



**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION**

**APPLICATION FOR HCAI SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)**

OFFICE USE ONLY

APPLICATION #: OSP-0258

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Myers Emergency Power Systems

Manufacturer's Technical Representative: Kevin Wolverton

Mailing Address: 44 South Commercial Way, Bethlehem, PA 18017

Telephone: (610) 868-3500

Email: kevin.wolverton@myerseps.com

Product Information

Product Name: UPS and Batteries

Product Type: Lighting Inverter Systems

Product Model Number: Various (See Attachment)

General Description: 3-Phase Emergency Lighting Inverter System

Mounting Description: Rigid, Floor Mounted

Tested Seismic Enhancements: Seismic enhancements made to the test units and/or modifications required to address anomalies during the tests shall be incorporated into the production units.

Applicant Information

Applicant Company Name: Dynamic Certification Laboratories

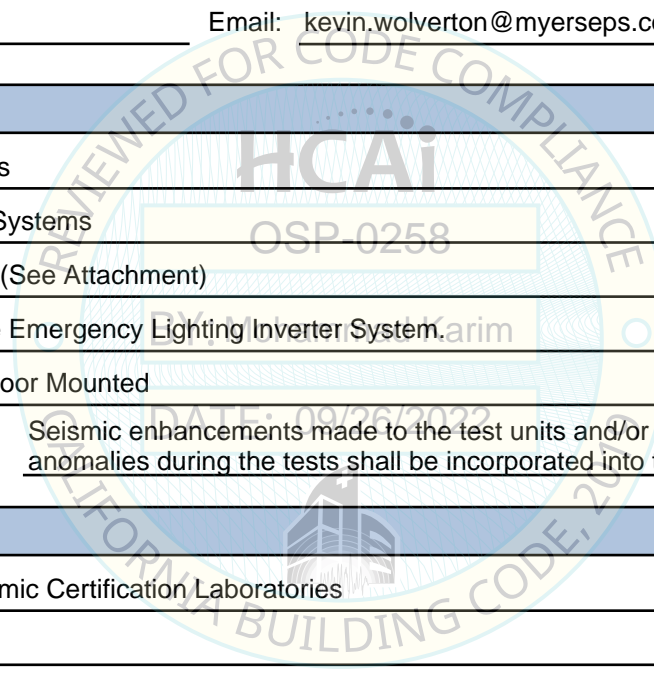
Contact Person: Kelly Laplace

Mailing Address: 1315 Greg Parkway #109, Sparks, NV 89431

Telephone: (775) 358-5085

Email: kelly@shaketest.com

Title: Business Manager





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

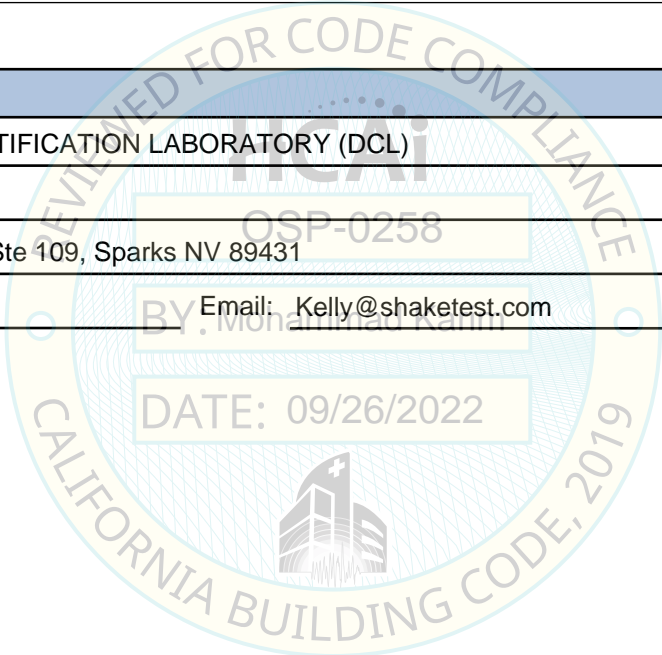
Company Name: THE VMC GROUP
Name: Kenneth Tarlow California License Number: S2851
Mailing Address: 980 9th Street, 16th Floor, Sacramento, CA 95814
Telephone: (832) 627-2214 Email: ken.tarlow@thevmcgroup.com

