



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

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

OFFICE USE ONLY

APPLICATION #: OSP – 0504 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Preferred Utilities Manufacturing Corporation

Manufacturer's Technical Representative: Marlon Maves

Mailing Address: 31-35 South Street, Danbury, CT 06810

Telephone: (203) 743-6741x1709 Email: mmaves@preferred-mfg.com

Product Information

Product Name: Boiler Control Panels

Product Type: Control Panels

Product Model Number: See Certified Product Table attached

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

General Description: Wall-mounted panels that control boilers and predictive metering combustion control.

Mounting Description: Rigidly wall mounted

Applicant Information

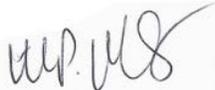
Applicant Company Name: Preferred Utilities Manufacturing Corporation

Contact Person: Marlon Maves

Mailing Address: 31-35 South Street, Danbury, CT 06810

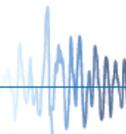
Telephone: (203) 743-6741x1709 Email: mmaves@preferred-mfg.com

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: 1/6/2017

Title: Design Engineer/Project Manager Company Name: Preferred Utilities Manufacturing Corporation

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





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

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

Company Name: Forell/Elsesser Engineers, Inc.

Name: Marco Scanu, SE California License Number: S4454

Mailing Address: 160 Pine St., 6th Flr., San Francisco, CA 94111

Telephone: (415) 837-0700 Email: m.scanu@forell.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): _____

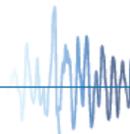
Testing Laboratory

Company Name: National Technical Systems

Contact Name: Breanne Siska

Mailing Address: 38995 Cherry Street, Newark, CA 94560

Telephone: (510) 578-3500 Email: Breanne.Siska@nts.com





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

Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = 1.93

S_{DS} (Design spectral response acceleration at short period, g) = 2.57

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 attachment, UUT Summary Sheets

Overall dimensions and weight (or range thereof) = See attachment, Certified Products Table

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): Certified Products Table, Certified Subcomponents Table, UUT Summary Sheets

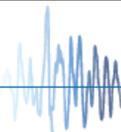
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature:  Date: April 20, 2017

Print Name: Ali Sumer Title: DSE

Special Seismic Certification Valid Up to : S_{DS} (g) = 2.57 z/h = 1.0

Condition of Approval (if applicable): _____



Preferred Utilities - Boiler Control Panels

I. Certified Components

Preferred Utilities Enclosures (NEMA 4)

Width	Height	Depth	Maximum Weight	Manufacturer	Part Number	Tested
20.0 in	35.0 in	11.0 in	98.0 lbs	Preferred Utilities	90217	Test Report R93006 UUT-2A
20.0 in	35.0 in	11.0 in	180.0 lbs	Preferred Utilities	90218-2	Test Report R93006 UUT-2A

Hammond Enclosures (NEMA 4)

