



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0102 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Loren Cook Company

Manufacturer's Technical Representative: Bradley F. Skidmore, P.E.

Mailing Address: 2015 East Dale St., Springfield, MO 65808

Telephone: 417.869.6474 Email: bskidmore@lorencook.com

Product Information

Product Name: Centrifugal Vent Set Blower Product Line

Product Type: Centrifugal Blower

Product Model Number: See Attachment for a complete listing of models included in this application.

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

General Description: Carbon Steel Centrifugal Blowers and Carbon Steel and Aluminum Utility Vent Sets

Mounting Description: Spring vibration isolated.

Applicant Information

Applicant Company Name: TRU Compliance, LLC

Contact Person: Matthew J. Tobolski, S.E.

Mailing Address: 960 SW Disk Dr., Suite 104, Bend, OR 97702

Telephone: 844.878.0200 Email: mtobolski@trucompliance.com

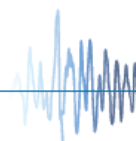
I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant:  Date: 2/7/2016

Title: President & CEO Company Name: TRU Compliance, LLC

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

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY
OSH-FD-759 (REV 12/16/15)



OSHPD

Page 1 of 3



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

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

Company Name: TRU Compliance, LLC

Name: Matthew J. Tobolski, S.E.

California License Number: S5648

Mailing Address: 960 SW Disk Dr., Suite 104, Bend, OR 97702

Telephone: 844.878.0200

Email: mtobolski@trucompliance.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: Clark Dynamic Test Laboratory

Contact Name: J.R. Antenucci

Mailing Address: 1801 Route 51 South, Jefferson Hills, PA 15025

Telephone: 412.382.5500

Email: jrantenucci@clarkdynamic.com

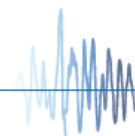
Company Name: Environmental Testing Laboratory (ETL)

Contact Name: Paul E. Little

Mailing Address: 11034 Indian Trail, Dallas, TX 75229

Telephone: 972.247.9657

Email: paul@etldallas.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) = 4.5 ($S_{DS} = 2.0g$); 1.71 ($S_{DS} = 2.28g$)

S_{DS} (Design spectral response acceleration at short period, g) = 2.00 ($z/h=1.0$); 2.28 ($z/h=0.0$)

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

R_p (Equipment or component response modification factor) = 2.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1 ($S_{DS} = 2.0g$); 0 ($S_{DS} = 2.28g$)

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): Attachment

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

Signature: _____

Date: April 28, 2017

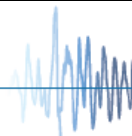
Print Name: Timothy J. Piland

Title: SSE

Special Seismic Certification Valid Up to : S_{DS} (g) = See Above

z/h = See Above

Condition of Approval (if applicable): _____



SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 16036



Manufacturer: Loren Cook Company						TABLE 1	
Model Line: CPV/CPS/CPA/CF/CA							
Certified Product Construction Summary: Carbon steel frame and housing.							
Certified Options Summary: Access door, Belt guard, Shaft guard, Inlet/outlet guard, Shaft cooler, Weather cover, Shaft seal, Rub ring, Drain, Extended life bearings. Arrangements 4, 9, and 10.							
Mounting Configuration: Base mounted - isolated Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.							
Building Code: CBC 2016		Seismic Certification Limits:		$S_{DS} = 2.0\text{ g} \quad z/h=1.0$ $S_{DS} = 2.28\text{ g} \quad z/h=0.0$		$I_P = 1.5$	
Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
CPV (Belt Drive)	60	22.3	25.6	36.8	250		1
	70	22.3	25.6	36.8	250		Interp.
	80	22.3	25.6	36.8	250		Interp.
	100	22.3	25.6	36.8	250		Interp.
	120	24.8	29.6	36.8	265		Interp.
	135	26.7	31.7	37.8	297		Interp.
	150	29.6	35.7	41.4	344		Interp.
	165	32	38.9	44.7	379		Interp.
	180	34.8	42.2	48.4	441		Interp.
	195	36.3	44.4	50.8	579		Interp.
	210	40	48.8	55.7	620		Interp.
	225	42	51.8	58.9	665		Interp.
	245	45	55.8	63.8	747		Interp.
	270	49	61.2	69.7	833		Interp.
	300	54.3	68.9	78	1042		Interp.
	330	59.8	74.6	84.4	1169		Interp.
	365	66.1	82.6	93.1	1371		Interp.
	402	73	91	102.3	1570		Interp.
	445	80.5	100.6	112.8	1946		Interp.
	490	88.8	110.8	123.7	2495		5
CPV-EC (CPV-VF) (Direct drive)	60	22.3	25.6	36.8	226	UUT: 181 lbs.	8
	70	22.3	25.6	36.8	226		Interp.
	80	22.3	25.6	36.8	226		Interp.
	100	22.3	25.6	36.8	226		Interp.

