



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0185 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Global Power Components

Manufacturer's Technical Representative: Anthony McIntosh

6682 W. Greenfield Ave.

Mailing Address: West Allis, WI 53214

Telephone: 414-475-3000

Email: amcintosh@globalpowercomponents.com

Product Information

Product Name: GPC 142 UL Fuel Day Tank & Accessories

Product Type: Stand Alone UL142 Fuel Tank

Product Model Number: UL142 Stand Alone Day Fuel Tanks DT-50 to DT-1000 and Pump Stand See Table (1)

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

General Description: UL-142 stand-alone Fuel Day Tanks with integral pumping systems manufactured by the Global Power Components

Mounting Description: Rigid Floor Mounted

Applicant Information

Applicant Company Name: Panache Engineering Inc

Contact Person: Ahmed Haider, Ph.D., P.E.

Mailing Address: 150 N Santa Anita Ave, Suite 300, Arcadia, CA 91006

Telephone: (626) 698-0784

Email: Ahmed.haider@panacheg.com

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

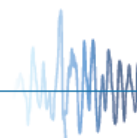
Signature of Applicant:

Date: 10/31/16

Title: Engineering Manager

Company Name: Panache Engineering Inc

"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: PANACHE ENGINEERING INC

Name: EUI S. KIM California License Number: S5138

Mailing Address: 150 N. SANTA ANITA AVE, SUITE 300, ARCADIA, CA 91006

Telephone: (626) 698-0784 Email: PANACHEG@GMAIL.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): _____

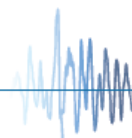
Testing Laboratory

Company Name: University of California Berkeley

Contact Name: Wes Nieghbor

Mailing Address: 1301 South 46th St, Bldg. 484, Richmond, CA 94804

Telephone: (510) 665-3413 Email: wnieghbor@berkeley.edu





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Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = 1.13

S_{DS} (Design spectral response acceleration at short period, g) = 2.50

a_p (In-structure equipment or component amplification factor) = 1

R_p (Equipment or component response modification factor) = 2.5

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 0

Equipment or Component Natural Frequencies (Hz) = See Table 2

Overall dimensions and weight (or range thereof) = See Table 1

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, 2022

Signature: Timothy J. Piland Date: March 24, 2017

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to : S_{DS} (g) = 2.50 z/h = 0