Width	Height	Depth	Maximum Weight	Manufacturer	Part Number	Tested
24.0 in	20.0 in	8.0 in	104.0 lbs	Hammond	EN4SD20248GY	Extrapolated
24.0 in	24.0 in	8.0 in	104.0 lbs	Hammond	EN4SD24208GY	Extrapolated
24.0 in	24.0 in	8.0 in	104.0 lbs	Hammond	EN4SD24248GY	Extrapolated
30.0 in	24.0 in	8.0 in	104.0 lbs	Hammond	EN4SD24308GY	Extrapolated
20.0 in	30.0 in	8.0 in	104.0 lbs	Hammond	EN4SD30208GY	Extrapolated
24.0 in	30.0 in	8.0 in	104.0 lbs	Hammond	EN4SD30248GY	Extrapolated
30.0 in	30.0 in	8.0 in	104.0 lbs	Hammond	EN4SD30308GY	Extrapolated
36.0 in	30.0 in	8.0 in	104.0 lbs	Hammond	EN4SD30368GY	Extrapolated
24.0 in	36.0 in	8.0 in	104.0 lbs	Hammond	EN4SD36248GY	Extrapolated
30.0 in	36.0 in	8.0 in	104.0 lbs	Hammond	EN4SD36308GY	Extrapolated
36.0 in	36.0 in	8.0 in	104.0 lbs	Hammond	EN4SD36368GY	Extrapolated
24.0 in	42.0 in	8.0 in	104.0 lbs	Hammond	EN4SD42248GY	Extrapolated
30.0 in	42.0 in	8.0 in	104.0 lbs	Hammond	EN4SD42308GY	Extrapolated
36.0 in	42.0 in	8.0 in	104.0 lbs	Hammond	EN4SD42368GY	Extrapolated
24.0 in	48.0 in	8.0 in	104.0 lbs	Hammond	EN4SD48248GY	Extrapolated
30.0 in	48.0 in	8.0 in	104.0 lbs	Hammond	EN4SD48308GY	Extrapolated
36.0 in	48.0 in	8.0 in	104.0 lbs	Hammond	EN4SD48368GY	Extrapolated
24.0 in	20.0 in	10.0 in	104.0 lbs	Hammond	EN4SD202410GY	Extrapolated
20.0 in	24.0 in	10.0 in	104.0 lbs	Hammond	EN4SD242010GY	Extrapolated
24.0 in	24.0 in	10.0 in	104.0 lbs	Hammond	EN4SD242410GY	Extrapolated
30.0 in	24.0 in	10.0 in	104.0 lbs	Hammond	EN4SD243010GY	Test Report PR052698.01 EUT-3
20.0 in	30.0 in	10.0 in	226.0 lbs	Hammond	EN4SD302010GY	Interpolated
24.0 in	30.0 in	10.0 in	226.0 lbs	Hammond	EN4SD302410GY	Interpolated
30.0 in	30.0 in	10.0 in	226.0 lbs	Hammond	EN4SD303010GY	Interpolated
24.0 in	36.0 in	10.0 in	226.0 lbs	Hammond	EN4SD362410GY	Interpolated
30.0 in	36.0 in	10.0 in	226.0 lbs	Hammond	EN4SD363010GY	Interpolated
36.0 in	36.0 in	10.0 in	226.0 lbs	Hammond	EN4SD363610GY	Interpolated
30.0 in	42.0 in	10.0 in	226.0 lbs	Hammond	EN4SD423010GY	Interpolated
36.0 in	42.0 in	10.0 in	226.0 lbs	Hammond	EN4SD423610GY	Interpolated
24.0 in	48.0 in	10.0 in	226.0 lbs	Hammond	EN4SD482410GY	Interpolated
30.0 in	48.0 in	10.0 in	226.0 lbs	Hammond	EN4SD483010GY	Interpolated
36.0 in	48.0 in	10.0 in	226.0 lbs	Hammond	EN4SD483610GY	Interpolated
20.0 in	20.0 in	12.0 in	226.0 lbs	Hammond	EN4SD202012GY	Interpolated
24.0 in	20.0 in	12.0 in	226.0 lbs	Hammond	EN4SD242012GY	Interpolated
24.0 in	24.0 in	12.0 in	226.0 lbs	Hammond	EN4SD242412GY	Interpolated
24.0 in	30.0 in	12.0 in	226.0 lbs	Hammond	EN4SD302412GY	Interpolated
30.0 in	30.0 in	12.0 in	226.0 lbs	Hammond	EN4SD303012GY	Interpolated
24.0 in	36.0 in	12.0 in	226.0 lbs	Hammond	EN4SD362412GY	Interpolated
30.0 in	36.0 in	12.0 in	226.0 lbs	Hammond	EN4SD363012GY	Interpolated
36.0 in	36.0 in	12.0 in	226.0 lbs	Hammond	EN4SD363612GY	Interpolated
30.0 in	42.0 in	12.0 in	226.0 lbs	Hammond	EN4SD423012GY	Interpolated
36.0 in	42.0 in	12.0 in	226.0 lbs	Hammond	EN4SD423612GY	Interpolated
24.0 in	48.0 in	12.0 in	226.0 lbs	Hammond	EN4SD482412GY	Interpolated
36.0 in	48.0 in	12.0 in	226.0 lbs	Hammond	EN4SD483612GY	Test Report R93006 UUT-4
24.0 in	30.0 in	16.0 in	282.0 lbs	Hammond	EN4SD302416GY	Interpolated
30.0 in	36.0 in	16.0 in	282.0 lbs	Hammond	EN4SD363016GY	Interpolated
36.0 in	42.0 in	16.0 in	282.0 lbs	Hammond	EN4SD423616GY	Interpolated
36.0 in	48.0 in	16.0 in	282.0 lbs	Hammond	EN4SD483616GY	Interpolated
36.0 in	60.0 in	16.0 in	282.0 lbs	Hammond	EN4SD603616GY	Interpolated
30.0 in	36.0 in	20.0 in	282.0 lbs	Hammond	EN4SD363020GY	Interpolated
36.0 in	48.0 in	20.0 in	282.0 lbs	Hammond	EN4SD483620GY	Interpolated
36.0 in	60.0 in	20.0 in	282.0 lbs	Hammond	EN4SD603620GY	Test Report PR052698.01 EUT-1

