# APPLICATION FOR HCAI SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

**APPLICATION #: OSP-0775**

## HCAI Special Seismic Certification Preapproval (OSP)

**Type:** [X] New [ ] Renewal

## Manufacturer Information

Manufacturer: Shimadzu Medical Systems USA

Manufacturer's Technical Representative: Akiharu Yamagata

Mailing Address: 440 Wrangler Drive, Suite 300, Coppell, TX 75019

Telephone: (310) 217-8855 Email: yamagata@shimadzu-usa.com

## Product Information

Product Name: Fluoroscopy and Radiography Systems

Product Type: NA

Product Model Number: FLOUROspeed X1

General Description: Multiple component digital radiography and fluoroscopy medical diagnostic imaging system.

Mounting Description: Rigid, See Certified Product Tables

Tested Seismic Enhancements: None



## Applicant Information

Applicant Company Name: WE Gundy & Associates, Inc

Contact Person: Travis Soppe

Mailing Address: PO Box 9121, Boise, ID 83707

Telephone: (208) 342-5989 Email: tsoppe@wegai.com

Title: President

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

Company Name: W.E. GUNDY & ASOCIATES INC.

Name: Travis Soppe California License Number: S6115

Mailing Address: P.O. Box 9121, Boise, ID 83707

Telephone: (208) 342-5989 Email: tsoppe@wegai.com

## Certification Method

☐ GR-63-Core ☒ ICC-ES AC156 ☐ IEEE 344 ☐ IEEE 693 ☐ NEBS 3

☐ Other (Please Specify):

## Testing Laboratory

Company Name: ENVIRONMENTAL TESTING LABORATORIES, INC. (ETL)

Contact Person: Jeremy Lange

Mailing Address: 11034 Indian Trail, Dallas TX 75229-3513

Telephone: (972) 247-9657 Email: Jeremy@etldallas.com

## Seismic Parameters

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

$S_{DS}$ (Design spectral response acceleration at short period, g) = 2.00 (z/h = 1.0) and 2.50 (z/h = 0.0)

$a_p$ (Amplification factor) = See attachments

$R_p$ (Response modification factor) = See attachments

$\Omega_0$ (System overstrength factor) = 2.0

$I_p$ (Importance factor) = 1.5

z/h (Height ratio factor) = 1 and 0

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment



## HCAI Approval (For Office Use Only) - Approval Expires on 10/13/2029

Date: 10/13/2023

Name: Mohammad Karim Title: Supervisor, Health Facilities

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

Condition of Approval (if applicable):

| Table 1 | SHIMADZU MEDICAL SYSTEMS<br>SPECIAL SEISMIC CERTIFICATION<br>CERTIFIED SYSTEM AND COMPONENTS | WEGAI<br>W.E. GUNDY & ASSOCIATES, INC.<br>STRUCTURAL & EARTHQUAKE ENGINEERING |
|---|---|---|

**Manufacturer:** Shimadzu Medical Systems

**System:** FLUOROspeed X1 X-Ray and Fluoroscopy System

| System Component[1] | Shimadzu Part Number | Dimensions (in) | | | Weight (lb) | Mounting | UUT[3] |
|---|---|---|---|---|---|---|---|
| | | Width | Depth | Height | | | |
| **R/F Patient Table** | | | | | | | |
| YSF-500 | 566-23001 | 76.0 | 92.5 | 96.0 | 3793 | floor | $UUT_z$-1A |
| YSF-500 | 566-23001 | 76.0 | 92.5 | 96.0 | 3793[2] | floor | $UUT_z$-1B |
| **Wall Stand** | | | | | | | |
| BR-120 | 566-16500-42 | 26.4 | 14.4 | 85.3 | 338 | floor/wall | $UUT_z$-6 |
| **Ceiling Mounted Tube** | | | | | | | |
| CH-200 | 563-61760-95 | 157.5 | 102.0 | 68.0 | 777 | ceiling | $UUT_z$-2 |
| **Monitor Ceiling Suspension** | | | | | | | |
| IDI Quad Mount | 1000F-4 | 38.0 | 80.0 | 68.0 | 370 | ceiling | $UUT_z$-3 |
| **PC / User Interface** | | | | | | | |
| Atlas 2.0 PC | SM-9135 | 7.1 | 14.6 | 5.8 | 13 | floor | $UUT_z$-4 |
| DR-OPE | 565-14276 | 6.0 | 18.5 | 22.6 | 47 | floor | $UUT_z$-9 |

[1] All components are manufactured by Shimadzu Medical Systems. The part numbers listed uniquely identify the type of component, manufacturer, and material of construction for each sub-component within the tested units.

