



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC  
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0077 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Fike Corporation

Manufacturer's Technical Representative: Brent Mlika

Mailing Address: 704 SW 10<sup>th</sup> St, Blue Springs, MO 64015

Telephone: (816) 655-4720

Email: [brent.mlika@fike.com](mailto:brent.mlika@fike.com)

Product Information

Product Name: SHP-Pro, CyberCat 1016, CyberCat 254, CyberCat 50, Cheetah Xi, Cheetah Xi 50, Intelligent Smoke Control

Product Type: Electrical equipment

Product Model Number: See attached

(List all unique product identification numbers and/or part numbers) mothy J Piland

General Description: The units are comprised of painted carbon steel enclosures (NEMA 1) and a combination of lights switches, controllers, BUS devices, transformers and batteries.

Mounting Description: Units are rigid wall mounted

Applicant Information

Applicant Company Name: The VMC Group

Contact Person: John Giuliano

Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

Telephone: (973) 838-1780

Email: [john.giuliano@thvmcgroup.com](mailto:john.giuliano@thvmcgroup.com)

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant:

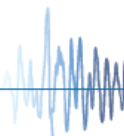
Date: 2/27/19

Title: President

Company Name: The VMC Group

"Access to Safe, Quality Healthcare Environments that Meet California's

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY  
OSH-FD-759 (REV 12/16/15)



OSHPD

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**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
FACILITIES DEVELOPMENT DIVISION**

**California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)**

Company Name: The VMC Group

Name: Kenneth Tarlow California License Number: SE-2851

Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

Telephone: (973) 838-1780 Email: [ken.tarlow@thevmcgroup.com](mailto:ken.tarlow@thevmcgroup.com)

**Supports and Attachments Preapproval**

- ☐ Supports and attachments are preapproved under OPM-  
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- ☒ Supports and attachments are not preapproved

**Certification Method**

- ☒ Testing in accordance with: ☒ ICC-ES AC156
- ☐ Other (Please Specify): OSP-0077-10
- BY: Timothy J Piland
- DATE: 09/13/2019

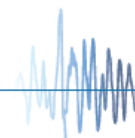
**Testing Laboratory**

Company Name: DCL Labs

Contact Name: Josh Sailer, Laboratory Manager

Mailing Address: 1315 Greg Street, Suite 109, Sparks, NV 89431

Telephone: (775) 358-5085 Email: [josh@shaketest.com](mailto:josh@shaketest.com)





# OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT FACILITIES DEVELOPMENT DIVISION

## Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: ☒ Yes ☐ No

Design Basis of Equipment or Components ( $F_p/W_p$ ) = 1.50

$S_{DS}$  (Design spectral response acceleration at short period, g) = 2.00

$a_p$  (In-structure equipment or component amplification factor) = 2.5

$R_p$  (Equipment or component response modification factor) = 6.0

$\Omega_0$  (System overstrength factor) = 2

$I_p$  (Importance factor) = 1.5

$z/h$  (Height factor ratio) = 1

Equipment or Component Natural Frequencies (Hz) = See attachment

Overall dimensions and weight (or range thereof) = See attachment

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: ☐ Yes ☒ No

Design Basis of Equipment or Components ( $V/W$ ) = \_\_\_\_\_

$S_{DS}$  (Design spectral response acceleration at short period, g) = \_\_\_\_\_

$S_{D1}$  (Design spectral response acceleration at 1 second period, g) = \_\_\_\_\_

$R$  (Response modification coefficient) = OSP-0077-10

$\Omega_0$  (System overstrength factor) = \_\_\_\_\_

$C_d$  (Deflection amplification factor) = BY: Timothy J Piland

$I_p$  (Importance factor) = 1.5

Height to Center of Gravity above base = DATE: 09/13/2019

Equipment or Component Natural Frequencies (Hz) = \_\_\_\_\_

Overall dimensions and weight (or range thereof) = \_\_\_\_\_

Tank(s) designed in accordance with ASME BPVC, 2015: ☐ Yes ☒ No

## List of Attachments Supporting Special Seismic Certification

☒ Test Report(s) ☐ Drawings ☐ Calculations ☒ Manufacturer's Catalog

☐ Other(s) (Please Specify): \_\_\_\_\_

## OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature: [Signature] Date: September 13, 2019

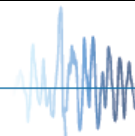
Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to :  $S_{DS}$  (g) = 2.00  $z/h$  = 1

Condition of Approval (if applicable): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