Note: All Enclosures constructed of cold formed carbon steel

Preferred Utilities - Boiler Control Panels
II. Certified Subcomponents Table

Displays			
Description	Manufacturer	Part Number	Tested
OPERATOR INTERFACE TERMINAL 4 INCH WITH NEMA 4X FRONT	RED LION CONTROLS	G306MS00	Extrapolated
OPERATOR INTERFACE TERMINAL 10.4 INCH WITH NEMA 4X FRONT	RED LION CONTROLS	OEMG3D34 CUSTOM G310C2	Test Report PR052698.01 EUT-1, Test Report R93006 UUT-2A and UUT-4
OPERATOR INTERFACE TERMINAL 10.4 INCH WITH NEMA 4X FRONT - OUTDOOR RATED	RED LION CONTROLS	OEMG3D35 CUSTOM G310S2	Test Report PR052698.01 EUT-3, Test Report R93006 UUT-4
OPTIONAL COMMUNICATIONS CARD FOR OIT-6 AND OIT-10	RED LION CONTROLS	G3RS0000	Test Report PR052698.01 EUT-3
OIT BRIDGE COMM. 485/232/ DAUGHTER CARD	RED LION CONTROLS	OEMDA004	Extrapolated
Motor Starters			
Description	Manufacturer	Part Number	Tested
MANUAL MOTOR STARTERS: 2HP-480V (ADJUSTABLE FLA:2.5-4)	GENERAL ELECTRIC	GPS1BHAH	Test Report R93006 UUT-4
MANUAL MOTOR STARTERS: 3HP-480V (ADJUSTABLE FLA:4-6.3)	GENERAL ELECTRIC	GPS1BHAJ	Test Report R93006 UUT-4
Motor Contactors			
Description	Manufacturer	Part Number	Tested
IEC 3 POLE CONTACTORS, MOTOR STARTER, 10 AMPS0701-B	GENERAL ELECTRIC	CL00A310TJ	Test Report R93006 UUT-4
TNO TNC AUXILIARY CONTACT FOR MMS - SIDE MOUNT	GENERAL ELECTRIC	GPAC11LRA	Test Report R93006 UUT-4
Motor Circuit Breakers			
Description	Manufacturer	Part Number	Tested
CIRCUIT BREAKER - 15 AMP SINGLE POLE	WESTINGHOUSE	QC-1015	Test Report PR052698.01 EUT-1, EUT-3
Switches			
Description	Manufacturer	Part Number	Tested
SW, 2 POS. SEL., NEMA 4/13	IDEC	ASD210N	Test Report PR052698.01 EUT-1, EUT-3, Test Report R93006 UUT-2A and UUT-4
SW, SEL, 3 POS., MAINT, NEMA 4/13	IDEC	ASD320N	Test Report PR052698.01 EUT-1, EUT-3, Test Report R93006 UUT-2A and UUT-4
PUSHBUTTON, RED MUSHROOM HEAD, PUSH-PULL,	IDEC	AYD311N-R	Test Report PR052698.01 EUT-1, EUT-3, Test Report R93006 UUT-4
Lights			
Description	Manufacturer	Part Number	Tested
LIGHT, PILOT, 120V, BLUE LENS, W/LAMP, FULL VOLTAGE	IDEC	APD199N-S-120	Test Report PR052698.01 EUT-1, EUT-3
LIGHT, PILOT, 120V, AMBER LENS, W/LAMP, FULL VOLTAGE	IDEC	APD199N-A-120	Test Report PR052698.01 EUT-1, EUT-3
LIGHT, PILOT, 120V, RED LENS, W/LAMP, FULL VOLTAGE	IDEC	APD199N-R-120	Test Report PR052698.01 EUT-1, EUT-3
CONTROL POWER ON LIGHT	IDEC	APD199N-W-120	Test Report R93006 UUT-4
Communication Devices			
Description	Manufacturer	Part Number	Tested
OIT TERMINAL ADAPTER KIT	PREFERRED UTILITIES	190777	Test Report PR052698.01 EUT-1, EUT-3, Test Report R93006 UUT-2A and UUT-4
OPERATOR INTERFACE TERMINAL BLIND BRIDGE	RED LION CONTROLS	OEMDA000	Test Report R93006 UUT-2A and UUT-4
SCADA INTERFACE SHIELDED PIGTAIL CABLE D2-DSCBL-2	KOYO	D2-DSCBL-2	Test Report R93006 UUT-4
Power Supply			
Description	Manufacturer	Part Number	Tested
24 VDC POWER SUPPLY, 2.5A OUTPUT, 120VAC INPUT	CARLO GARVAZZI	SPD24601	Test Report PR052698.01 EUT-1, EUT-3, Test Report R93006 UUT-2A
24VDC PWR SUPPLY, 5A OUTPUT, 120VAC	CARLO GARVAZZI	SPD241201	Test Report R93006 UUT-4
RECEPTACLE, DUPLEX, 15A 125V, BROWN	HUBBELL	LEV CR15-BRN	Test Report R93006 UUT-4
