APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY	
APPLICATION #:	OSP – 0598 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☒ New ☐ Renewal

Manufacturer Information

Manufacturer: Honeywell Building Technologies

Manufacturer's Technical Representative: Rahul Kousik, Project Manager

Mailing Address: 22 Centerpointe Drive, Suite 100, La Palma, CA 90623

Telephone: 425-628-8401 Email: rahul.kousik@honeywell.com

Product Information

Product Name: Custom Control Panels

Product Type: Control Panels

Product Model Number: See attached
(List all unique product identification numbers and/or part numbers)

General Description: Control panels containing UPS, HMI, I/O Modules

Mounting Description: Units are rigid or flexibly wall mounted, may be wall surface mounted on any vertical surface.

Applicant Information

Applicant Company Name: The VMC Group

Contact Person: John Giuliano

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: 3/13/19

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: SE-2851

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: DCL Labs

Contact Name: Josh Sailer, Laboratory Manager

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

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

Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = 1.50

S_{DS} (Design spectral response acceleration at short period, g) = 2.00

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

Equipment or Component Natural Frequencies (Hz) = See attachment

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

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, 2025

Signature: Date: February 7, 2020

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to: S_{DS} (g) = 2.00 z/h = 1

Condition of Approval (if applicable):

Table 1 - Certified Components

Model Number	Manufacturer	Max. Dimensions (in)			Max. Weight (lb)	Mounting	Unit
		Depth	Width	Height			
HWLDDCPNLxxxx [1]	Honeywell	6.0 to 8.0	20.0 to 24.0	24.0 to 30.0	50 to 90	Rigid and Isolated Wall Mounted	Extrapolated
HWLDDCPNL0001	Honeywell	8.0	24.0	30.0	90	Rigid and Isolated Wall Mounted	UUT 1a,b
HWLDDCPNLxxxx [1]	Honeywell	8.0 to 10.0	24.0 to 36.0	30.0 to 48.0	90 to 210	Rigid and Isolated Wall Mounted	Interpolated
HWLDDCPNL0002	Honeywell	10.0	36.0	48.0	210	Rigid and Isolated Wall Mounted	UUT 2a,b

Notes:
1. "xxxx" denotes Honeywell serial number, range between 0001-9999

Table 2 - Certified Subcomponents - Enclosures

Subcomponent (Manufacturer)	Model Number	Description	Material	NEMA Rating	Approximate Weight (lb)	Unit
Enclosures (Hoffman)	A-24N20ALPP	24 X 20 X 6	Carbon Steel	1	30.0	Extrapolated
	A-24N24ALPP	24 X 24 X 6	Carbon Steel	1	40.0	Extrapolated
	C-SD24206-P	24 X 20 X 6	Carbon Steel	4	29.4	Extrapolated
	C-SD24246-P	24 X 24 X 6	Carbon Steel	4	36.9	Extrapolated
	C-SD30248-P	30 X 24 X 8	Carbon Steel	4	48.0	Extrapolated
	A-30N24BLPP	30 X 24 X 8	Carbon Steel	1	50.5	UUT1a, b
	A-36N24BLPP	36 X 24 X 8	Carbon Steel	1	54.2	Interpolated
	C-SD36248-P	36 X 24 X 8	Carbon Steel	4	57.0	Interpolated
	A-36N30BLPP	36 X 30 X 8	Carbon Steel	1	68.0	Interpolated
	C-SD36308-P	36 X 30 X 8	Carbon Steel	4	77.0	Interpolated
	C-SD423610-P	42 X 36 X 10	Carbon Steel	4	107.0	Interpolated
	A-42N3609-P	42 X 36 X 9	Carbon Steel	1	122.0	Interpolated
	C-SD483610-P	48 X 36 X 10	Carbon Steel	4	124.0	UUT 2a,b