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 16036



Manufacturer: Loren Cook Company						TABLE 1	
Model Line: CPV/CPS/CPA/CF/CA							
Certified Product Construction Summary: Carbon steel frame and housing.							
Certified Options Summary: Access door, Belt guard, Shaft guard, Inlet/outlet guard, Shaft cooler, Weather cover, Shaft seal, Rub ring, Drain, Extended life bearings. Arrangements 4, 9, and 10.							
Mounting Configuration: Base mounted - isolated Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.							
Building Code: CBC 2016		Seismic Certification Limits:		$S_{DS} = 2.0 g \quad z/h=1.0$ $S_{DS} = 2.28 g \quad z/h=0.0$		$I_p = 1.5$	
Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
CPV-EC (CPV-VF) (Direct drive)	120	24.8	29.6	36.8	237		Interp.
	135	26.7	31.7	37.8	237		Interp.
	150	29.6	35.7	41.4	237	UUT: 237 lbs.	9
CPS (Belt Drive)	60	22.3	25.6	36.8	235	Same as CPV60 w/steel wheel	Interp.
	70	22.3	25.6	36.8	235		Interp.
	80	22.3	25.6	36.8	235		Interp.
	100	22.3	25.6	36.8	235		Interp.
	120	24.8	29.6	36.8	297		Interp.
	135	26.7	31.7	37.8	356		Interp.
	150	29.6	35.7	41.4	491		Interp.
	165	32	38.9	44.7	534		Interp.
	180	34.8	42.2	48.4	616		Interp.
	195	36.3	44.4	50.8	660		Interp.
	210	40	48.8	55.7	710		Interp.
	225	42	51.8	58.9	757		Interp.
	245	45	55.8	63.8	923		Interp.
	270	49	61.2	69.7	1072		Interp.
	300	54.3	68.9	78	1229		Interp.
	330	59.8	74.6	84.4	1495		Interp.
	365	66.1	82.6	93.1	1740		Interp.
	402	73	91	102.3	2208		Interp.
	445	80.5	100.6	112.8	2678		Interp.
	490	88.8	110.8	123.7	3225		3

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 16036



Manufacturer: Loren Cook Company						TABLE 1	
Model Line: CPV/CPS/CPA/CF/CA							
Certified Product Construction Summary: Carbon steel frame and housing.							
Certified Options Summary: Access door, Belt guard, Shaft guard, Inlet/outlet guard, Shaft cooler, Weather cover, Shaft seal, Rub ring, Drain, Extended life bearings. Arrangements 4, 9, and 10.							
Mounting Configuration: Base mounted - isolated Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.							
Building Code: CBC 2016		Seismic Certification Limits:		$S_{DS} = 2.0\text{ g} \quad z/h=1.0$ $S_{DS} = 2.28\text{ g} \quad z/h=0.0$		$I_P = 1.5$	
Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
CF SWSI	120	24	33.4	30.8	287	UUT: 272 lbs.	2
	135	27	36.3	33.2	367		Interp.
	150	29	39.9	36.9	426		Interp.
	165	32	43.5	40.9	587		Interp.
	180	35	46.4	44	673		Interp.
	195	37	51.5	48.1	743		Interp.
	210	40	54.8	51.2	949		Interp.
	225	42	58.4	55.2	1027		Interp.
	245	46	63.2	59.9	1296		Interp.
	270	50	68.1	65.4	1441		Interp.
	300	56	74.7	72.6	1858		Interp.
	330	61	82.3	80	2410		Interp.
	365	67	89.6	87.9	2665		Interp.
	402	73	99.6	97	2948		Interp.
	445	81	108.3	106.8	3703		Interp.
	490	89	118.7	117	4116		Interp.
	540	97	131.5	128.9	4500	UUT: 3870 lbs.	6
CA SWSI	120	27	33.4	30.8	291		7
	135	27.3	36.3	33.2	372		Interp.
	150	30.5	39.9	36.9	432		Interp.
	165	32.6	43.5	40.1	595		Interp.
	180	36.3	46.4	44	682		Interp.
	195	37.5	51.5	48.1	753		Interp.
	210	41.1	54.8	51.20	958		Interp.

