content of the inhalation air shall not be greater than 1.0% by volume.
Minor	Breathing Air Cylinder & Valve Assy. Retention	7.16.1	Section 8.22	Cylinder & Valve Assy. shall not change position by more than 1 in.
Minor	Cylinder Connections & Accessibility	7.16.2	Section 8.23	Cylinder & Valve Assy. shall attach to and detach from SCBA in less than 30 seconds
Minor	Cylinder Connections & Accessibility	7.16.3	Section 8.23	Breathing air fill hose shall fully attach to and detach from RIC UAC connection in less than 15 seconds

ATTRIBUTES AND VARIABLES CHECKLIST
Personal Alert Safety System (PASS) (NFPA 1982)

Category of N/C	Element	Paragraph	Test Method Paragraph	Pass/Fail Criteria
Critical	Sound Pressure Level and Signal Frequencies	7.1.1, 7.1.2, 7.1.3	Sections 8.2 8.14 and 8.15	**Pre-Alarm signal:** SPL for Tone 1 pair > 60 dBA; Tone 2 pair > 75 dBA and 3 dBA greater than Tone 1 pair; Tone 3 pair > 90 dBA and 3 dBA greater than Tone 2 pair. Signal Frequencies shall comply with Section 6.4.3.9. **Alarm signal:** SPL > 92 dBA for not less than one hour after low battery. Alarm Signal Frequencies shall comply with Section 6.4.3.9. **Low battery signal:** 75-95 dBA 1 hour after low battery. PASS shall function properly.
Critical	Electronic Temperature Stress	7.2	Section 8.3	Must function after exposure and maintain a SPL > 92 dBA for not less than 1 hour with a low battery. Must have properly functioning Pre-Alarm and Alarm signals, as well as data logging operation.
Critical	Heat Resistance	7.11	Section 8.12	Must function after exposure and maintain a SPL > 92 dBA for not less than 1 hour with a low battery. Must have properly functioning Pre-Alarm and Alarm signals, as well as data logging operation. Additionally, the device shall not melt, drip or ignite.
Critical	Immersion/ Leakage Resistance	7.4	Section 8.5, Test Procedures 1 & 2	Must prevent water leakage in power source compartment and electronics compartment and must function after exposure and maintain a SPL > 92 dBA for not less than 1 hour with a low battery. Must have properly functioning Pre-Alarm and Alarm signals, as well as data logging operation. With power source cover removed must prevent water leakage into electronics compartment after 5 minute exposure.
Critical	Shock Sensitivity	7.7	Section 8.7	Pre-Alarm signal shall not cancel when impacted with an 8mm stainless steel ball.
Critical	Impact Resistance - Acceleration (Stand Alone PASS only)	7.8.1	Section 8.8	After drop from 3m, PASS must function and maintain a SPL > 92 dBA for not less than 1 hour with a low battery. Must have properly functioning Pre-Alarm and Alarm signals, as well as data logging operation.

ATTRIBUTES AND VARIABLES CHECKLIST
Personal Alert Safety System (PASS) (NFPA 1982) (Continued)

Category of N/C	Element	Para-graph	Test Method Paragraph	Pass/Fail Criteria
Critical	Vibration	7.8.2	Section 8.9 and MIL-STD 810E	After 3 hour exposure PASS must function and maintain a SPL > 92 dBA for not less than 1 hour with a low battery. Must have properly functioning Pre-Alarm and Alarm signals, as well as data logging operation.
Critical	Tumble-Vibration	7.8.3	Section 8.17	After 3 hour exposure PASS must function and maintain a SPL > 92 dBA for not less than 1 hour with a low battery. Must have properly functioning Pre-Alarm and Alarm signals, as well as data logging operation.
Critical	Heat and Flame Resistance	7.12	Section 8.13	No afterflame beyond 2.2 seconds, nothing shall fall off the PASS, PASS shall not fall from mounted position, and PASS shall function as follows: After exposure, PASS must function and maintain a SPL > 92 dBA for not less than 1 hour with a low battery. Must have properly functioning Pre-Alarm and Alarm signals, as well as data logging operation.
Critical	Alarm Signal Muffle	7.14	Section 8.18	Shall have SPL > 92 dBA during various muffling positions
Major A	Design Evaluation	6.1, 6.2, 6.3, 6.4	Specific Language in Standard	Laboratory Inspection Checklist
Major A	Water Drainage	7.10	Section 8.11	Alarm signal shall not be less than 92 dBA at 60 seconds after water is applied to openings, indentations and grilles in the PASS. (both the vertical, horizontal and worst case positions are tested).
Major A	Intrinsic Safety	7.6	UL 913	Shall be certified for Division I, Class I, Groups C and D and Class II, Groups E, F, and G.

