



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT

APPLICATION FOR HCAI SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0056

HCAI Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: MGM Transformers

Manufacturer's Technical Representative: Mike Iman

Mailing Address: 5701 Smithway Street, City of Commerce, CA 90040

Telephone: (323) 726-0888 Email: miman@mgmtransformer.com

Product Information

Product Name: Transformers

Product Model Number(s): General Purpose & Unit Substation Transformers

Product Category: Transformers

Product Sub-Category: Transformers – Dry Type

General Description: Dry-type General Purpose & Unit Substation Transformers

Mounting Description: Base Mounted Rigid -

Tested Seismic Enhancements: None

Applicant Information

Applicant Company Name: Pre Compliance

Contact Person: Galen Reid

Mailing Address: 324 NW Hill St., Bend, OR 97703

Telephone: (541) 241-2310 Email: galen@go-pre.com

Title: Principal and Program Manager



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

Company Name: PRE COMPLIANCE

Name: Andrew Coughlin

California License Number: S6082

Mailing Address: 36 SW Wall Street, Bend, OR 97702

Telephone: (415) 635-8461

Email: Andy@go-pre.com

Certification Method

☐ GR-63-Core

☒ ICC-ES AC156

☐ IEEE 344

☐ IEEE 693

☐ NEBS 3

☐ Other (Please Specify):

Testing Laboratory

Company Name: UNIVERSITY OF CALIFORNIA, BERKELEY (PEER)

Contact Person: Amarnath Kasalanati

Mailing Address: 325 Davis Hall, Berkeley CA 94720-1729

Telephone: (510) 642-3437

Email: Amarnath1@berkeley.edu

BY: Mohammad Karim

DATE: 08/08/2025



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Seismic Parameters

Certified Response Spectral Acceleration Factors:(F_p/W_p)

Horizontal (A Flx-H), g= 3.20 (A Rig-H), g= 2.15

Vertical (A Flx-V), g= 1.34 (A Rig-V), g= 0.54

S_{Ds} (Design spectral response acceleration at short period, g) = 2.0

H_f (Force amplification height factor) = 1 @ z/h =0; 3.5 @ z/h =1

R_u (Structure ductility reduction factor) = 1 @ z/h =0 and 1.3 @ z/h =1

I_p (Importance factor) = 1.5

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

HCAI Approval (For Office Use Only) - Approval Expires on 08/08/2031

Date: 8/8/2025

Name: Mohammad Karim

Title: Supervisor, Health Facilities

Condition of Approval (if applicable): _____

BY: Mohammad Karim

DATE: 08/08/2025

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENTS

Manufacturer: MGM Transformer Company
Product Type: Transformers – Dry Type
Model Line: General Purpose & Unit Substation

Seismic Parameters			Building Codes
$S_{DS} = 2.0g$ for	$R_{\mu}=1.3, H_f=3.5$	$I_p=1.5$	CBC 2025
$S_{DS} = 2.0g$ for	$R_{\mu}=1.0, H_f=1.0$		

TABLE 1

Mounting Configuration: Base Mounted - Rigid

Construction Summary

Carbon steel enclosure. Open wound coil construction.

Options Summary

NEMA 1 or 3R construction³. See Table 3 for possible product configurations and the significance of "X".

MGM Transformers can be rebranded as GE Energy Industrial Solutions, Eaton, Square D Company/Schneider Electric, Siemens Energy & Automation, or OnLine Power.