Certification Method

GR-63-Core ICC-ES AC156 IEEE 344 IEEE 693 NEBS 3
 Other (Please Specify): _____

Testing Laboratory

Company Name: DYNAMIC CERTIFICATION LABORATORY (DCL)
Contact Person: Kelly Laplace
Mailing Address: 1315 Greg St., Ste 109, Sparks NV 89431
Telephone: (775) 358-5085 Email: Kelly@shaketest.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.80

SDS (Design spectral response acceleration at short period, g) = 2.5

a_p (Amplification factor) = 1.0

R_p (Response modification factor) = 2.5

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

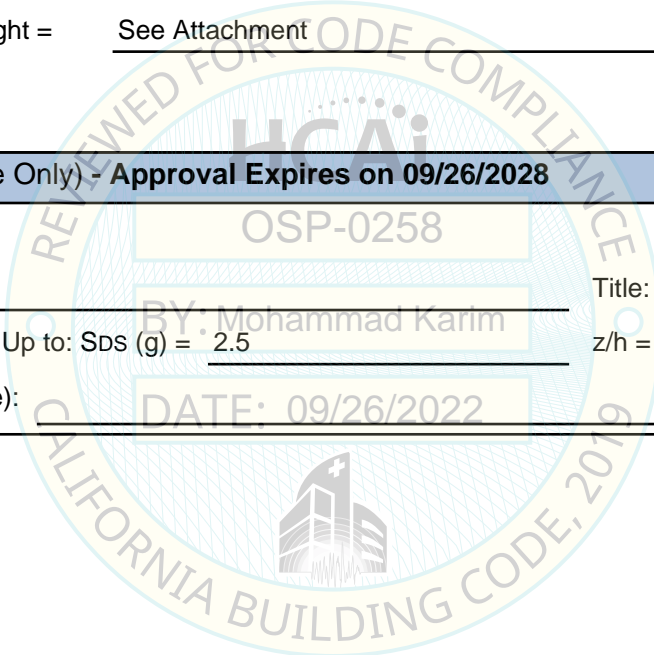
HCAI Approval (For Office Use Only) - Approval Expires on 09/26/2028