Condition of Approval (if applicable): _____

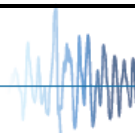


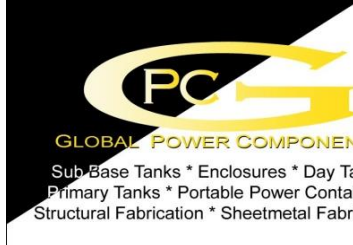
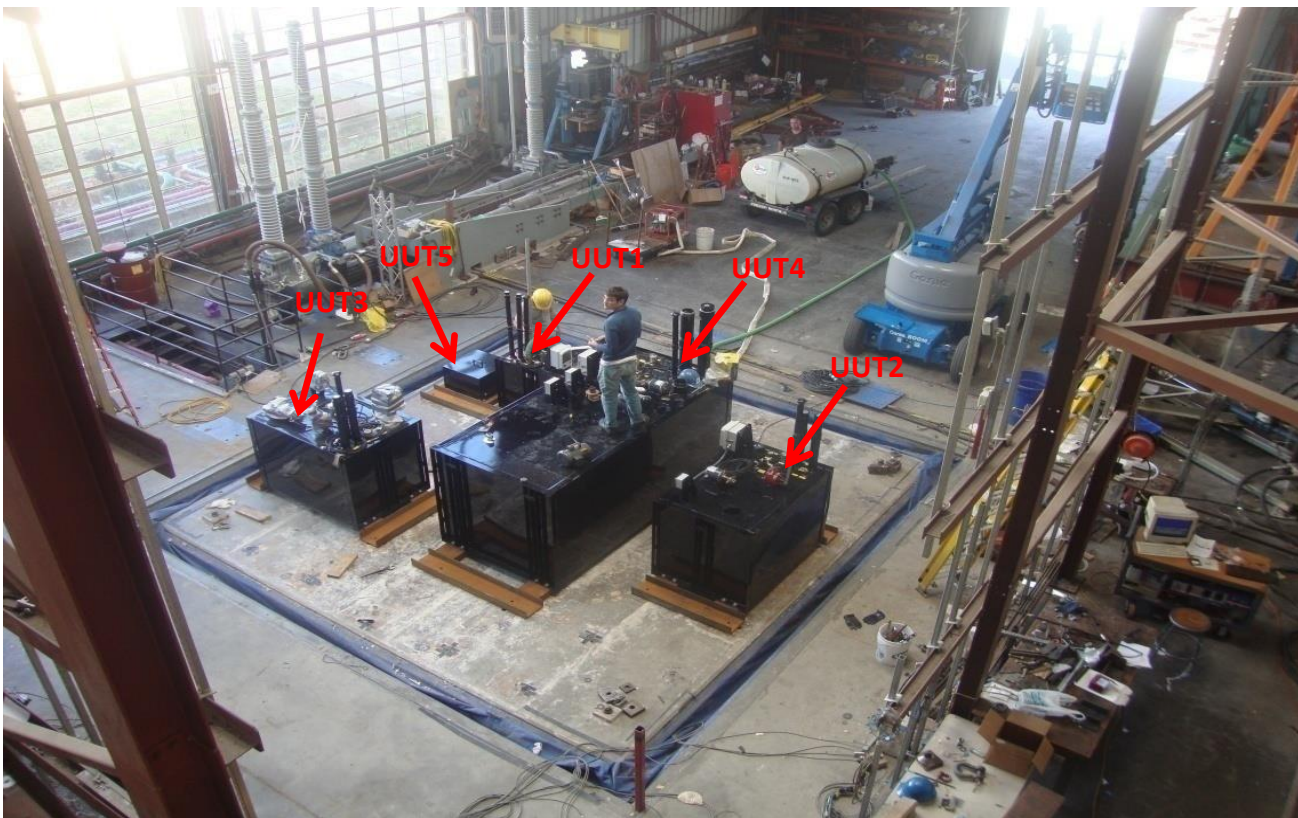
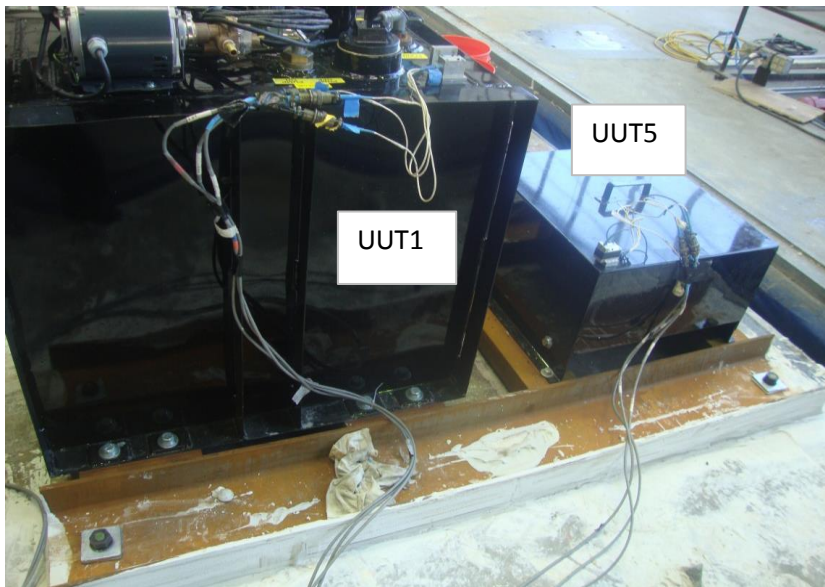
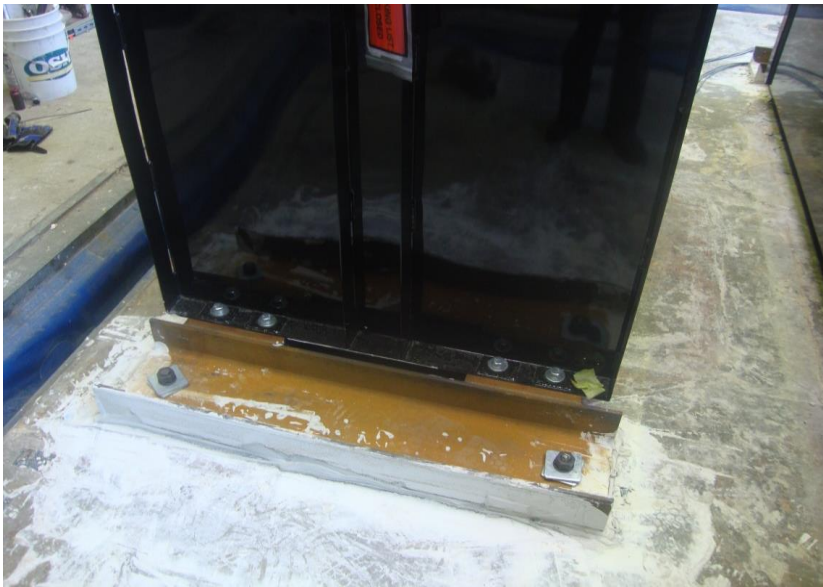
Table 1						 GLOBAL POWER COMPONENTS Sub Base Tanks * Enclosures * Day Tanks Primary Tanks * Portable Power Containers Structural Fabrication * Sheetmetal Fabrication			 PANACHE ENGINEERING INC. SEISMIC STRUCTURAL VIBRATION www.panacheg.com		
Special Seismic Certification Approved Units						Manufacturer: Global Power Components					
Product Type: UL 142 Double Wall Fuel Day Tanks			Product Function						Provide fuel to Emergency Power Systems		
Certified Product Construction:				Certified Options:			Mounting Descriptions:				
Welded ASTM A36 Carbon steel plates and ASTM A36 steel C & L sections				* With top mounted pump rack * Without pump rack			All Tanks are bolted down to support structure				
Certified Components											
Product Line	Model Number	Material Thickness	Size (Gal)	Empty Weight (lb.)	Operating Weight (lb.)	Dimensions (Inches)			Relative Size	Unit	
						Length	Width	Height			
Fuel Day Tanks	DT-50	12 gage	50	450	825	38	24	32	Smallest	UUT1	
	DT-50<To<DT-250	12 gage	50 TO 250	450 TO 1050	825 TO 2974	38 TO 42	24 TO 60	32 TO 42	Intermediate		
	DT-250	12 gage	250	1050	2974	42	60	42	Largest	UUT2	
	DT-251	10 gage	251	1225	3152	42	60	42	Smallest	UUT3	
	DT-25< TO< DT-999	10 gage	251 TO 999	1225 TO 2925	3152 TO 10245	42 TO 58	60 TO 120	42 TO 54	Intermediate		
	DT-1000	10 gage with 7 gage top cover	1001	2925	10245	58	120	54	Largest	UUT4	
Pump Station	PS-2	10 gage with 14 gage cover	N/A	N/A	240	25	24.25	12.75	One Size	UUT5	
Certified Subcomponents											
Leak Sensor Probe											
Part ID	Manufacturer Part Number		Manufacturer		Relative Size	Tested in Unit		Material			
4300	L175 Sensor		Innovative Solutions		One Size	UUT1, UUT2, UUT3		A 240			