# Table 1

## Certified Components

**Manufacturer:** Fike

**Product Line:** Fire detection equipment line

**Certified Product Construction:** Painted carbon steel (NEMA 1)

**Certified Options:** Enclosures, lights, switches, controllers, BUS devices, transformers and batteries

**Certified Mounting Description:** Rigid wall mount

| Model Number     | Manufacturer | Description                                   | NEMA Rating | Dimensions (inches) |       |        | Max Operating Weight (lb) | Mounting         | Sds (g), z/h=1 | Unit         |
|------------------|--------------|---|-------------|---------------------|-------|--------|---------------------------|------------------|----------------|--------------|
|                  |              |   |             | Depth               | Width | Height |                           |                  |                |              |
| 10-063-m-c-p     | Fike         | SHP Pro Control System                        | 1           | 4.8                 | 15.5  | 22.3   | 22                        | Rigid wall mount | 2.00           | UUT1         |
| 10-071-c-p       |              | Cheetah Xi 50 System                          | 1           | 4.8                 | 15.4  | 22.1   | 25                        |                  |                | UUT3         |
| 10-071-c-p-d     |              | Cheetah Xi 50 System                          | 1           | 4.8                 | 15.4  | 22.1   | 25                        |                  |                | Interpolated |
| 10-070-c-p       |              | CyberCat 50 System                            | 1           | 4.8                 | 15.4  | 22.1   | 25                        |                  |                | Interpolated |
| 10-070-c-p-d     |              | CyberCat 50 System                            | 1           | 4.8                 | 15.4  | 22.1   | 25                        |                  |                | Interpolated |
| 10-068-c-p       |              | Cheetah Xi System                             | 1           | 4.7                 | 15.4  | 23.6   | 31                        |                  |                | Interpolated |
| 10-068-c-p-L     |              | Cheetah Xi System                             | 1           | 4.7                 | 15.4  | 23.6   | 31                        |                  |                | UUT2         |
| 10-064-c-p-L-d-o |              | CyberCat 1016 System                          | 1           | 5.7                 | 24.6  | 41.2   | 59                        |                  |                | UUT4a        |
| 10-066-c-p-L-d-o |              | CyberCat 254 System                           | 1           | 5.7                 | 24.6  | 41.2   | 59                        |                  |                | Interpolated |
| 10-2154-c        |              | Battery Enclosure                             | 1           | 5.8                 | 21.0  | 11.0   | 66                        |                  |                | UUT4b        |
| 10-2236-c        |              | Battery Enclosure                             | 1           | 7.0                 | 26.3  | 14.0   | 143                       |                  |                | UUT4c        |
| 10-2690-B        |              | Intelligent Smoke Control Graphic Annunciator | 1           | 4.0                 | 14.0  | 14.0   | 15                        |                  |                | UUT6         |
| 10-2691-B        |              | Intelligent Smoke Control Graphic Annunciator | 1           | 4.0                 | 24.0  | 24.0   | 25                        |                  |                | Interpolated |
| 10-2692H-B       |              | Intelligent Smoke Control Graphic Annunciator | 1           | 4.0                 | 36.0  | 24.0   | 38                        |                  |                | Interpolated |
| 10-2692V-B       |              | Intelligent Smoke Control Graphic Annunciator | 1           | 4.0                 | 24.0  | 36.0   | 38                        |                  |                | Interpolated |
| 10-2693H-B       |              | Intelligent Smoke Control Graphic Annunciator | 1           | 4.0                 | 36.0  | 30.0   | 67                        |                  |                | Interpolated |
| 10-2693V-B       |              | Intelligent Smoke Control Graphic Annunciator | 1           | 4.0                 | 30.0  | 36.0   | 67                        |                  |                | UUT5         |

\*Note: In model number, m relates to mode (1=all modes, 2=sprinkler mode only); c relates to enclosure color (B=black, G=gray, R=red); L=lexan; p relates to voltage (1=120V, 2= 240V); d=deadfront; o relates to overlay color (B=black, R=red)

Deadfront options (d):

Blank = standard enclosure – no dead-front

0 = standard enclosure – solid dead-front

3 = standard enclosure – 3 card dead-front

13 = extended enclosure – 13 card dead-front

19 = fire command center enclosure -19 card dead-front

23 = fire command center enclosure – 23 card dead-front

Table 2

## Certified Subcomponents



Manufacturer: Fike

Product Line: Fire detection equipment line

Subcomponent: Enclosures

| Enclosures      |              |                      |  |            |       |        |                      |             |                           |
|-----------------|--------------|----------------------|--|------------|-------|--------|----------------------|-------------|---------------------------|
| Model Number    | Manufacturer | Type                 | Description  | Dimensions |       |        | Material             | NEMA Rating | Unit                      |
|                 |              |                      |  | Depth      | Width | Height |                      |             |                           |
| 10-2453-c       | Fike         | Shp Pro              | Standard   | 4.8        | 15.5  | 22.3   | Painted carbon steel | 1           | UUT1                      |
| 10-2541-c       | Fike         | Cheetah Xi           | Standard   | 4.7        | 15.4  | 23.6   |                      | 1           | UUT2                      |
| 10-2541-c-L     | Fike         | Cheetah Xi           | Standard   | 4.7        | 15.4  | 23.6   |                      | 1           | Interpolated <sup>1</sup> |
| 10-2621-c       | Fike         | CyberCat 50          | Standard   | 4.8        | 15.4  | 22.1   |                      | 1           | Interpolated <sup>2</sup> |
| 10-2621-c-d     | Fike         | CyberCat 50          | Standard   | 4.8        | 15.4  | 22.1   |                      | 1           | Interpolated <sup>2</sup> |
| 10-2623-c       | Fike         | Cheetah Xi 50        | Standard   | 4.8        | 15.4  | 22.1   |                      | 1           | UUT3                      |
| 10-2623-c-d     | Fike         | Cheetah Xi 50        | Deadfront  | 4.8        | 15.4  | 22.1   |                      | 1           | Interpolated <sup>2</sup> |
| 10-2483-c-L-d-o | Fike         | CyberCat 1016        | Standard   | 5.7        | 24.6  | 41.2   |                      | 1           | UUT4a                     |
| 10-2527-c-L-d-o | Fike         | CyberCat 254         | Standard   | 5.7        | 24.6  | 41.2   |                      | 1           | Interpolated <sup>3</sup> |
| 10-2783-c-o     | Fike         | CyberCat 254 or 1016 | Smoke 15 card Dead front EXD-Enclosure Red/Black Overlay | 5.6        | 24.6  | 24.5   |                      | 1           | Interpolated <sup>3</sup> |
| 10-2753-c-o     | Fike         |                      | Retrofit 16 Card Dead front Enclosure Red/Black Overlay  | 5.6        | 24.6  | 31.1   |                      | 1           | Interpolated <sup>3</sup> |
| 10-2771-c fcc   | Fike         |                      | w/21 Card Dead Front Enclosure Black Overlay             | 6.6        | 24.6  | 41.1   |                      | 1           | Interpolated <sup>3</sup> |
| 10-2771-c-r fcc | Fike         |                      | w/21 Card Dead Front Enclosure Red Overlay               | 6.6        | 24.6  | 41.1   |                      | 1           | Interpolated <sup>3</sup> |
| 10-2772-c fcc   | Fike         |                      | w/25 Card Dead Front Enclosure Black Overlay             | 6.6        | 24.6  | 41.1   |                      | 1           | Interpolated <sup>3</sup> |
| 10-2772-c-r fcc | Fike         |                      | w/25 Card Dead Front Enclosure Red Overlay               | 6.6        | 24.6  | 41.1   |                      | 1           | Interpolated <sup>3</sup> |
| 10-2628-c       | Fike         |                      | Deadfront, 50 Point Panel                                | 1.3        | 14.3  | 23.0   |                      | 1           | Interpolated <sup>3</sup> |
| 10-2695-c       | Fike         |                      | Solid Deadfront Kit for Standard Enclosure               | 1.9        | 24.6  | 22.5   |                      | 1           | Interpolated <sup>3</sup> |
| 10-2696-c       | Fike         |                      | 3 Module Deadfront Kit for Standard Enclosure            | 1.9        | 24.6  | 22.5   |                      | 1           | Interpolated <sup>3</sup> |
| 10-2754-c       | Fike         |                      | 3 AMP Enclosure  | 5.7        | 24.6  | 41.2   |                      | 1           | Interpolated <sup>3</sup> |
| 10-2755-c       | Fike         |                      | 5 AMP Enclosure  | 5.7        | 24.6  | 52.7   |                      | 1           | Extrapolated <sup>4</sup> |