Table 3 - Certified Subcomponents

Subcomponent (Manufacturer)	Model Number	Description	Material	Approximate Weight (lb)	Unit
Controller (Honeywell)	CPO-JACE	CPO Jace Controller	Plastic, PCB	2.0	UUT 2a,b
	CPO-CORE	BACnet Router Controller	Plastic, PCB	2.0	Same as UUT 1 & 2a,b [1]
	XCL8010A	XL800 LON Controller	Plastic, PCB	2.0	Same as UUT 1 & 2a,b [1]
	CP-SPC	Small point controllers	Plastic, PCB	2.0	Same as UUT 1 & 2a,b [1]
	CP-IPC	Plant Controller	Plastic, PCB	2.0	Same as UUT 1 & 2a,b [1]
	CPO-RL5	Plant Controller	Plastic, PCB	2.0	Same as UUT 1 & 2a,b [1]
	CPO-RL7U	Plant Controller	Plastic, PCB	2.0	Same as UUT 1 & 2a,b 1
	CPO-PC-6A	Plant Controller	Plastic, PCB	2.0	UUT 2a,b
	CPO-PC-400A	Plant Controller	Plastic, PCB	2.0	UUT 1a,b
IO Modules (Honeywell)	XF821A	Analog Input Module	Plastic, PCB	0.4	UUT 1a,b
	XFR822A	Analog Output Module w/Override	Plastic, PCB	0.4	UUT 1a,b
	XF822A	Analog Output Module	Plastic, PCB	0.4	UUT 1a,b
	XF823A	Digital Input Module	Plastic, PCB	0.4	UUT 1a,b
	XFR824A	Relay Output Module w/Override	Plastic, PCB	0.4	UUT 1a,b
	XF824A	Relay Output Module	Plastic, PCB	0.4	UUT 1a,b
	XSU821-22	Analog I/O Module Base	Plastic, PCB	0.4	UUT 1a,b
	XSU-823	Digital Input Module Base	Plastic, PCB	0.4	UUT 1a,b
	XSU824-25	Digital Output Module Base	Plastic, PCB	0.4	UUT 1a,b
	CP-EXPIO	Mixed I/O Module	Plastic, PCB	1.0	UUT 2a,b
	CPO-IO830A	Mixed I/O Module	Plastic, PCB	1.0	UUT 2a,b
	CPO-DIO	Digital I/O Module	Plastic, PCB	1.4	UUT 2a,b
	NPB-8000-232	Jace 8000 Controller - add on single port RS-232 Module	Plastic, PCB	1.5	UUT 2a,b
	NPB-8000-LON	Jace 8000 controller - add on single port LON FTT10A Module	Plastic, PCB	1.5	UUT 2a,b
	T-IO-34-485	Remote IO Module	Plastic, PCB	1.5	UUT 2a,b
	T-IO-16-485	Remote IO Module	Plastic, PCB	1.5	UUT 2a,b
	NPB-8000-2X-485	JACE 8000 controller - add on dual port RS-485 module	Plastic, PCB	1.5	UUT 2a,b
UPS (Sola)	SDU500	Uninterruptable Power Supply	LCP (Liquid Crystal Polymer) Housing, Sealed Batteries	4.9	UUT 1 & 2a,b

Notes:

1. Only differs by software

Table 3 - Certified Subcomponents Continued

Subcomponent (Manufacturer)	Model Number	Description	Material	Approximate Weight (lb)	Unit
AC Power Supply (Functional Devices)	TR40VA001	40VA	Copper Winding	2.0	Extrapolated
	TR50VA001	50VA	Copper Winding	2.0	Extrapolated
	TR75VA001	75VA	Copper Winding	3.4	Extrapolated
	TR100VA001	100VA	Copper Winding	3.8	UUT 1a,b
	PSH75A	75VA multi-tap, UL Class 2	Copper Winding	4.5	Interpolated
	PSH100AB10	100VA,UL Class 2	Copper Winding	4.6	Interpolated
	TR150VA001	150VA	Copper Winding	5.0	Interpolated
	PSH75A100AB10	75A and 100VA multi-tap, UL Class 2	Copper Winding	8.5	Interpolated
	PSH100A100AB10	(2) 100VA multitap, UL Class 2	Copper Winding	8.6	UUT 2a,b
DC Power Supply (IDEC)	PS5R-VA24	Switching Power Supplies - PS5R-V 7.5W	Plastic Housing	0.3	Extrapolated
	PS5R-VB24	Switching Power Supplies - PS5R-V 15W	Plastic Housing	0.3	Extrapolated
	PS5R-VC24	Switching Power Supplies - PS5R-V 30W	Plastic Housing	0.3	UUT 1a,b
	PS5R-VD24	Switching Power Supplies - PS5R-V 60W	Plastic Housing	0.6	Interpolated
	PS5R-VE24	Switching Power Supplies - PS5R-V 90W	Plastic Housing	0.7	Interpolated
	PS5R-VF24	Switching Power Supplies - PS5R-V 120W	Plastic Housing	1.0	Interpolated
	PS5R-VG24	Switching Power Supplies - PS5R-V 240W	Plastic Housing	2.1	UUT 2a,b
Control Point Open- HMI (Honeywell)	CPO-HMI610L	CPO Panel Mount HMI	Plastic, PCB	2.0	UUT 2a,b
	CPO-MMI	CPO MMI	Plastic, PCB	2.0	UUT 1a,b
Router (Loytec)	LIP-3ECTC (1 Port)	Loytec Router - 1 port	Plastic, PCB	0.5	Extrapolated
	LIP-33ECTC (2 Port)	Loytec Router - 2 port	Plastic, PCB	0.5	UUT 1a,b
	LIP-333ECTC (1 Port)	Loytec Router - 3 port	Plastic, PCB	0.5	Interpolated
	LIP-3333ECTC (1 Port)	Loytec Router - 4 port	Plastic, PCB	0.7	UUT 2a,b
Signal Converter (ABB)	ABB-cc/e STD	Signal Converter	Plastic, PCB	0.3	UUT 2a,b
Signal Converter (Kele)	VTI-1-D	Single Output Signal Converter	Plastic, PCB	0.3	Extrapolated [1]
	VTI-2-D	Dual Output Signal Converter	Plastic, PCB	0.3	UUT 1a,b
Panel Relay (IDEC)	RH1BULCAC24V	24 VAC Single Pole - Double Throw	Plastic	0.1	Extrapolated
	RH2BULCAC24V	24 VAC Double Pole - Double Throw	Plastic	0.1	UUT 1a,b
	RH3BULCAC24V	24 VAC Three Pole - Double Throw	Plastic	0.1	Interpolated
	RH4BULCAC24V	24 VAC Four Pole - Double Throw	Plastic	0.2	UUT 2a,b
Surge Protector (Ditek)	DTK120-HW	Surge Suppressor	Plastic	0.6	UUT 1 & 2a,b
Circuit Breakers (CBI)	QL-5	Circuit Breaker	Plastic	0.3	Extrapolated
	QL-10	Circuit Breaker	Plastic	0.3	UUT 1a,b
	QL-15	Circuit Breaker	Plastic	0.3	Interpolated
	QL-20	Circuit Breaker	Plastic	0.3	Interpolated
	QL-25	Circuit Breaker	Plastic	0.3	UUT 2a,b
Ethernet Switch (MOXA)	Moxa EDS-205	MOXA, DIN Rail Mounted Ethernet switch - 5 port	Plastic, PCB	0.3	UUT 1a,b
	Moxa EDS-208	MOXA, DIN Rail Mounted Ethernet switch - 8 port	Plastic, PCB	0.4	UUT 2a,b

Notes:

1. Single output is depopulated version of dual output

Table 4 - Tested Units

Model Number	Manufacturer	Dimensions (in)			Weight (lb)	Mounting	Unit
		Depth	Width	Height			
HWLDDCPNL0001	Honeywell	8.0	24.0	30.0	90	Rigid Wall	UUT 1a
HWLDDCPNL0001	Honeywell	8.0	24.0	30.0	90	Isolated Wall	UUT1b
HWLDDCPNL0002	Honeywell	10.0	36.0	48.0	210	Rigid Wall	UUT2a
HWLDDCPNL0002	Honeywell	10.0	36.0	48.0	210	Isolated Wall	UUT2b

UUT1a

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Honeywell Building Technologies

Product Line: Control Panel

Model Number: HWLDDCPNL0001

Product Construction Summary: NEMA 1 Carbon Steel Panel

Options / Component Summary: Custom control panel with plant controller, UPS, HMI, and various I/O modules

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

UUT Properties

Operating Weight (lb)	Dimensions (in)				Lowest Natural Frequency (Hz)		
		Length	Width	Height	Front-Back	Side-Side	Vertical
90	UUT1a	8.0	24.0	30.0	N/A	N/A	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 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.33	0.54

Unit Mounting Description:

UUT1a was rigid wall mounted to the DCL wall interface fixture with (4) 3/8'' diameter, grade 5, bolts and washers into 12ga strut with a 3'' x 3'' x 3/16'' low carbon steel plate washer between the back of the unit and the strut. Bolts were spaced at approximately 17'' in width and 28'' in height on center.

