APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY	
APPLICATION #:	OSP – 0193 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: MTU Onsite Energy

Manufacturer's Technical Representative: Ben Stratton

Mailing Address: 100 Power Drive, Mankato MN 56001

Telephone: 507-625-7973 Email: ben.stratton@mtu-onsite.com

Product Information

Product Name: Automatic & By-Pass Transfer Switches

Product Type: ZT, ZBT-V, ZBT-H

Product Model Number: See Certified Product List Table 1A, 1B & 1C
(List all unique product identification numbers and/or part numbers)

General Description: Automatic and By-Pass Transfer Switches, which are manual, automatic, or a combination of both. The switches transfer power from the incoming utility power to generator power. Seismic Enhancements made to the test units and modifications required to address anomalies observed during the tests shall be incorporated into the production units.

Mounting Description: Rigid floor mounted

Applicant Information

Applicant Company Name: The VMC Group

Contact Person: John P. Giuliano, PE

Mailing Address: 113 Main Street, Bloomingdale NJ 07403

Telephone: 973-838-1780 Email: john.giuliano@thevmcgroup.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: 5-31-16

Title: President Company Name: The VMC Group

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

Company Name: The VMC Group

Name: Kenneth Tarlow California License Number: SE2851

Mailing Address: 113 Main Street, Bloomingdale NJ 07403

Telephone: 973-838-1780 Email: 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): _____

Testing Laboratory

Company Name: Clark Dynamic Test Laboratory

Contact Name: JR Antenucci

Mailing Address: 1801 Route 51 South, Jefferson Hills PA 15025

Telephone: 412-382-7173 Email: jrantenucci@clarkdynamic.com

Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = 1.5

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

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

R_p (Equipment or component response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component Natural Frequencies (Hz) = See UUT-1 to UUT-6

Overall dimensions and weight (or range thereof) = See Table 1A, 1B, 1C & 2A

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) = _____

Ω_0 (System overstrength factor) = _____

C_d (Deflection amplification factor) = _____

I_p (Importance factor) = 1.5

Height to Center of Gravity above base = _____

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: _____ Date: 9/13/16

Print Name: M. R. Karim Title: SHFR

Special Seismic Certification Valid Up to : S_{DS} (g) = 2.0 z/h = 1.0

Condition of Approval (if applicable): _____

TABLE 1A
SPECIAL SEISMIC CERTIFICATION
CERTIFIED PRODUCT LIST

Manufacturer: General Electric

Product Line: ZT Automatic Transfer Switches

Certified Product Construction Summary:

Carbon steel enclosures, NEMA Type 1, 3R, 4 or 12

Certified Component Summary:

2, 3 or 4 pole transfer switches

Mounting Summary:

All listed units are rigid floor mounted.

Building Code: CBC 2016 | **Seismic Certification Limits:** S_{DS} = 2.00 g | z/h = 1.00 | Ip = 1.50

Frame Size	Test Report & Report UUT No.	UUT Number	Models	Amperages	Poles	Dimension (in.)			Weight (lbs)	NEMA Type
						Width	Depth	Height		
F14	T4343, F14 600A	1	ZTG	600	3	24	20	66	265	1
F14	n/a	Interpolated	ZTG, ZTGD	600	2, 3 & 4	24	20	66	214-265	1, 3R, 4, & 12
63L	n/a	Interpolated	ZTS, ZTSD, ZTSCT, Z10, Z1D & Z1C	600	2, 3 & 4	24-40	20	66-74	380-500	1, 3R, 4, & 12
63L	n/a	Interpolated	ZTG, ZTGD, ZTS, ZTSD, ZTSCT, Z10, Z1D & Z1C	800-1200	2, 3 & 4	40	20	74	505-610	1, 3R, 4, & 12
63L	n/a	Interpolated		1600-2000	3 & 4	36	48	90	1010-1190	1
65L	n/a	Interpolated		2600-3000	3 & 4	36	48	90	1130-1415	1
65L	n/a	Interpolated		4000	3 & 4	36-46	48-60	90	1595-2100	1
65L	T4343, 65L 4000A	2	ZTS	4000	4	46	60	90	2100	1