Model Line	Model ¹	Max. Dimensions (in)			Wt. (lb) ²	Notes	UUT
		D	W	H			
Unit Substation Transformers (Al-single phase)	AD2XX-XXXXX/HSXXXX2	50	56	90	1970		Extrap.
	...	...	...	...	...		Extrap.
	AD2XX-XXXXX/HSXXXX2	50	64	90	2250		Extrap.
Unit Substation Transformers (Cu-single phase)	AC2XX-XXXXX/HSXXXX1	50	56	90	1970		Extrap.
	...	...	...	...	...		Extrap.
	AC2XX-XXXXX/HSXXXX1	50	90	100	3165		Extrap.
	AC2XX-XXXXX/HSXXXX1	60	90	90	3800		Extrap.
	...	...	...	...	...		Extrap.
	AC2XX-XXXXX/HSXXXX1	60	108	100	20502		Extrap.
	AD3XX-XXXXX/HTXXXX2	50	56	90	1970		Extrap.
Unit Substation Transformers (Al-three phase)	...	...	...	...	...		Extrap.
	AD374-Q0224	50	64	90	2500		3
	...	...	...	...	...		Interp.
	AD3XX-XXXXX/HTXXXX2	50	90	100	3516		Interp.
	AD3XX-XXXXX/HTXXXX2	60	90	90	4219		Interp.
	...	...	...	...	...		Interp.
	AD3XX-XXXXX/HTXXXX2	60	108	108	20502		Interp.
	AE381-Z0107	60	108	108	20502	UUT6: Hybrid Cu/Al	6
	...	...	...	...	...		Interp.
	AD3XX-XXXXX/HTXXXX2	72	120	132	22200		Interp.
	AD378-Z1042	72	120	132	22200		7
	AC3XX-XXXXX/HTXXXX1	60	56	90	2625		Interp.
Unit Substation Transformers (Cu-three phase)	...	...	...	...	...		Interp.
	AC3XX-XXXXX/HTXXXX1	60	108	108	20502		Interp.
	AE381-Z0107	60	108	108	20502	UUT6: Hybrid Cu/Al	6
	...	...	...	...	...		Interp.
	AC3XX-XXXXX/HTXXXX1	72	120	132	22200		Interp.

¹"H" model numbering applies up to 600V class only and has identical construction to "A" models.

²Maximum operating weight and maximum allowed per enclosure depth dimensions.

³NEMA 1 is depopulated from NEMA 3R (no weather shield).

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENTS

Manufacturer: MGM Transformer Company
Product Type: Transformers – Dry Type
Model Line: General Purpose & Unit Substation

Seismic Parameters			Building Codes
$S_{DS} = 2.0g$ for	$R_{\mu}=1.3, H_f=3.5$	$I_p=1.5$	CBC 2025
$S_{DS} = 2.0g$ for	$R_{\mu}=1.0, H_f=1.0$		

TABLE 2

Mounting Configuration: Base Mounted - Rigid

Construction Summary

Carbon steel enclosure. Open wound coil construction.

Options Summary

NEMA 1 or 3R construction³. See Table 3 for possible product configurations and the significance of "X".

MGM Transformers can be rebranded as GE Energy Industrial Solutions, Eaton, Square D Company/Schneider Electric, Siemens Energy & Automation, or OnLine Power.

Model Line	Model ¹	Max. Dimensions (in)			Wt. (lb) ²	Notes	UUT
		D	W	H			
General Purpose Transformers (Al-single phase)	AD2XX-XXXXX/HSXXXX2	14.0	21.0	28.0	295		Extrap.
	...	...	...	...	...		Extrap.
	AD2XX-XXXXX/HSXXXX2	32.0	50.5	66.0	3560		Extrap.
General Purpose Transformers (Cu-single phase)	AC2XX-XXXXX/HSXXXX1	14.0	21.0	28.0	295		Extrap.
	...	...	...	...	...		Extrap.
	AC2XX-XXXXX/HSXXXX1	32.0	50.5	66.0	3560		Extrap.
General Purpose Transformers (Al-three phase)	AD3XX-XXXXX/HTXXXX2	14.0	21.0	28.0	295		Extrap.
	...	...	...	...	...		Extrap.
	AE374-N0227	21	36.5	40.5	1086	UUT4: Hybrid Cu/Al	4
	...	...	...	...	...		Interp.
	AD3XX-XXXXX/HTXXXX2	32.0	50.5	66.0	3957		Interp.
	AE378-U0376	32.0	50.5	66.0	3957	UUT5: Hybrid Cu/Al	5
	...	...	...	...	...		Interp.
	AD3XX-XXXXX/HTXXXX2	50.0	64.0	80.0	6755		Interp.
	AD370-W0406	50.0	64.0	80.0	6755		8
General Purpose Transformers (Cu-three phase)	AC3XX-XXXXX/HTXXXX1	14.0	21.0	28.0	325		Extrap.
	...	...	...	...	...		Extrap.
	AE374-N0227	21	36.5	40.5	1086	UUT4: Hybrid Cu/Al	4
	...	...	...	...	...		Interp.
	AC3XX-XXXXX/HTXXXX1	32.0	50.5	66.0	3957		Interp.
	AE378-U0376	32.0	50.5	66.0	3957	UUT5: Hybrid Cu/Al	5
	...	...	...	...	...		Interp.
	AC3XX-XXXXX/HTXXXX1	50.0	64.0	80.0	6755		Interp.