UUT1b

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Honeywell Building Technologies

Product Line: Control Panel

Model Number: HWLDDCPNL0001

Product Construction Summary: NEMA 1 Carbon Steel Panel

Options / Component Summary: Custom control panel with plant controller, UPS, HMI, and various I/O modules

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

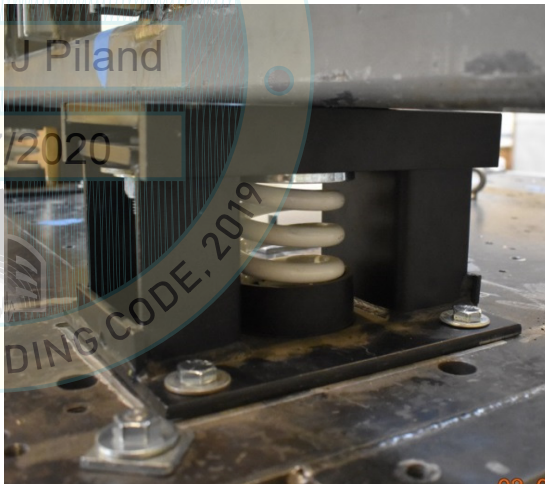
UUT Properties

Operating Weight (lb)	Dimensions (in)				Lowest Natural Frequency (Hz)		
		Length	Width	Height	Front-Back	Side-Side	Vertical
90	UUT1b	8.0	24.0	30.0	N/A	N/A	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 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.33	0.54

Unit Mounting Description:



UUT1b was isolated wall mounted to the DCL wall interface fixture with (4) 3/8'' diameter, grade 5, bolts and washers into 12ga strut with a 3'' x 3'' x 3/16'' low carbon steel plate washer between the back of the unit and the strut. Bolts were spaced at approximately 17'' in width and 28'' in height on center. The wall fixture was mounted on (4) VMC MSSH-1E-1400N isolators.

UUT2a
UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Honeywell Building Technologies

Product Line: Control Panel

Model Number: HWLDDCPNL0002

Product Construction Summary: NEMA 4 Carbon Steel Panel

Options / Component Summary: Custom control panel with plant controller, UPS, HMI, and various I/O modules

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

UUT Properties

Operating Weight (lb)	Dimensions (in)				Lowest Natural Frequency (Hz)		
		Length	Width	Height	Front-Back	Side-Side	Vertical
210	UUT2a	10.0	36.0	48.0	N/A	N/A	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 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.33	0.54

Unit Mounting Description:

UUT2a was rigid wall mounted to the DCL wall interface fixture with (4) 3/8'' diameter, grade 5, bolts and washers into 12ga strut with a 3'' x 3'' x 3/16'' low carbon steel plate washer between the back of the unit and the strut. Bolts were spaced at approximately 35'' in width and 47'' in height on center.

UUT2b

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Honeywell Building Technologies

Product Line: Control Panel

Model Number: HWLDDCPNL0002

Product Construction Summary: NEMA 4 Carbon Steel Panel

Options / Component Summary: Custom control panel with plant controller, UPS, HMI, and various I/O modules

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

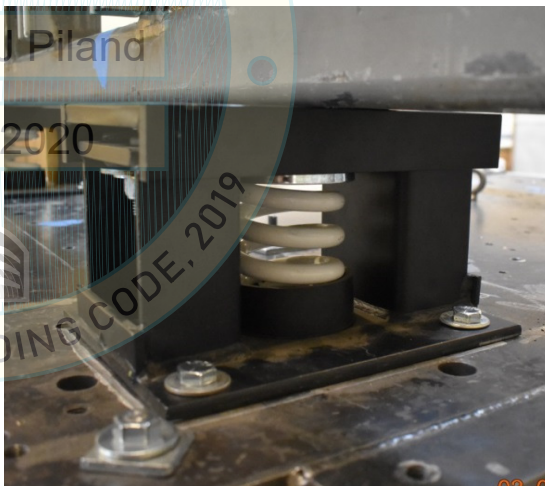
UUT Properties

Operating Weight (lb)	Dimensions (in)				Lowest Natural Frequency (Hz)		
		Length	Width	Height	Front-Back	Side-Side	Vertical
210	UUT2b	10.0	36.0	48.0	N/A	N/A	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 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.33	0.54

Unit Mounting Description:



UUT2b was isolated wall mounted to the DCL wall interface fixture with (4) 3/8'' diameter, grade 5, bolts and washers into 12ga strut with a 3'' x 3'' x 3/16'' low carbon steel plate washer between the back of the unit and the strut. Bolts were spaced at approximately 35'' in width and 47'' in height on center. The wall fixture was mounted on (4) VMC MSSH-1E-1400N isolators.