[2] Table weight listed does not include 400lb simulated patient weight.

[3] The units were tested at different times and the subscripts on the UUT reference the following seismic test reports:
y = SQ10-1205-01 z = 16963 Rev 2

**SEISMIC CERTIFICATION LIMITS**

| System Component | Code | $S_{DS}$ (g) | z / h | $I_P$ | $a_P$ | $R_P$ | $\Omega_0$ | $F_P$ / $W_P$ |
|---|---|---|---|---|---|---|---|---|
| R/F Patient Table | CBC 2022 | 2.0 | 1.0 | 1.50 | 1.0 | 1.5 | 2.0 | 2.40 |
| | | 2.5 | 0 | | | | | 1.13 |
| Wall Stand | CBC 2022 | 2.0 | 1.0 | 1.50 | 1.0 | 1.5 | 2.0 | 2.40 |
| | | 2.5 | 0 | | | | | 1.13 |
| Ceiling Mounted Tube | CBC 2022 | 2.0 | 1.0 | 1.50 | 2.5 | 2.5 | 2.0 | 3.60 |
| | | 2.5 | 0 | | | | | 1.50 |
| Monitor Ceiling Suspension | CBC 2022 | 2.0 | 1.0 | 1.50 | 2.5 | 2.5 | 2.0 | 3.60 |
| | | 2.5 | 0 | | | | | 1.50 |
| PC / User Interface | CBC 2022 | 2.0 | 1.0 | 1.50 | 2.5 | 6.0 | 2.0 | 1.50 |
| | | 2.5 | 0 | | | | | 1.13 |

| Table 1 | SHIMADZU MEDICAL SYSTEMS<br>SPECIAL SEISMIC CERTIFICATION<br>CERTIFIED SYSTEM AND COMPONENTS | WEGAI<br>W.E. GUNDY & ASSOCIATES, INC.<br>STRUCTURAL & EARTHQUAKE ENGINEERING |
|---|---|---|

**Manufacturer:** Shimadzu Medical Systems

**System:** FLUOROspeed X1 X-Ray and Fluoroscopy System

| System Component[1] | Shimadzu Part Number | Dimensions (in) | | | Weight (lb) | Mounting | UUT[3] |
|---|---|---|---|---|---|---|---|
| | | Width | Depth | Height | | | |
| **Control / Power Cabinets** | | | | | | | |
| YSF Table Cabinet | 565-14396 | 27.5 | 19.7 | 72.6 | 636 | floor/wall | $UUT_z$-5 |
| FSx1 D150BC-40S | 562-29200-12 | 27.5 | 19.7 | 72.6 | 584 | floor/wall | $UUT_z$-7 |
| DR-300 Exam | 565-14545 | 27.5 | 19.7 | 72.6 | 439 | floor/wall | $UUT_z$-8 |
| CH-200 / BR-120 | 503-04427D | 15.8 | 19.7 | 20.1 | 110 | floor | $UUT_y$-25 |

[1] All components are manufactured by Shimadzu Medical Systems. The part numbers listed uniquely identify the type of component, manufacturer, and material of construction for each sub-component within the tested units.

[2] Table weight listed does not include 400lb simulated patient weight included during the horizontal position tests.

[3] The units were tested at different times and the subscripts on the UUT reference the following seismic test reports:
y = SQ10-1205-01 z = 16963 Rev 2



**SEISMIC CERTIFICATION LIMITS**

| System Component | Code | $S_{DS}$ (g) | z / h | $I_P$ | $a_P$ | $R_P$ | $\Omega_0$ | $F_P$ / $W_P$ |
|---|---|---|---|---|---|---|---|---|
| Control / Power Cabinets | CBC 2022 | 2.0 | 1.0 | 1.50 | 2.5 | 6.0 | 2.0 | 1.50 |
| | | 2.5 | 0 | | | | | 1.13 |

| $UUT_z$-1A | UNIT UNDER TEST (UUT) SUMMARY SHEET | WEGAI W.E. Gundy & Associates, Inc. Structural & Earthquake Engineering |
|---|---|---|