1. Represented by UUT2 test

2. Represented by UUT3 test

3. Represented by UUT4a test

4. 10-2755-C, 5 AMP Enclosure is a larger box than the 3 AMP Enclosure to allow for 2 more AMPs to be installed. The hardware and structure for mounting the additional AMPs is identical as the 3 AMP enclosure. The larger box allows for more mounting hardware of the enclosure. For surface mount it has 2 more tear drop mounting holes in the back of the box and for flush mount allows for 2 more screw/bolt holes in the side of the enclosure

\*Note: In model number, c relates to enclosure color (B=black, G=gray, R=red); L=lexan; p relates to voltage (1=120V, 2= 240V); d=deadfront; o relates to overlay color (B=black, R=red)

Deadfront options (d)

Blank = standard enclosure – no dead-front

0 = standard enclosure – solid dead-front

3 = standard enclosure – 3 card dead-front

13 = extended enclosure – 13 card dead-front

19 = fire command center enclosure -19 card dead-front

23 = fire command center enclosure – 23 card dead-front

**Table 2 - Continued**  
**Certified Subcomponents**

**Manufacturer:** Fike

**Product Line:** Fire detection equipment line

**Subcomponent:** Enclosures (continued)

| Enclosures (Continued) |              |                                       |   |                                      |       |        |                          |                           |                      |                           |
|------------------------|--------------|---------------------------------------|---|--------------------------------------|-------|--------|--------------------------|---------------------------|----------------------|---------------------------|
| Model Number           | Manufacturer | Type                                  | Description                                 | Dimensions                           |       |        | Material of Construction | NEMA Rating               | Unit                 |                           |
|                        |              |                                       |   | Depth                                | Width | Height |                          |                           |                      |                           |
| 10-2690-B              | Gemcom       | Intelligent Smoke Control             | Graph Ann 14"x14" w/ 10"x10" viewing window | 4.0                                  | 14.0  | 14.0   | Painted carbon steel     | 1                         | UUT6                 |                           |
| 10-2691-B              |              |                                       | Graph Ann 24"x24" w/ 20"x20" viewing window | 4.0                                  | 24.0  | 24.0   |                          |                           | Interpolated         |                           |
| 10-2692H-B             |              |                                       | Graph Ann 36"x24" w/ 32"x20" viewing window | 4.0                                  | 36.0  | 24.0   |                          |                           | Interpolated         |                           |
| 10-2692V-B             |              |                                       | Graph Ann 24"x36" w/ 20"x32" viewing window | 4.0                                  | 24.0  | 36.0   |                          |                           | Interpolated         |                           |
| 10-2693H-B             |              |                                       | Graph Ann 36"x30" w/ 32"x26" viewing window | 4.0                                  | 36.0  | 30.0   |                          |                           | Interpolated         |                           |
| 10-2693V-B             |              |                                       | Graph Ann 30"x36" w/ 26"x32" viewing window | 4.0                                  | 30.0  | 36.0   |                          |                           | UUT5                 |                           |
| 10-2588-B              |              |                                       | Graphic Annunciator                         | Backbox 14"x14" for part # 10-2690-B | N/A   | 14.0   |                          |                           | 14.0                 | Painted carbon steel      |
| 10-2589-B              |              | Backbox 24"x24" for part # 10-2691-B  |   | N/A                                  | 24.0  | 24.0   | Interpolated             |                           |                      |                           |
| 10-2590H-B             |              | Backbox 36"x24" for part # 10-2692H-B |   | N/A                                  | 36.0  | 24.0   | Interpolated             |                           |                      |                           |
| 10-2590V-B             |              | Backbox 24"x36" for part # 10-2692V-B |   | N/A                                  | 24.0  | 36.0   | Interpolated             |                           |                      |                           |
| 10-2591H-B             |              | Backbox 36"x30" for part # 10-2591H-B |   | N/A                                  | 36.0  | 30.0   | Interpolated             |                           |                      |                           |
| 10-2591V-B             |              | Backbox 30"x36" for part # 10-2693V-B |   | N/A                                  | 30.0  | 36.0   | UUT5                     |                           |                      |                           |
| 10-2154-R              |              | Fike                                  |   | Battery Enclosure                    | Red   | 5.8    | 21.0                     | 11.0                      | Painted carbon steel |                           |
| 10-2154-G              |              |                                       | Gray  |                                      | 5.8   | 21.0   | 11.0                     | 1                         |                      | Extrapolated <sup>1</sup> |
| 10-2236-R              | Red          |                                       | 7.0   |                                      | 26.3  | 14.0   | 1                        | UUT4b                     |                      |                           |
| 10-2236-G              | Gray         |                                       | 7.0   |                                      | 26.3  | 14.0   | 1                        | Extrapolated <sup>1</sup> |                      |                           |

