



**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

**APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)**

OFFICE USE ONLY

APPLICATION #: OSP-0697

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Caterpillar (CAT)

Manufacturer's Technical Representative: Sree Bandaru

Mailing Address: 4955 Marconi Drive, Alpharetta, GA 30005

Telephone: (678) 746-5077 Email: Bandaru_Sreekanth@cat.com

Product Information

Product Name: Emergency and Standby Power Systems

Product Type: Generator Control Panels

Product Model Number: Custom Generator Controls

General Description: Provides master level logic, operates, and controls engine-generators and circuit breakers.

Mounting Description: Rigid, Floor/Wall Mounted

Tested Seismic Enhancements: None

DATE: 08/31/2021

Applicant Information

Applicant Company Name: WE Gundy & Associates, Inc

Contact Person: Travis Soppe

Mailing Address: PO Box 9121, Boise, ID 83707

Telephone: (208) 342-5989 Email: tsoppe@wegai.com

Title: President





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

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

Company Name: W.E. GUNDY & ASSOCIATES INC.

Name: Travis Soppe

California License Number: S6115

Mailing Address: P.O. Box 9121, Boise, ID 83707

Telephone: (208) 342-5989

Email: tsoppe@wegai.com

Certification Method

GR-63-Core

ICC-ES AC156

IEEE 344

IEEE 693

NEBS 3

Other (Please Specify): _____

Testing Laboratory

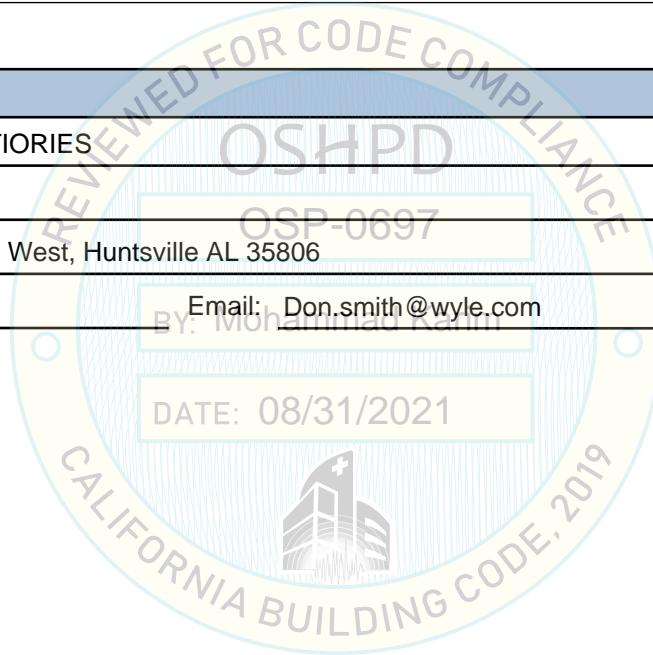
Company Name: WYLE LABORATORIES

Contact Person: Don Smith

Mailing Address: 7800 Highway 20 West, Huntsville AL 35806

Telephone: (256) 837-4411

Email: Don.smith@wyle.com





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

Seismic Parameters

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

SDS (Design spectral response acceleration at short period, g) = See Attachments

a_p (Amplification factor) = 1.0

R_p (Response modification factor) = 2.5

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

OSHPD Approval (For Office Use Only) - Approval Expires on 12/31/2025

Date: 8/31/2021

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = See Above z/h = 1

Condition of Approval (if applicable): DATE: 08/31/2021

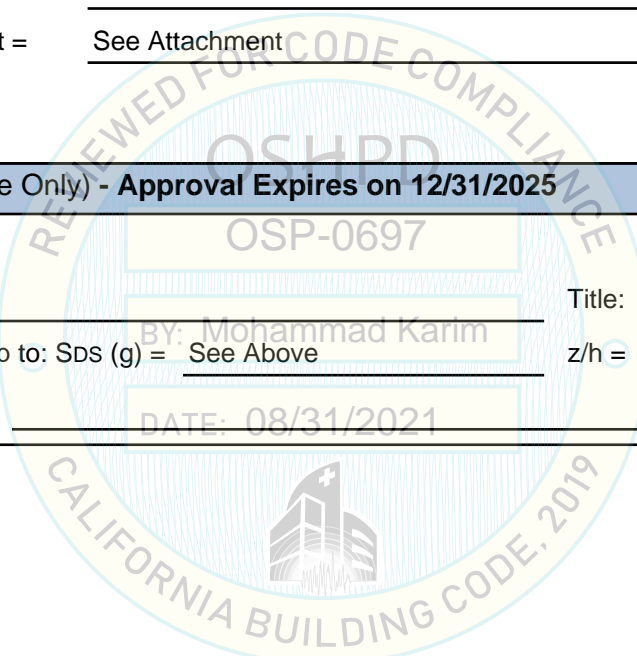


TABLE 1	CATERPILLAR CUSTOM GENERATOR CONTROLS CERTIFIED PRODUCT LINE MATRIX	 WEGAI <small>W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING</small>
----------------	--	--