4300F	TSP-ULS		Franklin Fueling Systems		One Size	UUT4		A 240			
High Fuel Level Probe											
Part ID	Manufacturer Part Number		Manufacturer		Relative Size	Tested in Unit		Material			
1099-5	L500 Level Sensor		Innovative Solution		One Size	UUT1, UUT2, UUT3		A 240			
1000	L175		Innovative Solution		One Size	UUT4		A 240			
1010F	TSP-ULS		Franklin Feuling Systems		One Size	UUT1, UUT2, UUT3		A 240			
Low Fuel Level Probe											
Part ID	Manufacturer Part Number		Manufacturer		Relative Size	Tested in Unit		Material			
1099-1	L500 Level Sensor		Innovative Solution		One Size	UUT1, UUT2, UUT3		A 240			
Supply Pump #1 On Probe											
Part ID	Manufacturer Part Number		Manufacturer		Relative Size	Tested in Unit		Material			
1099-2	L500 Level Sensor		Innovative Solution		One Size	UUT1, UUT2, UUT3		A 240			
Supply Pump #2 On Probe											
Part ID	Manufacturer Part Number		Manufacturer		Relative Size	Tested in Unit		Material			
1099-3	L500 Level Sensor		Innovative Solution		One Size	UUT1, UUT2, UUT3		A 240			
Return Pump On Probe											
Part ID	Manufacturer Part Number		Manufacturer		Relative Size	Tested in Unit		Material			
1099-4	L500 Level Sensor		Innovative Solution		One Size	UUT1, UUT2, UUT3		A 240			
Pump Off Probe											
Part ID	Manufacturer Part Number		Manufacturer		Relative Size	Tested in Unit		Material			
1099-5	L500 Level Sensor		Innovative Solution		One Size	UUT1, UUT2, UUT3		A 240			
Manual Hand Pump											
Part ID	Manufacturer Part Number		Manufacturer		Relative Size	Tested in Unit		Material			
700-1175	FR152		Fill-Rite		One Size	UUT2, UUT3		B 275			
Standard Vent											
Part ID	Manufacturer Part Number		Manufacturer		Relative Size	Tested in Unit		Material			
3152	0401-01-2000		Clay & Bailey MFG. Co.		2"	UUT1, UUT2, UUT3		A 1056			
Panache Engineering Inc., 150 N. Santa Anita Ave Ste 300, Arcadia, CA 91006, Phone: 626-698-0784, Fax: 267-948-5441, www.panacheg.com											

