



**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION**

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

OFFICE USE ONLY

APPLICATION #: OSP-0197

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: APC by Schneider Electric

Manufacturer's Technical Representative: Kin Keat

Mailing Address: 800 Federal Street, Andover, MA 01810-1067

Telephone: (978) 975-9461

Email: kin.keat@se.com

Product Information

Product Name: UPS and Batteries

Product Type: UPS

Product Model Number: Smart-UPS On-Line

General Description: Smart-UPS On-Line units consist of UPS units, battery packs, and transformers contained in commercial and seismic racks.

Mounting Description: Rigid, Floor Mounted

Tested Seismic Enhancements: Seismic enhancements made to the test units and/or modifications required to address anomalies during the tests shall be incorporated into the production units.

Applicant Information

Applicant Company Name: Pre Compliance

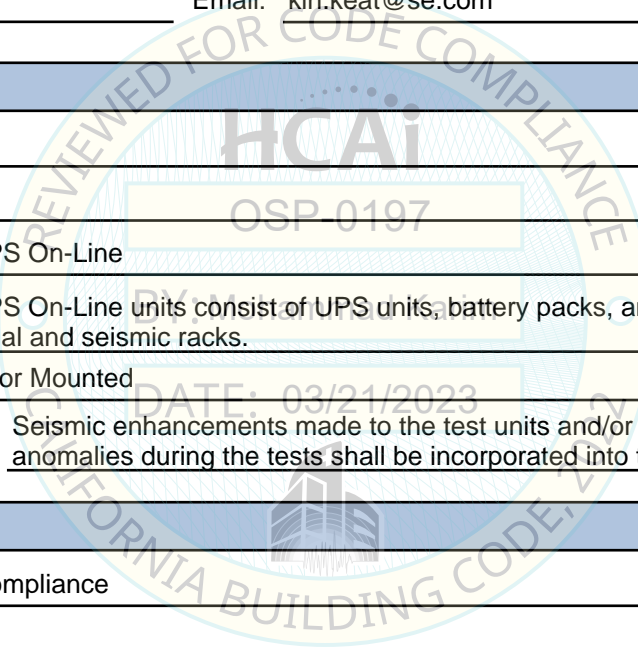
Contact Person: Galen Reid

Mailing Address: 36 Southwest Wall Street, Bend, OR 97702-3425

Telephone: (541) 241-2310

Email: galen@go-pre.com

Title: Principal & Program Manager





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

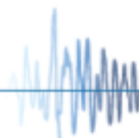
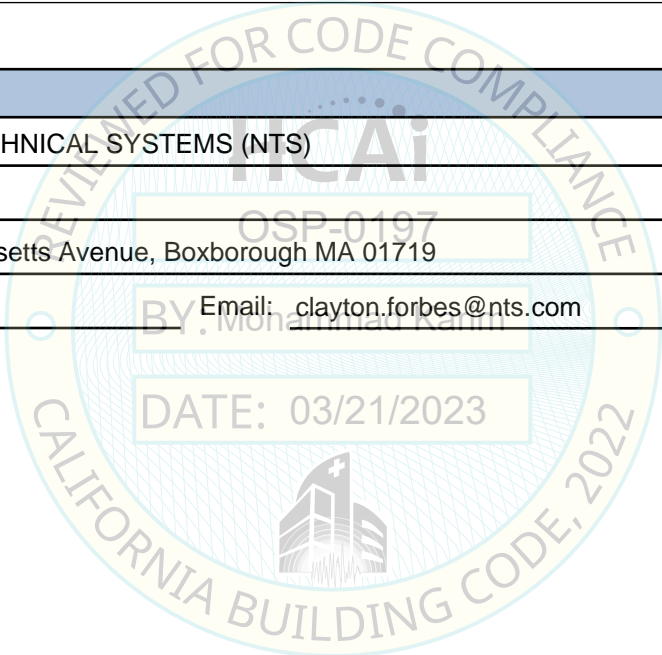
Company Name: PRE COMPLIANCE
Name: Andrew Coughlin California License Number: S6082
Mailing Address: 36 SW Wall Street, Bend, OR 97702
Telephone: (415) 635-8461 Email: Andy@go-pre.com

Certification Method

GR-63-Core ICC-ES AC156 IEEE 344 IEEE 693 NEBS 3
 Other (Please Specify): _____

Testing Laboratory

Company Name: NATIONAL TECHNICAL SYSTEMS (NTS)
Contact Person: Clayton Forbes
Mailing Address: 1146 Massachusetts Avenue, Boxborough MA 01719
Telephone: (978) 266-1001 Email: clayton.forbes@nts.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.40 (z/h=1); 0.84 (z/h=0)