1. Color change only from tested subcomponent



**Table 3**  
**Certified Subcomponents**

**Manufacturer:** Fike

**Product Line:** Fire detection equipment line

**Subcomponent:** Light-emitting diodes and switches

| Model Number          | Manufacturer | Description                            | Material | Weight (lb) | Unit                      |
|-----------------------|--------------|--|----------|-------------|---------------------------|
| Light-Emitting Diodes |              |  |          |             |                           |
| 02-12216              | Gemcom       | Red LED                                | Plastic  | >1.0        | UUT5, UUT6                |
| 02-12218              |              | Green LED                              | Plastic  | >1.0        | UUT5, UUT6                |
| 02-12219              |              | Yellow LED                             | Plastic  | >1.0        | UUT5, UUT6                |
| 02-12220              |              | White LED                              | Plastic  | >1.0        | UUT5, UUT6                |
| Switches              |              |  |          |             |                           |
| 02-12245              | Galco        | Two-Position Toggle Switch             | Plastic  | >1.0        | Extrapolated              |
| 02-12172              |              | Three-Position Rotary Selector Switch  | Plastic  | >1.0        | UUT5, UUT6                |
| 02-12171              |              | Three-Position Toggle Switch           | Plastic  | >1.0        | UUT5, UUT6                |
| 02-12246              |              | Four-Position Rotary Switch            | Plastic  | >1.0        | Extrapolated <sup>1</sup> |
| 10-1903               |              | 34-PIN Ribbon Cable, Cntrol-Driver 24" | Plastic  | >1.0        | UUT5, UUT6                |
| 10-1950               |              | 34-PIN Ribbon Cable, Cntrol-Driver 48" | Plastic  | >1.0        | UUT5, UUT6                |

1. The three position rotary switch 02-12172 is larger than the four position rotary switch

**Table 4**  
**Certified Subcomponents**

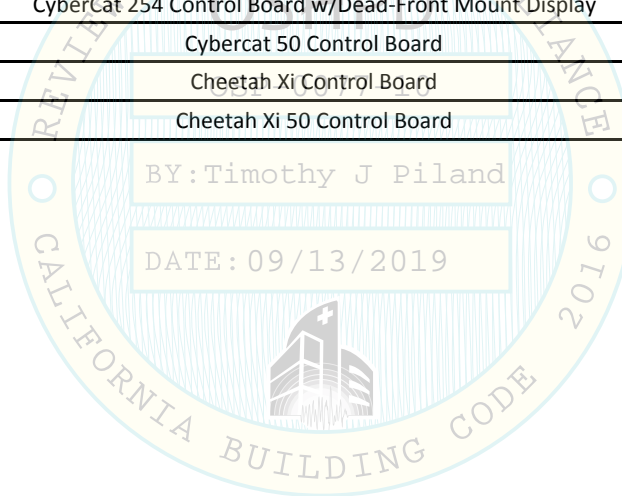
**Manufacturer:** Fike

**Product Line:** Fire detection equipment line

**Subcomponent:** Controllers

| Controllers  |              |  |               |                            |
|--------------|--------------|--|---------------|----------------------------|
| Model Number | Manufacturer | Description  | Material      | Unit                       |
| 10-2452-1    | Fike         | SHP Pro Control Board all modes                        | Circuit Board | UUT1                       |
| 10-2452-2    |              | SHP Pro Control Board sprinkler mode only              | Circuit Board | Same as UUT1 <sup>1</sup>  |
| 10-2472      |              | CyberCat 1016 Control Board w/Mounted Display          | Circuit Board | Same as UUT2 <sup>1</sup>  |
| 10-2472-EXD  |              | CyberCat 1016 Control Board w/Dead-Front Mount Display | Circuit Board | UUT4a                      |
| 10-2525      |              | CyberCat 254 Control Board w/Mounted Display           | Circuit Board | Same as UUT2 <sup>1</sup>  |
| 10-2525-EXD  |              | CyberCat 254 Control Board w/Dead-Front Mount Display  | Circuit Board | Same as UUT4a <sup>1</sup> |
| 10-2620      |              | Cybercat 50 Control Board                              | Circuit Board | Same as UUT3 <sup>1</sup>  |
| 10-2542      |              | Cheetah Xi Control Board                               | Circuit Board | UUT2                       |
| 10-2622      |              | Cheetah Xi 50 Control Board                            | Circuit Board | UUT3                       |

1. Only differs by software





**Table 4 - Continued**  
**Certified Subcomponents**

**Manufacturer:** Fike

**Product Line:** Fire detection equipment line

**Subcomponent:** Controllers (continued)

| Controllers (Continued) |              |  |               |                   |
|-------------------------|--------------|--|---------------|-------------------|
| Model Number            | Manufacturer | Description  | Material      | Unit              |
| 10-2450                 | Fike         | Class A Input Module   | Circuit Board | UUT1              |
| 10-2448                 |              | Class A Output Module  | Circuit Board | UUT1              |
| 10-2473                 |              | SLM - Supplemental Loop Module (adds 2 loops 254 devices each) | Circuit Board | UUT2              |
| 10-2482                 |              | Network Module   | Circuit Board | UUT2              |
| 10-2624                 |              | Fiber Optic Network Module                                     | Circuit Board | UUT2              |
| 10-2204                 |              | CRM4 - Relay Module  | Circuit Board | UUT1              |
| 10-2254                 |              | CRPM - Reverse Polarity Module                                 | Circuit Board | UUT2              |
| 10-2627                 |              | Ethernet Module  | Circuit Board | UUT3              |
| 10-2583                 |              | Multi-Interface Module   | Circuit Board | UUT4a             |
| 10-2746                 |              | Class A Speaker Card (Emergency Voice Communication System)    | Circuit Board | UUT4a             |
| 10-2727                 |              | Digital Paging Card (Emergency Voice Communication System)     | Circuit Board | UUT4a             |
| 10-2741                 |              | Paging Control Card (Emergency Voice Communication System)     | Circuit Board | UUT4a             |
| 10-2751                 |              | Digital Paging Assembly (Emergency Voice Communication System) | Circuit Board | UUT4a             |
| 10-2663                 |              | Smoke Control Graphics Controller                              | Circuit Board | UUT5, UUT6        |
| 10-2665                 |              | Smoke Control Graphics Driver Card                             | Circuit Board | UUT5, UUT6        |
| 10-2528                 | Bosch        | BOSCH DACT, 5 zone with serial inter-face                      | Circuit Board | UUT1 <sup>1</sup> |