Identification	UUT Part Number	Dimensions (in)			Weight (lb)	UUT
		Width	Depth	Height		

Floor Mounted Custom Generator Controls						
--	--	--	--	--	--	--

FM-CGC-36x30x72	i0418-0437-MCP	36	30	72	630	UUT-4
FM-CGC-36xBxC		36	24 - 30	72 - 90	550 - 660	interpolated
FM-CGC-36x24x90	i0602-OSHPD-CP	36	24	90	660	UUT-1

Wall Mounted Custom Generator Controls						
---	--	--	--	--	--	--

WM-CGC-24x10x30	EMCP4.4.MCP-EPG-8GEN	24	10	30	104	UUT-2
WM-CGC-AxBx30		24 - 30	8 - 10	30	90 - 115	interpolated
WM-CGC-30x8x30	i0418-0435-GCP	30	8	30	115	UUT-3

Notes:

¹ Custom generator controls include generator control panels, utility control panels, distribution control panels, and master control panels. Part numbers are listed for units that were constructed for testing.

² All control enclosures are constructed of carbon steel.

³ Dimensions "A", "B", "C" reference the width, depth, and height of interpolated units as indicated within the range of interpolation.

⁴ Identification Nomenclature - FM-CGC - "Floor Mounted Custom Generator Controls" and WM-CGC - "Wall Mounted Custom Generator Controls"

SEISMIC CERTIFICATION LIMITS								
-------------------------------------	--	--	--	--	--	--	--	--

System Component	Code	S _{DS} (g)	z / h	I _P	a _P	R _P	Ω ₀	F _P / W _P
FM-CGC-36xBxC	CBC 2019	2.00	1.0	1.50	1.0	2.5	2.0	1.44
WM-CGC-AxBx30	CBC 2019	2.77	1.0	1.50	1.0	2.5	2.0	1.99

TABLE 2

**CATERPILLAR
CUSTOM GENERATOR CONTROLS
CERTIFIED SUBCOMPONENT MATRIX**



ID/Catalog Number	Manufacturer	Description	UUT
Floor Mounted Custom Generator Controls			
MTWDN7CDM500RXB02	BITRONICS	TRANSDUCER POWERPLEX II	UUT-1, UUT-4
PPXIITD	BITRONICS	METER DISPLAY	UUT-1
007-05GA-PZUL-C7	CROMPTON	VOLT METER 0-15KV	UUT-1
007-146A-PRAE-C6	CROMPTON	SYNCHROSCOPE 120VAC	UUT-1
007-41LA-RNAN-AN	CROMPTON	FREQUENCY METER	UUT-1
256-PLDU-PQBX-C7	CROMPTON	SYNC CHECK 120VAC WITH DEAD BUS	UUT-1
COMP-TSP-E-02 BTXE-817-E19-A-ISO	DYNICS	TOUCHSCREEN PROCESSOR	UUT-1
DNI-UNIKU-E10-B	DYNICS	REMOTE ACCESS SERVER	UUT-1
TS-19WS-24VDC-ISO	ELO	ELO 19" W/S TOUCHSCREEN (2094L)	UUT-1, UUT-4
171 CBU 980 91	MODICON	UNITY M1E PLC	UUT-1, UUT-4
170 AMM 110 30	MODICON	2AI 2AO 12DI 8DO 10-45 BASE	UUT-1, UUT-4
700G Series	SCHWEITZER	SEL-700G	UUT-1
TSBTBL2USCAT	TOSIBOX	INTELLIGENT REMOTE ACCESS	UUT-1
468:480	TTL	POTENTIAL TRANSFORMER	UUT-1
BMX-H58-2040K	MODICON	HOT STANDBY KIT	UUT-1
BME-CRA31210	MODICON	CRA DROP ADAPTER	UUT-1
HMIBSUSND1W01	SCHNEIDER	S-BOX PC	UUT-1, UUT-4
2897253	PHOENIX	16-POINT OUTPUT MODULE	UUT-1
2897156	PHOENIX	16-POINT INPUT MODULE	UUT-1
2703981	PHOENIX	ETHERNET BUS COUPLER	UUT-1
9X9591	CATERPILLAR	SPEED BRICK, PWM	UUT-1
7803B	ELECTROSWITCH	86 LOCK OUT RELAY	UUT-1
Wall Mounted Custom Generator Controls			
171 CBU 980 91	MODICON	UNITY M1E PLC	UUT-3
170 ADM 850 10	MODICON	24VDC 16IN/16OUT BASE	UUT-2, UUT-3
BME-NOE-0100	MODICON	ETHERNET MODULE (M340)	UUT-2
BMX-AMO-0140	MODICON	ANALOG OTUPUT 4-PT MODULE (M340)	UUT-2
BMX-CPS-3020	MODICON	POWER SUPPLY 24/48VDC ISOLATED (M340)	UUT-2
BMX-CPS-2010	MODICON	POWER SUPPLY 24/48VDC ISOLATED (M340)	UUT-2
BMX-DDI-1602	MODICON	16-PT 24VDC SINK INPUT (M340)	UUT-2
BMX-DRA-1605 BMX-DDO-1602	MODICON	DIGITAL 16-PT OUTPUTS 24VDC (M340)	UUT-2
BMX-FTB-2000	MODICON	SCR REMOVABLE 20-PT TB (M340)	UUT-2
BMX-P342-020	MODICON	CPU (M340)	UUT-2
BMX-XBP-0600	MODICON	6-SLOT BACKPLANE (M340)	UUT-2
DSPSX000	RED LION	DATA STATION PLUS	UUT-2
XCENET00	RED LION	ETHERNET CARD	UUT-2
HMIG3U-HMIDT732	SCHNEIDER	MAGELIS 15" TOUCHSCREEN	UUT-2