¹"H" model numbering applies up to 600V class only and has identical construction to "A" models.

²Maximum operating weight and maximum allowed per enclosure depth dimensions.

³NEMA 1 is depopulated from NEMA 3R (no weather shield).

Manufacturer: MGM Transformer Company
Product Type: Transformers – Dry Type
Model Line: General Purpose & Unit Substation

FOR REFERENCE ONLY

Column	Description	Key
Column 1	Prefix	A = This column is always letter "A"
Column 2	Winding Material	C = Copper D = Aluminum E = Aluminum / Copper Hybrid
Column 3	Phase	2 - Single Phase 3 - Three Phase
Column 4 & 5	Voltage Class	70 = 600V Class 72 = 2.5kV Class 74 = 5kV Class 76 = 8.7kV Class 78 = 15kV Class 79 = 25kV Class 81 = 35kV Class
Column 6	Max kVA Rating	A = 9 - 14 B = 15 - 19 C = 20 - 24 D = 25 - 29 E = 30 - 36 F = 37 - 44 G = 45 - 49 H = 50 - 74 J = 75 - 99 K = 100 - 111 L = 112.5 - 124 M = 125 - 149 N = 150 - 199 P = 200 - 224 Q = 225 - 249 R = 250 - 299 S = 300 - 399 T = 400 - 499 U = 500 - 749 V = 750 - 999 W = 1,000 - 1,499 X = 1,500 - 1,999 Y = 2,000 - 2,499 Z = 2,500 and up
Columns 7-10	Unit Specific Digits	Details specific primary and secondary voltage/temp rise. No mechanical change

Manufacturer: MGM Transformer Company
Product Type: Transformers – Dry Type
Model Line: General Purpose & Unit Substation

FOR REFERENCE ONLY

Column	Description	Key		
Column 1	Prefix	H = 220° C Insulation System		
Column 2	Phase	T = Three phase S = Single phase		
Column 3	kVA Rating	9 to 1500		
Column 4 & 6	Primary Voltage or Secondary Voltage	Letter	3-Phase Voltage	1-Phase Voltage
		A	480 Delta	480
		B	208Y/120	120/240
		C	240 Delta	240/480
		D	480Y/277	240
		E	120 Delta	120
		F	600 Delta	600
		G	208 Delta	208
		H	230 Delta	230/460
		J	460 Delta	460
		K	240/120 CT	
		L	240Y/139	
		M	380 Delta	
		N	575 Delta	
		P	230Y/133	230/115
		Q	400Y/231	
		R	380Y/220	
		T	240Y/139	
		U	440D	
		V	220D	110/220
		W	500D	230
		X	440Y/254	
		AZ	450D	450
		BZ	440Y/254	440
		CZ	415D	
		DZ	240 X 480	
		EZ	220Y/127	
		FZ	416Y/240	
		GZ	560Y/266	
		HZ	115D	115
		JZ	550D	
		KZ	280D	
		LZ	360D	
		MZ	160Y/93	



Pre No. CC241455-01-R0

FOR REFERENCE ONLY

laps

1 through 8

1 = Cu

2 = Al

3 = Al/Cu

HC&I

OSP-0056

BY: Mohammad Karim

DATE: 08/08/2025

CALIFORNIA BUILDING CODE, 2022



PRE
COMPLIANCE

Pre No. CC241455-01-R0

Manufacturer:

MGM Transformer Company

Product Type: Transformers – Dry Type

Transformers – Dry Type

Model Line: General Purpose & Unit Substation

General Purpose & Unit Substation

Seismic Parameters

S_{DS} = 2.0g for R_u=1.3, H_f=3.5

 $R_u=1.3, H_f=3.5$

$S_{DS} = 2.0g$ for $R_H=1.0, H_f=1.0$

 $R_{11}=1.0, H_f=1.0$

$I_p=1.5$

Building Codes

CBC 2025

TABLE 5

Table Description: Enclosures

[illegible]