Date: 9/26/2022

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = 2.5 z/h = 1

Condition of Approval (if applicable): DATE: 09/26/2022



Special Seismic Certification
Table 1 - Certified Components



DCL Project Number: 58623-2201

Manufacturer: Myers Emergency Power Systems

Product Line: Illuminator Series IC3 Lighting Inverts

Mounting Description: Rigid floor mounted

Certified Seismic Level: $S_{DS}=2.5g$, $z/h=1.0$

Model	Dimensions (in)			Weight (lb)	Power (kVA)	Voltage (V)	UUT
	Depth	Width	Height				
1-D-1-S-Cxxx01-S-H	25.0	60.0	47.0	1,633	4.0	120/208	Extrapolated
2-D-1-S-Cxxx01-S-H	25.0	60.0	47.0	1,633	4.0	277/480	Extrapolated
1-D-2-S-Cxxx01-S-H	25.0	60.0	47.0	1,855	6.0	120/208	Extrapolated
2-D-2-S-Cxxx01-S-H	25.0	60.0	47.0	1,855	6.0	277/480	Extrapolated
1-D-3-S-Cxxx01-S-H	25.0	90.0	47.0	2,247	8.0	120/208	Extrapolated
2-D-3-S-Cxxx01-S-H	25.0	90.0	47.0	2,247	8.0	277/480	Extrapolated
1-D-4-S-Cxxx01-S-H	25.0	90.0	47.0	2,835	10.0	120/208	Extrapolated
2-D-4-S-Cxxx01-S-H	25.0	90.0	47.0	2,835	10.0	277/480	Extrapolated
1-D-5-S-Cxxx01-S-H	25.0	90.0	47.0	3,279	12.5	120/208	Extrapolated
2-D-5-S-Cxxx01-S-H	25.0	90.0	47.0	3,279	12.5	277/480	Extrapolated
1-D-6-S-Cxxx01-S-H	25.0	90.0	47.0	4,063	16.7	120/208	Extrapolated
2-D-6-S-C02501-S-H	25.0	90.0	47.0	4,063	16.7	277/480	1
1-D-7-S-Cxxx01-S-H	31.0	92.0	72.0	6,390	24.0	120/208	Interpolated
2-D-7-S-Cxxx01-S-H	31.0	92.0	72.0	6,390	24.0	277/480	Interpolated
1-D-8-S-Cxxx01-S-H	31.0	140.0	72.0	8,630	33.0	120/208	Interpolated
2-D-8-S-Cxxx01-S-H	31.0	140.0	72.0	8,630	33.0	277/480	Interpolated
1-D-9-S-Cxxx01-S-H	31.0	140.0	72.0	10,150	40.0	120/208	Interpolated
2-D-9-S-Cxxx01-S-H	31.0	140.0	72.0	10,150	40.0	277/480	Interpolated
1-D-10-S-Cxxx01-S-H	31.0	140.0	72.0	11,980	50.0	120/208	Interpolated
2-D-10-S-C08001-S-H	31.0	140.0	72.0	11,980	50.0	277/480	2

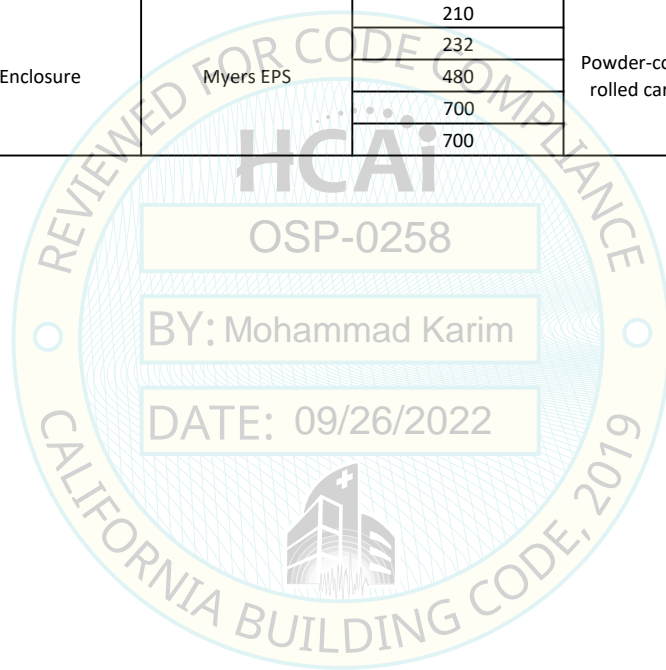
Special Seismic Certification
Table 2 - Certified Subcomponents: Enclosures



DCL Project Number: 58623-2201

Certified Seismic Level: $S_{DS}=2.5g, z/h=1.0$

Model	Type	Manufacturer	Weight (lb)	Construction Summary	UUT
CA-203295	Enclosure	Myers EPS	210	Powder-coated cold-rolled carbon steel	1
CA-203531			232		1
CA-203554			480		2
CA-203551			700		2
CA-203694			700		2