**Mounting Details:** Rigid floor mounted with (6) 5/8" grade 5 bolts



| | |
|---|---|
| **Manufacturer:** Shimadzu Medical Systems | **Test Location:** ETL (Dallas, TX) |
| **Component:** YSF-500 R/F Table | **Test Date:** April 2023 |
| **Model Number:** 566-23001 | **Report Number:** 16963 Rev 2 |
| **UUT Function:** Patient table with integrated R/F system. Tested in the vertical position. | |
| **UUT Description:** Component of the FLUOROspeed X1system. Includes seismic kit SMK-1142<br>Installed Detector: Vieworks FXRD-3643 VAW | |

**UUT PROPERTIES**

| Weight (lb) | Dimensions (inches) | | | Natural Frequency (Hz) | | |
|---|---|---|---|---|---|---|
| | Width | Depth | Height | FB | SS | V |
| 3,793 | 76.0 | 92.5 | 96.0 | 4.7 | 7.0 | 5.0 |

**SEISMIC TEST PARAMETERS**

| Building Code / Test Criteria | $S_{DS}$ (g) | z / h | $I_P$ | $A_{FLX-H}$ (g) | $A_{RIG-H}$ (g) | $A_{FLX-V}$ (g) | $A_{RIG-V}$ (g) |
|---|---|---|---|---|---|---|---|
| CBC 2022 / ICC-ES AC156 | 2.00 | 1.0 | 1.5 | 3.20 | 2.40 | - | - |
| | 2.50 | 0 | 1.5 | - | - | 1.67 | 0.67 |

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

| $UUT_z$-1B | UNIT UNDER TEST (UUT) SUMMARY SHEET | WEGAI W.E. Gundy & Associates, Inc. Structural & Earthquake Engineering |
|---|---|---|

**Mounting Details:** Rigid floor mounted with (6) 5/8" grade 5 bolts


| | |
|---|---|
| **Manufacturer:** Shimadzu Medical Systems | **Test Location:** ETL (Dallas, TX) |
| **Component:** YSF-500 R/F Table | **Test Date:** April 2023 |
| **Model Number:** 566-23001 | **Report Number:** 16963 Rev 2 |
| **UUT Function:** Patient table with integrated R/F system. Tested in the horizontal position. | |
| **UUT Description:** Component of the FLUOROspeed X1system. Includes seismic kit SMK-1142 Installed Detector: Canon CXDI-720C | |

**UUT PROPERTIES**

| Weight (lb) with Patient | Dimensions (inches) | | | Natural Frequency (Hz) | | |
|---|---|---|---|---|---|---|
| | Width | Depth | Height | FB | SS | V |
| 4,193 | 76.0 | 92.5 | 96.0 | 4.7 | 5.6 | 5.3 |

The patient tabletop moves laterally and vertically to accommodate different patients and procedures. The system was tested in the normal operating position with a total simulated patient weight of 400lbs.

**SEISMIC TEST PARAMETERS**

| Building Code / Test Criteria | $S_{DS}$ (g) | z / h | $I_P$ | $A_{FLX-H}$ (g) | $A_{RIG-H}$ (g) | $A_{FLX-V}$ (g) | $A_{RIG-V}$ (g) |
|---|---|---|---|---|---|---|---|
| CBC 2022 / ICC-ES AC156 | 2.00 | 1.0 | 1.5 | 3.20 | 2.40 | - | - |
| | 2.50 | 0 | 1.5 | - | - | 1.67 | 0.67 |

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

| $UUT_z$-2 | UNIT UNDER TEST (UUT) SUMMARY SHEET | WEGAI W.E. Gundy & Associates, Inc. Structural & Earthquake Engineering |
|---|---|---|

**Mounting Details:** Rails and connecting parts of the component bolt with 2 – ½" bolts (20 bolts total) to a Unistrut grid spaced approximately 22" on center. The Unistrut grid consisted of Unistrut P1001 rails anchored with 2 – 3/8" bolts at each intersection with the ceiling fixture framing spaced at approximately 24" on center.


| | |
|---|---|
| **Manufacturer:** Shimadzu Medical Systems | **Test Location:** ETL (Dallas, TX) |
| **Component:** CH-200 Ceiling Tube | **Test Date:** April 2023 |
| **Model Number:** 563-61760-95 | **Report Number:** 16963 Rev 2 |
| **UUT Function:** Ceiling suspended x-ray tube for use in radiographic imaging | |
| **UUT Description:** Component of the FLUOROspeed X1system. Includes seismic kit SMK-1141 | |

