



APPLICATION FOR PREAPPROVAL SPECIAL SEISMIC CERTIFICATION OF EQUIPMENT AND COMPONENTS

For Office Use Only

APPLICATION NO.
OSP -0300-10

Check whether application is: NEW RENEWAL

1.0 Active Power Robert Hall

Manufacturer *Manufacturer's Technical Representative*

2128 W. Braker Lane BK 12, Austin, TX 78758

Mailing Address

(512) 744-9511

Telephone

rhall@activepower.com

E-mail Address

2.0 Clean Source Z-Series Uninterruptable Power Supply

Product Name *Product Type*

300Z, 600Z, 900Z, 1200Z

Product model No (List all unique product identification numbers and/or serial numbers)

General Description: Rigid floor mounted UPS Systems with integrated flywheel. These units consist of three types of cabinets; an Input/Output, a System and a Multi-Module Cabinet. Each size model has one I/O and one System cabinet, plus from one through four MM Cabinets. Each additional cabinet is identical.

3.0 The VMC Group John P. Giuliano, PE

Applicant Company Name *Contact Person*

113 Main St, Bloomingdale NJ, 07403

Mailing Address

973-838-1780

Telephone

john.giuliano@thvmcgroup.com

E-mail Address

I hereby agree to reimburse the Office of Statewide Health Planning and Development for the actual costs incurred by the department for review.

2/6/13

Signature of Applicant

Date

President
Title

The VMC Group
Company Name



Registered Design Professional Preparing the Report

4.0 The VMC Group
Company Name

Mr. Ken Tarlow SE9651
Contact Name *California License Number*

113 Main Street, Bloomingdale NJ, 07403
Mailing Address

973-838-1780 ken.tarlow@thevmcgroup.com
Telephone *E-mail Address*

California Licensed Structural Engineer Review and Acceptance of the Report

5.0 The VMC Group
Company Name

Mr. Ken Tarlow SE9651
Contact Name *California License Number*

113 Main Street, Bloomingdale NJ, 07403
Mailing Address

973-838-1780 ken.tarlow@thevmcgroup.com
Telephone *E-mail Address*

Anchorage Pre-Approval

6.0 Anchorage is pre-approved under OPA-
 (Separate application for anchorage pre-approval is required)

Anchorage is not Pre-approved

Certification Method

7.0 Testing in accordance with: ICC-ES AC-156 Other (Please Specify):

Analysis

Experience data

Combination of Testing, Analysis, and/or Experience Data (Please Specify):

Testing Laboratory (if applicable)

8.0 ETL Brady Richard
Company Name *Company Name*

11034 Indian Trail, Dallas, TX 75229
Mailing Address

972-247-9657 info@etldallas.com
Telephone *E-mail:*



Approval Parameters

9.0

Design in accordance with ASCE 7-05 Chapter 13: Yes No

Design Basis of Equipment or Components (F_p/W_p) = 1.40

S_{DS} (Spectral response acceleration at short period) = 1.93 g
 a_p (In-structure equipment or component amplification factor) = 1.0

R_p (Equipment or component response modification factor) = 2.5

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component fundamental period(s) = See Attached Matrix

Building period limits (if any) = N/A

Overall dimensions and weight (or range thereof) = See Attached Matrix

Equipment or Components @ grade designed in accordance with ASCE 7-05 Chapter 15: Yes No

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

S_{DS} (Spectral response acceleration at short period) =

S_1 (Spectral response acceleration at 1 second period) =

R (Response modification coefficient) = 1.0

Ω_0 (System overstrength factor) = 1.0

C_d (Deflection amplification factor) = 1.0

I_p (Importance factor) = 1.5

Height to Center of Gravity above base =

Equipment or Component fundamental period(s) = Sec

Overall dimensions and weight (or range thereof) =

Tank(s) designed in accordance with ASME BPVC, 2007: Yes No

10.0 List of attachments supporting the special seismic certification of equipment or components:

- Test Report
- Drawings
- Manufacturer's Catalog
- Calculations
- Others (Please Specify):