JUNCTION BOX - 2WX4HX2-1/8D	T & B	58371-1/2	Test Report R93006 UUT-4
Relays			
Description	Manufacturer	Part Number	Tested
EMERGENCY TRANSFER RELAY - 120V COIL - 10 AMP	TELEMECANIQUE	CA2KN2F7	Test Report R93006 UUT-4
EMERGENCY TRANSFER RELAY - 120V COIL - REVERSING	TELEMECANIQUE	LC2D25G7	Extrapolated
EMERGENCY TRANSFER RELAY	TELEMECANIQUE	LC2D25O1L6	Extrapolated
EMERGENCY TRANSFER RELAY - 120V COIL - 50 AMP	TELEMECANIQUE	LC1D50G6	Extrapolated
EMERGENCY TRANSFER RELAY - 120V COIL - 62 AMPS	TELEMECANIQUE	LAR07AJS	Extrapolated
EMERGENCY TRANSFER RELAY TIME DELAY TIMER - 120V	TELEMECANIQUE	LA2KT2U	Extrapolated
EMERGENCY TRANSFER RELAY - 208V COIL - 7.5 HP@220V	TELEMECANIQUE	LC2D25LE7	Extrapolated
EMERGENCY TRANSFER RELAY - 208V COIL - 10 HP @ 230V	TELEMECANIQUE	LAR04AL	Extrapolated
EMERGENCY TRANSFER RELAY, 208V, 80 AMP	TELEMECANIQUE	LC2D80L6	Extrapolated
EMERGENCY TRANSFER RELAY - 460V COIL - 15 HP@460V	TELEMECANIQUE	LC2D25T7	Test Report R93006 UUT-2A
RELAY, PLUG-IN, SPDT, 120VAC, 60HZ	MAGNECRAFT	W199AX-4	Extrapolated
RELAY, PLUG-IN, DPDT, 10 AMP CONTACTS 120VAC, 60HZ	MAGNECRAFT	750XBXC-120A	Test Report R93006 UUT-2A and UUT-4
RELAY, PLUG-IN, TPDT, 10 AMP CONTACTS 120VAC, 60HZ	MAGNECRAFT	750XCXC-120A	Test Report R93006 UUT-2A
RELAY LATCHING DPDT, 10 AMP CONTACTS 120 VAC 60 HZ	IDEC	RR2KP-U-AC120V	Extrapolated
RELAY, DPDT, 10A, 48 VDC COIL	IDEC	RH2B-UDC48V	Extrapolated
RELAY, PLUG-IN, 3PDT, 10A CONTACTS, 240VAC, 50/60HZ	IDEC	RR3PA-U-AC240V	Extrapolated
RELAY, PLUG IN, 3PDT, 10A, 24VDC COIL	IDEC	RH3BUL-24VDC	Extrapolated
RELAY, PLUG IN, 4PDT, 10A, 4120VDC COIL	IDEC	RH4B-U-AC120V	Test Report PR052698.01 EUT-3
RELAY, PLUG-IN, DPDT, 10 AMP CONTACTS 120VAC, 60HZ	IDEC	RR2P-UAC120V	Test Report PR052698.01 EUT-1, Test Report R93006 UUT-4
RELAY, PROGRAMMABLE TIME DELAY, 11 PIN,	SSAC	TRDU120A3	Test Report R93006 UUT-4
RELAY, PLUG-IN, TPDT, 10 AMP CONTACTS 120VAC, 60 HZ	MAGNECRAFT	750XCXC-120A	Extrapolated
Relay Bases			
Description	Manufacturer	Part Number	Tested
SOCKET, PLUG-IN TYPE, 8 PIN OCTAL BASE, SCREW TERMINALS	IDEC	SR2P-06	Test Report R93006 UUT-2A and UUT-4
SOCKET, PLUG-IN TYPE, 11 PIN BASE, SCREW TERMINALS	IDEC	SR3P-05	Test Report R93006 UUT-2A and UUT-4
SOCKET, 4PDT BLADE TYPE, SNAP MOUNT	IDEC	SH4B-05	Test Report PR052698.01 EUT-3
SOCKET, PLUG-IN TYPE, 8 PIN OCTAL BASE, SCREW TERMINALS	IDEC	SR2P-06	Test Report PR052698.01 EUT-1
Preferred Utilities PWC Modules			
Description	Manufacturer	Part Number	Tested
PLANT WIDE CONTROLLER WITH CPU, DISPLAY AND KEYBOARD	PREFERRED UTILITIES	PWCN4-CADHRO	Test Report R93006 UUT-2A
PWC STANDARD PUMP SET PANEL THREE PHASE WIRE HARNESS	PREFERRED UTILITIES	190142	Test Report R93006 UUT-2A
PWC DIN BOARD, 15 CH, 120 VAC DISCRETE INPUTS	PREFERRED UTILITIES	190608	Test Report R93006 UUT-2A
PWC AIN BOARD, 8 CH., UNIVERSAL ANALOG INPUTS	PREFERRED UTILITIES	190609	Test Report R93006 UUT-2A
PWC ROUT BOARD, 8 CH. RELAY OUTPUT BOARD	PREFERRED UTILITIES	190617	Test Report R93006 UUT-2A
PWC A/M-AOUT BOARD, 5 CH. ANALOG OUTPUT WITH AUTO/MANUAL BYPASS STATION	PREFERRED UTILITIES	190613	Test Report R93006 UUT-2A
PWC 4-20 MA OUTPUT DAUGHTER BOARD, FOR USE IN A/M-AOUT 190613	PREFERRED UTILITIES	190616	Test Report R93006 UUT-2A