TRU Compliance, LLC - A Tobolski Watkins Affiliate
 844.TRU.0200 | info@trucompliance.com

TRU PROJECT NO. 16036

[illegible]

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 16036



Manufacturer: Loren Cook Company		Table Description: Fan Wheels			TABLE 2
Model Line: CPV/CPS/CPA/CF/CA					
Building Code: CBC 2016		Seismic Certification Limits:		$S_{DS} = 2.0 g \quad z/h = 1.0$ $S_{DS} = 2.28 g \quad z/h = 0.0$	$I_P = 1.5$
Component Type	Manufacturer	Model	Description	Notes	UUT
Riveted Aluminum Wheel (BI)	Loren Cook	10	10" riveted Al/backward inclined	UUT1: 60CPV; UUT8: 60CPV-EC	1,8
		12	12" riveted Al/backward inclined		Interp.
		13.5	13.5" riveted Al/backward inclined		Interp.
		15	15" riveted Al/backward inclined	UUT: 150CPV-EC	9
		16.5	16.5" riveted Al/backward inclined		Interp.
		18	18" riveted Al/backward inclined		Interp.
		19.5	19.5" riveted Al/backward inclined		Interp.
		21	21" riveted Al/backward inclined		Interp.
		22.5	22.5" riveted Al/backward inclined		Interp.
		24.5	24.5" riveted Al/backward inclined		Interp.
		27	27" riveted Al/backward inclined		Interp.
		30	30" riveted Al/backward inclined		Interp.
		33	33" riveted Al/backward inclined		Interp.
		36.5	36.5" riveted Al/backward inclined		Interp.
		40.25	40.25" riveted Al/backward inclined		Interp.
		44.5	44.5" riveted Al/backward inclined		Interp.
		49	49" riveted Al/backward inclined	UUT: CPV490	5
Welded carbon steel wheel (BI-Flat blade)	Loren Cook	12	12" Welded steel/backward inclined	UUT: CF SWSI 120	2
		13.5	13.5" Welded steel/backward inclined		Interp.
		15	15" Welded steel/backward inclined		Interp.
		16.5	16.5" Welded steel/backward inclined		Interp.
		18	18" Welded steel/backward inclined		Interp.
		19.5	19.5" Welded steel/backward inclined		Interp.

