



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC  
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0446-10

OSHPD Special Seismic Certification Preapproval (OSP)

Type:  New  Renewal

Manufacturer Information

Manufacturer: Cummins Power Generation

Manufacturer's Technical Representative: Bart Bashynski

Mailing Address: 1400 73rd Ave NE, Fridley, MN – 55432 USA

Telephone: 763-574-5361 Email: bart.a.bashynski@cummins.com

Product Information

Product Name: PowerCommand® Digital Master Controller

Product Type: Paralleling Switchgear Controls

Product Model Number: DMC 1000, DMC 1500, DMC 8000

(List all unique product identification numbers and/or part numbers)

General Description: Enclosed programmable logic controller for monitoring and controlling generator set paralleling

Mounting Description: Rigid base mounted

Applicant Information


Applicant Company Name: The VMC Group

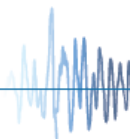
Contact Person: John P Giuliano, PE

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: 12/15/16  
Title: President Company Name: The VMC Group





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
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**California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)**

Company Name: The VMC Group

Name: Mr. Ken Tarlow California License Number: SE2851

Mailing Address: 113 Main St., 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: Environ Laboratories, LLC

Contact Name: Kent Erickson

Mailing Address: 9725 Girard Avenue South, Minneapolis, MN 55431

Telephone: (952) 888-7795 Email: KLE@environlab.com

**Testing Laboratory**

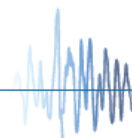
Company Name: Dynamic Certification Laboratories

Contact Name: Kelly Laplace

Mailing Address: 1315 Greg Street, Suite 109, Sparks, NV 89431

Telephone: (775) 358-5085 Email: kelly@shaketest.com

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OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT FACILITIES DEVELOPMENT DIVISION

Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: [X] Yes [ ] No

Design Basis of Equipment or Components (Fp/Wp) = 1.88 (DMC 1500); 1.50 (DMC 1000 & DMC 8000)

Sds (Design spectral response acceleration at short period, g) = Sds = 2.5(DMC 1500) & Sds = 2.0(DMC 1000 & DMC 8000)

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

Rp (Equipment or component response modification factor) = 6.0

Omega\_0 (System overstrength factor) = 2.0

Ip (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component Natural Frequencies (Hz) = See Attachments

Overall dimensions and weight (or range thereof) = See Attachments

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: [ ] Yes [X] No

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

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

Sd1 (Design spectral response acceleration at 1 second period, g) =

R (Response modification coefficient) =

Omega\_0 (System overstrength factor) =

Cd (Deflection amplification factor) =

Ip (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 [X] No

List of Attachments Supporting Special Seismic Certification

[X] Test Report(s) [X] Drawings [ ] Calculations [X] Manufacturer's Catalog

[X] Other(s) (Please Specify): Letter of Attestation for DMC 1500 Weight and Dimensions

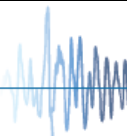
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature: [Handwritten Signature] Date: 12/21/16

Print Name: M. R. Karim Title: SHFR

Special Seismic Certification Valid Up to : Sds (g) = See Above z/h = 1.0

Condition of Approval (if applicable):



### Certified Product Table

Model	Manufacturer	Dimensions			Max Weight	Mounting	Enclosure and stiffening base	S <sub>DS</sub>	z/h	Fp/Wp	UUT
		Height	Depth	Width	Pounds						
<b>DMC 1000</b>	Cummins	90	31	32	510	Floor	Carbon Steel	2	1	1.50	<b>Extrapolated</b>
<b>DMC 1500</b>	Cummins	75	24	32	665	Floor	Carbon Steel	2.5	1	1.88	<b>UUT-1</b>
<b>DMC 8000</b>	Cummins	90	31	32	710	Floor	Carbon Steel	2	1	1.50	<b>UUT-2</b>