Table 1 (Continue)				 GLOBAL POWER COMPONENTS Sub-Base Tanks * Enclosures * Day Tanks Primary Tanks * Portable Power Containers Structural Fabrication * Sheetmetal Fabrication  SEISMIC VIBRATION STRUCTURAL www.panacheg.com		
Special Seismic Certification Approved Units						
Product Type: UL 142 Double Wall Fuel Day Tanks				Manufacturer: Global Power Components		
Product Function		Provide fuel to Emergency Power Systems				
Certified Product Construction:			Certified Options:		Certified Mounting Descriptions:	
Welded ASTM A36 Carbon steel plates and ASTM A36 steel C & L sections			* With top mounted pumps * Without pumps		All Tanks are bolted down to support structure	
Certified Subcomponents - cont'd						
Pressure Relief Vent						
Part ID	Manufacturer Part Number	Manufacturer	Relative Size	Tested in Unit	UL Listing	Material
3162	1002	Global Power Components	24,058 CFH	UUT1	MH 46387	A 106
3163	1003	Global Power Components	63,633 CFH	UUT2, UUT3	MH 46387	A 106
3165	1005	Global Power Components	284,968 CFH	UUT4	MH 46387	A 106
Check Valve						
Part ID	Manufacturer Part Number	Manufacturer	Relative Size	Tested in Unit	Material	
700-1060	T-480	NIBCO	3/8" thru 2"	UUT3	B 584 Alloy C84400	
Ball Valve						
Part ID	Manufacturer Part Number	Manufacturer	Relative Size	Tested in Unit	Material	
700-1050	s. 95 NPT	Rubinetteria Utensilerie Bonomi	3/8" thru 2"	UUT3	B 879	
Scully Connector w/ Dust Cap						
Part ID	Manufacturer Part Number	Manufacturer	Relative Size	Tested In Unit	Material	
3350	Type F Adapter Male NPT	Dixon	2"	UUT4	B 108	
3351	Type DC Dust Cap	Dixon	2"	UUT4	B 108	
Pumps						
Part ID	Pump Manufacturer	Manufacturer Part Number	Relative Size	Tested In Unit	Material	
2 GPM	Oberdorfer Pump	N61K10G01	Smallest	UUT1, UUT2, UUT3, UUT4	B 584 Alloy C84400	
4 GPM	Oberdorfer Pump	N992	Intermediate	Interpolated Component	B 584 Alloy C84400	
7 GPM	Oberdorfer Pump	N993	Intermediate	Interpolated Component	B 584 Alloy C84400	
10 GPM	Oberdorfer Pump	N994	Intermediate	UUT5	B 584 Alloy C84400	
16 GPM	Oberdorfer Pump	N970	Largest	UUT3, UUT4	B 584 Alloy C84400	
Motors						
Part ID	Manufacturer	Horsepower	Relative Size	Tested in Unit	Material	Motor HP Voltage/Ampere
2 GPM	Marathon, Dayton	1/3 HP	Smallest	UUT1, UUT2, UUT3, UUT4	A842	240 V / 2.7 A
4 GPM	Dayton	1/2 HP	Intermediate	Interpolated Component	A842	115 V / 5.8 A
7 GPM	Dayton	1/2 HP	Intermediate	Interpolated Component	A842	230 V / 2.3 A
10 GPM	Dayton	3/4 HP	Intermediate	UUT5	A842	230 V / 5.4 A
16 GPM	Baldor, Dayton	1 HP	Largest	UUT3, UUT4	A842	203 V / 5.2 A
Pump Control Box						
Part ID	Manufacturer	Material	Relative Size	Tested in Unit	Material	
1379	Global Power Components	Fiberglass reinforced	One Size	UUT1	D256	
1380	Global Power Components	Polycarbonate	One Size	UUT2, UUT3	D256	
Alarm Control Box						
Part ID	Manufacturer	Material	Relative Size	Tested in Unit	Material	
1060	Global Power Components	Fiberglass reinforced Polycarbonate	One Size	UUT2, UUT3	D256	
1050	Global Power Components		One Size	UUT4	D256	
1050R	Global Power Components		One Size	UUT4	D256	
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Table 2								
UUT Units Under Test Summary Sheet					 GLOBAL POWER COMPONENTS Sub Base Tanks * Enclosures * Day Tanks Primary Tanks * Portable Power Containers Structural Fabrication * Sheetmetal Fabrication  SEISMIC STRUCTURAL VIBRATION www.panacheg.com			
Product Type: Fuel Day Tanks and Pump Stand					Manufacturer: GLOBAL POWER COMPONENTS			
Certified Product Construction:			Tested Configurations:		Tested Mounting Descriptions:			
Welded ASTM A36 Carbon steel plates and ASTM A36 steel C & L sections			Tank Empty & Tank Full		UUTS are bolted down to test Fixture			
UUT Properties								
Model Number	UUT	Lowest Natural Frequency (Hz)			Dimensions (Inches)			Operating Weight (lb.)
		X	Y	Z	Length	Width	Height	
DT-50	UUT1	12.45	8.8	11.09	38	24	32	825
DT-250	UUT2	19.76	12.45	17.6	42	60	42	2974
DT-251	UUT3	19.76	8.8	11.09	42	60	42	3152
DT-1000	UUT4	17.6	27.94	17.6	58	120	54	10245
PS-2	UUT5	12.45	8.8	15.68	25	24.25	12.75	240
Seismic Test Parameters								
Building Code	Sds (G)		z/h	Ip	Aflx-H (G)	Arig-H (G)	Aflx-V (G)	Arig-V (G)
CBC 2016	2.5		0	1.5	2.5	1	1.67	0.68
UUT1 Subcomponent Table								
Part ID	Pump Manufacturer	Manufacturer Part Number						
4300	L175 Sensor	Innovative Solutions						
1010F	TSP-ULS	Franklin Feuling Systems						
1099-1	L500 Level Sensor	Innovative Solution						
1099-2	L500 Level Sensor	Innovative Solution						
1099-3	L500 Level Sensor	Innovative Solution						
1099-4	L500 Level Sensor	Innovative Solution						
1099-5	L500 Level Sensor	Innovative Solution						
3152	0401-01-2000	Clay & Bailey MFG. Co.						
3162	1002	Global Power Components						
2 GPM	Oberdorfer Pump	N61K10G01						
2 GPM	Marathon, Dayton	1/3 HP						
1379	Global Power Components	Fiberglass						
UUT2 Subcomponent Table								
Part ID	Pump Manufacturer	Manufacturer Part Number						
4300	L175 Sensor	Innovative Solutions						
1010F	TSP-ULS	Franklin Feuling Systems						
1099-1	L500 Level Sensor	Innovative Solution						
1099-2	L500 Level Sensor	Innovative Solution						
1099-3	L500 Level Sensor	Innovative Solution						
1099-4	L500 Level Sensor	Innovative Solution						
1099-5	L500 Level Sensor	Innovative Solution						
700-1175	FR152	Fill-Rite						
3152	0401-01-2000	Clay & Bailey MFG. Co.						
3163	1003	Global Power Components						
2 GPM	Oberdorfer Pump	N61K10G01						
2 GPM	Marathon, Dayton	1/3 HP						
1380	Global Power Components	Fiberglass						
1060	Global Power Components	Fiberglass						
UUT3 Subcomponent Table								
Part ID	Pump Manufacturer	Manufacturer Part Number						
4300	L175 Sensor	Innovative Solutions						
1099-5	L500 Level Sensor	Innovative Solution						
1010F	TSP-ULS	Franklin Feuling Systems						
1099-1	L500 Level Sensor	Innovative Solution						
1099-2	L500 Level Sensor	Innovative Solution						
1099-3	L500 Level Sensor	Innovative Solution						
1099-4	L500 Level Sensor	Innovative Solution						
1099-5	L500 Level Sensor	Innovative Solution						
3152	0401-01-2000	Clay & Bailey MFG. Co.						
3163	1003	Global Power Components						
700-1060	T-480	NIBCO						
700-1050	s. 95 NPT	R.U.B.						
2 GPM	Oberdorfer Pump	N61K10G01						
16 GPM	Oberdorfer Pump	N970						
2 GPM	Marathon, Dayton	1/3 HP						
16 GPM	Baldor, Dayton	1 HP						
1380	Global Power Components	Fiberglass						
1060	Global Power Components	Fiberglass						
Panache Engineering Inc., 150 N. Santa Anita Ave Ste 300, Arcadia, CA 91006, Phone: 626-698-0784, Fax: 267-948-5441, www.panacheg.com								