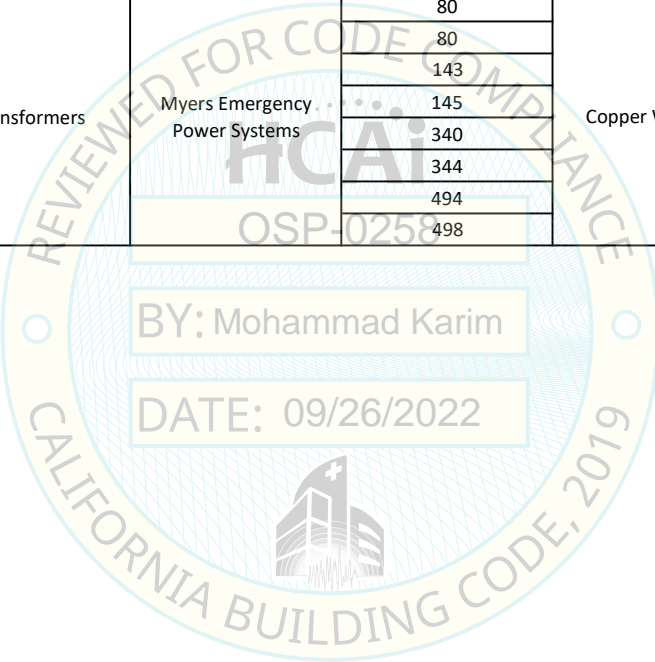


Special Seismic Certification
Table 3 - Certified Subcomponents: Main Transformers



DCL Project Number: 58623-2201
 Certified Seismic Level: $S_{DS}=2.5g, z/h=1.0$

Model	Type	Manufacturer	Weight (lb)	Construction Summary	UUT
XF-FM113799	Transformers	Myers Emergency Power Systems	80	Copper Windings	Extrapolated
XF-FM113809			80		Extrapolated
XF-FM113806			143		1
XF-FM113778			145		Interpolated
XF-FM113777			340		Interpolated
XF-FM113807			344		Interpolated
XF-FM113745			494		Interpolated
XF-FM113808			498		2



Special Seismic Certification

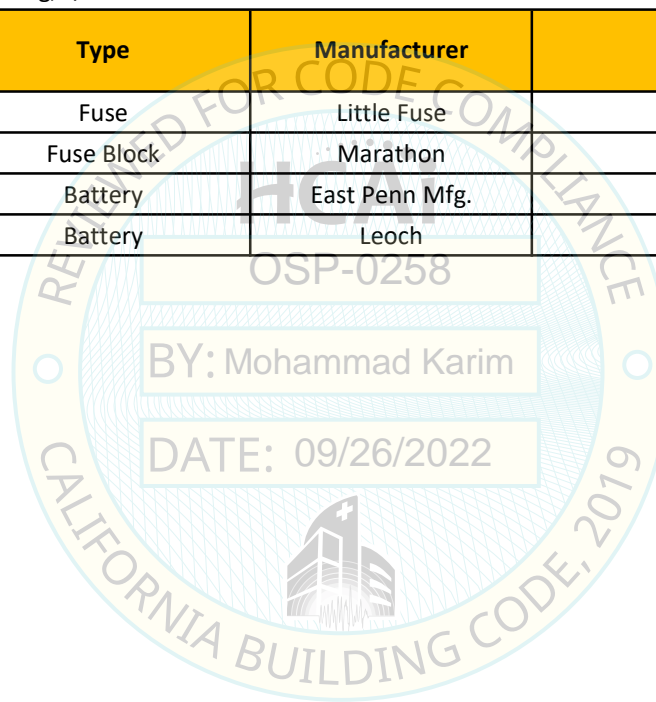
Table 4 - Certified Subcomponents: Batteries & Fuses



DCL Project Number: 58623-2201

Certified Seismic Level: $S_{DS}=2.5g$, $z/h=1.0$

Model	Type	Manufacturer	Description	UUT
NLN	Fuse	Little Fuse	60 Amp	1, 2
F60A1B	Fuse Block	Marathon	60 Amp	1, 2
12AVR100-3ET	Battery	East Penn Mfg.	12 V, 100 AH	1, 2
FT12-100	Battery	Leoch	12 V, 100 AH	1, 2