1. Subcomponent manufacturing process is ISO 9001 certified.

**Table 5****Certified Subcomponents****Manufacturer:** Fike**Product Line:** Fire detection equipment line**Subcomponent:** Peripheral BUS devices

| Peripheral BUS Devices |              |   |               |       |
|------------------------|--------------|---|---------------|-------|
| Model Number           | Manufacturer | Description   | Material      | Unit  |
| 10-2658                | Fike         | 6 Zone Smoke Control Module (dead-front mount)                      | Circuit Board | UUT4a |
| 10-2659                |              | Input/Output Module (dead-front mount)                              | Circuit Board | UUT4a |
| 10-2660                |              | Twenty Zone Annunciator Module (dead-front mount)                   | Circuit Board | UUT4a |
| 10-2726                |              | Amplifier Card (Emergency Voice Communication System)               | Circuit Board | UUT4a |
| 10-2661                |              | Audio Control Card (Emergency Voice Communication System)           | Circuit Board | UUT4a |
| 10-2728                |              | Fire-Phone Card (Emergency Voice Communication System)              | Circuit Board | UUT4a |
| 10-2730                |              | Supplemental Fire-Phone Card (Emergency Voice Communication System) | Circuit Board | UUT4a |
| 10-2474                |              | SPS - Supplemental Power Supply                                     | Circuit Board | UUT2  |

BY: Timothy J Piland

DATE: 09/13/2019

**Table 6**  
**Certified Subcomponents**

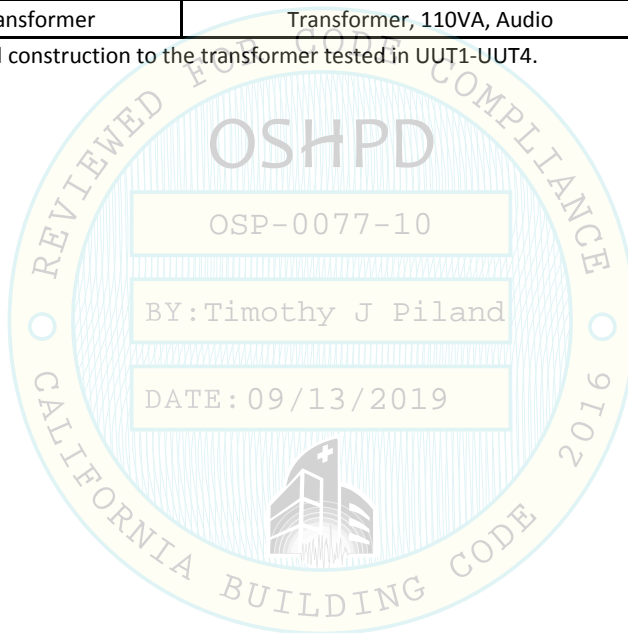
**Manufacturer:** Fike

**Product Line:** Fire detection equipment line

**Subcomponent:** Transformers and Supplemental Power Supplies

| Transformers and Supplemental Power Supplies |                         |                             |                |                            |
|--|-------------------------|-----------------------------|----------------|----------------------------|
| Model Number                                 | Manufacturer            | Description                 | Material       | Unit                       |
| B 170716                                     | Hammond Power Solutions | Transformer, 120VAC primary | Copper Winding | UUT1, UUT2,<br>UUT3, UUT4a |
| 2-51-0919                                    | MCI Transformer         | Transformer, 110VA, Audio   | Copper Winding | UUT4a                      |

1. Extrapolated subcomponent is identical in size, weight and construction to the transformer tested in UUT1-UUT4.



**Table 7**  
**Certified Subcomponents**

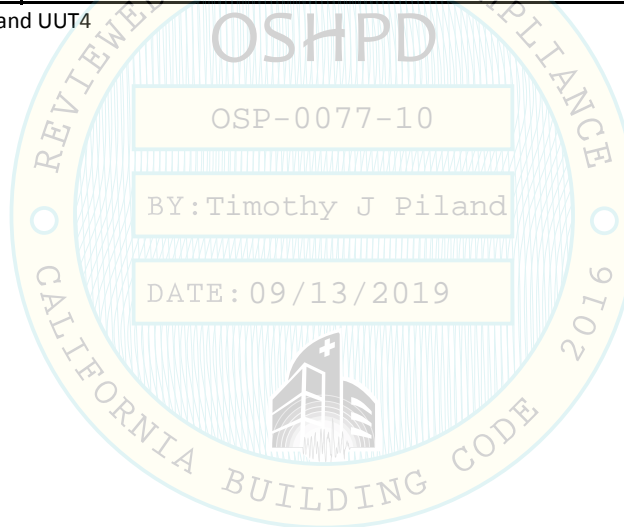
**Manufacturer:** Fike

**Product Line:** Fire detection equipment line

**Subcomponent:** Batteries

| Batteries    |                   |                                       |                          |                           |
|--------------|-------------------|---------------------------------------|--------------------------|---------------------------|
| Model Number | Manufacturer      | Description                           | Material                 | Unit                      |
| SEC 1075     | REMCO/ Interstate | Battery, 12V, 7AH (requires 2 each)   | Absorbed Glass Mat (AGM) | UUT1, UUT3, UUT4a         |
| SLA1104      | REMCO/ Interstate | Battery, 12V, 12AH (requires 2 each)  | Absorbed Glass Mat (AGM) | Interpolated <sup>1</sup> |
| PC 12180     | REMCO/ Interstate | Battery, 12V, 18 AH (requires 2 each) | Absorbed Glass Mat (AGM) | UUT1, UUT2, UUT4a         |
| DCM0035L     | REMCO/ Interstate | Battery, 12V, 33AH (requires 2 each)  | Absorbed Glass Mat (AGM) | UUT4b (x2)                |
| DCM0075U     | REMCO/ Interstate | Battery, 12V, 75AH (requires 2 each)  | Absorbed Glass Mat (AGM) | UUT4c (x2)                |