Preferred Utilities - Boiler Control Panels
II. Certified Subcomponents Table

Koyo PLC Modules			
Description	Manufacturer	Part Number	Tested
DL205 CPU260, 30.4K WORDS TOTAL MEMORY, FLASH MEMORY,	KOYO	D2-260	Test Report R93006 UUT-4
DL 205 PLC, INPUT MODULE, 8 PT, 110 VAC	KOYO	D2-08NA-1	Test Report R93006 UUT-4
DL 205 PLC, OUTPUT MODULE, 8 PT, RELAY	KOYO	D2-08TR	Test Report R93006 UUT-4
DL 205 PLC, 9 SLOT BASE, INTERNAL 110/220 VAC POWER	KOYO	D2-09B-1	Test Report R93006 UUT-4
DL 205 PLC, MODULE, FILLER	KOYO	D2-FILL	Test Report R93006 UUT-4
DL 205 PLC, INPUT MODULE, 4PT, ANALOG	KOYO	F2-04AD-1	Test Report R93006 UUT-4
DL 205 PLC, OUTPUT MODULE, 2PT, ANALOG	KOYO	F2-04DA-1	Test Report R93006 UUT-4
EXPANSION BASE CONTROLLER MODULE D2-CM	KOYO	D2-CM	Test Report R93006 UUT-4
BASE EXPANSION MODULE FOR LOCAL EXPANSION D2-EM	KOYO	D2-EM	Test Report R93006 UUT-4
BASE EXPANSION CABLE D2-EXCBL-1	KOYO	D2-EXCBL-1	Test Report R93006 UUT-4
ETHERNET COMMUNICATION MODULE, MASTER/SLAVE ON AN ETHERNET W/MODBUS TCP/IP	KOYO	H2-ECOM100	Test Report R93006 UUT-4
Tank Gauge			
Description	Manufacturer	Part Number	Tested
FUEL SENTRY TANK GAUGE	PREFERRED UTILITIES	TG-EL-D4A-00-0-0	Test Report R93006 UUT-4
PRINTER FOR USE WITH TG-EL-D4A, INCLUDES 120V/PWR SUPPLY AND CONNECTOR	PREFERRED UTILITIES	TG-EL-D4A-PRINTER	Test Report R93006 UUT-4
Preferred BMU Modules			
Description	Manufacturer	Part Number	Tested
BMU WITH BASIC CONTROL CHASSIS WITH SHIP LOOSE LCD TOUCH PAD	PREFERRED UTILITIES	BMU-00N0	Interpolated
BMU WITH BASIC CONTROL CHASSIS AND FLUSH MTD LCD TOUCH PAD	PREFERRED UTILITIES	BMU-00H0	Test Report PR052698.01 EUT-3
BMU WITH BASIC CONTROL CHASSIS AND FLUSH MTD LCD TOUCH PAD	PREFERRED UTILITIES	BMU-00V0	Interpolated
BMU WITH BASIC CONTROL CHASSIS, OXYGEN TRIM AND SHIP LOOSE LCD TOUCH PAD	PREFERRED UTILITIES	BMU-0ZN0	Interpolated
BMU WITH BASIC CONTROL CHASSIS, OXYGEN TRIM AND FLUSH MTD LCD TOUCH PAD	PREFERRED UTILITIES	BMU-0ZH0, BMU-0ZV0	Interpolated
BMU WITH EXPANDED CONTROL CHASSIS AND SHIP LOOSE LCD TOUCH PAD	PREFERRED UTILITIES	BMU-10N0	Interpolated
BMU WITH EXPANDED CONTROL CHASSIS AND FLUSH MTD LCD TOUCH PAD	PREFERRED UTILITIES	BMU-10H0, BMU-10V0	Interpolated
BMU WITH EXPANDED CONTROL CHASSIS, OXYGEN TRIM AND SHIP LOOSE LCD TOUCH PAD	PREFERRED UTILITIES	BMU-1ZN0, BMU-1ZH0, BMU-1ZV0	Interpolated
BMU WITH PREDICTIVE METERING OPTIONS PLUS EXPANDED CONTROL CHASSIS WITH OXYGEN TRIM AND FLUSH MTD LCD TOUCH PAD	PREFERRED UTILITIES	BMU-2ZN0	Test Report PR052698.01 EUT-1
Miscellaneous			
Description	Manufacturer	Part Number	Tested
ALARM BELL, 120 V, 6 IN. DIA	WHEELKOK	43T-G6-115-S-23	Test Report R93006 UUT-2A and UUT-4
DEVAR TEMPERATURE TRANSMITTER, SUBPLATE MOUNTED WITH BRACKET, RG 0 TO 300 DEG., F, SM SERIES	DEVAR INC.	SM-812-EC-0013-M31D	Test Report R93006 UUT-2A and UUT-4
SIGNAL ISOLATOR, DC CURRENT OR VOLTAGE, 24VDC	WEIDMULLER	8594810000	Test Report R93006 UUT-4
SURGE PROTECTOR - 20 AMP, 120 VAC, LED POWER INDICATION, DIN RAIL MTD	CONTROL CONCEPTS	70025969	Test Report PR052698.01 EUT-1, EUT-3
ADAPTER, TYPE C DIN RAIL, QUICKLAG	EATON/CUTLER-HAMMER	QCINADAPT	Test Report PR052698.01 EUT-1, EUT-3
FLASHER, 120 VAC, 1.25 A TUNGSTEN LOAD MAX	INGRAM PRODUCTS	SSF150W	Test Report PR052698.01 EUT-1, EUT-3
LIGHT, PANEL ALARM, FLASHING, RED GLOBE, NEMA 4X	INGRAM PRODUCTS	LX40F	Test Report PR052698.01 EUT-1, EUT-3
ALARM HORN, 4~ SQUARE, 120 VOLT W/ NEMA 4X MOUNTING KIT3	PREFERRED UTILITIES	11698-G	Test Report PR052698.01 EUT-1, EUT-3

OSP APPLICATION
Preferred Utilities - Boiler Control Panels
III. UUT Summary Sheets

Date: 3/28/2017

Test Report PR052698.01 – EUT 1

BMU Boiler Controller – S16R8137
14 ga. Cold Formed Carbon Steel
36”W x 21”D x 60”H, 282 lbs
Wall mounted using: (4) - 3/8” bolts



Figure 1: EUT-1

Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-H}
CBC 2016	ICC-ES AC 156	2.84	1	4.54	3.41	1.90	0.76
Natural Frequencies			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT was full of operating content during test				
n/a	n/a	n/a					