**UUT PROPERTIES**

| Weight (lb) | Dimensions (inches) | | | Natural Frequency (Hz) | | |
|---|---|---|---|---|---|---|
| | Width | Depth | Height | FB | SS | V |
| 777 | 157.5 | 102.0 | 68.0 | N/A | N/A | N/A |

**SEISMIC TEST PARAMETERS**

| Building Code / Test Criteria | $S_{DS}$ (g) | z / h | $I_P$ | $A_{FLX-H}$ (g) | $A_{RIG-H}$ (g) | $A_{FLX-V}$ (g) | $A_{RIG-V}$ (g) |
|---|---|---|---|---|---|---|---|
| CBC 2022 / ICC-ES AC156 | 2.00 | 1.0 | 1.5 | 3.20 | 2.40 | - | - |
| | 2.50 | 0 | 1.5 | - | - | 1.67 | 0.67 |

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

| $UUT_z$-3 | UNIT UNDER TEST (UUT) SUMMARY SHEET | WEGAI W.E. Gundy & Associates, Inc. Structural & Earthquake Engineering |
|---|---|---|

**Mounting Details:** Rails and connecting parts of the component bolt with 2 – ½" bolts (20 bolts total) to a Unistrut grid spaced approximately 22" on center. The Unistrut grid consisted of Unistrut P1001 rails anchored with 2 – 3/8" bolts at each intersection with the ceiling fixture framing spaced at approximately 24" on center.


| | |
|---|---|
| **Manufacturer:** Shimadzu Medical Systems | **Test Location:** ETL (Dallas, TX) |
| **Component:** IDI Quad Mount | **Test Date:** April 2023 |
| **Model Number:** 1000F-4 | **Report Number:** 16963 Rev 2 |
| **UUT Function:** Suspension of monitors used for medical equipment | |
| **UUT Description:** Component of the FLUOROspeed X1system | |

**UUT PROPERTIES**

| Weight (lb) | Dimensions (inches) | | | Natural Frequency (Hz) | | |
|---|---|---|---|---|---|---|
| | Width | Depth | Height | FB | SS | V |
| 370 | 38.0 | 80.0 | 68.0 | N/A | N/A | N/A |

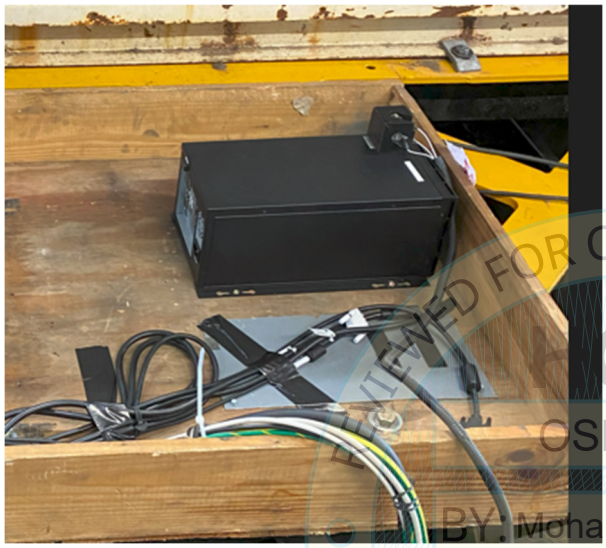
**SEISMIC TEST PARAMETERS**

| Building Code / Test Criteria | $S_{DS}$ (g) | z / h | $I_P$ | $A_{FLX-H}$ (g) | $A_{RIG-H}$ (g) | $A_{FLX-V}$ (g) | $A_{RIG-V}$ (g) |
|---|---|---|---|---|---|---|---|
| CBC 2022 / ICC-ES AC156 | 2.00 | 1.0 | 1.5 | 3.20 | 2.40 | - | - |
| | 2.50 | 0 | 1.5 | - | - | 1.67 | 0.67 |

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

| $UUT_z$-4 | UNIT UNDER TEST (UUT) SUMMARY SHEET | WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING |
|---|---|---|

