



Timed Interval Sampling Monitoring & Verification Report

For



Located at 4506 Acline Dr. Tampa, FL 33605

March 30, 2016

Prepared by: John D. Knapp President

A DIVISION OF JDK INDUSTRIES, INC.



PowerShaver.com

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Power Conditioning and Energy Savings

TIS Report

March 30, 2016



Located at

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Prepared by:

Power Shaver, Energy Savings Systems

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Executive Summary and Conclusions

During November 2015, the Cott Beverages Tampa, Florida Bottling facility purchased and installed a USES[®] Shunt Efficiency System, manufactured by USES MFG INC. The purpose of the USES[®] System is to reduce the overall demand and consumption of power and improve overall power quality. A total of Twenty (20) USES[®] Model XL-3D-480V and Four (4) USES[®] Model XL-3Y-480V power conditioners were installed throughout the Cott Tampa facility including at the three main service entrances. These circuits supply power to several operational processes within the facility.

In accordance with the proposal offered to the Cott Beverages Tampa facility, by Power Shaver, Energy Saving Systems in April of 2015, this USES[®] System was evaluated to determine the average power conditioning results, power demand reductions, resultant monetary savings and return on investment (ROI). Power Shaver used Timed Interval Sampling (TIS) methods to determine the USES[®] System performance and the results of the TIS testing from February 4th 2016 are presented herein. TIS analytical techniques conform to the International Performance Monitoring and Verification Protocols (IPMVP) as established by the U. S. Department of Energy as a mechanism to evaluate the performance of Energy Conservation Measures.

The installation of the USES[®] Shunt Efficiency System at the Cott Tampa facility, installed on the main service entrances and select sub-panels for a total of Twenty (20) USES[®] XL 3-D 208V and Four (4) USES[®] XL 3-Y 208V units, has significantly improved power quality and resulted in a substantial decrease in electrical demand. The USES[®] System reduced the billed demand for electricity at low load by approximately **153.34 kW** which Power Shaver projects should result in a reduction in the cost of power by approximately **\$80,000.00** and consumptions by approximately **740,740 kWh per year**. This equates to a Return on Investment (ROI) of **2 years conservatively** based on 2014 usage and cost of power.

Due to the fact that utility customers are billed for Demand and Energy between the Real and Apparent Power powers based on their Default Power Factor (DPF) and power quality, along with the fact that the NERVE 20-20 electrical monitoring system and software used in this verification process also incorporate this calculating method. Power Shaver understands these results to be accurate. The TECO tariff incorporates a unique .85 DPF with a credit beginning at .90 PF.

The performance of the USES[®] Shunt Efficiency System at the Cott Tampa facility has proven to be consistent with all of the estimated power quality improvements as outlined in Power Shaver's proposal to the Cott, Tampa facility in April of 2015.

The data tables and graphs presented in this report clearly show the beneficial results provided by the USES[®] System. All power quality data was averaged to take into account short term load variations and to determine the average levels of power quality when the USES[®] System was activated and de-activated. All of the data tables presented in this report are from the TIS testing

and evaluation conducted on February 4th, 2016. Additional power quality improvements also realized by the installation of the USES[®] System are discussed later in this report. The resultant power demand reductions during the TIS testing were used to calculate the net annual effect of the USES[®] system in terms of actual savings and return on investment (ROI).

The specific conditions on the actual day in which the Time Interval Sampling process of the USES[®] system took place at the Cott Tampa Facility: the temperature was low and it was raining. This condition had a direct effect on this facility which lowers the electrical demand through reduced air conditioning and refrigeration requirements. The lower demands, because of cooler temperatures, are normal for this time of year. These lower temperatures also eliminate the need for several pieces of manufacturing equipment that would normally operate in warmer periods of the year thus lowering the electrical demand of the facility.

Because the Cott facilities demands were at their annual low due to seasonal temperatures and electrical demands, Power Shaver decided to turn off (4) four of the USES[®] devices on MDP#2 and (1) on the Office service, as the load at that point of measuring was much lower than design load, by approximately 700 amps, which is too great a difference to generate accurate verification graphs. The average performance of the remaining (19) twenty USES[®] units is presented with in this report and can be used to anticipate the approximate total reductions from the (24) twenty four unit installation.