11.0 OSHPD Approval (For Office Use Only)

2/8/13

December 31, 2019

Signature & Date

M. R. Karim, SHFR

Approval Expiration Date

S_{DS} (g) = **1.93** z/h = **1.0**

Name & Title

Special Seismic Certification Valid Up to

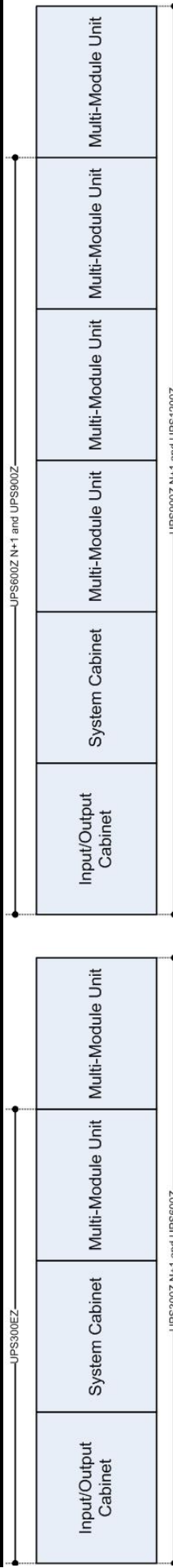
Condition of Approval (if any):

Active Power Z-Series UPS Systems OSHPD OSP



Table 1 - Certified Product Table

Model Number	Active Power Domestic		System Size (in)		System Weight	Mounting Method	Input/Output Cabinet W = 42" D = 34" H = 96"			System Cabinet W = 42" D = 34" H = 96"			Multi-Module Unit (MMU) 1 W = 42" D = 34" H = 96"			S _{OS}	z/h	UUT					
	Rating (kVA / kW)	Voltage	Width	Depth			Height	Config Option	Material	Cabinet Weight	Components	Manufacturer	Material	Cabinet Weight	Components				Manufacturer				
UPS300EZ	300 / 240	480 VAC 3-Phase	127	34	96	Floor (Hard)	4 Wire 3 Wire	Carbon Steel	1,300 lbs 3 Wire 1,250 lbs	Input Bus Bypass Bus Output Bus Bus Link Breaker	Active Power Active Power Active Power ABB	4 Wire 3 Wire	Carbon Steel	1,900 lbs 3 Wire 1,400 lbs	Isolation Switch Transformer SN1 Bypass Breaker Cabinet Interface SC Wire Way	ABB TRENCO Active Power ABB Active Power Active Power	Carbon Steel	4,500 lbs	Flywheel Inductors Redundant Power Plenum Fan Network Interface Extended Wire Way	TRENCO Phoenix Contact EBM PABST Active Power Active Power	1.93	1.0	1 2 3 4 5
UPS300Z N+1	300 / 240	480 VAC 3-Phase	170	34	96	Floor (Hard)	4 Wire 3 Wire	Carbon Steel	4 Wire 1,300 lbs 3 Wire 1,250 lbs	Same As Above	Same As Above	4 Wire 3 Wire	Carbon Steel	4 Wire 1,900 lbs 3 Wire 1,400 lbs	Same As Above	Same As Above	Carbon Steel	4,500 lbs	Same As Above	Same As Above	1.93	1.0	1 - 5
UPS600Z	600 / 480	480 VAC 3-Phase	170	34	96	Floor (Hard)	4 Wire 3 Wire	Carbon Steel	4 Wire 1,300 lbs 3 Wire 1,250 lbs	Same As Above	Same As Above	4 Wire 3 Wire	Carbon Steel	4 Wire 1,900 lbs 3 Wire 1,400 lbs	Same As Above	Same As Above	Carbon Steel	4,500 lbs	Same As Above	Same As Above	1.93	1.0	1 - 5
UPS600Z N+1	600 / 480	480 VAC 3-Phase	213	34	96	Floor (Hard)	4 Wire 3 Wire	Carbon Steel	4 Wire 1,300 lbs 3 Wire 1,250 lbs	Same As Above	Same As Above	4 Wire 3 Wire	Carbon Steel	4 Wire 1,900 lbs 3 Wire 1,400 lbs	Same As Above	Same As Above	Carbon Steel	4,500 lbs	Same As Above	Same As Above	1.93	1.0	1 - 5
UPS900Z	900 / 720	480 VAC 3-Phase	213	34	96	Floor (Hard)	4 Wire 3 Wire	Carbon Steel	4 Wire 1,300 lbs 3 Wire 1,250 lbs	Same As Above	Same As Above	4 Wire 3 Wire	Carbon Steel	4 Wire 1,900 lbs 3 Wire 1,400 lbs	Same As Above	Same As Above	Carbon Steel	4,500 lbs	Same As Above	Same As Above	1.93	1.0	1 - 5
UPS900Z N+1	900 / 720	480 VAC 3-Phase	256	34	96	Floor (Hard)	4 Wire 3 Wire	Carbon Steel	4 Wire 1,300 lbs 3 Wire 1,250 lbs	Same As Above	Same As Above	4 Wire 3 Wire	Carbon Steel	4 Wire 1,900 lbs 3 Wire 1,400 lbs	Same As Above	Same As Above	Carbon Steel	4,500 lbs	Same As Above	Same As Above	1.93	1.0	1 - 5
UPS1200Z	1200 / 960	480 VAC 3-Phase	256	34	96	Floor (Hard)	4 Wire 3 Wire	Carbon Steel	4 Wire 1,300 lbs 3 Wire 1,250 lbs	Same As Above	Same As Above	4 Wire 3 Wire	Carbon Steel	4 Wire 1,900 lbs 3 Wire 1,400 lbs	Same As Above	Same As Above	Carbon Steel	4,500 lbs	Same As Above	Same As Above	1.93	1.0	1 - 5