PRE
COMPLIANCE

SPECIAL SEISMIC CERTIFICATION TESTING SUMMARY

Pre No. CC241455-01-R0

[illegible]

SPECIAL SEISMIC CERTIFICATION UUT SUMMARY

UUT 3

Test Report# T5138

Manufacturer: MGM Transformer Company
Model Line: General Purpose & Unit Substation
Model Number: AD374-Q0224
Serial Number: N/A

Highest Passed Test Level

S_{DS}	R_{μ}	H_f	I_p	A_{flx-h}	A_{rig-h}	A_{flx-v}	A_{rig-v}
2.0	1.3	3.5	1.5	3.20	2.15	1.34	0.54
2.0	1.0	1.0					

Dimensions/Weights

Depth (in)	Width (in)	Height (in)	Weight (lbs.)
50	64	90	2,500

Lowest Natural Frequency (Hz)

Front-Back	Side-Side	Vertical
12.7	14.2	19.1

Building Codes

CBC 2025

Test Criteria

ICC-ES AC156

Construction/Option Summary

NEMA 3R carbon steel enclosure. Open wound coil construction. 225kVA. 5kV Class. Al Windings. 3 Phase.

UUT Mounting Details:



UUT was rigid base mounted using (4) 5/8" Grade 5 bolts with washers and lock washers. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

List of Included Subcomponents

Description	Model Number	Wt. (lbs.)
Enclosure	US64	1200

SPECIAL SEISMIC CERTIFICATION UUT SUMMARY

UUT 4

Test Report# 1700707-TR-001-R3

Manufacturer: MGM Transformer Company
Model Line: General Purpose & Unit Substation
Model Number: AE374-N0227
Serial Number: N/A

Highest Passed Test Level

S_{DS}	R_{μ}	H_f	I_p	A_{flx-h}	A_{rig-h}	A_{flx-v}	A_{rig-v}
2.12	1.3	3.5	1.5	3.39	2.28	1.84	0.74
2.75	1.0	1.0					

Dimensions/Weights

Depth (in)	Width (in)	Height (in)	Weight (lbs.)
21	36.5	40.5	1,086

Lowest Natural Frequency (Hz)

Front-Back	Side-Side	Vertical
10.85	5.31	10.96

Building Codes

CBC 2025

Test Criteria

ICC-ES AC156

Construction/Option Summary

NEMA 3R carbon steel enclosure. Open wound coil construction. 150kVA. 5kV Class. Al/Cu Windings. 3 Phase.

UUT Mounting Details:



UUT was rigid base mounted using (4) 1/2" Grade 8 bolts with washers and lock washers. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

List of Included Subcomponents

Description	Model Number	Wt. (lbs.)
Enclosure	GPA	60

SPECIAL SEISMIC CERTIFICATION UUT SUMMARY

UUT 5

Test Report# 1700707-TR-001-R3

Manufacturer: MGM Transformer Company
Model Line: General Purpose & Unit Substation
Model Number: AE378-U0376
Serial Number: N/A

Highest Passed Test Level

S_{DS}	R_{μ}	H_f	I_p	A_{flx-h}	A_{rig-h}	A_{flx-v}	A_{rig-v}
2.12	1.3	3.5	1.5	3.39	2.28	1.84	0.74
2.75	1.0	1.0					

Dimensions/Weights

Depth (in)	Width (in)	Height (in)	Weight (lbs.)
32	50.5	66	3,957

Lowest Natural Frequency (Hz)

Front-Back	Side-Side	Vertical
8.25	6.85	16.42

Building Codes

CBC 2025

Test Criteria

ICC-ES AC156

Construction/Option Summary

NEMA 3R carbon steel enclosure. Open wound coil construction. 500kVA. 5kV Class. Al/Cu Windings. 3 Phase.