**Mounting Details:** Rigid floor mounted with (4) #8 screws





| | |
|---|---|
| **Manufacturer:** Shimadzu Medical Systems | **Test Location:** ETL (Dallas, TX) |
| **Component:** Atlas 2.0 PC | **Test Date:** April 2023 |
| **Model Number:** SM-9135 | **Report Number:** 16963 Rev 2 |
| **UUT Function:** Imaging system PC | |
| **UUT Description:** Component of the FLUOROspeed X1system | |

**UUT PROPERTIES**

| Weight (lb) | Dimensions (inches) | | | Natural Frequency (Hz) | | |
|---|---|---|---|---|---|---|
| | Width | Depth | Height | FB | SS | V |
| 13 | 7.1 | 14.6 | 5.8 | >33.0 | >33.0 | >33.0 |

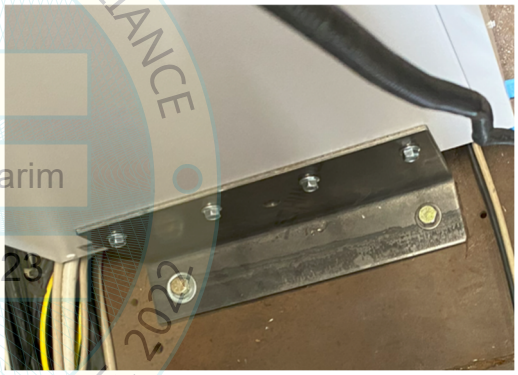
**SEISMIC TEST PARAMETERS**

| Building Code / Test Criteria | $S_{DS}$ (g) | z / h | $I_P$ | $A_{FLX-H}$ (g) | $A_{RIG-H}$ (g) | $A_{FLX-V}$ (g) | $A_{RIG-V}$ (g) |
|---|---|---|---|---|---|---|---|
| CBC 2022 / ICC-ES AC156 | 2.00 | 1.0 | 1.5 | 3.20 | 2.40 | - | - |
| | 2.50 | 0 | 1.5 | - | - | 1.67 | 0.67 |

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

| $UUT_z$-5 | UNIT UNDER TEST (UUT) SUMMARY SHEET | WEGAI W.E. Gundy & Associates, Inc. Structural & Earthquake Engineering |
|---|---|---|

**Mounting Details:** Combined rigid wall mounted with (2) 1/4" diameter bolts and rigid floor mounted with (4) 1/2" diameter bolts.





| | |
|---|---|
| **Manufacturer:** Shimadzu Medical Systems | **Test Location:** ETL (Dallas, TX) |
| **Component:** YSF Table Electrical Control Cabinet | **Test Date:** August 2023 |
| **Model Number:** 565-14396 | **Report Number:** 16963 Rev 2 |
| **UUT Function:** Power distribution to YSF-500 table | |
| **UUT Description:** Component of the FLUROspeed X1system | |

**UUT PROPERTIES**

| Weight (lb) | Dimensions (inches) | | | Natural Frequency (Hz) | | |
|---|---|---|---|---|---|---|
| | Width | Depth | Height | FB | SS | V |
| 636 | 27.5 | 19.7 | 72.6 | N/A | N/A | N/A |

**SEISMIC TEST PARAMETERS**

| Building Code / Test Criteria | $S_{DS}$ (g) | z / h | $I_P$ | $A_{FLX-H}$ (g) | $A_{RIG-H}$ (g) | $A_{FLX-V}$ (g) | $A_{RIG-V}$ (g) |
|---|---|---|---|---|---|---|---|
| CBC 2022 / ICC-ES AC156 | 2.00 | 1.0 | 1.5 | 3.20 | 2.40 | - | - |
| | 2.50 | 0 | 1.5 | - | - | 1.67 | 0.67 |

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

| $UUT_z$-6 | UNIT UNDER TEST (UUT) SUMMARY SHEET | WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING |
|---|---|---|

**Mounting Details:** Combined rigid wall mounted with (2) 1/4" diameter bolts and rigid floor mounted with (4) 3/8" diameter bolts.



| | |
|---|---|
| **Manufacturer:** Shimadzu Medical Systems | **Test Location:** ETL (Dallas, TX) |
| **Component:** BR-120 Wall Stand – Non-tilting | **Test Date:** April 2023 |
| **Model Number:** 566-16500-42 | **Report Number:** 16963 Rev 2 |
| **UUT Function:** Radiographic wall stand for X-ray exposures | |
| **UUT Description:** Component of the FLUOROspeed X1system. Includes seismic kit SMK-1059 Installed Detector: Vieworks FXRD-4343 VAW | |