Active Power Z-Series UPS Systems OSHPD OSP



Table 2 - UUT Table

Active Power Domestic		System Size (in)			System Weight	Mounting Method	Input/Output Cabinet				System Cabinet				Multi Module Unit (MMU) 1				S _{DB}	z/h	UUT		
Model Number	Rating (kVA / kW)	Voltage	Width	Depth	Height	4 Wire 1300 lbs	Config Option	Material	Cabinet Weight	W = 42" D = 34" H = 96"			W = 42" D = 34" H = 96"			Material	Cabinet Weight	W = 42" D = 34" H = 96"			S _{DB}	z/h	UUT
										Components	Manufacturer	Config Option	Material	Cabinet Weight	Components			Manufacturer	Config Option	Material			
UPS300EZ	300 / 240	480 VAC 3-Phase	42	34	96	4 Wire 1300 lbs	4 Wire	Carbon Steel	1,300 lbs	Input Bus Bypass Bus Output Bus Bus Link Breaker	Active Power Active Power Active Power ABB									1.93	1.0	1	
UPS300EZ	300 / 240	480 VAC 3-Phase	84	34	96	4 Wire 1900 lbs	4 Wire	Carbon Steel	1,900 lbs	Input Bus Bypass Bus Output Bus Bus Link Breaker	Active Power Active Power Active Power ABB	4 Wire		Isolation Switch Transformer SNI Bypass Breaker Cabinet Interface SC Wire Way	ABB TRENCO Active Power ABB						1.93	1.0	2
UPS300EZ	300 / 240	480 VAC 3-Phase	84	34	96	3 Wire 1250 lbs	3 Wire	Carbon Steel	1,250 lbs	Input Bus Bypass Bus Output Bus Bus Link Breaker	Active Power Active Power Active Power ABB										1.93	1.0	3
UPS300EZ	300 / 240	480 VAC 3-Phase	84	34	96	3 Wire 1400 lbs		Carbon Steel	1,400 lbs	Input Bus Bypass Bus Output Bus Bus Link Breaker	Active Power Active Power Active Power ABB	3 Wire		Isolation Switch Transformer SNI Bypass Breaker Cabinet Interface SC Wire Way	ABB TRENCO Active Power ABB						1.93	1.0	4
UPS300EZ	300 / 240	480 VAC 3-Phase	84	34	96	4 Wire 4500 lbs		Carbon Steel	4,500 lbs	Input Bus Bypass Bus Output Bus Bus Link Breaker	Active Power Active Power Active Power ABB			Isolation Switch Transformer SNI Bypass Breaker Cabinet Interface SC Wire Way	ABB TRENCO Active Power ABB	Carbon Steel	4,500 lbs	Flywheel Inductors Redundant Power Plenum Fan Network Interface Extended Wire Way	Active Power TRENCO Phoenix Contact EBW PABST Active Power	1.93	1.0	5	

All units successfully passed the shake test, both structurally and functionally.