ATTRIBUTES AND VARIABLES CHECKLIST
Personal Alert Safety System (PASS) (NFPA 1982) (Continued)

Category of N/C	Element	Para-graph	Test Method Paragraph	Pass/Fail Criteria
Major B	Corrosion Resistance	7.3	Section 8.4 and ASTM B117	Must function after exposure and maintain a SPL > 92 dBA for not less than 1 hour with a low battery. Must have properly functioning Pre-Alarm and Alarm signals, as well as data logging operation
Major B	Case Integrity	7.5	Section 8.6	There shall be no visible damage to the case. Must function after exposure and maintain a SPL > 92 dBA for not less than 1 hour with a low battery. Must have properly functioning Pre-Alarm and Alarm signals, as well as data logging operation.
Major B	Retention System (Stand Alone PASS only)	7.9	Section 8.10	Retention system shall remain intact.
Major B	Radio System Test: Point-to-Point RF Attenuation	7.15	Section 8.19	Base Station shall automatically emit a visual alarm in response to an alarm activation from an RF PASS within 30 seconds. RF PASS shall automatically emit an audible alarm in response to an evacuation alarm transmission from a base station within 30 seconds.
Major B	Radio System Test: Loss-of-Signal Alarm	7.16	Section 8.20	Base Station shall automatically initiate a loss of signal alarm in response to loss of RF communication with the RF PASS within 60 seconds. RF PASS shall automatically initiate a loss of signal alarm in response to loss of RF communication with the Base Station within 60 seconds.
Major B	Radio System Test: RF Interference	7.17	Section 8.21	Base Station shall automatically emit a visual alarm in response to an alarm signal received from an RF PASS within 30 seconds. RF PASS shall automatically emit an audible alarm in response to an evacuation alarm transmission from a base station within 30 seconds.
Major B	Radio System Test: Multipath Test	7.18	Section 8.22	Base Station shall automatically emit an audible alarm in response to an alarm signal received from an RF PASS within 30 seconds. RF PASS shall automatically emit an audible alarm in response to an evacuation alarm transmission from a base station within 30 seconds.

ATTRIBUTES AND VARIABLES CHECKLIST
Personal Alert Safety System (PASS) (NFPA 1982) (Continued)

Category of N/C	Element	Para-graph	Test Method Paragraph	Pass/Fail Criteria
Major B	Radio System Test: Multi-hop RF Test	7.19	Section 8.23	RF PASS shall automatically emit an audible alarm within 30 seconds of alarm activation.
Minor	Label Content; User Information	5.1, 5.2	Specific language in standard	Inspection checklist
Minor	Label Durability	7.13	Section 8.16	Label must remain attached and be legible following exposures

ATTRIBUTES AND VARIABLES CHECKLIST

Respirators for Wildland Fire-Fighting and Wildland Urban Interface Operations (NFPA 1984)

Category of N/C	Element	Para-graph	Test Method Paragraph	Pass/Fail Criteria
Critical	Heat Resistance	7.1.1	Section 8.1	No part of the respirator shall ignite, melt, drip or separate.
Critical	Flammability	7.1.2	Section 8.2	All Class 1, Class 2, or Class 3 respirators or materials shall not sustain flame after removal of the heat source.
Critical	Flammability	7.1.2.1	Section 8.3	All Class 1 fabric-based respirator materials shall not sustain flame after removal of the heat source.
Critical	Breathing Resistance	7.1.8	Section 8.9	Inhalation resistance shall not exceed 80 mm of water column and the exhalation resistance shall not exceed 25 mm of water column.
Major A	Design Evaluation	6.1	Specific Language in Standard for various design characteristics.	Laboratory Inspection Checklist
Major A	Storage Integrity Test	7.1.3	Section 8.4	Test Subjects shall pass a Quantitative Fit Test
Major B	Lens Abrasion	7.1.4	Section 8.5	Average delta haze <14%.
Major B	Donning Performance	7.1.5	Section 8.6	Donning Time shall not exceed 2.0 minutes
Major B	Communication Test	7.1.6	Section 8.7	Scored values be greater than 80%
Major B	Accelerated Corrosion Resistance	7.1.7	Section 8.8 and ASTM B117	Corrosion resistant metals shall show no more than light surface type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. Use and function of controls and operating features shall remain functional.
Minor	Label Content; User Information	5.1 and 5.2	Specific language in standard for product label and user instructions	Laboratory Inspection Checklist

Note: Paragraphs 7.2.1, 7.2.2 and 7.2.3 are to be covered under NIOSH approval.