Table 2 Continued								
UUT Units Under Test Summary Sheet					 GLOBAL POWER COMPONENTS Sub Base Tanks * Enclosures * Day Tanks Primary Tanks * Portable Power Containers Structural Fabrication * Sheetmetal Fabrication  SEISMIC VIBRATION STRUCTURAL www.panacheg.com			
Product Type: Fuel Day Tanks and Pump Stand					Manufacturer: GLOBAL POWER COMPONENTS			
Certified Product Construction:			Tested Configurations:		Tested Mounting Descriptions:			
Welded ASTM A36 Carbon steel plates and ASTM A36 steel C & L sections			Tank Empty & Tank Full		UUTS are bolted down to test Fixture			
UUT Properties								
Model Number	UUT	Lowest Natural Frequency (Hz)			Dimensions (Inches)			Operating Weight (lb.)
		X	Y	Z	Length	Width	Height	
DT-50	UUT1	12.45	8.8	11.09	38	24	32	825
DT-250	UUT2	19.76	12.45	17.6	42	60	42	2974
DT-251	UUT3	19.76	8.8	11.09	42	60	42	3152
DT-1000	UUT4	17.6	27.94	17.6	58	120	54	10245
PS-2	UUT5	12.45	8.8	15.68	25	24.25	12.75	240
Seismic Test Parameters								
Building Code	Sds (G)		z/h	Ip	Aflx-H (G)	Arig-H (G)	Aflx-V (G)	Arig-V (G)
CBC 2016	2.5		0	1.5	2.5	1	1.67	0.68
UUT4 Subcomponent Table			UUT5 Subcomponent Table					
Part ID	Pump Manufacturer	Manufacturer Part Number						
4300F	TSP-ULS	Franklin Fueling Systems						
1000	L175	Innovative Solution						
3165	1005	Global Power Components						
3350	Type F Adapter Male NPT	Dixon						
3351	Type DC Dust Cap	Dixon						
2 GPM	Oberdorfer Pump	N61K10G01						
16 GPM	Oberdorfer Pump	N970						
2 GPM	Marathon, Dayton	1/3 HP						
16 GPM	Baldor, Dayton	1 HP						
1050	Global Power Components	Fiberglass						
1050R	Global Power Components	Fiberglass						