**UUT PROPERTIES**

| Weight (lb) | Dimensions (inches) | | | Natural Frequency (Hz) | | |
|---|---|---|---|---|---|---|
| | Width | Depth | Height | FB | SS | V |
| 338 | 26.4 | 14.4 | 85.3 | N/A | N/A | N/A |

**SEISMIC TEST PARAMETERS**

| Building Code / Test Criteria | $S_{DS}$ (g) | z / h | $I_P$ | $A_{FLX-H}$ (g) | $A_{RIG-H}$ (g) | $A_{FLX-V}$ (g) | $A_{RIG-V}$ (g) |
|---|---|---|---|---|---|---|---|
| CBC 2022 / ICC-ES AC156 | 2.00 | 1.0 | 1.5 | 3.20 | 2.40 | - | - |
| | 2.50 | 0 | 1.5 | - | - | 1.67 | 0.67 |

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

| $UUT_z$-7 | **UNIT UNDER TEST (UUT) SUMMARY SHEET** | WEGAI W.E. Gundy & Associates, Inc. Structural & Earthquake Engineering |
|---|---|---|

**Mounting Details:** Combined rigid wall mounted with (2) 1/4" diameter bolts and rigid floor mounted with (4) 1/2" diameter bolts.



| | |
|---|---|
| **Manufacturer:** Shimadzu Medical Systems | **Test Location:** ETL (Dallas, TX) |
| **Component:** FSx1 D150BC-40S | **Test Date:** April 2023 |
| **Model Number:** 562-29200-12 | **Report Number:** 16963 Rev 2 |
| **UUT Function:** Generator for radiography system | |
| **UUT Description:** Component of the FLUOROspeed X1system. | |

**UUT PROPERTIES**

| Weight (lb) | Dimensions (inches) | | | Natural Frequency (Hz) | | |
|---|---|---|---|---|---|---|
| | Width | Depth | Height | FB | SS | V |
| 584 | 27.5 | 19.7 | 72.6 | N/A | N/A | N/A |

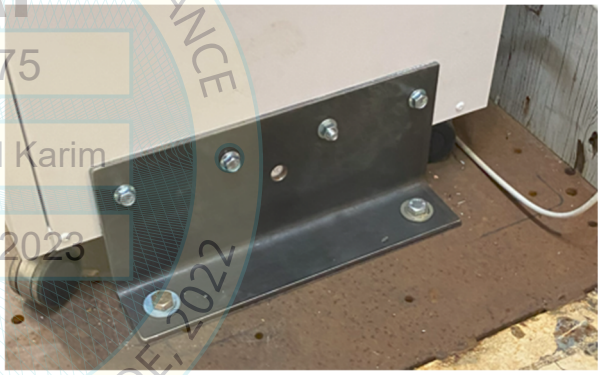
**SEISMIC TEST PARAMETERS**

| Building Code / Test Criteria | $S_{DS}$ (g) | z / h | $I_P$ | $A_{FLX-H}$ (g) | $A_{RIG-H}$ (g) | $A_{FLX-V}$ (g) | $A_{RIG-V}$ (g) |
|---|---|---|---|---|---|---|---|
| CBC 2022 / ICC-ES AC156 | 2.00 | 1.0 | 1.5 | 3.20 | 2.40 | - | - |
| | 2.50 | 0 | 1.5 | - | - | 1.67 | 0.67 |

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

| $UUT_z$-8 | **UNIT UNDER TEST (UUT) SUMMARY SHEET** | WEGAI W.E. Gundy & Associates, Inc. Structural & Earthquake Engineering |
|---|---|---|

**Mounting Details:** Combined rigid wall mounted with (2) 1/4" diameter bolts and rigid floor mounted with (4) 1/2" diameter bolts.



| | |
|---|---|
| **Manufacturer:** Shimadzu Medical Systems | **Test Location:** ETL (Dallas, TX) |
| **Component:** DR-300 Exam | **Test Date:** April 2023 |
| **Model Number:** 565-14545 | **Report Number:** 16963 Rev 2 |
| **UUT Function:** Electrical cabinet | |
| **UUT Description:** Component of the FLUOROspeed X1system. Includes seismic kit SMK-1139 | |