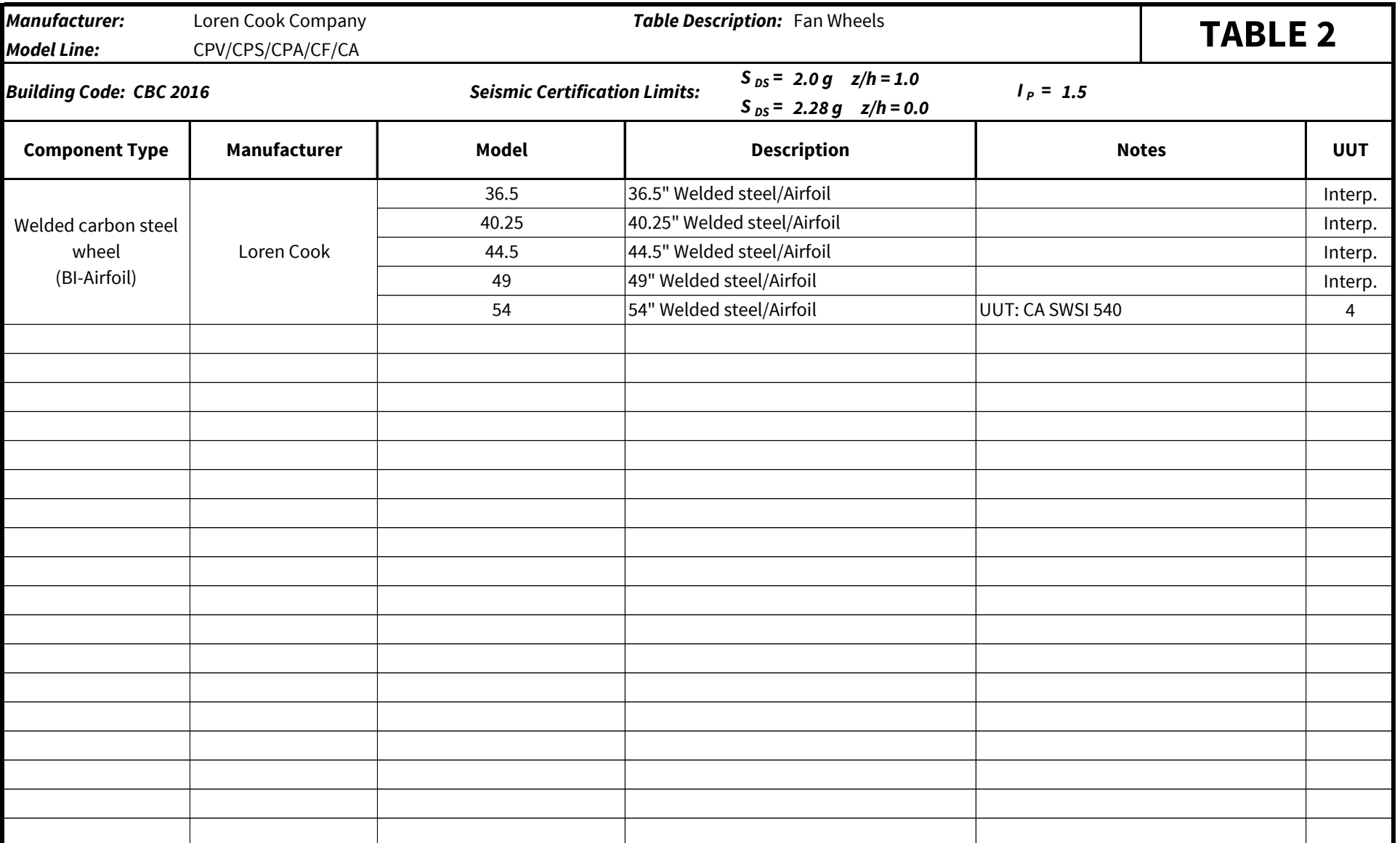
SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 16036



Manufacturer: Loren Cook Company		Table Description: Fan Wheels			TABLE 2
Model Line: CPV/CPS/CPA/CF/CA					
Building Code: CBC 2016		Seismic Certification Limits:		$S_{DS} = 2.0 g \quad z/h = 1.0$ $S_{DS} = 2.28 g \quad z/h = 0.0$	$I_P = 1.5$
Component Type	Manufacturer	Model	Description	Notes	UUT
Welded carbon steel wheel (BI-Flat blade)	Loren Cook	21	21" Welded steel/backward inclined		Interp.
		22.5	22.5" Welded steel/backward inclined		Interp.
		24.5	24.5" Welded steel/backward inclined		Interp.
		27	27" Welded steel/backward inclined		Interp.
		30	30" Welded steel/backward inclined		Interp.
		33	33" Welded steel/backward inclined		Interp.
		36.5	36.5" Welded steel/backward inclined		Interp.
		40.25	40.25" Welded steel/backward inclined		Interp.
		44.5	44.5" Welded steel/backward inclined		Interp.
		49	49" Welded steel/backward inclined	UUT: CPS490	3
54	54" Welded steel/backward inclined	UUT: CF SWSI 540	6		
Welded carbon steel wheel (BI-Airfoil)	Loren Cook	12	12" Welded steel/Airfoil	UUT: CA SWSI 120	7
		13.5	13.5" Welded steel/Airfoil		Interp.
		15	15" Welded steel/Airfoil		Interp.
		16.5	16.5" Welded steel/Airfoil		Interp.
		18	18" Welded steel/Airfoil		Interp.
		19.5	19.5" Welded steel/Airfoil		Interp.
		21	21" Welded steel/Airfoil		Interp.
		22.5	22.5" Welded steel/Airfoil		Interp.
		24.5	24.5" Welded steel/Airfoil		Interp.
		27	27" Welded steel/Airfoil		Interp.
		30	30" Welded steel/Airfoil		Interp.
		33	33" Welded steel/Airfoil		Interp.