SDS (Design spectral response acceleration at short period, g) = 1.86

a_p (Amplification factor) = 2.5

R_p (Response modification factor) = 6

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1 and 0

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

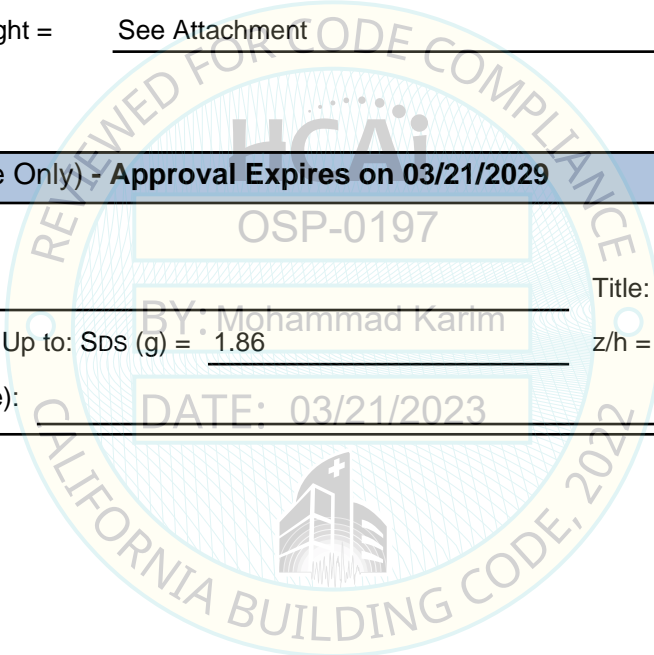
HCAI Approval (For Office Use Only) - Approval Expires on 03/21/2029

Date: 3/21/2023

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = 1.86 z/h = 1 and 0

Condition of Approval (if applicable): DATE: 03/21/2023



Manufacturer: APC by Schneider Electric
Product Type: Uninterruptible Power Supply
Model Line: Smart-UPS On-Line

Seismic Parameters

$S_{DS} = 1.86g$ for $z/h=1$
 $S_{DS} = 1.86g$ for $z/h=0$ $I_p = 1.5$

Building Codes

CBC 2022

TABLE 2

Table Description: Electrical Components

Component (Manufacturer)	Model	Dimensions (in)			Wt. (lb)	Notes	UUT
		D	W	H			
UPS (APC)	SURTA1500RML2U	22.0	17.0	3.4	60.6	RT 1500VA Rack Tower 120V	3
	SRT2200RMXLA	23.0	17.0	3.3	55.0	SRT 2200VA RM 120V	Interp.
	SRT2200RMXLA-NC	23.0	17.0	3.3	58.0	SRT 2200VA RM 120V w/Network Card	2
	SRT3000RMXLT	25.0	17.0	3.3	69.0	SRT 3000VA RM 208V	Interp.
	SRT3000RMXLA	25.0	17.0	3.3	69.0	SRT 3000VA RM 208V	Interp.
	SRT3000RMXLT-NC	25.0	17.0	3.3	69.0	SRT 3000VA RM 208V w/Network Card	Interp.
	SRT3000RMXLA-NC	25.0	17.0	3.3	69.0	SRT 3000VA RM 120V w/Network Card	1
	SRT3000RMLW-IEC	25.0	17.0	3.3	69.0	SRT 3000VA RM 208/230V IEC	Interp.
	SRT5KRMXLT	28.3	17.0	5.1	120.0	SRT 5000VA RM 208V	Interp.
	SRT5KRMXLT-IEC	28.3	17.0	5.1	120.0	SRT 5000VA RM 208V IEC	1,2
	SRT6KRMXLT	28.3	17.0	6.9	132.0	SRT 6000VA RM 208V	1,2
	SRT6KRMXLT-IEC	28.3	17.0	6.9	135.0	SRT 6000VA RM 208V IEC	Interp.
	SRT8KRMXLT	28.2	17.0	10.4	246.0	SRT 8000VA RM 208V	Interp.
	SRT8KRMXLT-IEC	28.2	17.0	10.4	246.0	SRT 8000VA RM 208V IEC	Interp.
	SRT10KRMXLT	28.2	17.0	10.4	246.0	SRT 10000VA RM 208V	1
	SRT10KRMXLT-IEC	28.2	17.0	10.4	246.0	SRT 10000VA RM 208V IEC	Interp.
	SURT14KRMXLJ	30.4	17.0	21.0	545.0	RT 14kVA RM 200V	Interp.
	SURT15KRMXLT	30.4	17.0	21.0	545.0	RT 15kVA RM 208V	Interp.
	SURT18KRMXLJ	30.4	17.0	21.0	545.0	RT 18kVA RM 200V	Interp.
	SURT20KRMXLT	30.4	17.0	21.0	545.0	RT 20kVA RM 208V	3
Battery Packs (APC)	SURTA48RMLBP2U	22.0	17.0	3.4	72.6	RT 48V RM Battery Pack	4
	SRT72RMBP	23.4	17.0	3.4	78.0	RT 72V RM Battery Pack	1
	SRT96RMBP	23.4	17.0	3.4	95.0	RT 96V RM Battery Pack	2
	SRT192RMBP	26.9	17.0	5.1	200.0	SRT 192V 5kVA and 6kVA Battery Pack	Interp.
	SRT192RMBP2	26.0	17.0	5.1	200.0	SRT 192V 8kVA and 10kVA Battery Pack	1,2
	SURT192RMLBP3U	26.0	17.0	5.1	200.0	RT 192V RM Battery Pack	4
	SURT192RMLBP2	29.1	17.0	10.4	400.0	RT 192V RM Battery Pack	3
Transformer (APC)	AP9626	24.0	17.0	3.5	95.2	Step-Down Transformer RM 2U 208V IN 120V OUT; w/5-20 Receptacle	4