Active Power Z-Series UPS Systems OSHPD OSP



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Table 3 - Certified Branded Product Table

Active Power Domestic			Caterpillar Power Domestic			Active Power International			Caterpillar International		
Model Number	Rating (kVA / kW)	Voltage	Model Number	Rating (kVA / kW)	Voltage	Model Number	Rating (kVA / kW)	Voltage	Model Number	Rating (kVA / kW)	Voltage
UPS300EZ	300 / 240	480 VAC 3-Phase	UPS 1200Z	300 / 240	480 VAC 3-Phase	UPS250IEZ	250/225	380/400/415VAC 3-phase	UPS 1000IZ	250/225	380/400/415VAC 3-phase
UPS300Z N+1	300 / 240	480 VAC 3-Phase	UPS 1200Z	300 / 240	480 VAC 3-Phase	UPS250IEZ N+1	250/225	380/400/415VAC 3-phase	UPS 1000IZ	250/225	380/400/415VAC 3-phase
UPS600Z	600 / 480	480 VAC 3-Phase	UPS 1200Z	600 / 480	480 VAC 3-Phase	UPS500Z	500/450	380/400/415VAC 3-phase	UPS 1000IZ	500/450	380/400/415VAC 3-phase
UPS600Z N+1	600 / 480	480 VAC 3-Phase	UPS 1200Z	600 / 480	480 VAC 3-Phase	UPS500Z N+1	500/450	380/400/415VAC 3-phase	UPS 1000IZ	500/450	380/400/415VAC 3-phase
UPS900Z	900 / 720	480 VAC 3-Phase	UPS 1200Z	900 / 720	480 VAC 3-Phase	UPS750Z	750/675	380/400/415VAC 3-phase	UPS 1000IZ	750/675	380/400/415VAC 3-phase
UPS900Z N+1	900 / 720	480 VAC 3-Phase	UPS 1200Z	900 / 720	480 VAC 3-Phase	UPS750Z N+1	750/675	380/400/415VAC 3-phase	UPS 1000IZ	750/675	380/400/415VAC 3-phase
UPS1200Z	1200 / 960	480 VAC 3-Phase	UPS 1200Z	1200 / 960	480 VAC 3-Phase	UPS1000Z	1000/900	380/400/415VAC 3-phase	UPS 1000IZ	1000/900	380/400/415VAC 3-phase

**Active Power Z-Series
UPS Systems OSHPD OSP**

Table 4 - Shake Test Matrix

UUT	Model	Enclosure Rating	Width [in]	Depth [in]	Height [in]	Operating Wt [lbs]	Internal Components	S _{ps} Level	z/h	Mounting Config.	Lowest Nat. Freq.		
											X	Y	Z
1	4-Wire I/O Cabinet	NEMA-1	42	34	96	1,300	Input Bus (Active Power) Bypass Bus (Active Power) Output Bus (Active Power) Bus Link (Active Power) Breaker (ABB)	1.93	1	Rigid	9.97	9.00	23.54
2	4-Wire System Cabinet	NEMA-1	42	34	96	1,900	Isolator Switch (ABB) Transformer (TRENCO) SNI (Active Power) Bypass Breaker (ABB) Cabinet Interface (Active Power) SC Wire Way (Active Power)	1.93	1	Rigid	13.04	6.66	25.01
3	3-Wire I/O Cabinet	NEMA-1	42	34	96	1,250	Input Bus (Active Power) Bypass Bus (Active Power) Output Bus (Active Power) Bus Link (Active Power) Breaker (ABB)	1.93	1	Rigid	9.72	9.87	9.36
4	3-Wire System Cabinet	NEMA-1	42	34	96	1,400	Isolator Switch (ABB) Transformer (TRENCO) SNI (Active Power) Bypass Breaker (ABB) Cabinet Interface (Active Power) SC Wire Way (Active Power)	1.93	1	Rigid	5.81	5.74	21.89
5	MMU Cabinet	NEMA-1	42	34	96	4,500	Flywheel (Active Power) Inductors (TRENCO) Redundant Power (Phoenix Contact) Plenum Fan (EBM PABST) Network Interface (Active Power) Extended Wire Way (Active Power)	1.93	1	Rigid	5.81	5.72	N/A

**Active Power Z-Series
UPS Systems OSHPD OSP**



UUT #1
Cabinet is Mounted Directly to the Table Using (4)
5/8" Diameter ASTM A490 Bolts



UUT #2
Cabinet is Mounted Directly to the Table Using (4)
5/8" Diameter ASTM A490 Bolts



UUT #3
Cabinet is Mounted Directly to the Table Using (4)
3/4" Diameter ASTM A490 Bolts



UUT #4 (Left) & UUT #5 (Right)
UUT #4: Cabinet is Mounted Directly to the Table Using (4)
5/8" Diameter ASTM A490 Bolts
UUT #5: Cabinet is Mounted Directly to the Table Using (6)
3/4" Diameter ASTM A490 Bolts