Subcomponents	Manufacturer	Part #
BMU WITH PREDICTIVE METERING OPTIONS PLUS EXPANDED CONTROL CHASSIS WITH OXYGEN TRIM AND FLUSH MTD LCD TOUCH PAD	PREFERRED UTILITIES	BMU-2ZN0
WALL MOUNT ENCLOSURE, NEMA 4. 60H x 36W x 20D.	HAMMOND	EN4SD603620GY
CIRCUIT BREAKER - 15 AMP, SINGLE POLE	WESTINGHOUSE	QC1015
SURGE PROTECTOR - 20 AMP, 120 VAC, LED POWER INDICATION, DIN RAIL MTD	COTROL CONCEPTS	70025969
RELAY, PLUG-IN, DPDT, 10 AMP CONTACTS 120VAC, 60HZ	IDEC	RR2P-UAC120V
SOCKET, PLUG-IN TYPE, 8 PIN OCTAL BASE, SCREW TERMINALS	IDEC	SR2P-06
ADAPTER, TYPE C DIN RAIL, QUICKLAG	EATON/CUTLER-HAMMER	QCDINADAPT
FLASHER, 120 VAC, 1.25 A TUNGSTEN LOAD MAX	INGRAM PRODUCTS	SSF150W
LIGHT, PANEL ALARM, FLASHING, RED GLOBE, NEMA 4X	INGRAM PRODUCTS	LX40F
LIGHT, PILOT, 120V, BLUE LENS, W/ LAMP, FULL VOLTAGE	IDEC	APD199N-S-120
LIGHT, PILOT, 120V, AMBER LENS, W/LAMP, FULL VOLTAGE	IDEC	APD199N-A-120
LIGHT, PILOT, 120V, RED LENS, W/LAMP, FULL VOLTAGE	IDEC	APD199N-R-120
SW, SEL, 3 POS.,MAINT,NEMA 4/13, STD KNOB, (2) N.O. CONTACTS	IDEC	ASD320N
ALARM HORN, 4~ SQUARE, 120 VOLT W/ NEMA 4X MOUNTING KIT3	PREFERRED UTILITIES	11698-G
PUSHBUTTON, RED MUSHROOM HEAD, PUSH-PULL	IDEC	AYD311N-R
OIT TERMINAL ADAPTER KIT	PREFERRED UTILITIES	190777
OPERATOR INTERFACE TERMINAL 10.4 INCH WITH NEMA 4X FRONT	RED LION CONTROLS	OEMG3D34 CUSTOM G310C2
24 VDC POWER SUPPLY, 2.5A OUTPUT, 120VAC INPUT	CARLO GARVAZZI	SPD24601
SW, 2 POS. SEL., NEMA 4/13, MAINT, STD KNOB, 1 N.O. AND 1 DUMMY BLK.	IDEC	ASD210N

OSP APPLICATION
Preferred Utilities - Boiler Control Panels
III. UUT Summary Sheets

Date: 3/28/2017

Test Report PR052698.01 – EUT 3

BMU Boiler Controller – S16L8117

14 ga. Cold Formed Carbon Steel

30"W x 11"D x 24"H, 104 lbs

Wall mounted using: (4) - 3/8" bolts



Figure 3: EUT-3

Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-H}
CBC 2016	ICC-ES AC 156	2.84	1	4.54	3.41	1.90	0.76
Natural Frequencies			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT was full of operating content during test				
n/a	n/a	n/a					

Subcomponents	Manufacturer	Part #
BMU CONTROLLER WITH BASIC CONTROL CHASSIS AND LCD TOUCH SCREEN	PREFERRED UTILITIES	BMU-00H0
WALL MOUNT ENCLOSURE, NEMA 4. 24H x 30W x 10D.	HAMMOND	EN4SD243010GY
CIRCUIT BREAKER - 15 AMP, SINGLE POLE	WESTINGHOUSE	QC1015
SURGE PROTECTOR - 20 AMP, 120 VAC, LED POWER INDICATION, DIN RAIL MTD	COTROL CONCEPTS	70025969
RELAY, PLUG-IN, 4PDT, 10 AMP CONTACTS 120VAC, 60HZ	IDEC	RH4B-U-AC120V
SOCKET, 4PDT BLADE TYPE, SNAP MOUNT	IDEC	SH4B-05
ADAPTER, TYPE C DIN RAIL, QUICKLAG	EATON/CUTLER-HAMMER	QCDINADAPT
FLASHER, 120 VAC, 1.25 A TUNGSTEN LOAD MAX	INGRAM PRODUCTS	SSF150W
LIGHT, PANEL ALARM, FLASHING, RED GLOBE, NEMA 4X	INGRAM PRODUCTS	LX40F
LIGHT, PILOT, 120V, BLUE LENS, W/ LAMP, FULL VOLTAGE	IDEC	APD199N-S-120
LIGHT, PILOT, 120V, AMBER LENS, W/LAMP, FULL VOLTAGE	IDEC	APD199N-A-120
LIGHT, PILOT, 120V, RED LENS, W/LAMP, FULL VOLTAGE	IDEC	APD199N-R-120
SW, SEL, 3 POS.,MAINT,NEMA 4/13, STD KNOB, (2) N.O. CONTACTS	IDEC	ASD320N
ALARM HORN, 4~ SQUARE, 120 VOLT W/ NEMA 4X MOUNTING KIT3	PREFERRED UTILITIES	11698-G
PUSHBUTTON, RED MUSHROOM HEAD, PUSH-PULL	IDEC	AYD311N-R
OIT TERMINAL ADAPTER KIT	PREFERRED UTILITIES	190777
OPERATOR INTERFACE TERMINAL 10.4 INCH WITH NEMA 4X FRONT - OUTDOOR RATED	RED LION CONTROLS	OEMG3D35 CUSTOM G310S2
OPTIONAL COMMUNICATIONS CARD FOR OIT-6 AND OIT-10	RED LION CONTROLS	G3RS0000
24 VDC POWER SUPPLY, 2.5A OUTPUT, 120VAC INPUT	CARLO GARVAZZI	SPD24601
SW, 2 POS. SEL., NEMA 4/13, MAINT, STD KNOB, 1 N.O. AND 1 DUMMY BLK.	IDEC	ASD210N