UUT Mounting Details:



BY: Mohammad Karim

DATE: 08/08/2025



UUT was rigid base mounted using (4) 1/2"-13 Grade 8 bolts with washers and lock washers. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

List of Included Subcomponents

Description	Model Number	Wt. (lbs.)
Enclosure	GPE	535

SPECIAL SEISMIC CERTIFICATION UUT SUMMARY

UUT 6

Test Report# 1700707-TR-001-R3

Manufacturer: MGM Transformer Company
Model Line: General Purpose & Unit Substation
Model Number: AE381-Z0107
Serial Number: N/A

Highest Passed Test Level

S_{DS}	R_{μ}	H_f	I_p	A_{flx-h}	A_{rig-h}	A_{flx-v}	A_{rig-v}
2.12	1.3	3.5	1.5	3.39	2.28	1.84	0.74
2.75	1.0	1.0					

Dimensions/Weights

Depth (in)	Width (in)	Height (in)	Weight (lbs.)
60	108	108	20,502

Lowest Natural Frequency (Hz)

Front-Back	Side-Side	Vertical
15.78	20.00	15.14

Building Codes

CBC 2025

Test Criteria

ICC-ES AC156

Construction/Option Summary

NEMA 3R carbon steel enclosure. Open wound coil construction. 3000kVA. 35kV Class. Al/Cu Windings. 3 Phase.

UUT Mounting Details:

BY: Mohammad Karim



UUT was rigid base mounted using (4) 3/4"-10 Grade 8 bolts with lock washers and flat washers internally at unit corners and (4) 3/4"-10 Grade 8 bolts with lock washers and flat washers on the exterior of the unit through the down-turned manufacturer provided lifting lugs. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

List of Included Subcomponents

Description	Model Number	Wt. (lbs.)
Enclosure	US108	2330

SPECIAL SEISMIC CERTIFICATION UUT SUMMARY

UUT 7

Test Report# TR241455-01-R0 (UUT1)

Manufacturer: MGM Transformer Company
Model Line: General Purpose & Unit Substation
Model Number: AD378-Z1042
Serial Number: N/A

Highest Passed Test Level

S_{DS}	R_{μ}	H_f	I_p	A_{flx-h}	A_{rig-h}	A_{flx-v}	A_{rig-v}
2.0	1.3	3.5	1.5	3.20	2.15	1.34	0.54
2.0	1.0	1.0					

Dimensions/Weights

Depth (in)	Width (in)	Height (in)	Weight (lbs.)
72	120	132	22,200

Lowest Natural Frequency (Hz)

Front-Back	Side-Side	Vertical
5.4	6.10	15.2

Building Codes

CBC 2025

Test Criteria

ICC-ES AC156

Construction/Option Summary

NEMA 3R carbon steel enclosure. Open wound coil construction. 5000kVA. 35kV Class. Al Windings. 3 Phase.

UUT Mounting Details:



Karim

2025

UUT was rigid base mounted using (8) 3/4"-10 Grade 8 bolts and flat washers.

Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

List of Included Subcomponents

Description	Model Number	Wt. (lbs.)
Enclosure	US120	2772

SPECIAL SEISMIC CERTIFICATION UUT SUMMARY

UUT 8

Test Report# TR241455-01-R0 (UUT2)

Manufacturer: MGM Transformer Company
Model Line: General Purpose & Unit Substation
Model Number: AD370-W0406
Serial Number: N/A

Highest Passed Test Level

S_{DS}	R_{μ}	H_f	I_p	A_{flx-h}	A_{rig-h}	A_{flx-v}	A_{rig-v}
2.0	1.3	3.5	1.5	3.20	2.15	1.34	0.54
2.0	1.0	1.0					

Dimensions/Weights

Depth (in)	Width (in)	Height (in)	Weight (lbs.)
50	64	80	6,755

Lowest Natural Frequency (Hz)

Front-Back	Side-Side	Vertical
7.8	7.30	23.0

Building Codes

CBC 2025

Test Criteria

ICC-ES AC156

Construction/Option Summary

NEMA 3R carbon steel enclosure. Open wound coil construction. 1250kVA. 5kV Class. Al Windings. 3 Phase.

UUT Mounting Details:



UUT was rigid base mounted using (6) 3/4"-10 Grade 8 bolts and flat washers. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

List of Included Subcomponents

Description	Model Number	Wt. (lbs.)
Enclosure	GPF	685