Table 2		 GLOBAL POWER COMPONENTS Sub Base Tanks * Enclosures * Day Tanks Primary Tanks * Portable Power Containers Structural Fabrication * Sheetmetal Fabrication  PANACHE ENGINEERING INC. SEISMIC STRUCTURAL VIBRATION www.panacheg.com	
UUT Units Under Test Summary Sheet			
Product Type: Fuel Day Tanks and Pump Stand		Manufacturer: GLOBAL POWER COMPONENTS	
Certified Product Construction:	Tested Configurations:	Tested Mounting Descriptions:	
Welded ASTM A36 Carbon steel plates and ASTM A36 steel C & L sections	Tank Empty & Tank Full	UUTS are bolted down to test Fixture	
 UUT1,UUT2,UUT3,UUT4 and UUT5 Test Layout			
 UUT1 & UUT5 Mounted to the Test Fixture by means of ASTM A325 Bolts (8) 3/4" and (4) 1/2" Diameter, respectively.		 UUT3 Mounted to the Test Fixture by means of (8) ASTM A325 Bolts 3/4" Diameter	
 UUT2 Mounted to the Test Fixture by means of (8) ASTM A325 Bolts 3/4" Diameter		 UUT4 Mounted to the Test Fixture by means of (8) ASTM A325 Bolts 3/4" Diameter	
Note: All units were tested empty and full of content, maintained structural stability and functionality after the test.			
Panache Engineering Inc., 150 N. Santa Anita Ave Ste 300, Arcadia, CA 91006, Phone: 626-698-0784, Fax: 267-948-5441, www.panacheg.com			