Safety Equipment Institute

# SEI Certification Program Manual

Section 24: NFPA Electronics

## 24.0 NFPA Electronics Program Standards

- **NFPA 1930-25 Fire and Emergency Service Use of Thermal Imagers, Two-Way Portable RF Voice Communication Devices, Ground Ladders, Rescue Tools, Fire Hose, and Fire Hose Appliances (Includes NFPA 1801, and 1802)**

## 24.1 Certification Submittal Package

A Certification Submittal Package shall include an SEI Certification Submittal form *(see Form 8.0: SEI Certification Submittal Form*) and a Components & Materials Description Checklist form (*see Section 24B: General Components & Materials Description Checklist*) and a User Guide and Label Checklist form (*see Section 24C: User Guide and Label Checklist*) for each product model, variant or accessory being submitted. Completion of the submittal package serves four primary purposes:

1. The submittal package provides SEI and the SEI Quality Assurance Auditor with a description of new, modified or products to be selected for annual certification.
2. The information provided by the manufacturer in the submittal package confirms to SEI the product design and components.
3. Receipt of the submittal package by the testing laboratory, from SEI, serves as the laboratory's authorization to begin testing the product(s) and allows laboratory personnel to verify that the correct product samples have been received.
4. The return of a signed copy of the submittal form from the testing laboratory provides SEI with a record of the date testing was completed on the product model.

Over the life of the product, subsequent submittal packages shall document that the product model submitted for certification testing is identical to samples **previously** tested, except where Class I model changes have been tested and documented through the submission of additional SEI submittal packages or documented Class II changes have been made. It is therefore necessary that each submittal to SEI include sufficient product description information, which is achieved by a complete components and materials listing to uniquely and unambiguously identify the product model in question (*see Section 14: Product Changes*).

SEI Certification Submittal Form

Each submittal must be identified on the submittal form as either (1) initial certification, (2) annual recertification, (3) Class I change, or (4) Class II change. Finished product manufacturing facilities (assembly) located at a different address (i.e. suppliers or company-owned factories) shall be identified in Section 3 of the submittal form. The SEI Certification Submittal Form shall be signed by the authorized manufacturer representative within the participating company having the authority to authorize expenditures for testing.

Components & Materials Description List

The product description information may be (a) listed on the Component and Materials Description Checklist form, (b) provided as a separate listing by the manufacturer (i.e. Bill of Materials), or (c) appropriate engineering drawings/ specification sheets. Use of *Section 24B: General Components and Materials Description Checklist* form is recommended. The following information is to be included on each Components & Materials Description Checklist. Brief examples are provided for guidance.

A. Description of Major Components
   All major components and materials shall be identified and described. Where possible, include brand name and part number, supplier name and location.
B. Primary Materials
   Materials used in the construction of major components shall be identified. Identification shall include trade names, if applicable. All changes shall be reported to SEI for evaluation and possible action.
C. Manufacturing Locations
   All locations in which the product model is manufactured or assembled must be identified on the SEI Certification Submittal Form. If major components are manufactured by another company and purchased by the SEI participants, the name and address of the manufacturing facility and contact name shall be identified on the Components & Materials Description Checklist.
D. Specification Sheets or Technical Bills of Materials
   Product specification sheets or technical bills of materials (BOM) may be included with the SEI Certification Submittal Form in addition to the Components & Materials description checklist to fulfill some or all other requirements noted above. In the case of annual recertification, the appropriate documents (i.e., submittal form and components and materials listing or BOM) shall be prepared prior to the sample selection audit and available to the auditor during the audit for reference and confirmation of product.
E. Confidentiality
   All product information received by SEI staff, the SEI Quality Assurance Auditor, or the SEI testing laboratory shall be considered confidential and shall not be released to any third party without written authorization to do so (with the exceptions noted *Section 3: Manufacturer's Agreement* for response to a subpoena, court order or other compulsory process).

### 24.2 NFPA Electronics Program Codes

SEI utilizes SEI Reference Numbers internally to identify each SEI participant and their unique models and variants. The first set of two or three letters/numbers indicates which standard program code the model/variant is being certified against. The second set of three letters indicates the SEI participant's unique identification. The third set of numbers is assigned by SEI to identify each model (see definition below) being certified.

eg: BBH ABC 03
eg: BBH ABC V03

Where BBH identifies the standard program code
Where ABC identifies the unique participant identification
Where 03 identifies the model submitted for certification
Where V03 identifies the model as the third variant (V03) for this Participant Identification (ABC)

| SEI Reference Program Code | Standard Description | Product Type | Standard |
|---|---|---|---|
| **TIC** | Standard on Thermal Imagers for the Fire Service | Thermal Imagers for the Fire Service | NFPA 1930 (1801) |
| **RFD** | Standard on Two-Way, Portable RF Voice Communications Devices for Use by Emergency Services Personnel in the Hazard Zone | RF Device | NFPA 1930 (1802) |
| **RSM** | Standard on Two-Way, Portable RF Voice Communications Devices for Use by Emergency Services Personnel in the Hazard Zone | Remote Speaker Microphone | NFPA 1930 (1802) |

### 24.3 Definition of a "Model"

"Model" is the collective term used to identify a group of protective devices of the same basic design and components from a single applicant produced by the same manufacturing and quality assurance procedures that are covered by the same certification. Any characteristic that affects the device's performance under the limits of the current certification standards constitutes a different model. For purposes of the SEI Certification Program, the above definition of the term "model" uses performance characteristics as the basic criteria.