UUT 1

Test Report#

TR-PR040246-16

Manufacturer: APC by Schneider Electric
Model Line: Smart-UPS On-Line
Model Number: AR2145BLK
Serial Number: N/A

Highest Passed Test Level						
S _{DS}	z/h	I _p	A _{flx-h}	A _{rig-h}	A _{flx-v}	A _{rig-v}
1.86	1					
1.86	0	1.5	2.98	2.23	1.25	0.50

Dimensions/Weights			
Depth (in)	Width (in)	Height (in)	Weight (lbs.)
42.2	23.0	80.3	1300

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
9.0	5.0	>33.3

Building Codes	Test Criteria	Construction/Option Summary
CBC 2022	ICC-ES AC156	NEMA 1 - 14 gauge cold rolled carbon steel (ASTM A1008)

UUT Mounting Details:	List of Included Subcomponents
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Floor mounted using (8) M12-1.75x30mm bolts. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. Contents were included in testing per operating conditions.

Description	Model #	Wt. (lbs.)
4-Post Sesmic Rack	AR2145BLK	437.3
SRT 3000VA RM 120V w/Network Card	SRT3000RMXLA-NC	69
SRT 5000VA RM 208V IEC	SRT5KRMXLT-IEC	120
SRT 6000VA RM 208V	SRT6KRMXLT	132
SRT 10000VA RM 208V	SRT10KRMXLT	246
RT 72V RM Battery Pack	SRT72RMBP	78
SRT 192V 8kVA and 10kVA Battery Pack	SRT192RMBP2	200
Battery Module #1 (OM-816336)	LP12-5-4	4.4
	HR1221WF2	4.4
	WP5-12	4.4
Battery Module #2 (911-9012A)	BP5-12	4.4
	LP12-5-4	4.4
	HR1221WF2	4.4
Battery Module #3 (911-1086A)	WP5-12	4.4
	BP5-12	4.4
	LP12-5-4	4.4

UUT 1

Test Report#

TR-PR040246-16

Test Configuration

Center of Gravity Height: 32"

42		42
41	SRT3000RMXLA-NC (69 lb) <i>uses module #2 - qty 1</i>	41
40	SRT72RMBP (78 lb) <i>uses module #3 - qty 2</i>	40
39		39
38		38
37		37
36		36
35		35
34		34
33		33
32		32
31	AR8122BLK Shelf	31
30		30
29		29
28		28
27		27
26		26
25		25
24		24
23		23
22		22
21		21
20		20
19	SRT5KRMXLT-IEC (120 lb) <i>uses module #1 - qty 2</i>	19
18		18
17		17
16		16
15	SRT6KRMXLT (4U) (132 lb) <i>uses module #1 - qty 2</i>	15
14		14
13		13
12		12
11		11
10	SRT10KRMXLT (246 lb) <i>uses module #1 - qty 4</i>	10
9		9
8		8
7		7
6		6
5	SRT192RMBP2 (200 lb) <i>uses module #1 - qty 4</i>	5
4		4
3		3
2		2
1		1