ZT, ATS Models

ZTG - Open Transition with MX150 Controller
ZTGD - Delay Transition with MX150 Controller
ZTS - Open Transition with MX250 Controller
ZTSD - Delay Transition with MX250 Controller
ZTSCT - Closed Transition with MX250 Controller
Z10 - Open Transition with MX350 Controller
Z1D - Delay Transition with MX350 Controller
Z1C - Closed Transition with MX350 Controller

TABLE 1B
SPECIAL SEISMIC CERTIFICATION
CERTIFIED PRODUCT LIST

Manufacturer: General Electric

Product Line: ZBT-V By-Pass/Isolation Transfer Switches, Vertical Construction

Certified Product Construction Summary:

Carbon steel enclosures, NEMA Type 1, 3R, 4 or 12

Certified Component Summary:

3 or 4 pole transfer switches

Mounting Summary:

All listed units are rigid floor mounted.

Building Code: CBC 2016 | **Seismic Certification Limits:** S_{DS} = 2.00 g | z/h = 1.00 | Ip = 1.50

Frame Size	Test Report & Report UUT No.	UUT Number	Models	Amperages	Poles	Dimension (in.)			Weight (lbs)	NEMA Type
						Width	Depth	Height		
F14C	T4343, F14C 400A	3	ZBTS-B0	400	3	30	31	83	875	1
F14C	n/a	Interpolated	ZBTS-B0, ZBTSD-B0, ZBTSCT-B0, Z20, Z2D & Z2C	100-400	3 & 4	30-40	28-31	83-90	770-1500	1
64B	n/a	Interpolated		600	3 & 4	36-40	28	90	1220-1635	1, 3R, 4, & 12
64B	n/a	Interpolated		800-1200	3 & 4	40-46	28	90	1355-1745	1, 3R, 4, & 12
65B	n/a	Interpolated		1600-2000	3 & 4	40-50	61	90	3100-4070	1
65B	n/a	Interpolated		3000	3 & 4	40-50	73	90	3500-5070	1
65B	n/a	Interpolated		4000	3 & 4	47-54	81	90	4730-6000	1
65B	T4343, 65B 4000A	4	ZBTS-B0	4000	4	54	81	90	6000	1

ZBT-V, By-Pass Switch Models

ZBTS-B0- Open Transition with MX250 Controller
ZBTSD-B0- Delay Transition with MX250 Controller
ZBTSCT-B0- Closed Transition with MX250 Controller
Z20 - Open Transition with MX350 Controller
Z2D - Delay Transition with MX350 Controller
Z2C - Closed Transition with MX350 Controller

TABLE 1C
SPECIAL SEISMIC CERTIFICATION
CERTIFIED PRODUCT LIST

Manufacturer: General Electric

Product Line: ZBT-H By-Pass/Isolation Transfer Switches, Horizontal Construction

Certified Product Construction Summary:

Carbon steel enclosures, NEMA Type 1

Certified Component Summary:

3 or 4 pole transfer switches

Mounting Summary:

All listed units are rigid floor mounted.

Building Code: CBC 2016 | **Seismic Certification Limits:** S_{DS} = 2.00 g | z/h = 1.00 | Ip = 1.50

Frame Size	Test Report & Report UUT No.	UUT Number	Models	Amperages	Poles	Dimension (in.)			Weight (lbs)	NEMA Type
						Width	Depth	Height		
64B	T4761, 64B 1200A	5	ZBTS-B1	1200	3	39	36	81	1334	1
64B	n/a	Interpolated	ZBTS-B1, ZBTSD-B1, ZBTSCT-B1, Z30, Z3D & Z3C	600-1200	3 & 4	39-42	36	81	1334-1330	1
65B	n/a	Interpolated		3000	3 & 4	40-46	65	80	4456-5747	1
65B	T4761, 65B 3000A	6	ZBTS-B1	3000	4	46	65	80	5747	1

ZBT-H, By-Pass Switch Models

ZBTS-B1- Open Transition with MX250 Controller
ZBTSD-B1- Delay Transition with MX250 Controller
ZBTSCT-B1- Closed Transition with MX250 Controller
Z30 - Open Transition with MX350 Controller
Z3D - Delay Transition with MX350 Controller
Z3C - Closed Transition with MX350 Controller

TABLE 2A
SPECIAL SEISMIC CERTIFICATION
TESTED & CERTIFIED ENCLOSURES

Manufacturer: General Electric

Product Line: GE Automatic & By-Pass Transfer Switch Enclosures

Mounting Summary:

All listed enclosures are rigid floor mounted.