Special Seismic Certification

Table 5 - Certified Subcomponents: DC Sub-Assembly



DCL Project Number: 58623-2201

Certified Seismic Level: $S_{DS}=2.5g$, $z/h=1.0$

Model	Type	Manufacturer	UUT
NF Series	IGBT	Powerex	1,2
403164	IGBT PCB	Precision Graphics	1,2
Type DCMC	DC Capacitor	Cornell Dubilier	1,2
96-0117 - 203135	Heatsink	Richardson RFPD	1
96-0117 - 203141			2
UF12A12	Fan	Mechatronics	1,2
113141	Current Transformer	Filtran Limited	1,2
NLN	DC Fuse	Little Fuse	1,1
LAL	DC Fuse	Square D	2,2
JDL			2,2
RF100A1B	Fuse Block	Marathon	1,2
HAS 100-S	Current Sensor	LEM	1
HAS 400-S			2
403569	Control PCB	Precision Graphics	1,2

Notes:

Sub-Assembly Part Number: SA-403002, SA-403007

Special Seismic Certification

Table 6 - Certified Subcomponents: AC Sub-Assembly



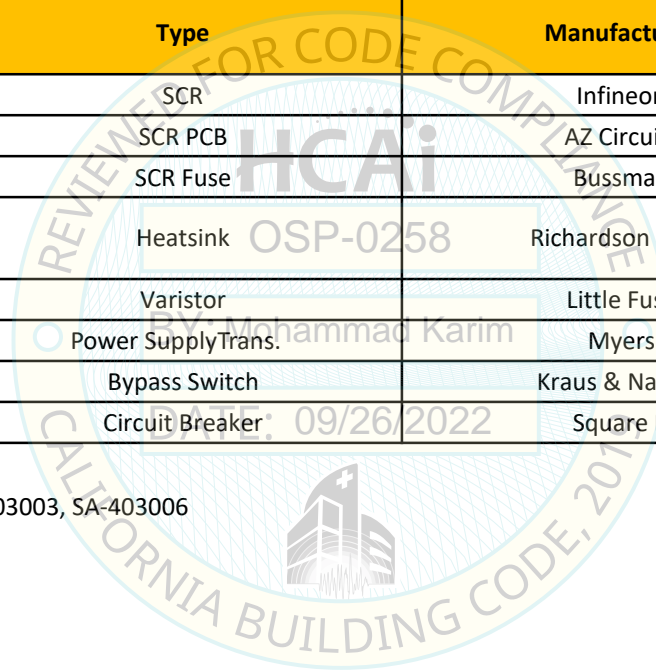
DCL Project Number: 58623-2201

Certified Seismic Level: $S_{DS}=2.5g$, $z/h=1.0$

Model	Type	Manufacturer	UUT
G2B17	SCR	Infineon	1,2
403764	SCR PCB	AZ Circuits	1,2
FWH Series	SCR Fuse	Bussman	1,2
202867	Heatsink	Richardson RFPD	1
203091			2
V321DA40	Varistor	Little Fuse	1,2
113751	Power Supply Trans.	Myers	1,2
C80-6US6900-600E	Bypass Switch	Kraus & Naimer	1,2
FAL	Circuit Breaker	Square D	1,2

Notes:

Sub-Assembly Part Number: SA-403003, SA-403006



**Special Seismic Certification
Table 7 - Tested Units**



DCL Project Number: 58623-2201

Manufacturer: Myers Emergency Power Systems

Product Line: Illuminator Series IC3 Lighting Inverts

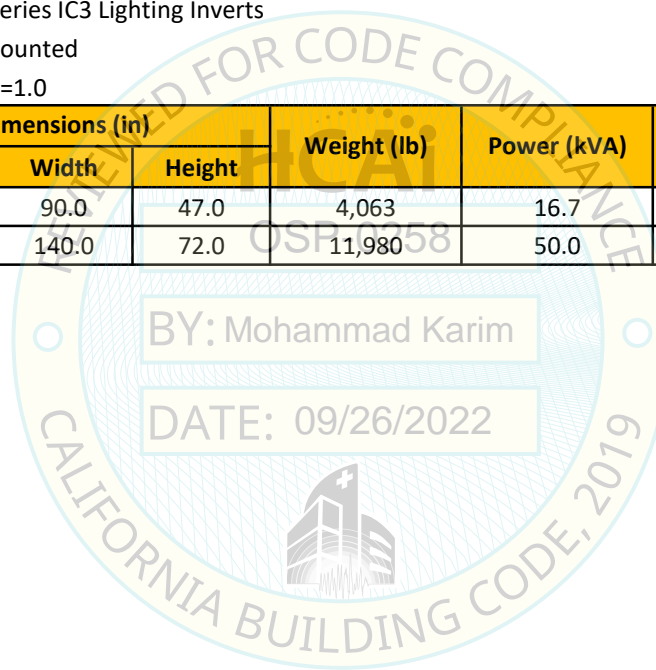
Mounting Description: Rigid floor mounted

Certified Seismic Level: $S_{DS}=2.5g$, $z/h=1.0$

Model	Dimensions (in)			Weight (lb)	Power (kVA)	Voltage (V)	UUT
	Depth	Width	Height				
2-D-6-S-C02501-S-H	25.0	90.0	47.0	4,063	16.7	277/480	1
2-D-10-S-C08001-S-H	31.0	140.0	72.0	11,980	50.0	277/480	2

BY: Mohammad Karim

DATE: 09/26/2022



UUT1
UNIT UNDER TEST (UUT)
Summary Sheet



DCL Project Number: 58623-2201

Manufacturer: Myers Emergency Power Systems

Product Line: Illuminator Series IC3 Lighting Inverters

Model Number: 2-D-6-S-C02501-S-H

Product Construction Summary:

Power-coated cold-rolled carbon steel enclosure. Lockable hinged doors.

Options / Component Summary:

Myers XF-FM113806 main transformer, Little Fuse NLN fuses, Marathon F60A1B fuse block, East Penn Mfg. 12AVR100-3ET batteries, Leoch FT12-100 batteries, Powerex NF Series IGBT, Precision Graphics 403164 IGBT PCB, Cornell Dubilier type DCMC DC capacitor, Richardson RFPD 96-0117-203135 heatsink, Mechatronics UF12A12 fan, Filtran Limited 113141 current transformer, Marathon RF100A1B fuse block, LEM HAS 100-S current sensor, Precision Graphics 403569 control PCB, Infineon G2B17 SCR, AZ Circuits 403764 SCR PCB, Bussman FWH SCR fuses, Richardson RFPD 202867 heatsink, Little Fuse V321DA40 varistor, Myers 113751 power supply transformer, Kraus & Naimer C80-6US6900-600E bypass switch, Square D FAL circuit breaker

Note: The UUT was operational before and after shaking. The structural integrity of the component attachment system and force-resisting systems was maintained.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
4,015	25	90	47	23.1	24.5	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 2022	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Rigid floor mount. Unit mounted to shake table using (6) grade 5 5/8-11 bolts.