**DMC 1000 Certified Product Sub-Component Matrix**

SUBCOMPONENT TYPE NAME	MANUFACTURER	CPG P/N	MATERIAL	APPROX WEIGHT (lbs)	UUT	Sds	z/h	Fp/Wp
<b>CONTROLLERS &amp; PCB PARTS</b>								
MCM3320	CUMMINS	A005F853		2 lbs	1, 2	2	1	1.5
<b>RELAYS &amp; CONTACTORS</b>								
CONTACTOR STYLE RELAY	ALLEN BRADLEY	A041E508		0.91	2	2	1	1.5
TERMINAL STYLE CONTROL RELAY	PHOENIX CONTACT	A029A411		0.16	2	2	1	1.5
<b>CIRCUIT BREAKERS</b>								
BREAKER, MINIATURE	SCHNEIDER ELECTRIC	A034H154		0.3 lbs	2	2	1	1.5
BREAKER, MINIATURE	SCHNEIDER ELECTRIC	A040V253		0.3 lbs	Interpolated	2	1	1.5
BREAKER, MINIATURE	SCHNEIDER ELECTRIC	A034H170		0.3 lbs	2	2	1	1.5
<b>ENCLOSURE</b>								
ENCLOSURE	HOFFMAN	A049V849	Carbon Steel	348 lbs	UUT-2	2	1	1.5
ENCLOSURE	HOFFMAN	A055M654	Carbon Steel	363 lbs	Extrapolated	2	1	1.5
<b>OTHER PARTS/COMPONENTS</b>								
DUAL RECTIFIER	IXYS	A047C626		0.1 lbs	2	2	1	1.5

**DMC 1500 Certified Product Sub-Component Matrix**

SUBCOMPONENT TYPE NAME	MANUFACTURER	CPG P/N	MATERIAL	APPROX WEIGHT (lbs)	UUT	Sds	z/h	Fp/Wp
<b>HUMAN MACHINE INTERFACE</b>								
SCREEN, TOUCH	ALLEN-BRADLEY	A034N542	-	10	UUT-1	2.5	1	1.88
<b>CONTROLLERS &amp; PCB PARTS</b>								
SYSTEM I/O DEVICE AUX 101 & 102 KIT	CUMMINS	A001R452	-	4.5	UUT-1	2.5	1	1.88
MCM3320	CUMMINS	A005F853	-	5	UUT-1	2.5	1	1.88
MODULE, OUTPUT	ALLEN-BRADLEY	A034N560	-	2	UUT-1	2.5	1	1.88
MODULE, INPUT	ALLEN-BRADLEY	A034N557	-	2	UUT-1	2.5	1	1.88
MODULE, CONTROL	ALLEN-BRADLEY	A034N555	-	4	UUT-1	2.5	1	1.88
<b>POWER SUPPLY PARTS</b>								
CONVERTER	PHOENIX CONTACT	A028Z028	-	4.2	UUT-1	2.5	1	1.88
CONVERTER	PHOENIX CONTACT	A028Z053	-	3.141	UUT-1	2.5	1	1.88
<b>RELAYS &amp; CONTACTORS</b>								
TESYS D CONTACTOR	TELEMECANIQUE	A001N067	-	0.5	UUT-1	2.5	1	1.88
<b>CIRCUIT BREAKERS</b>								
BREAKER, MINIATURE	SQUARE D	A034H154	-	0.5	UUT-1	2.5	1	1.88
BREAKER, MINIATURE	SQUARE D	A034H170	-	0.5	UUT-1	2.5	1	1.88
<b>SWITCHES</b>								
SWITCH, AUTOMATIC MANUAL	ELECTROSWITCH	A034L730	-	1	UUT-1	2.5	1	1.88
<b>ENCLOSURE</b>								
BOX, CONTROL	RITTAL	A034U412	Carbon Steel	325	UUT-1	2.5	1	1.88
<b>OTHER PARTS/COMPONENTS</b>								
DUAL RECTIFIER	SEMIKRON	A030K444	-	0.2	UUT-1	2.5	1	1.88