TRU PROJECT NO. 16036



SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 16036



Manufacturer: Loren Cook Company		Table Description: Motors			TABLE 3
Model Line: CPV/CPS/CPA/CF/CA					
Building Code: CBC 2016		Seismic Certification Limits:		$S_{DS} = 2.0 g \quad z/h = 1.0$ $S_{DS} = 2.28 g \quad z/h = 0.0$	$I_P = 1.5$
Component Type	Manufacturer	Model	Description	Notes	UUT
Fan Motors	TECO Westinghouse	145T	1.5 HP, 208-230/460		Interp.
		145T	2 HP, 208-230/460		7
		182T	3 HP, 208-230/460		Interp.
		184T	5 HP, 208-230/460		Interp.
		213T	7.5 HP, 208-230/460		Interp.
		215T	10 HP, 230/460		Interp.
		254T	15 HP, 230/460		Interp.
		256T	20 HP, 230/460		5
		284T	25 HP, 230/460		Interp.
		286T	30 HP, 230/460		Interp.
		324T	40 HP, 230/460		6
	US Motors	48	1/6 HP, 120/208-240VAC	with Perfect Speed Controller	Interp.
		48	1/4 HP, 120/208-240VAC	with Perfect Speed Controller	8
		48	1/3 HP, 120/208-240VAC	with Perfect Speed Controller	Interp.
		48	1/2 HP, 120/208-240VAC	with Perfect Speed Controller	Interp.
		48	5/8 HP, 120/208-240VAC	with Perfect Speed Controller	Interp.
		48	3/4 HP, 120/208-240VAC	with Perfect Speed Controller	Interp.
		48	7/8 HP, 120/208-240VAC	with Perfect Speed Controller	Interp.
		48	1 HP, 120/208-240VAC	with Perfect Speed Controller	9
	Baldor	56	0.75 HP, 208-230/460		Interp.
		143T	1 HP, 208-230/460		Interp.
		145T	1.5 HP, 208-230/460		1
		145T	2 HP, 208-230/460		2

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 16036



Manufacturer: Loren Cook Company		Table Description: Motors			TABLE 3
Model Line: CPV/CPS/CPA/CF/CA					
Building Code: CBC 2016		Seismic Certification Limits:		$S_{DS} = 2.0\text{ g} \quad z/h = 1.0$ $S_{DS} = 2.28\text{ g} \quad z/h = 0.0$	$I_P = 1.5$
Component Type	Manufacturer	Model	Description	Notes	UUT
Fan Motors	Baldor	182T	3 HP, 208-230/460		Interp.
		184T	5 HP, 208-230/460		Interp.
		213T	7.5 HP, 208-230/460		Interp.
		215T	10 HP, 230/460		Interp.
		254T	15 HP, 230/460		Interp.
		256T	20 HP, 230/460		3
		284T	25 HP, 230/460		Interp.
		286T	30 HP, 230/460		Interp.
		324T	40 HP, 230/460		Interp.
		326T	50 HP, 230/460		Interp.
		364T	60 HP, 230/460		Interp.
		365T	75 HP, 230/460		4

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 16036



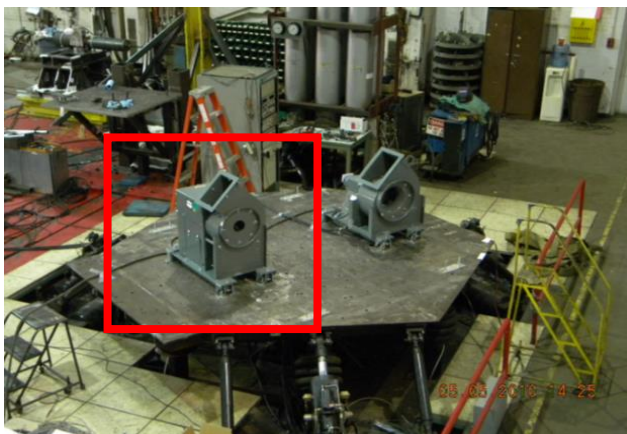
Manufacturer:	Loren Cook Company	UUT 1
Model Line:	CPV/CPS/CPA/CF/CA	
Model Number:	CPV 60	
		Serial Number: N/A

Product Construction Summary:
Belt drive. Carbon steel frame and housing.