ATTRIBUTES AND VARIABLES CHECKLIST

Standard on Respiratory Protection Equipment for Tactical and Technical Operations (NFPA 1986)

Category of N/C	Element	Para-graph	Test Method Paragraph	Pass/Fail Criteria
Critical	Airflow performance	7.1	Section 8.1	Facepiece pressure shall be between 0.0 and 3.5 inches of water column. Additionally, the EOSTI's shall activate & operate and if equipped, HUD shall display visual info and alert signal.
Critical	Environmental Temperature Performance	7.2	Section 8.2	After exposure to the four conditions (hot, cold, hot-to-cold, cold-to-hot) the facepiece pressure shall meet the requirements in 7.1. Additionally, EOSTI's shall activate & operate and if equipped, HUD shall display visual info and alert signal.
Critical	Vibration Resistance	7.3	Section 8.3	After 3 hour exposure to vibration, the facepiece pressure shall meet the requirements in 7.1. Additionally, there shall be no movement of the CGA fittings. Additionally, EOSTI's shall activate & operate and if equipped, HUD shall display visual info and alert signal.
Critical	Flame Resistance	7.8	Section 8.8	Facepiece pressure shall meet the requirements in 7.1, no afterflame beyond 5 seconds, no component shall separate or fail that would cause SCBA to be worn/used in an unspecified position, face piece vision > 20/100. Additionally, EOSTI's shall activate & operate and if equipped, HUD shall display visual info and alert signal.
Critical	Immersion Leakage	7.15	Section 8.19	Electronics shall function in accordance with manufacturer's instructions for normal use and all power source compartments or enclosures shall remain dry.

ATTRIBUTES AND VARIABLES CHECKLIST

Standard on Respiratory Protection Equipment for Tactical and Technical Operations (NFPA 1986) (Continued)

Category of N/C	Element	Para-graph	Test Method Paragraph	Pass/Fail Criteria
Major A	Design Evaluation	6.1 through 6.7	Specific Language in Standard for various design characteristics, including, but not limited to intrinsic safety, EOSTI's, HUD's, RIC/UAC Fittings, Power Sources, EBSS and accessories	Laboratory Inspection Checklist
Major A	Particulate Resistance	7.5	Section 8.5	After exposure the facepiece pressure shall meet the requirements in 7.1. Additionally, the EOSTI's shall activate & operate and if equipped, HUD shall display visual info and alert signal.
Major A	Breathing Air Pressure Vessel Refill Breathing Performance	7.12.1	Section 8.16	Facepiece pressure shall meet the requirements in 7.1 during test.
Major B	Accelerated Corrosion Resistance	7.4	Section 8.4 and ASTM B117	Must function after exposure and meet the facepiece pressure requirements in 7.1. Additionally, EOSTI's shall activate & operate and if equipped, HUD shall display visual info and alert signal.
Major B	Facepiece lens abrasion	7.6	Section 8.6	Average delta haze <14%.
Major B	Nonelectronic Communications	7.7	Section 8.7	Speech Transmission Index (STI) not be less than 0.55.
Major B	EOSTI Alarm Recognition	7.10	Section 8.10	Each EOSTI alarm shall be recognized in 10 seconds or less.
Major B	HUD Wiring Connection Strength	7.11.1	Section 8.11	After wiring connection is tested, the HUD shall remain functional.
Major B	HUD Low-Power Source Visual Alert Signal	7.11.2	Section 8.12	After draining batteries, the HUD shall display visual information and visual alert signal for 2 hours after low battery visual alert signal activates.

ATTRIBUTES AND VARIABLES CHECKLIST

Standard on Respiratory Protection Equipment for Tactical and Technical Operations (NFPA 1986) (Continued)

Category of N/C	Element	Para-graph	Test Method Paragraph	Pass/Fail Criteria
Major B	HUD Visibility	7.11.3	Sections 8.13 & 8.14	Informational display and visual alert signal shall be observable, distinct and identifiable in both darkness and bright light.
Major B	HUD Disabling Glare	7.11.4	Section 8.15	Test subject shall be able to read at least 9 out of 10 selected letters when visual alert signal is activated.
Major B	RIC UAC System Fill Rate	7.12.2	Section 8.17	Maximum allowable fill time shall be 3 minutes.
Major B	Breathing Air Pressure Vessel Connections & Accessibility	7.12.3	Section 8.20	RIC UAC system shall be connected in at least 15 seconds and disconnected in no more than 15 seconds.
Major B	Supplementary Voice Communications System	7.14	Section 8.21	Speech Transmission Index (STI) not less than 0.60.
Major B	Low Power Capacity Test	7.16	Section 8.22	Electronics shall continue to properly function at max. power consumption for at least 2 hours following activation of the low power source visual alert signal. Low power alert signal shall activate within +/- 3% of manufacturer stated value.
Major B	Emergency Breathing Safety System (EBSS) Cold Temperature Performance	7.17	Section 8.23	During testing, the facepiece pressure of both the donor SCBA and receiving SCBA shall meet the requirements in 7.1. Additionally, the donor SCBA's EOSTI's shall activate & operate and if equipped, the donor's HUD shall display visual info and alert signal.
Major B	Optional Toxic Industrial Chemical Permeation Resistance Performance	7.18	Section 8.24	SCBA shall meet the performance criteria stated in Table 7.18.1 for both the nasal and ocular regions for one hour for each of the 10 chemicals as selected by the SCBA manufacturer.
Minor	Label Content; User Information	5.1 and 5.2	Specific language in standard for product label and user instructions	Laboratory Inspection Checklist