### DMC 8000 Certified Product Sub-Component Matrix

SUBCOMPONENT TYPE NAME	MANUFACTURER	CPG P/N	MATERIAL	APPROX WEIGHT (lbs)	UUT	Sds	z/h	Fp/Wp
<b>HUMAN MACHINE INTERFACE</b>								
SCREEN, TOUCH	ADVANTECH	A049K341	-	22 lbs	UUT-2	2	1	1.5
<b>CONTROLLERS &amp; PCB PARTS</b>								
MCM3320	CUMMINS	A005F853	-	5.0 lbs	UUT-2	2	1	1.5
NETWORK INTERFACE MODULE	SCHNEIDER ELECTRIC	A041G876	-	0.37 lbs	UUT-2	2	1	1.5
POWER DISTRIBUTION MODULE	SCHNEIDER ELECTRIC	A041G880	-	0.28 lbs	UUT-2	2	1	1.5
DISCRETE DC INPUT	SCHNEIDER ELECTRIC	A047S758	-	0.19 lbs	UUT-2	2	1	1.5
DISCRETE DC OUTPUT	SCHNEIDER ELECTRIC	A047S753	-	0.19 lbs	UUT-2	2	1	1.5
4 SLOT BACKPLANE	SCHNEIDER ELECTRIC	A041G918	-	1.4 lbs	UUT-2	2	1	1.5
POWER SUPPLY MODULE	SCHNEIDER ELECTRIC	A041G847	-	0.63 lbs	UUT-2	2	1	1.5
STANDARD CPU	SCHNEIDER ELECTRIC	A047S936	-	0.44 lbs	UUT-2	2	1	1.5
ETHERNET TCP/IP NETWORK MODULE	SCHNEIDER ELECTRIC	A041G849	-	0.44 lbs	UUT-2	2	1	1.5
DISCRETE DC INPUT	SCHNEIDER ELECTRIC	A049K352	-	0.25 lbs	UUT-2	2	1	1.5
DISCRETE DC OUTPUT	SCHNEIDER ELECTRIC	A049K356	-	0.26 lbs	UUT-2	2	1	1.5
CPU	SCHNEIDER ELECTRIC	A053L546	-	1.87 lbs	UUT-2	2	1	1.5
<b>POWER SUPPLY PARTS</b>								
BATTERIES	PHOENIX CONTACT	A043K841	-	15 lbs	UUT-2	2	1	1.5
UPS	PHOENIX CONTACT	A043H869	-	1.1 lbs	UUT-2	2	1	1.5
POWER SUPPLY	PHOENIX CONTACT	A028Z053	-	2.4 lbs	UUT-2	2	1	1.5
<b>RELAYS &amp; CONTACTORS</b>								
CONTACTOR STYLE RELAY	ALLEN BRADLEY	A041E508	-	0.91	UUT-2	2	1	1.5
TERMINAL STYLE CONTROL RELAY	PHOENIX CONTACT	A029A411	-	0.16	UUT-2	2	1	1.5
<b>CIRCUIT BREAKERS</b>								
BREAKER, MINIATURE	SCHNEIDER ELECTRIC	A034H154	-	0.3 lbs	UUT-2	2	1	1.5
BREAKER, MINIATURE	SCHNEIDER ELECTRIC	A034H170	-	0.3 lbs	UUT-2	2	1	1.5
<b>ENCLOSURE</b>								
ENCLOSURE	HOFFMAN	A049V849	Carbon Steel	348 lbs	UUT-2	2	1	1.5
ENCLOSURE BASE	HOFFMAN	A053L544	Carbon Steel	15 lbs	UUT-2	2	1	1.5
<b>OTHER PARTS/COMPONENTS</b>								
DUAL RECTIFIER	IXYS	A047C626	-	0.1 lbs	UUT-2	2	1	1.5



## UNIT UNDER TEST (UUT) Summary Sheet

**UUT-1**

VMA-50122-01

Model Line	Model Number	Manufacturer
PowerCommand® Digital Master Controller	DMC 1500	Cummins

### Product Construction Summary

Carbon Steel Base Frame, Carbon Steel Enclosure

### Options / Subcomponent Summary

Screen, Touch: Allen-Bradley ; System I/O Device Aux 101 & 102 Kit: Cummins ; MCM3320: Cummins ; Controller Module: Allen-Bradley ; Converter: Phoenix Contact ; Tesys D Contactor: Telemecanique ; Breakers, Miniature: Square D ; Switch, Automatic Manual: Electroswitch ; Dual Rectifier: Semikron ; Enclosure: Rittal

### UUT Properties

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
665	32	24	75	10.45	11.59	20.8

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2016	ICC-ES AC156	2.5	1	1.5	4.0	3.0	1.68	0.68

### Test Mounting Details

Unit was mounted to the test fixture using (4) 1/2" ASTM A490 Bolts



All units were filled with contents and maintained structural integrity and functionality after shake table test.