UUT-1

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rigid floor mounted with (4) 1/2" grade 5 bolts



UUT-1

BY Mohammad Karim

DATE: 08/31/2021

Manufacturer: Caterpillar	Test Location: NTS - Huntsville, AL
Identification: FM-CGC-36x24x90	Test Date: August 2020
Part Number: i0602-OSHPD-CP	Report Number: PR122431-TR-20
Test Name: Custom CP	

UUT Function: Provides master level logic, operates, and controls engine-generators and circuit breakers

UUT Description: Floor mounted master control panel with additional internal control components to cover varied options within the custom generator controls offering.

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
660	36	24	90	8.7	11.5	> 33

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{Ds} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.34	0.54

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT-4

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rigid floor mounted with (4) 1/2" grade 5 bolts



Manufacturer: Caterpillar	Test Location: NTS - Huntsville, AL
Component: FM-CGC-36x30x72	Test Date: August 2020
Part Number: i0418-0437-MCP	Report Number: PR122431-TR-20
Test Name: EPIC – MCP	

UUT Function: Provides master level logic, operates, and controls engine-generators and circuit breakers

UUT Description: Floor mounted master control panel with additional internal control components to cover varied options within the custom generator controls offering.

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
630	36	30	72	12.0	16.0	> 33

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{ds} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIg-H} (g)	A _{FLX-V} (g)	A _{RIg-V} (g)
CBC 2019 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.34	0.54

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT-2

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rigid wall mounted with (4) 3/8" grade 5 bolts



Manufacturer: Caterpillar	Test Location: NTS - Huntsville, AL
Component: WM-CGC-24x10x30	Test Date: August 2020
Part Number: EMCP4.4.MCP-EPG-8GEN	Report Number: PR122431-TR-20
Test Name: EMCP 4.4 MCP	

UUT Function: Power metering, protective relaying, and engine generator controls and monitoring

UUT Description: Wall mounted master control panel with additional internal control components to cover varied options within the custom generator controls offering.

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
104	24	10	30	NA	NA	NA

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{Ds} (g)	z / h	I _p	AFLX-H (g)	ARIG-H (g)	AFLX-V (g)	ARIG-V (g)
CBC 2019 / ICC-ES AC156	2.77	1.0	1.5	4.43	3.32	1.86	0.75

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT-3

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rigid wall mounted with (4) 3/8" grade 5 bolts



Manufacturer: Caterpillar	Test Location: NTS - Huntsville, AL
Component: WM-CGC-30x8x30	Test Date: August 2020
Part Number: i0418-0435-GCP	Report Number: PR122431-TR-20
Test Name: EPIC-GCP	

UUT Function: Provides master level logic, operates, and controls engine-generators and circuit breakers

UUT Description: Wall mounted generator control panel with additional internal control components to cover varied options within the custom generator controls offering.

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
115	30	8	30	NA	NA	NA

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{Ds} (g)	z / h	I _p	AFLX-H (g)	ARIG-H (g)	AFLX-V (g)	ARIG-V (g)
CBC 2019 / ICC-ES AC156	2.77	1.0	1.5	4.43	3.32	1.86	0.75

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.