1. Subcomponent is represented by batteries tested in UUT1 and UUT4



## Table 8

### Tested Components

**Manufacturer:** Fike

**Product Line:** Fire detection equipment line

**Tested Product Construction:** Painted carbon steel (NEMA 1)

**Tested Options:** Enclosures, lights, switches, controllers, BUS devices, transformers and batteries

**Tested Mounting Description:** Rigid wall mount

| Model Number    | Manufacturer | Description                                   | NEMA Rating | Dimensions (inches) |       |        | Weight (lb) | Mounting         | Sds (g), z/h=1 | Unit  |
|-----------------|--------------|---|-------------|---------------------|-------|--------|-------------|------------------|----------------|-------|
|                 |              |   |             | Depth               | Width | Height |             |                  |                |       |
| 10-063-1-R-1    | Fike         | SHP Pro                                       | 1           | 4.8                 | 15.5  | 22.3   | 22          | Rigid wall mount | 2.00           | UUT1  |
| 10-068-R-1-L    |              | Cheetah Xi                                    | 1           | 4.7                 | 15.4  | 23.6   | 31          |                  | 2.00           | UUT2  |
| 10-071-R-1      |              | Cheetah Xi 50                                 | 1           | 4.8                 | 15.4  | 22.1   | 25          |                  | 2.00           | UUT3  |
| 10-064-R-1-L-23 |              | CyberCat 1016                                 | 1           | 5.7                 | 24.6  | 41.2   | 59          |                  | 2.00           | UUT4a |
| 10-2154-R       |              | Small battery enclosure                       | 1           | 5.8                 | 21.0  | 11.0   | 66          |                  | 2.00           | UUT4b |
| 10-2236-R       |              | Large battery enclosure                       | 1           | 7.0                 | 26.3  | 14.0   | 143         |                  | 2.00           | UUT4c |
| 10-2693V-B      |              | Intelligent Smoke Control Graphic Annunciator | 1           | 4.0                 | 30.0  | 36.0   | 67          |                  | 2.00           | UUT5  |
| 10-2690-B       |              | Intelligent Smoke Control Graphic Annunciator | 1           | 4.0                 | 14.0  | 14.0   | 15          |                  | 2.00           | UUT6  |

DATE: 09/13/2019

# UNIT UNDER TEST - Summary Sheet

## UUT1



**Manufacturer:** Fike

**Product Line:** Fire detection equipment line

**Model Number:** SHP Pro, Model 10-063-1-R-1

**Product Construction Summary:** Painted carbon steel enclosure, NEMA 1

**Options / Subcomponent Summary:** Fike SHP control board, Bosch DACT 5-zone controller with serial interface, Fike Class A input/output modules, Fike CRM4 relay module, Hammond 120VAC transformer, 2 Remco 12V 7AH batteries with Fike wiring assembly

**Unit Mounting Description:** The unit was attached to the DCL shake table interface frame with four 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes in the back of the enclosure spaced at approximately 14" in width and 21" in height on center.

### UUT Properties

| UUT1 | Operating Weight (lb) | Dimensions (in) |       |        | Lowest Natural Frequency (Hz) |           |          |
|------|-----------------------|-----------------|-------|--------|-------------------------------|-----------|----------|
|      |                       | Depth           | Width | Height | Front-Back                    | Side-Side | Vertical |
|      | 22                    | 4.8             | 15.5  | 22.3   | N/A                           | N/A       | N/A      |

### Seismic Test Parameters

| Building Code | Test Criteria | Sds (g) | z/h | Ip  | Aflx-H (g) | Arig-H (g) | Aflx-V (g) | Arig-V (g) |
|---------------|---------------|---------|-----|-----|------------|------------|------------|------------|
| CBC 2016      | ICC-ES AC156  | 2.00    | 1.0 | 1.5 | 3.20       | 2.40       | 1.34       | 0.54       |



**Note:** The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems was maintained.



# UNIT UNDER TEST - Summary Sheet

## UUT2



**Manufacturer:** Fike

**Product Line:** Fire detection equipment line

**Model Number:** Cheetah Xi, Model 10-068-R-1-L

**Product Construction Summary:** Painted carbon steel enclosure, NEMA 1

**Options / Subcomponent Summary:** Fike Cheetah Xi control board, Fike supplemental loop module, Fike Network module, Fike fiber optic network module, Fike reverse polarity module, Fike supplemental power supply BUS device, Hammond 120VAC transformer, 2 Remco 12V 18AH batteries

**Unit Mounting Description:** The unit was attached to the DCL shake table interface frame with four 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes in the back of the enclosure spaced at approximately 14" in width and 21" in height on center.

### UUT Properties

| UUT2 | Operating Weight (lb) | Dimensions (in) |       |        | Lowest Natural Frequency (Hz) |           |          |
|------|-----------------------|-----------------|-------|--------|-------------------------------|-----------|----------|
|      |                       | Depth           | Width | Height | Front-Back                    | Side-Side | Vertical |
|      | 31                    | 4.7             | 15.4  | 23.6   | N/A                           | N/A       | N/A      |

### Seismic Test Parameters

| Building Code | Test Criteria | Sds (g) | z/h | Ip  | Aflx-H (g) | Arig-H (g) | Aflx-V (g) | Arig-V (g) |
|---------------|---------------|---------|-----|-----|------------|------------|------------|------------|
| CBC 2016      | ICC-ES AC156  | 2.00    | 1.0 | 1.5 | 3.20       | 2.40       | 1.34       | 0.54       |



**Note:** The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems was maintained.



# UNIT UNDER TEST - Summary Sheet

## UUT3



**Manufacturer:** Fike

**Product Line:** Fire detection equipment line

**Model Number:** Cheetah Xi 50, Model 10-071-R-1

**Product Construction Summary:** Painted carbon steel enclosure, NEMA 1

**Options / Subcomponent Summary:** Fike Cheetah Zi 50 control board, Fike ethernet module, Hammond 120VAC transformer, 2 Remco 12V 7AH batteries

**Unit Mounting Description:** The unit was attached to the DCL shake table interface frame with four 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes in the back of the enclosure spaced at approximately 14" in width and 21" in height on center.