Building Code: CBC 2016 **Seismic Certification Limits:** S_{DS} = 2.00 g z/h = 1.00 Ip = 1.50

Test Report & Report UUT No.	Construction Material	NEMA Type	Dimension (in.)			Weight (lbs)	Model	UUT Number
			Width	Depth	Height			
ZT, Automatic Transfer Switch Enclosures								
T4343	12 ga, CS	1	20	24	66	265	ZTG-600	1
n/a	12 ga, CS	1, 3R, 4 or 12	20	24-40	66-74	215-610	ZTG, ZTGD, ZTS, ZTSD, ZTSCT, Z10, Z1D & Z1C 600-1200	Interpolated
n/a	10 ga, CS	1	36-46	48-60	90	1010-2100	ZTG, ZTGD, ZTS, ZTSD, ZTSCT, Z10, Z1D & Z1C 1600-4000	Interpolated
T4343	10 ga, CS	1	46	60	90	2100	ZTS-4000	2
ZBT-V, By-Pass Transfer Switch Enclosures, Vertical Construction								
T4343	10 ga, CS	1	30	31	83	875	ZBTS-B0-400	3
n/a	10 ga, CS	1, 3R, 4 or 12	30-40	28-31	83-90	770-1500	ZBTS-B0, ZBTSD-B0, ZBTSCT-B0, Z20, Z2D & Z2C 100-400	Interpolated
n/a	10 ga, CS	1, 3R, 4 or 12	36-46	28	90	1220-1745	ZBTS-B0, ZBTSD-B0, ZBTSCT-B0, Z20, Z2D & Z2C 600-1200	Interpolated
n/a	10 ga, CS	1	40-54	61-81	90	3100-6000	ZBTS-B0, ZBTSD-B0, ZBTSCT-B0, Z20, Z2D & Z2C 1600-4000	Interpolated
T4343	10 ga, CS	1	54	81	90	6000	ZBTS-B0-4000	4
ZBT-H, By-Pass Transfer Switch Enclosures, Horizontal Construction								
T4761	10 ga, CS	1	39	36	81	1334	ZBTS-B1-1200	5
n/a	10 ga, CS	1	39-46	36-65	80-81	1334-5930	ZBTS-B1, ZBTSD-B1, ZBTSCT-B1, Z30, Z3D & Z3C 600-3000	Interpolated
T4761	10 ga, CS	1	46	65	80	5747	ZBTS-B1-3000	6

NOTES:

1. Listed weights are for entire unit not just enclosure.

CS = Carbon Steel

2. The size, construction material and coating of NEMA Type 3R, 4 and 12 enclosures are identical.

3. See below Table for the differences between NEMA Type 1 and Type 3R, 4 & 12 enclosures.

Cabinet Parts	NEMA Type 1	NEMA Type 3R, 4 & 12
Hinges	regular type	barrel type
Door Gasket	not provided	provided
Other	n/a	The body has edges which contact the gasket on the door

TABLE 2B
SPECIAL SEISMIC CERTIFICATION
TESTED & CERTIFIED AUTOMATIC & BYPASS TRANSFER SWITCHES

Manufacturer: General Electric

Product Line: GE Automatic & By-Pass Transfer Switches

Mounting Summary:

All listed units are rigid floor mounted.