OSP APPLICATION
Preferred Utilities - Boiler Control Panels
III. UUT Summary Sheets

Date: 3/28/2017

Test Report R93006 – UUT 2a

Customized PWC
14 ga. Cold Formed Carbon Steel
20"W x 11"D x 35"H, 124 lbs
Wall mounted using: (4) - 3/8" bolts

UUT-2a/2b



UUT-2a above

Building Code	Test Criteria	S _{ds} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-H}
CBC 2016	ICC-ES AC 156	2.57	1	4.11	3.08	1.72	0.69
Natural Frequencies			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT was full of operating content during test				
n/a	n/a	n/a					

Subcomponents	Manufacturer	Part #
PLANT WIDE CONTROLLER WITH CPU, DISPLAY AND KEYBOARD	PREFERRED UTILITIES	PWCN4-2- CADHRO
PLANT WIDE CONTROLLER INTERNAL ENCLOSURE 21" X 18"	PREFERRED UTILITIES	90217
PLANT WIDE CONTROLLER EXTERNAL ENCLOSURE 35" X 20" X 10"	PREFERRED UTILITIES	90218-2
PWC DIN BOARD, 15 CH. 120 VAC DISCRETE INPUTS	PREFERRED UTILITIES	190608
PWC ROUT BOARD, 8 CH. RELAY OUTPUT BOARD	PREFERRED UTILITIES	190617
PWC AIN BOARD, 8 CH., UNIVERSAL ANALOG INPUTS	PREFERRED UTILITIES	190609
PWC A/M-AOUT BOARD, 5 CH. ANALOG OUTPUT WITH AUTO/MANUAL BYPASS STATION	PREFERRED UTILITIES	190613
PWC 4-20 MA OUTPUT DAUGHTER BOARD, FOR USE IN A/M-AOUT 190613	PREFERRED UTILITIES	190616
PWC STANDARD PUMP SET PANEL THREE PHASE WIRE HARNESS	PREFERRED UTILITIES	190142
EMERGENCY TRANSFER RELAY - 460V COIL - 15 HP@460V	TELEMECANIQUE	LC2D25T7
TRANSFORMER, 250 VA, 460/230/208 VAC PRIM., 115 VAC SEC.	HAMMOND	PH250MLI
SW, 2 POS. SEL., NEMA 4/13	IDEC	ASD210N
SW, SEL, 3 POS.,MAINT,NEMA 4/13	IDEC	ASD320N
RELAY, PLUG-IN, DPDT, 10 AMP CONTACTS 120VAC, 60HZ	MAGNECRAFT	750XBXC-120A
RELAY, PLUG-IN, 3PDT, 10 AMP CONTACTS 120VAC, 60HZ	MAGNECRAFT	750XCXC-120A
SOCKET, PLUG-IN TYPE, 8 PIN OCTAL BASE, SCREW TERMINALS	IDEC	SR2P-06
SOCKET, PLUG-IN TYPE, 11 PIN BASE, SCREW TERMINALS	IDEC	SR3P-05
OPERATOR INTERFACE TERMINAL 10.4 INCH WITH NEMA 4X FRONT	RED LION CONTROLS	OEMG3D34 CUSTOM G310C2
OIT TERMINAL ADAPTER KIT	PREFERRED UTILITIES	190777
OPERATOR INTERFACE TERMINAL BLIND BRIDGE	RED LION CONTROLS	OEMDA000
24 VDC POWER SUPPLY, 2.5A OUTPUT, 120VAC INPUT	CARLO GARVAZZI	SPD24601
DEVAR TEMPERATURE TRANSMITTER, SUBPLATE MOUNTED WITH BRACKET, RG 0 TO 300 DEG., F, SM SERIES	DEVAR INC.	SM-812-EC-0013-M31D
ALARM BELL, 120 V, 6 IN. DIA.	WHEELOK	43T-G6-115-S-23

OSP APPLICATION
Preferred Utilities - Boiler Control Panels
III. UUT Summary Sheets

Date: 3/28/2017

Test Report R93006 – UUT 4

Customized PLC

14 ga. Cold Formed Carbon Steel

36"W x 13"D x 48"H, 226 lbs

Wall mounted using: (4) - 3/8" bolts

UUT-4

Building Code	Test Criteria	S _{bs} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-H}
CBC 2016	ICC-ES AC 156	2.57	1	4.11	3.08	1.72	0.69
Natural Frequencies			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT was full of operating content during test				
n/a	n/a	n/a					