Options/Subcomponent Summary:
10" riveted Al/backward inclined fan wheel; Baldor 1.5 HP, 208-230/460V motor; Access door, weather cover; Shaft seal; Drain; Isolation rails. Arrangement 10

UUT Properties									
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)					
	Depth	Width	Height	Front-Back	Side-Side	Vertical			
250	22.3	25.6	36.8	4.3	3.9	9.2			
UUT Highest Passed Seismic Run Information									
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 2016		ICC-ES AC156	2.28	1.0	1.5	3.65	2.74	1.52	0.61

Test Mounting Details:



Floor mounted - isolated using (4) Caldyne Model JQA-V-E79 with unit mounted to 3/8" stud on top of isolators and each isolator was welded directly to the table.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 16036



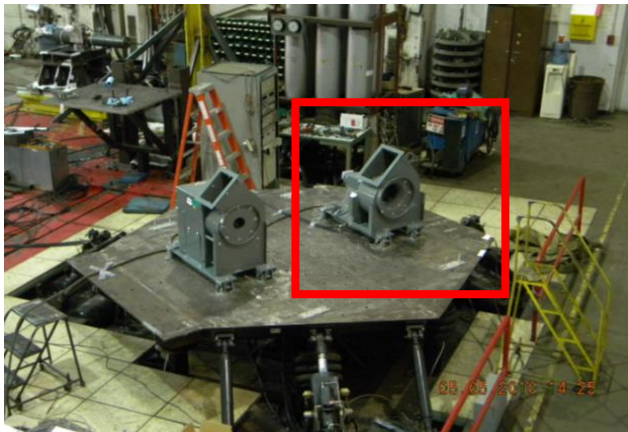
Manufacturer:	Loren Cook Company	UUT 2
Model Line:	CPV/CPS/CPA/CF/CA	
Model Number:	CF SWSI 120	
		Serial Number: N/A

Product Construction Summary:
Belt drive. Carbon steel frame and housing.

Options/Subcomponent Summary:
10" Welded steel/backward inclined fan wheel; 2 HP, Baldor 208-230/460V motor; Belt guard; Shaft guard; Shaft cooler; Weather cover; Rub ring; Isolation rails. Arrangement 9

UUT Properties									
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)					
	Depth	Width	Height	Front-Back	Side-Side	Vertical			
272	24	33.4	30.8	3.9	5.7	9.1			
UUT Highest Passed Seismic Run Information									
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 2016		ICC-ES AC156	2.28	1.0	1.5	3.65	2.74	1.52	0.61

Test Mounting Details:



Floor mounted - isolated using (4) Caldyne Model JQA-V-E143 with unit mounted to 3/8" stud on top of isolators and each isolator was welded directly to the table.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 16036



Manufacturer:	Loren Cook Company	UUT 3
Model Line:	CPV/CPS/CPA/CF/CA	
Model Number:	CPS 490	
		Serial Number: N/A

Product Construction Summary:
Belt drive. Carbon steel frame and housing.

Options/Subcomponent Summary:
49" Welded steel/backward inclined fan wheel; Baldor 20 HP, 230/460V motor; Access door; Weather cover; Isolation rails. Arrangement 10

UUT Properties									
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)					
	Depth	Width	Height	Front-Back	Side-Side	Vertical			
3,225	88.8	110.8	123.7	2.7	3.4	7.1			
UUT Highest Passed Seismic Run Information									
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 2016		ICC-ES AC156	2.28	1.0	1.5	3.65	2.74	1.52	0.61

Test Mounting Details:



Floor mounted - isolated using (4) Caldyne Model JQB-V-E1030 isolators with unit mounted to 1/2" stud on top of isolators and (2) 1/2" grade 5 bolts attaching each isolator to the table.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 16036