Building Code: CBC 2016 | **Seismic Certification Limits:** Sds = 2.00 g | z/h = 1.00 | Ip = 1.50

Model Numbers	Manufacturer	Description	Approx. Weight (lbs)	Test Report & Report UUT No.	UUT number
ZT, Automatic Transfer Switches					
ZTG-600	GE	600A	265	T4343, F14 600A	1
ZTG, ZTGD, ZTS, ZTSD, ZTSCT, Z10, Z1D & Z1C-600 to 4000	GE	600A - 4000A	214-2100	n/a	Interpolated
ZTS-4000	GE	4000A	2100	T4343, 65L 4000A	2
ZBT-V, By-Pass Transfer Switches - Vertical Construction					
ZBTS-B0-400	GE	400A	875	T4343, F14C 400A	3
ZBTS-B0, ZBTSD-B0, ZBTSCT-B0, Z20, Z2D & Z2C-100 to 4000	GE	100A - 4000A	770-6000	n/a	Interpolated
ZBTS-B0-4000	GE	4000A	6000	T4343, 65B 4000A	4
ZBT-H, By-Pass Transfer Switches - Horizontal Construction					
ZBTS-B1-1200	GE	1200A	1334	T4761	5
ZBTS-B1, ZBTSD-B1, ZBTSCT-B1, Z30, Z3D & Z3C-600 to 3000	GE	600A - 3000A	1334-5930	n/a	Interpolated
ZBTS-B1-3000	GE	3000A	5747	T4761	6

NOTES:

1. Listed weights are for entire unit not just the transfer switch.

ZT, ATS Models

ZTG - Open Transition with MX150 Controller
ZTGD - Delay Transition with MX150 Controller
ZTS - Open Transition with MX250 Controller
ZTSD - Delay Transition with MX250 Controller
ZTSCT - Closed Transition with MX250 Controller
Z10 - Open Transition with MX350 Controller
Z1D - Delay Transition with MX350 Controller
Z1C - Closed Transition with MX350 Controller

ZBT-V, By-Pass Switch Models

ZBTS-B0- Open Transition with MX250 Controller
ZBTSD-B0- Delay Transition with MX250 Controller
ZBTSCT-B0- Closed Transition with MX250 Controller
Z20 - Open Transition with MX350 Controller
Z2D - Delay Transition with MX350 Controller
Z2C - Closed Transition with MX350 Controller

ZBT-H, By-Pass Switch Models

ZBTS-B1- Open Transition with MX250 Controller
ZBTSD-B1- Delay Transition with MX250 Controller
ZBTSCT-B1- Closed Transition with MX250 Controller
Z30 - Open Transition with MX350 Controller
Z3D - Delay Transition with MX350 Controller
Z3C - Closed Transition with MX350 Controller

TABLE 2C
SPECIAL SEISMIC CERTIFICATION
TESTED & CERTIFIED CONTROLLERS

Manufacturer: General Electric

Product Line: GE Automatic & By-Pass Transfer Switch Controllers

Building Code: CBC 2016 | **Seismic Certification Limits:** S_{DS} = 2.00 g | z/h = 1.00 | Ip = 1.50

Model Number	Manufacturer	Description	Approx. Weight (lbs)	Test Report & Report UUT No.	UUT number
MX 150	GE	Transfer Switch Controller	12	T4343, F14-600A	1
MX 250	GE	Transfer Switch Controller	12	T4343, 65L-4000A	2
MX 250	GE	Transfer Switch Controller	12	T4343, F14C-400A	3
MX 250	GE	Transfer Switch Controller	12	T4343, 65B-4000A	4
MX 250	GE	Transfer Switch Controller	12	T4761, 64B-1200A	5
MX 250	GE	Transfer Switch Controller	12	T4761, 65B-3000A	6
MX 350	GE	Transfer Switch Controller	2	n/a	Extrapolated
MX 350 CPU	GE	Transfer Switch Controller	3	n/a	Extrapolated

TABLE 3
SPECIAL SEISMIC CERTIFICATION
SUMMARY OF TESTED UNITS

Manufacturer: General Electric

Product Line: ZT Automatic Switches
ZBT-V & ZBT-H By-Pass Transfer Switches

Tested Product Construction Summary:

Automatic & By-Pass Transfer Switches in carbon steel cabinets

Tested Options / Component Summary:

3 or 4 pole transfer switches

Tested Mounting Summary:

Units are rigid floor mounted.