UUT 2

Test Report#

TR-PR040246-16

Manufacturer: APC by Schneider Electric
Model Line: Smart-UPS On-Line
Model Number: AR3100SP1
Serial Number: N/A

Highest Passed Test Level						
S _{DS}	z/h	I _p	A _{flx-h}	A _{rig-h}	A _{flx-v}	A _{rig-v}
1.86	1					
1.86	0	1.5	2.98	2.23	1.25	0.50

Dimensions/Weights			
Depth (in)	Width (in)	Height (in)	Weight (lbs.)
41.4	23.6	78.4	850

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
4.5	2.7	>33.3

Building Codes	Test Criteria	Construction/Option Summary
CBC 2022	ICC-ES AC156	NEMA 1 - 14 gauge cold rolled carbon steel (ASTM A1008)

UUT Mounting Details:	List of Included Subcomponents
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Floor mounted using (8) M12-1.75x30mm bolts.
 Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. Contents were included in testing per operating conditions.

Description	Model #	Wt. (lbs.)
4-Post Commercial Rack	AR3100SP1	275.8
SRT 2200VA RM 120V w/Network Card	SRT2200RMXLA-NC	58
SRT 5000VA RM 208V IEC	SRT5KRMXLT-IEC	120
SRT 6000VA RM 208V	SRT6KRMXLT	132
RT 96V RM Battery Pack	SRT96RMBP	95
SRT 192V 8kVA and 10kVA Battery Pack	SRT192RMBP2	200
Shelf	AR8122BLK	
Battery Module #1 (OM-816336)	LP12-5-4	4.4
	HR1221WF2	4.4
	WP5-12	4.4
	BP5-12	4.4
Battery Module #2 (911-9012A)	LP12-5-4	4.4
	HR1221WF2	4.4
	WP5-12	4.4
	BP5-12	4.4
Battery Module #3 (911-1086A)	LP12-5-4	4.4
	HR1221WF2	4.4
	WP5-12	4.4
	BP5-12	4.4

UUT 2

Test Report#

TR-PR040246-16

Test Configuration

Center of Gravity Height: 28.5"

42	SRT2200RMXLA-NC (58 lb)	42
41	<i>uses module #3 - qty 1</i>	41
40	SRT96RMBP (95 lb)	40
39	<i>uses module #2 - qty 2</i>	39
38		38
37		37
36		36
35		35
34		34
33		33
32		32
31		31
30		30
29		29
28		28
27		27
26		26
25		25
24	AR8122BLK Shelf	24
23		23
22		22
21		21
20		20
19		19
18		18
17		17
16		16
15		15
14		14
13		13
12		12
11		11
10	SRT5KRMXLT-IEC (120 lb)	10
9	<i>uses module #1 - qty 2</i>	9
8		8
7		7
6	SRT6KRMXLT (4U) (132 lb)	6
5	<i>uses module #1 - qty 2</i>	5
4		4
3		3
2	SRT192RMBP2 (200 lb)	2
1	<i>uses module #1 - qty 4</i>	1

UUT 3

Test Report# TR63570-12I-RCK2B&6

Manufacturer: APC by Schneider Electric
Model Line: Smart-UPS On-Line
Model Number: AR2145BLK
Serial Number: N/A

Highest Passed Test Level						
S _{DS}	z/h	I _p	A _{flx-h}	A _{rig-h}	A _{flx-v}	A _{rig-v}
1.86	1					
1.86	0	1.5	2.98	2.23	1.25	0.50

Dimensions/Weights			
Depth (in)	Width (in)	Height (in)	Weight (lbs.)
42.2	23.0	80.3	1650

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
6.9	4.1	>33.3

Building Codes	Test Criteria	Construction/Option Summary
CBC 2022	ICC-ES AC156	NEMA 1 - 14 gauge cold rolled carbon steel (ASTM A1008)

UUT Mounting Details:	List of Included Subcomponents
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Floor mounted using (8) M12-8.8x30mm bolts. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. Contents were included in testing per operating conditions.