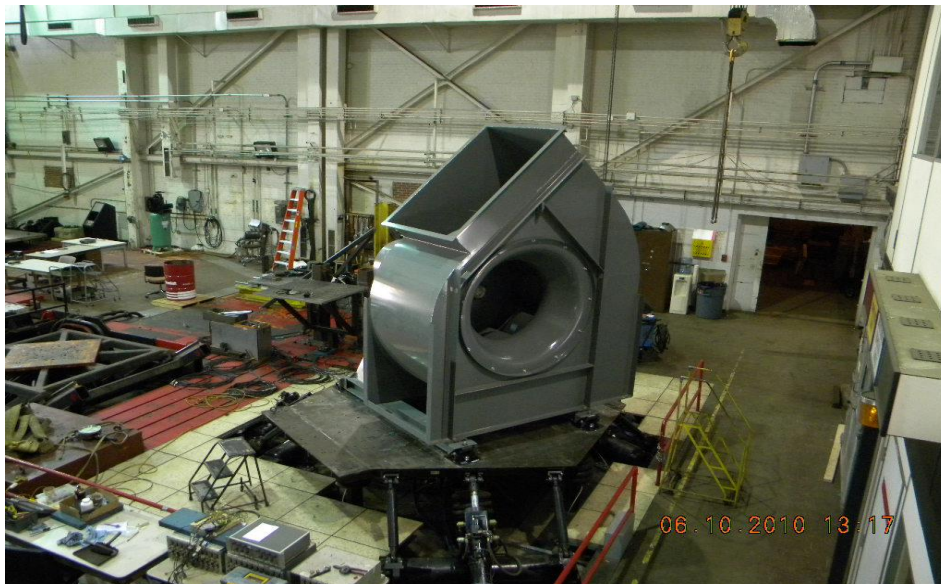
Manufacturer:	Loren Cook Company	UUT 4
Model Line:	CPV/CPS/CPA/CF/CA	
Model Number:	CA SWSI 540	
		Serial Number: N/A

Product Construction Summary:
Belt drive. Carbon steel frame and housing.

Options/Subcomponent Summary:
54" Welded steel/Airfoil fan wheel; Baldor 75 HP, 230/460V motor; Shaft guard; Weather cover; Belt guard; Shaft seal; Extended life bearings; Isolation rails. Arrangement 10

UUT Properties									
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)					
	Depth	Width	Height	Front-Back	Side-Side	Vertical			
4,500	87.7	131.5	128.9	2.5	3.0	5.7			
UUT Highest Passed Seismic Run Information									
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 2016		ICC-ES AC156	2.28	1.0	1.5	3.65	2.74	1.52	0.61

Test Mounting Details:



Floor mounted - isolated using (4) Caldyne Model RJJEQ 1602B style K isolators with unit mounted to 1/2" stud on top of isolators and each isolator was welded directly to the table.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 16036



Manufacturer:	Loren Cook Company	UUT 5
Model Line:	CPV/CPS/CPA/CF/CA	
Model Number:	CPV 490	
Serial Number:		N/A

Product Construction Summary:
Belt drive. Carbon steel frame and housing.

Options/Subcomponent Summary:
49" riveted Al/backward inclined fan wheel; Teco 20 HP, 230/460V motor; Weather cover; Rub ring; Drain; Isolation rails. Arrangement 10

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
2,495	88.8	110.8	123.7	1.8	3.6	6.2

UUT Highest Passed Seismic Run Information									
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 2016	ICC-ES AC156	2.0	1.0	1.5	3.2	2.4	2.13	0.85	
		3.2	0						

Test Mounting Details:



Floor mounted - isolated using (4) Mason SSLFH-C-1750 isolators w/ (1) 1/2" Grade 8 bolt attaching Isolator to unit & (2) 5/8" Grade 8 bolts attaching each isolator to the table.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 16036



Manufacturer:	Loren Cook Company	UUT 6
Model Line:	CPV/CPS/CPA/CF/CA	
Model Number:	CF SWSI 540	
Serial Number:		N/A

Product Construction Summary:
Belt drive. Carbon steel frame and housing.

Options/Subcomponent Summary:
54" Welded steel/backward inclined fan wheel; Teco 40 HP, 230/460V motor; Belt guard; Shaft guard; Weather cover; Drain; Isolation rails. Arrangement 9

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
3,870	97	131.5	128.9	2.6	2.1	5.0

UUT Highest Passed Seismic Run Information									
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 2016	ICC-ES AC156	2.0	1.0	1.5	3.2	2.4	2.13	0.85	
		3.2	0						

Test Mounting Details:



Floor mounted - isolated using (4) Mason SSLFH-C-1750 isolators w/ (1) 1/2" Grade 8 bolt attaching Isolator to unit & (2) 5/8" Grade 8 bolts attaching each isolator to the table.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 16036