### UUT Properties

| UUT3 | Operating Weight (lb) | Dimensions (in) |       |        | Lowest Natural Frequency (Hz) |           |          |
|------|-----------------------|-----------------|-------|--------|-------------------------------|-----------|----------|
|      |                       | Depth           | Width | Height | Front-Back                    | Side-Side | Vertical |
|      | 25                    | 4.8             | 15.4  | 22.1   | N/A                           | N/A       | N/A      |

### Seismic Test Parameters

| Building Code | Test Criteria | Sds (g) | z/h | Ip  | Aflx-H (g) | Arig-H (g) | Aflx-V (g) | Arig-V (g) |
|---------------|---------------|---------|-----|-----|------------|------------|------------|------------|
| CBC 2016      | ICC-ES AC156  | 2.00    | 1.0 | 1.5 | 3.20       | 2.40       | 1.34       | 0.54       |



**Note:** The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems was maintained.

## UNIT UNDER TEST - Summary Sheet

### UUT4a, UUT4b, UUT4c



**Manufacturer:** Fike

**Product Line:** Fire detection equipment line

**Model Number:** Cheetah Xi 50, Model 10-071-R-1

**Product Construction Summary:** Painted carbon steel enclosure, NEMA 1

**Options / Subcomponent Summary:**

**UUT4a:** Fike CyberCat 1016 control board w/ dead-front mount display, Fike multi-interface module, Fike class A speaker card, Fike digital paging card, Fike paging control board, Fike digital paging assembly, Fike 6 zone smoke control module, Fike input/output module, Fike twenty zone annunciator module, Fike amplifier card, Fike audio control card, Fike fire-phone card and supplemental fire-phone card, Hammond 120VAC transformer, MCI 110VA transforme, Remco 12V 7AH battery, Remco 12V 18AH battery

**UUT4b:** 2 Remco 12V 33AH batteries

**UUT4c:** 2 Remco 12V 75AH batteries

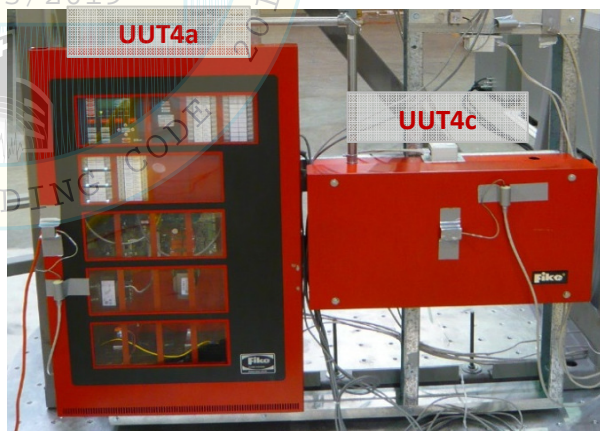
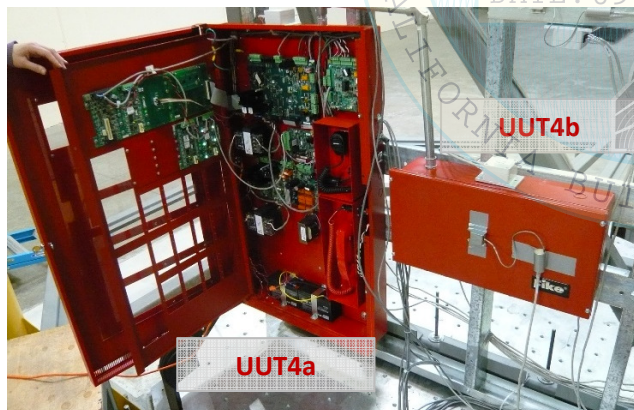
**Unit Mounting Description:** Each unit was attached to the DCL shake table interface frame with four 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes in the back of the enclosure. Bolts were spaced at approximately 23" in width and 40" in height on center for UUT4a, 20" in width and 10" in height on center for UUT4b, and 25" in width and 131" in height on center for UUT4c.

#### UUT Properties

|       | Operating Weight (lb) | Dimensions (in) |       |        | Lowest Natural Frequency (Hz) |           |          |
|-------|-----------------------|-----------------|-------|--------|-------------------------------|-----------|----------|
|       |                       | Depth           | Width | Height | Front-Back                    | Side-Side | Vertical |
| UUT4a | 59                    | 5.7             | 24.6  | 41.2   | N/A                           | N/A       | N/A      |
| UUT4b | 66                    | 5.8             | 21.0  | 11.0   | N/A                           | N/A       | N/A      |
| UUT4c | 143                   | 7.0             | 26.3  | 14.0   | N/A                           | N/A       | N/A      |

#### Seismic Test Parameters

| Building Code | Test Criteria | Sds (g) | z/h | Ip  | Aflx-H (g) | Arig-H (g) | Aflx-V (g) | Arig-V (g) |
|---------------|---------------|---------|-----|-----|------------|------------|------------|------------|
| CBC 2016      | ICC-ES AC156  | 2.00    | 1.0 | 1.5 | 3.20       | 2.40       | 1.34       | 0.54       |



**Note:** The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems was maintained.

## UNIT UNDER TEST - Summary Sheet

### UUT5



**Manufacturer:** Fike

**Product Line:** Fire detection equipment line

**Model Number:** Intelligent Smoke Control Graphic Annunciator

**Product Construction Summary:** Painted carbon steel enclosure, NEMA 1

**Options / Subcomponent Summary:** LEDs, three position rotary selector switch, three position toggle switch, smoke control module, switch/LED driver module, 34-PIN ribbon cable (24" and 48") and Fike smoke control graphics controller and smoke control graphics driver card