**UUT PROPERTIES**

| Weight (lb) | Dimensions (inches) | | | Natural Frequency (Hz) | | |
|---|---|---|---|---|---|---|
| | Width | Depth | Height | FB | SS | V |
| 439 | 27.5 | 19.7 | 72.6 | N/A | N/A | N/A |

**SEISMIC TEST PARAMETERS**

| Building Code / Test Criteria | $S_{DS}$ (g) | z / h | $I_P$ | $A_{FLX-H}$ (g) | $A_{RIG-H}$ (g) | $A_{FLX-V}$ (g) | $A_{RIG-V}$ (g) |
|---|---|---|---|---|---|---|---|
| CBC 2022 / ICC-ES AC156 | 2.00 | 1.0 | 1.5 | 3.20 | 2.40 | - | - |
| | 2.50 | 0 | 1.5 | - | - | 1.67 | 0.67 |

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

| $UUT_z$-9 | UNIT UNDER TEST (UUT) SUMMARY SHEET | WEGAI W.E. Gundy & Associates, Inc. Structural & Earthquake Engineering |
|---|---|---|

**Mounting Details:** Rigid floor mounted with (4) 3/8” lag bolts.



| | |
|---|---|
| **Manufacturer:** Shimadzu Medical Systems | **Test Location:** ETL (Dallas, TX) |
| **Component:** DR-OPE | **Test Date:** April 2023 |
| **Model Number:** 565-14276 | **Report Number:** 16963 Rev 2 |
| **UUT Function:** Imaging system PC | |
| **UUT Description:** Component of the FLUOROspeed X1system | |

**UUT PROPERTIES**

| Weight (lb) | Dimensions (inches) | | | Natural Frequency (Hz) | | |
|---|---|---|---|---|---|---|
| | Width | Depth | Height | FB | SS | V |
| 47 | 6.0 | 18.5 | 22.6 | 30.7 | 14.2 | 29.7 |

**SEISMIC TEST PARAMETERS**

| Building Code / Test Criteria | $S_{DS}$ (g) | z / h | $I_P$ | $A_{FLX-H}$ (g) | $A_{RIG-H}$ (g) | $A_{FLX-V}$ (g) | $A_{RIG-V}$ (g) |
|---|---|---|---|---|---|---|---|
| CBC 2022 / ICC-ES AC156 | 2.00 | 1.0 | 1.5 | 3.20 | 2.40 | - | - |
| | 2.50 | 0 | 1.5 | - | - | 1.67 | 0.67 |

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

| UUT$_y$-25 | UNIT UNDER TEST (UUT) SUMMARY SHEET | WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING |
|---|---|---|

**Mounting Details:** Rigid floor mounted with 2 - 11gauge bent steel plates (12" x 2") on both sides of the UUT anchored to the floor with (4) ¼" diameter bolts and connected to the UUT with 2" wide industrial Velcro tape at the top of the 12" leg.



| | |
|---|---|
| **Manufacturer:** Shimadzu Medical Systems | **Test Location:** ETL (Dallas, TX) |
| **Component:** CH-200 / BR-120 Control Cabinet | **Test Date:** October 2012 |
| **Model Number:** 503-04427D | **Report Number:** SQ10-1205-01 |
| **UUT Function:** Control cabinet for radiography system | |
| **UUT Description:** Component of the FLUOROspeed X1system | |

**UUT PROPERTIES**

| Weight (lb) | Dimensions (inches) | | | Natural Frequency (Hz) | | |
|---|---|---|---|---|---|---|
| | Width | Depth | Height | FB | SS | V |
| 110 | 19.7 | 15.8 | 20.1 | 18.8 | 1.4 | >33.0 |

**SEISMIC TEST PARAMETERS**

| Building Code / Test Criteria | $S_{DS}$ (g) | z / h | $I_P$ | $A_{FLX-H}$ (g) | $A_{RIG-H}$ (g) | $A_{FLX-V}$ (g) | $A_{RIG-V}$ (g) |
|---|---|---|---|---|---|---|---|
| CBC 2022 / ICC-ES AC156 | 2.00 | 1.0 | 1.5 | 3.20 | 2.40 | -- | -- |
| | 2.60 | 0.0 | 1.5 | -- | -- | 1.74 | 0.70 |

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.