Overall view of UUT1

UUT1
UNIT UNDER TEST (UUT)
Summary Sheet

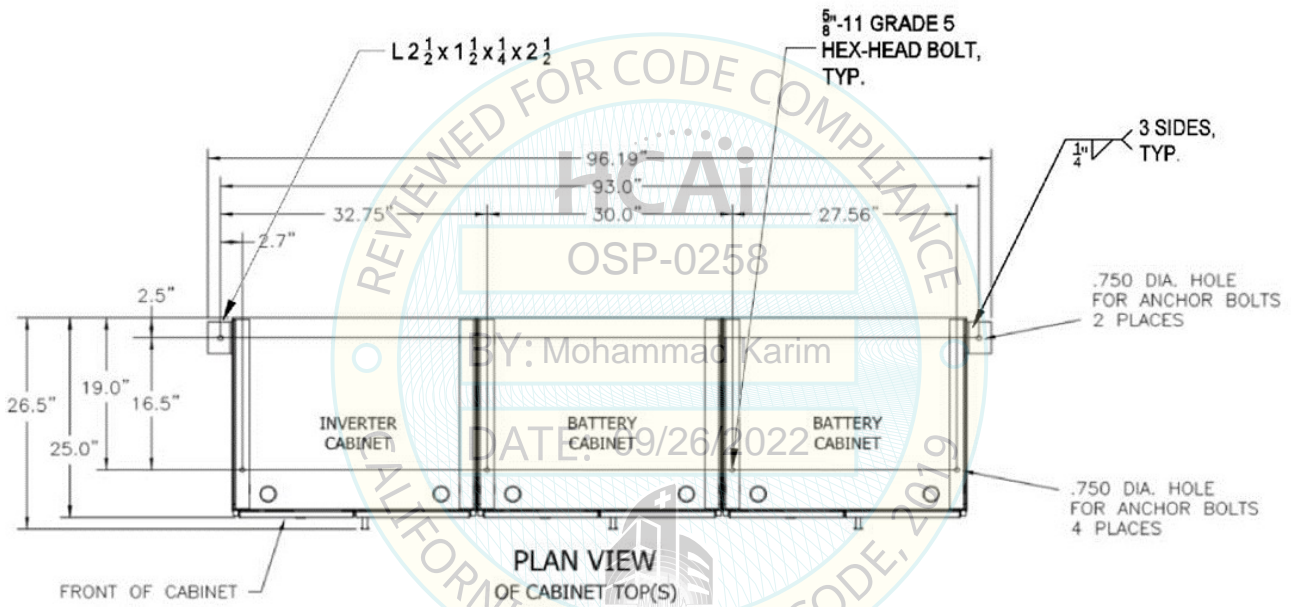


DCL Project Number: 58623-2201

Manufacturer: Myers Emergency Power Systems

Product Line: Illuminator Series IC3 Lighting Inverters

Model Number: 2-D-6-S-C02501-S-H



Support and Attachment Summary of UUT1

UUT2
UNIT UNDER TEST (UUT)
Summary Sheet



DCL Project Number: 58623-2201

Manufacturer: Myers Emergency Power Systems

Product Line: Illuminator Series IC3 Lighting Inverters

Model Number: 2-D-10-S-C08001-S-H

Product Construction Summary:

Power-coated cold-rolled carbon steel enclosure. Lockable hinged doors

Options / Component Summary:

Myers XF-FM113808 main transformer, Little Fuse NLN fuses, Marathon F60A1B fuse block, East Penn Mfg. 12AVR100-3ET batteries, Leoch FT12-100 batteries, Powerex NF Series IGBT, Precision Graphics 403164 IGBT PCB, Cornell Dubilier type DCMC DC capacitor, Richardson RFPD 96-0117-203141 heatsink, Mechatronics UF12A12 fan, Filtran Limited 113141 current transformer, Marathon RF100A1B fuse block, LEM HAS 400-S current sensor, Precision Graphics 403569 control PCB, Infineon G2B17 SCR, AZ Circuits 403764 SCR PCB, Bussman FWH SCR fuses, Richardson RFPD 203091 heatsink, Little Fuse V321DA40 varistor, Myers 113751 power supply transformer, Kraus & Naimer C80-6US6900-600E bypass switch, Square D FAL circuit breaker

Note: The UUT was operational before and after shaking. The structural integrity of the component attachment system and force-resisting systems was maintained.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
11,398	31	140	72	5.7	7.0	9.9

Seismic Test Parameters

Building Code	Test Criteria	Sds	z/h	Ip	Aflx-H	Arig-H	Aflx-V	Arig-V
CBC 2022	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Rigid floor mount. Unit mounted to shake table using (16) grade 5 5/8-11 bolts.