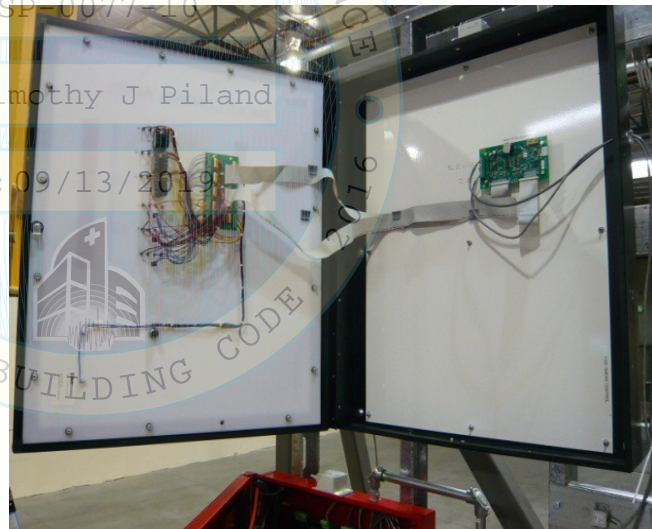
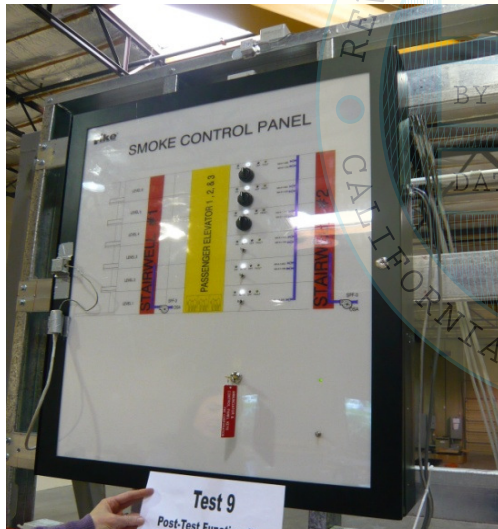
**Unit Mounting Description:** The unit was attached to the DCL shake table interface frame with four 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes in the back of the enclosure spaced at approximately 28" in width and 34" in height on center.

#### UUT Properties

| UUT5 | Operating Weight (lb) | Dimensions (in) |       |        | Lowest Natural Frequency (Hz) |           |          |
|------|-----------------------|-----------------|-------|--------|-------------------------------|-----------|----------|
|      |                       | Depth           | Width | Height | Front-Back                    | Side-Side | Vertical |
|      | 67                    | 4.0             | 30.0  | 36.0   | N/A                           | N/A       | N/A      |

#### Seismic Test Parameters

| Building Code | Test Criteria | Sds (g) | z/h | Ip  | Aflx-H (g) | Arig-H (g) | Aflx-V (g) | Arig-V (g) |
|---------------|---------------|---------|-----|-----|------------|------------|------------|------------|
| CBC 2016      | ICC-ES AC156  | 2.00    | 1.0 | 1.5 | 3.20       | 2.40       | 1.34       | 0.54       |



**Note:** The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems was maintained.



# UNIT UNDER TEST - Summary Sheet

## UUT6



**Manufacturer:** Fike

**Product Line:** Fire detection equipment line

**Model Number:** Intelligent Smoke Control Graphic Annunciator

**Product Construction Summary:** Painted carbon steel enclosure, NEMA 1

**Options / Subcomponent Summary:** LEDs, three position rotary selector switch, three position toggle switch, smoke control module, switch/LED driver module, 34-PIN ribbon cable (24" and 48") and Fike smoke control graphics controller and smoke control graphics driver card

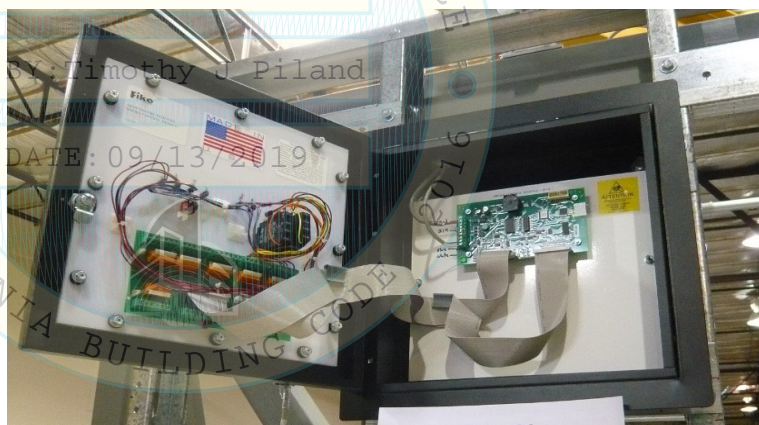
**Unit Mounting Description:** The unit was attached to the DCL shake table interface frame with four 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes in the back of the enclosure spaced at approximately 11" in width and 11" in height on center.

### UUT Properties

| UUT6 | Operating Weight (lb) | Dimensions (in) |       |        | Lowest Natural Frequency (Hz) |           |          |
|------|-----------------------|-----------------|-------|--------|-------------------------------|-----------|----------|
|      |                       | Depth           | Width | Height | Front-Back                    | Side-Side | Vertical |
|      | 15                    | 4.0             | 14.0  | 14.0   | N/A                           | N/A       | N/A      |

### Seismic Test Parameters

| Building Code | Test Criteria | Sds (g) | z/h | Ip  | Aflx-H (g) | Arig-H (g) | Aflx-V (g) | Arig-V (g) |
|---------------|---------------|---------|-----|-----|------------|------------|------------|------------|
| CBC 2016      | ICC-ES AC156  | 2.00    | 1.0 | 1.5 | 3.20       | 2.40       | 1.34       | 0.54       |



**Note:** The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems was maintained.