### 24.4 Annual Certification Fees

Testing shall be performed annually. When an initial submittal package is submitted to SEI, the Annual Participation Fees (*See Section 7: Annual Participation Fees*) and Annual Model Certification Fees are due. The following is a schedule of annual model certification fees that apply to the NFPA Electronics Program:

| Program Code | Model Type | Annual Model Certification Fees |
|---|---|---|
| TIC, RFD, RSM | Base Model | $2,884 |
| | Variant Model | $206 |
| | Accessory Model | $139 |

### 24.5 NFPA 1930 (1801) Thermal Imagers for the Fire Service

A. Definition of Model
Characteristics that should affect the model's ability to meet the performance requirements of the certification standard and therefore require a new model designation:

"THERMAL IMAGING CAMERA MODEL" is the collective term used to identify camera models from a single manufacturer produced by the same basic manufacturing and quality assurance procedures that are covered by the same certification. A Thermal Imaging Camera Model is a generic grouping of components and subassemblies resulting in a Thermal Imaging Camera with common functional and/or design characteristics.

1. A camera which utilizes a different core
2. A camera which utilizes a different housing/enclosure
3. A camera which utilizes a display with a different resolution or display technology
4. A camera which utilizes a different power source
5. A camera which utilizes a different operating system and/or image/signal processing algorithm
6. A camera which utilizes a different lens

Characteristics that should not affect the model's ability to meet the performance requirements of the certification standard and therefore would not require a new model designation:

None

*Note: Accessories may require testing, depending on whether the accessory affects the function or performance of the thermal imager.

B. Examples of Major Components

Not applicable for this product

C. Laboratory Testing Fees/ Attributes & Variables
SEI currently has approved one (1) laboratory that may conduct testing to this standard. The schedule of rates for testing at these laboratories can be found on the SEI website and can be used to estimate the total cost of testing for all the models that are to be certified.

## 24.6 NFPA 1930 (1802) Two-Way, Portable RF Voice Communications Devices (RF Devices)

A. Definition of Model

Characteristics that should affect the model's ability to meet the performance requirements of the certification standard and therefore require a new model designation:

"RF DEVICE MODEL" is the collective term used to identify RF Devices from a single manufacturer of the same basic design, produced by the same basic manufacturing and quality assurance procedures that are covered by the same certification. An RF Device Model is a generic grouping of components and subassemblies resulting in an RF Device with common functional and/or design characteristics. The following characteristics may affect the RF Device's ability to meet the performance requirements of the certification standard and therefore need to be considered when determining a new model designation (i.e., SEI Reference No.):

1. An RF Device which utilizes a different combination of any of the following components:
    a. Speaker(s)
    b. Microphone(s)
    c. Power Source(s)
    d. Antenna(s)
2. An RF Device which utilizes a different construction (materials or otherwise) of the housing/enclosure, other than minor differences
3. An RF Device which utilizes a different operating system, signal/speech processing algorithms, and/or communications/transmission protocol options
4. An RF Device which provides different or additional optional features

Characteristics that should not affect the RF Device's ability to meet the performance requirements of the certification standard and therefore would not require a new model designation (i.e., SEI Reference No.):

None

*Note: Accessories may require testing, depending on whether the accessory affects the function or performance of the RF Device.

B. Examples of Major Components

Not applicable for this product

C. Laboratory Testing Fees/ Attributes & Variables
SEI currently has approved one (1) laboratory that may conduct testing to this standard. The schedule of rates for testing at these laboratories can be found on the SEI website and can be used to estimate the total cost of testing for all the models that are to be certified.

## 24.7 NFPA 1930 (1802) Remote Speaker Microphones (RSM's)

A. Definition of Model
Characteristics that should affect the model's ability to meet the performance requirements of the certification standard and therefore require a new model designation:

"RSM MODEL" is the collective term used to identify RSM's from a single manufacturer of the same basic design, produced by the same basic manufacturing and quality assurance procedures that are covered by the same certification. An RSM Model is a generic grouping of components and subassemblies resulting in an RSM with common functional and/or design characteristics. The following characteristics may affect the RF Device's ability to meet the performance requirements of the certification standard and therefore need to be considered when determining a new model designation (i.e., SEI Reference No.):

1. An RSM which utilizes a different combination of any of the following components:
    a. Speaker(s)
    b. Microphone(s)
2. An RSM which utilizes a different construction (materials or otherwise) of the housing/enclosure, other than minor differences
3. An RSM which utilizes a different operating system, signal/speech processing algorithms, and/or communications/transmission protocol options
4. An RSM which provides different or additional optional features

Characteristics that should not affect the RSM's ability to meet the performance requirements of the certification standard and therefore would not require a new model designation (SEI Reference No.):

None

*Note: Accessories may require testing, depending on whether the accessory affects the function or performance of the RSM.

B. Examples of Major Components

Not applicable for this product

C. Laboratory Testing Fees/ Attributes & Variables
SEI currently has approved one (1) laboratory that may conduct testing to this standard. The schedule of rates for testing at these laboratories can be found on the SEI website and can be used to estimate the total cost of testing for all the models that are to be certified.