Building Code: CBC 2016 **Seismic Certification Limits:** Sds = 2.00 g z/h = 1.00 Ip = 1.50

Test Report & Report UUT No.	Model Tested	NEMA Type	Dimension (in.)			Weight (lbs)	Mounting Configuration	UUT
			Width	Depth	Height			
T4343, F14-600A	ZTG-600, 3 pole, ATS	1	20	24	69	265	Floor mounted	1
T4343, 65L-4000A	ZTS-4000, 4 pole, ATS	1	46	60	90	2100	Floor mounted	2
T4343, F14C-400A	ZBTS-B0-400, 3 pole, By-Pass, Vertical Construction	1	30	31	83	875	Floor mounted	3
T4343, 65B-4000A	ZBTS-B0-4000, 4 pole, By-Pass, Vertical construction	1	54	81	90	6000	Floor mounted	4
T4761, 64B-1200A	ZBTS-B1-1200, 3 pole, By-Pass, Horizontal Construction	1	39	36	81	1334	Floor mounted	5
T4761, 65B-3000A	ZBTS-B1-3000, 4 pole,By-Pass, Horizontal Construction	1	46	65	80	5747	Floor mounted	6

	UUT-1
	UNIT UNDER TEST (UUT) SUMMARY SHEET

Manufacturer:	General Electric		
Product Line:	ZT Automatic Transfer Switches		
Model Number:	ZTG-600	**Report No.:**	T4343
Test Laboratory:	Clark Dynamic Test Laboratory, Inc.	**UUT No. in the Report:**	F14-600A

Product Construction Summary:

Floor mounted, light gage painted, carbon steel enclosure, NEMA 1 rated

Component Summary:

600 Amp, 3 pole, Automatic Transfer Switch with MX150 Controller

UUT PROPERTIES

Test Criteria: ICC-ES AC156

Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
265	24	20	69	29.7	10.9	> 33.3

SEISMIC TEST PARAMETERS

Building Code	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	2.00	1.00	1.50	3.20	2.40	1.34	0.54

Tested Unit Mounting Details: Unit was floor mounted with (4) - 1/2" diameter Carbon Steel Hex Head Bolts. (SAE Grade 2)

UUT maintained structural integrity and functionality as confirmed in post test inspection and operation checks.

UUT was full of contents.

	UUT-2
	UNIT UNDER TEST (UUT) SUMMARY SHEET

Manufacturer:	General Electric		
Product Line:	ZT Automatic Transfer Switches		
Model Number:	ZTS-4000	**Report No.:**	T4343
Test Laboratory:	Clark Dynamic Test Laboratory, Inc.	**UUT No. in the Report:**	65L-4000A

Product Construction Summary:

Floor mounted, light gage painted, carbon steel enclosure, NEMA 1 rated

Component Summary:

4000 Amp, 4 pole, Automatic Transfer Switch with MX250 Controller

UUT PROPERTIES

Test Criteria: ICC-ES AC156

Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
2100	60	46	90	19.5	10.9	> 33.3

SEISMIC TEST PARAMETERS

Building Code	S_{DS} (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	2.00	1.00	1.50	3.20	2.40	1.34	0.54

Unit Mounting Details: Unit was floor mounted with (6) - 1/2" diameter Carbon Steel Hex Head Bolts. (SAE Grade 2)

UUT maintained structural integrity and functionality as confirmed in post test inspection and operation checks.

UUT was full of contents.

	UUT-3
	UNIT UNDER TEST (UUT) SUMMARY SHEET

Manufacturer:	General Electric		
Product Line:	ZBT-V By-Pass Transfer Switches		
Model Number:	ZBTS-B0-400	**Report No.:**	T4343
Test Laboratory:	Clark Dynamic Test Laboratory, Inc.	**UUT No. in the Report:**	F14C-400A

Product Construction Summary:

Floor mounted, light gage painted, carbon steel enclosure, NEMA 1 rated

Component Summary:

400 Amp, 3 pole, Vertical Construction, By-Pass Transfer Switch with MX250 Controller

UUT PROPERTIES

Test Criteria: ICC-ES AC156

Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
875	31	30	83	7.0	10.2	> 33.3

SEISMIC TEST PARAMETERS

Building Code	S_{DS} (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	2.00	1.00	1.50	3.20	2.40	1.34	0.54

Unit Mounting Details: Unit was floor mounted with (4) - 1/2" diameter Carbon Steel Hex Head Bolts. (SAE Grade 2)

UUT maintained structural integrity and functionality as confirmed in post test inspection and operation checks.
UUT was full of contents.