Subcomponents	Manufacturer	Part #
CABINET, 48"HX36"WX12"D, NEMA 4	HAMMOND	EN4SD483612GY
MANUAL MOTOR STARTERS: 2HP-480V (ADJUSTABLE FLA:2.5-4)	GENERAL ELECTRIC	GPS1BHAH
MANUAL MOTOR STARTERS: 3HP-480V (ADJUSTABLE FLA:4-6.3)	GENERAL ELECTRIC	GPS1BHAJ
IEC 3 POLE CONTACTORS, MOTOR STARTER, 10 AMPS0701-B	GENERAL ELECTRIC	CL00A310TJ
1NO 1NC AUXILIARY CONTACT FOR MMS - SIDE MOUNT	GENERAL ELECTRIC	GPAC11LRA
EMERGENCY TRANSFER RELAY - 120V COIL - 10 AMP	TELEMECANIQUE	CA2KN22F7
RELAY, PLUG-IN, DPDT, 10 AMP CONTACTS 120VAC, 60HZ	MAGNECRAFT	750XBXC-120A
RELAY, PROGRAMMABLE TIME DELAY, 11 PIN,	SSAC	TRDU120A3
RELAY, PLUG-IN, ENCLOSED, 4PDT, 120V. 60HZ., V	IDEC	RH4B-U-AC120V
SOCKET, PLUG-IN TYPE, 8 PIN OCTAL BASE, SCREW TERMINALS	IDEC	SR2P-06
SOCKET, PLUG-IN TYPE, 11 PIN BASE, SCREW TERMINALS	IDEC	SR3P-05
SOCKET, 4PDT, BLADE TYPE, SNAP MOUNT	IDEC	SR4B-05
PUSHBUTTON, RED MUSHROOM HEAD, PUSH-PULL,	IDEC	AYD311N-R
SW, SEL, 3 POS., MAINT, NEMA 4/13	IDEC	ASD320N
SW, 2 POS. SEL., NEMA 4/13	IDEC	ASD210N
CONTROL POWER ON LIGHT	IDEC	APD199N-W-120
24VDC PWR SUPPLY, 5A OUTPUT, 120VAC	CARLO GARVAZZI	SPD241201
DL 205 PLC, 9 SLOT BASE, INTERNAL 110/220 VAC POWER	KOYO	D2-09B-1
KOYO DL205 CPU260, 30.4K WORDS TOTAL MEMORY, FLASH MEMORY,	KOYO	D2-260
DL 205 PLC, INPUT MODULE, 8 PT, 110 VAC	KOYO	D2-08NA-1
DL 205 PLC, OUTPUT MODULE, 8 PT, RELAY	KOYO	D2-08TR
DL 205 PLC, INPUT MODULE, 4PT, ANALOG	KOYO	F2-04AD-1
DL 205 PLC, OUTPUT MODULE, 2PT, ANALOG	KOYO	F2-04DA-1

OSP APPLICATION
Preferred Utilities - Boiler Control Panels
III. UUT Summary Sheets

Date: 3/28/2017

UUT-4 Subcomponents Cont'd

Subcomponents	Manufacturer	Part #
ETHERNET COMMUNICATION MODULE, MASTER/SLAVE ON AN EHTERNET W/MODBUS TCP/IP	KOYO	H2-ECOM100
DL 205 PLC, MODULE, FILLER	KOYO	D2-FILL
EXPANSION BASE CONTROLLER MODULE D2-CM	KOYO	D2-CM
BASE EXPANSION MODULE FOR LOCAL EXPANSION D2-EM	KOYO	D2-EM
BASE EXPANSION CABLE D2-EXCBL-1	KOYO	D2-EXCBL-1
OPERATOR INTERFACE TERMINAL 10.4 INCH WITH NEMA 4X FRONT	RED LION CONTROLS	OEMG3D34 CUSTOM G310C2
OPTIONAL COMMUNICATIONS CARD FOR OIT-6 AND OIT-10	RED LION CONTROLS	G3RS0000
OIT TERMINAL ADAPTER KIT	PREFERRED UTILITIES	190777
OPERATOR INTERFACE TERMINAL BLIND BRIDGE	RED LION CONTROLS	OEMDA000
SCADA INTERFACE SHIELDED PIGTAIL CABLE D2-DSCBL-2	KOYO	D2-DSCBL-2
DEVAR TEMPERATURE TRANSMITTER, SUBPLATE MOUNTED WITH BRACKET, RG 0 TO 300 DEG., F, SM SERIES	DEVAR INC.	SM-812-EC-0013-M31D
FUEL SENTRY TANK GAUGE	PREFERRED UTILITIES	TG-EL-D4A-00-0-0
PRINTER FOR USE WITH TG-EL-D4A, INCLUDES 120VPWR SUPPLY AND CONNECTOR	PREFERRED UTILITIES	TG-EL-D4A-PRINTER
JUNCTION BOX - 2WX4HX2-1/8D **MUST HAVE UL STAMP**	T & B	58371-1/2
RECEPTACLE, DUPLEX, 15A 125V, BROWN	HUBBELL	LEV CR15-BRN
ALARM BELL, 120 V, 6 IN. DIA.	WHEELOK	43T-G6-115-S-23
SIGNAL ISOLATOR, DC CURRENT OR VOLTAGE, 24VDC	WEIDMULLER	8594810000