Description	Model #	Wt. (lbs.)
4-Post Sismic Rack	AR2145BLK	437.3
RT 1500VA Rack Tower 120V	SURTA1500RMXL2U	60.6
RT 3000VA Rack Tower 208V	SURTD3000RMXL3U	120
RT 8000VA Rack Tower 208V	SURT8000RMXL6U	244
RT 20kVA RM 208V	SURT20KRMXLT	545
RT 192V RM Battery Pack	SURT192RMXLBP2	400
Symmetra LX 4kVA	SYA4K8RMP	295
Battery Module #5 (911-0041A)	CP1290	5.7
Battery Module #4 (OM-1863B)	HR1221WF2	4.4
	WP5-12	4.4
	BP5-12	4.4
10-Battery Module (SYBT5)	HR1234WF2	4.4
	WP1234W	4.4
	HR1234WF2	4.4

UUT 3

Test Report#

TR63570-12I-RCK2B&6

Test Configuration

Center of Gravity Height: 37"

42	SURTA1500RMXL2U UPS	42
41		41
40		40
39		39
38		38
37		37
36		36
35		35
34	SURTD3000RMXL3U UPS	34
33		33
32		32
31		31
30	BY: Mohammad Karim	30
29	SURT8000RMXL6U UPS	29
28	DATE: 03/21/2023	28
27		27
26		26
25		25
24		24
23		23
2		22
21	SURT20KRMXLT UPS SURT192RMXLBP2	21
20		20
19		19
18		18
17		17
16		16
15		15
14		14
13	SYA4K8RMP UPS	13
12		12
11		11
10		10
9		9
8		8
7		7
6		6
5		5
4		4
3		3
2		2
1		1

UUT 4

Test Report#

TR63570-12I-RCK7

Test Configuration

Center of Gravity Height: 28"

42		42
41	SURTA2200RMXL2U UPS	41
40	SURTA48RMXLBP2U UPS Battery Pack	40
39		39
38		38
37		37
36		36
35		35
34		34
33		33
32	OSP-0197	32
31		31
30		30
29	BY: Mohammad Karim	29
28		28
27	DATE: 03/21/2023	27
26		26
25		25
24		24
23		23
22		22
21		21
20		20
19		19
18		18
17		17
16		16
15		15
14		14
13		13
12		12
11		11
10		10
9		9
8	AP9626 Step Down Transformer	8
7		7
6	SURT6000RMXLT3U UPS	6
5		5
4		4
3	SURT192RMXLBP3U UPS Battery Pack	3
2		2
1		1

Manufacturer: APC by Schneider Electric
Product Type: Uninterruptible Power Supply
Model Line: Smart-UPS On-Line

Seismic Parameters
 $S_{DS} = 1.86g$ for $z/h=1$ $I_p = 1.5$
 $S_{DS} = 1.86g$ for $z/h=0$

Building Codes
 CBC 2022

TABLE 3 Table Description: Batteries

Component	Manufacturer	Manufacturer Model #	APC Model #	Dimensions (in)			Wt. (lb)	UUT
				D	W	H		
Batteries- APC Module #1 (OM-816336)	Leoch	LP-12-5-4	910-6003	2.76	3.54	4.02	4.4	1,2
	CSB Battery	HR1221WF2		2.76	3.54	4.02	4.4	1,2
	Kung Long Batteries Industrial Co., LTD	WPS-12		2.76	3.54	4.02	4.4	1,2
	E-Power Trading Limited (B&B Battery Co.)	BPS-12		2.76	3.54	4.02	4.4	1,2
Batteries- APC Module #2 (911-9012A)	Leoch	LP-12-5-4	910-6003	2.76	3.54	4.02	4.4	1,2
	CSB Battery	HR1221WF2		2.76	3.54	4.02	4.4	1,2
	Kung Long Batteries Industrial Co., LTD	WPS-12		2.76	3.54	4.02	4.4	1,2
	E-Power Trading Limited (B&B Battery Co.)	BPS-12		2.76	3.54	4.02	4.4	1,2
Batteries- APC Module #3 (911-1086A)	Leoch	LP-12-5-4	910-6003	2.76	3.54	4.02	4.4	1,2
	CSB Battery	HR1221WF2		2.76	3.54	4.02	4.4	1,2
	Kung Long Batteries Industrial Co., LTD	WPS-12		2.76	3.54	4.02	4.4	1,2
	E-Power Trading Limited (B&B Battery Co.)	BPS-12		2.76	3.54	4.02	4.4	1,2
Batteries- APC Module #4 (OM-1863B)	CSB Battery	HR1221WF2	910-6003	2.76	3.54	4.02	4.4	3,4
	Kung Long Batteries Industrial Co., LTD	WPS-12		2.76	3.54	4.02	4.4	3
	E-Power Trading Limited (B&B Battery Co.)	BPS-12		2.76	3.54	4.02	4.4	3
Batteries- APC Module #5 (911-0041A)	Shenzhen Center Power Tech Co. LTD (Vision)	CP1290	910-1209	5.94	2.55	3.7	5.7	3,4
	Exide Industries	EP1234WFR		5.94	2.55	3.7	5.7	4