Overall view of UUT2

UUT2
UNIT UNDER TEST (UUT)
Summary Sheet

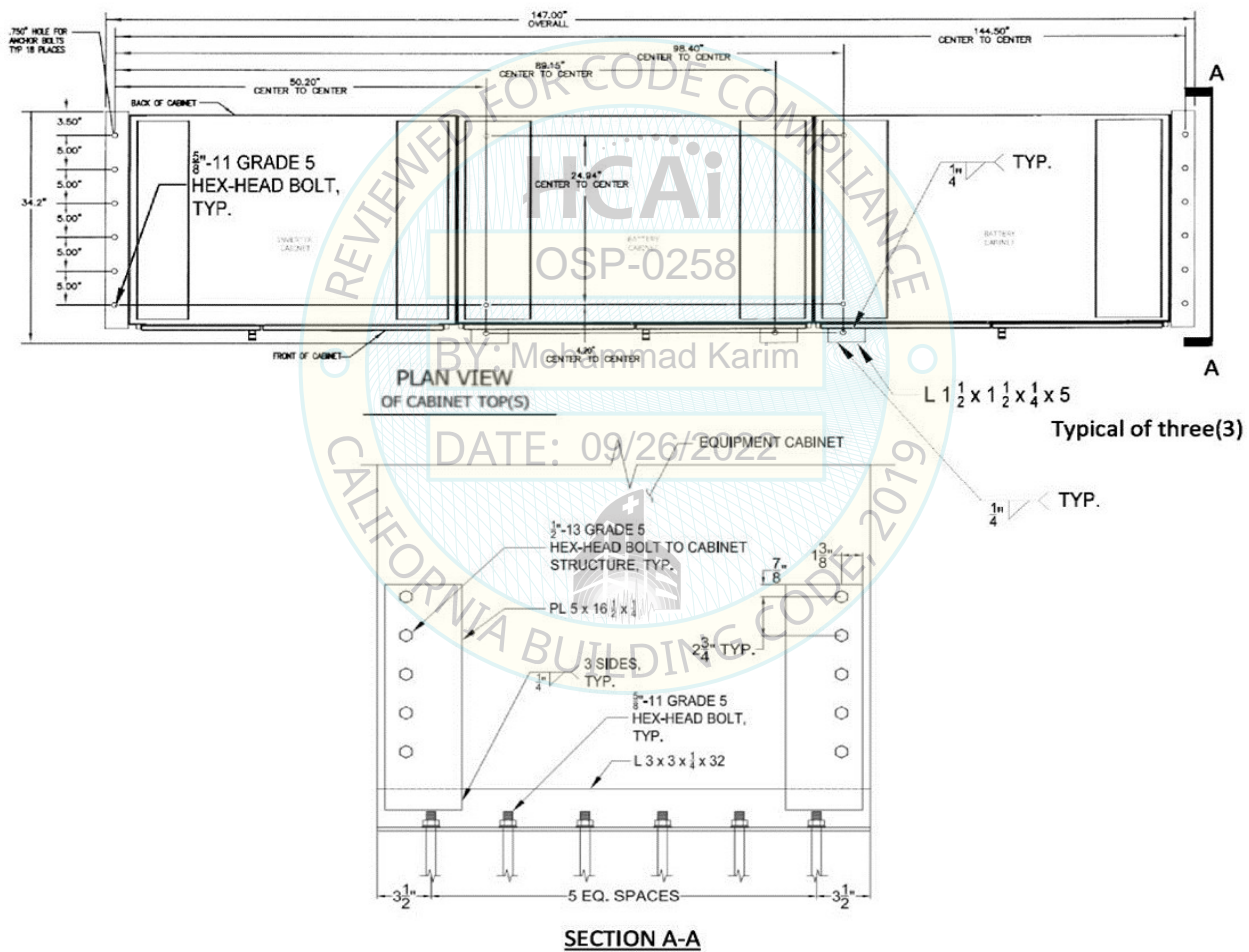


DCL Project Number: 58623-2201

Manufacturer: Myers Emergency Power Systems

Product Line: Illuminator Series IC3 Lighting Inverters

Model Number: 2-D-10-S-C08001-S-H



Support and Attachment Summary of UUT2