ATTRIBUTES AND VARIABLES CHECKLIST

Standard on Respiratory Protection Equipment for Tactical and Technical Operations (NFPA 1986) (Continued)

Category of N/C	Element	Para-graph	Test Method Paragraph	Pass/Fail Criteria
Minor	Carbon Dioxide (CO_2) Content	7.9	Section 8.9 and Section 8.14 of EN 136	CO_2 content of the inhalation air shall not be greater than 1.0% by volume.
Minor	Breathing Air Pressure Vessel & Valve Assy. Retention	7.13	Section 8.18	Breathing Air Pressure Vessel & Valve Assy. shall not change position by more than 1 in.

NIOSH CBRN and NFPA 1981
Approval Confirmation

SCBA Manufacturer Information	
Manufacturer	
Address	
Manufacturer Representative	
SCBA Model	

NIOSH Application Information	
42 CFR Part 84 Approval No./Task No.	
CBRN Approval No./Task No.	
CBRN Assembly Matrix/Revision No.	
Tentative Approval Letter Date	

SEI Submittal Information	
SEI Reference Number	
Submittal Date	

	New Approval	Extension of Approval
Type of Submittal	√	

	Yes/No
Does SCBA Comply with EOSTI Requirement covered by Paragraph 6.2.6 of NFPA 1981-2018 (i.e., EOSTI shall activate at 33 %, +5/-0 % of full cylinder pressure? (to be completed by NIOSH)	

	Yes/No
If provided, does SCBA Comply with EBSS Design and Performance Requirements covered by Sections 6.6, 7.20, & 8.27 of NFPA 1981-2018? (to be completed by SEI)	

NIOSH CBRN Compliance Statement: This document will serve to confirm that the SCBA Model indicated above (covered by the above noted NIOSH Task Number) has successfully completed all of the applicable requirements of the **NIOSH 42 CFR Part 84 and CBRN Approval Program**.

Authorized NIOSH Representative	Jeffery Petterson, Chief, Conformity Verification and Standards Development Branch
Date:	

NFPA 1981-2013 Compliance Statement: This letter document will serve to confirm that the SCBA Model indicated above (covered by the above noted SEI Reference Number & Submittal Date) has successfully completed all of the applicable requirements of **NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Emergency Services*, 2018 Edition.**

Authorized SEI Representative	Stephen R. Sanders, Technical Director
Date:	

Approval Confirmation Doc. 2018, Rev. 0

NIOSH CBRN and NFPA 1986
Approval Confirmation

SCBA Manufacturer Information	
Manufacturer	
Address	
Manufacturer Representative	
SCBA Model	

NIOSH Application Information	
42 CFR Part 84 Approval No./Task No.	
CBRN Approval No./Task No.	
CBRN Assembly Matrix/Revision No.	
Tentative Approval Letter Date	

SEI Submittal Information	
SEI Reference Number	
Submittal Date	

	New Approval	Extension of Approval
Type of Submittal		

	Yes/No
Does SCBA Comply with EOSTI Requirement covered by Paragraph 6.2.6 of NFPA 1986-2023 (i.e., EOSTI shall activate at 25 %, +4/-0 % of full breathing air pressure vessel pressure? (to be completed by NIOSH)	

	Yes/No
If provided, does SCBA Comply with EBSS Design and Performance Requirements covered by Sections 6.6, 7.17, & 8.23 of NFPA 1986-2023? (to be completed by SEI)	

NIOSH CBRN Compliance Statement: This document will serve to confirm that the SCBA Model indicated above (covered by the above noted NIOSH Task Number) has successfully completed all of the applicable requirements of the **NIOSH 42 CFR Part 84 and CBRN Approval Program**.

Authorized NIOSH Representative	Jeffery Petterson, Chief, Conformity Verification and Standards Development Branch
Date:	

NFPA 1986-2023 Compliance Statement: This letter document will serve to confirm that the SCBA Model indicated above (covered by the above noted SEI Reference Number & Submittal Date) has successfully completed all the applicable requirements of **NFPA 1986, *Standard on Respiratory Protection Equipment for Tactical and Technical Operations*, 2023 Edition.**

Authorized SEI Representative	Stephen R. Sanders, Technical Director
Date:	

Approval Confirmation Doc. 2022, Rev. 0