	UUT-4
	UNIT UNDER TEST (UUT) SUMMARY SHEET

Manufacturer:	General Electric		
Product Line:	ZBT-V By-Pass Transfer Switches		
Model Number:	ZTBS-B0-4000	**Report No.:**	T4343
Test Laboratory:	Clark Dynamic Test Laboratory, Inc.	**UUT No. in the Report:**	65B-4000A

Product Construction Summary:

Floor mounted, light gage painted, carbon steel enclosure, NEMA 1 rated

Component Summary:

4000 Amp, 4 pole, Vertical Construction, By-Pass Transfer Switch with MX250 Controller

UUT PROPERTIES

Test Criteria: ICC-ES AC156

Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
6000	81	54	90	8.6	21.0	> 33.3

SEISMIC TEST PARAMETERS

Building Code	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	2.00	1.00	1.50	3.20	2.40	1.34	0.54

Unit Mounting Details: Unit was floor mounted with (8) - 1/2" diameter Carbon Steel Hex Head Bolts. (SAE Grade 2)

UUT maintained structural integrity and functionality as confirmed in post test inspection and operation checks.
UUT was full of contents.

	UUT-5
	UNIT UNDER TEST (UUT) SUMMARY SHEET

Manufacturer:	General Electric Zenith Controls		
Product Line:	ZBT-H By-Pass Transfer Switches		
Model Number:	ZBTS-B1-1200	**Report No.:**	T4761
Test Laboratory:	Clark Dynamic Test Laboratory, Inc.	**UUT No. in the Report:**	65B-1200A

Product Construction Summary:

Floor mounted, light gage painted, carbon steel enclosure, NEMA 1 rated

Component Summary:

1200 Amp, 3 pole, Horizontal Construction, By-Pass Transfer Switch with MX250 Controller

UUT PROPERTIES

Test Criteria: ICC-ES AC156

Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
1334	36	39	81	8.7	8.9	28.9

SEISMIC TEST PARAMETERS

Building Code	S_{DS} (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	2.00	1.00	1.50	3.20	2.40	1.34	0.54

Unit Mounting Details: Unit was floor mounted with (4) - 1/2" diameter Carbon Steel Hex Head Bolts. (SAE Grade 2)

UUT maintained structural integrity and functionality as confirmed in post test inspection and operation checks.

UUT was full of contents.

	UUT-6
	UNIT UNDER TEST (UUT) SUMMARY SHEET

Manufacturer:	General Electric Zenith Controls		
Product Line:	ZBT-H By-Pass Transfer Switches		
Model Number:	ZBTS-B1-3000	**Report No.:**	T4761
Test Laboratory:	Clark Dynamic Test Laboratory, Inc.	**UUT No. in the Report:**	65B-3000A

Product Construction Summary:

Floor mounted, light gage painted, carbon steel enclosure, NEMA 1 rated

Component Summary:

3000 Amp, 4 pole, Horizontal Construction, By-Pass Transfer Switch with MX250 Controller

UUT PROPERTIES

Test Criteria: ICC-ES AC156

Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
5747	65	46	80	14.5	14.5	> 33.3

SEISMIC TEST PARAMETERS

Building Code	S_{DS} (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	2.00	1.00	1.50	3.20	2.40	1.34	0.54

Unit Mounting Details: Unit was floor mounted with (8) - 1/2" diameter Carbon Steel Hex Head Bolts. (SAE Grade 2)

UUT maintained structural integrity and functionality as confirmed in post test inspection and operation checks.

UUT was full of contents.