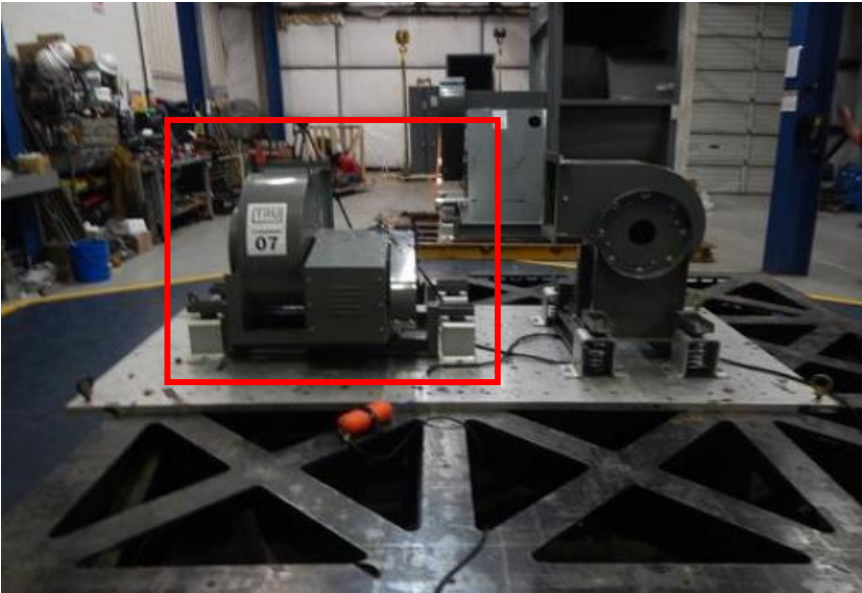
Manufacturer:	Loren Cook Company	UUT 7
Model Line:	CPV/CPS/CPA/CF/CA	
Model Number:	CA SWSI 120	
		Serial Number: N/A

Product Construction Summary:
Belt drive. Carbon steel frame and housing.

Options/Subcomponent Summary:
12" Welded steel/Airfoil fan wheel; Teco 2 HP, 208-230/460V motor; Belt guard; Shaft guard; Weather cover; Isolation rails. Arrangement 9

UUT Properties										
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)						
	Depth	Width	Height	Front-Back	Side-Side	Vertical				
313	27	33.4	30.8	4.9	3.4	5.6				
UUT Highest Passed Seismic Run Information										
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 2016		ICC-ES AC156		2.0	1.0	1.5	3.2	2.4	2.13	0.85
				3.2	0					

Test Mounting Details:



Floor mounted - isolated using (4) SRS-250 isolators w/ (1) 5/8" Grade 8 bolt attaching Isolator to unit & (2) 5/8" Grade 8 bolts attaching each isolator to the table.

Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 16036



Manufacturer:	Loren Cook Company	UUT 8
Model Line:	CPV/CPS/CPA/CF/CA	
Model Number:	CPV-EC 60	
		Serial Number: N/A

Product Construction Summary:
Direct drive. Carbon steel frame and housing.

Options/Subcomponent Summary:
10" riveted Al/backward inclined fan wheel; US Motors 1/4 HP, 120/208-240VAC motor; Weather cover; Isolation rails. Arrangement 4

UUT Properties										
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)						
	Depth	Width	Height	Front-Back	Side-Side	Vertical				
181	22.3	25.6	36.8	7.3	8.4	15.9				
UUT Highest Passed Seismic Run Information										
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 2016		ICC-ES AC156		2.0	1.0	1.5	3.2	2.4	2.13	0.85
				3.2	0					

Test Mounting Details:



Floor mounted - isolated using (4) SRS-100 isolators w/ (1) 5/8" Grade 8 bolt attaching Isolator to unit & (2) 5/8" Grade 8 bolts attaching each isolator to the table.

Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 16036



Manufacturer:	Loren Cook Company	UUT 9
Model Line:	CPV/CPS/CPA/CF/CA	
Model Number:	CPV-EC 150	
Serial Number:		N/A

Product Construction Summary:
Direct drive. Carbon steel frame and housing.

Options/Subcomponent Summary:
15" riveted Al/backward inclined fan wheel; US Motors 1HP, 120/208-240VAC motor; Weather cover; Isolation rails. Arrangement 4

UUT Properties										
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)						
	Depth	Width	Height	Front-Back	Side-Side	Vertical				
237	29.6	35.7	41.4	5.7	4.4	> 33.3				
UUT Highest Passed Seismic Run Information										
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 2016		ICC-ES AC156		2.0	1.0	1.5	3.2	2.4	2.13	0.85
				3.2	0					

Test Mounting Details:



Floor mounted - isolated using (4) SRS-100 isolators w/ (1) 5/8" Grade 8 bolt attaching Isolator to unit & (2) 1/2" Grade 8 bolts attaching each isolator to the table.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.