An important consideration, of this low demand time of year and how USES[®] works, is that potential performance is limited by the low electrical demands experienced. For this reason, the winter or cooler months of the year are considered, for most customers, to be the lower performance months of the year and by contrast, because of higher temperatures and higher kW demands, the summer or warmer months have a higher potential for performance.

The enclosed results of the timed interval sampling testing conducted at the Cott beverages Tampa facility on February 4th 2016 via the NERVE 20-20 monitoring system verifying the billed kW reductions are exceptionally encouraging considering the actual recorded lower than normal electrical demands. For this reason, Power Shaver would expect that the performance during the higher demand times of the year could also exceed expectations. Because of the very unique billing method of Tampa Electric Co. and the fact that the Nerve 20-20 monitoring software is not capable of programming that will allow it to implement the difference between the Default Power Factor of .85 and the beginning of credit at .90 Power Factor. The difference between the actual measured total billed reduction of 305.52 KW at .85 DPF and the expressed total billed KW reduction of 153.34 KW at .90 PF, of approximately 152.18 kW is the result of this formula.

Power Shavers' Energy Saving Systems are truly "green" systems that reduce electric energy consumption. Installing the Power Shaver Energy Saving System at Cott Beverages Tampa, Florida facility will beneficially impact the environment by reducing the consumption of our precious natural resources. According to the U.S. Environmental Protection Agency and the U.S. Energy Information Administration, the proposed reduction of electricity demand provided by the Power Shaver System, will reduce emissions of Greenhouse Gases by 563 tons per year as well as your companies consumption of **Crude Oil by 435.76 barrels, Coal by 128.80 tons, Natural Gas by**

2,458,565.06 cubic feet, Gasoline by 20,978.46 gallons or Diesel Fuel and Heating Oil by 18,397.05 gallons per year, depending on which resource your power company depends on. There is also a significant reduction in water consumption associated with each of the above quantities reduced as it is a necessary part of all fuel processing. Power Shaver is proud to partner with you to reduce your operational cost and help sustain our environment for future generations.

Power Shaver is glad to be part of Cott Beverages Tampa Bottling facilities energy savings program. Power Shaver also looks forward to assisting to reduce the electrical demands and costs to operate the remainder of the Cott beverages facilities and their industry associates. For any questions or comments on this report, please contact John D. Knapp, CEO/President of Power Shaver, Energy Savings Systems at (888) 9-POWER-5, or via email at <u>john@powershaver.com</u>.

Summary of Power Quality Improvements

Analysis of the low load TIS testing results from February 4th 2016 demonstrate that the USES[®] technology has provided substantial demand reductions and improvements in overall power quality and condition. The following improvements have been realized by Cott Beverages Tampa, Florida. Per the Tampa Electric Co. tariff:

The approximate billed demand without USES[®] at the TECO .85 DPF:

MDP-1 (page 16): 515.23 KW MDP-2 (page 17): 414.91 KW Blow Mold (page 18): 524.67 KW Office (page 19): 105.92 KW = a total of 1,560.73 KW

<u>The approximate total billed demand with USES® at the TECO .90 PF:</u> MDP-1: (V) 477.92 x (A) 557.13 x (PF) $(.90/.92 = .9782608) \times 1.73 = 450.62$ KW MDP-2: (V) 481.28 x (A) 485.34 x (PF) $(.90/.94 = .9574468) \times 1.73 = 386.905$ KW Blow Mold: (V) 486.97 x (A) 570.71 x (PF) $(.90/.92 = .9782608) \times 1.73 = 470.35$ KW Office: (V) 487.46 x (A) 125.87 x (PF) $(.90/.96 = .9375) \times 1.73 = 99.51$ KW = a total of 1,407.385 KW

The difference being an approximate billed KW reduction: 1,560.73 KW – 1,407.385 KW = 153.345 KW

- Real Power Demand Average (kW) Real Power billed demand was reduced by an average 153.34 kW (9.82%) at low load operational levels with (19) USES[®] Power Conditioners activated. Each USES[®] unit was individually tested and found to be operational and contributing to the overall power quality improvements as presented in the Power Shaver proposal of April 2015. During the Off-Peak TIS testing of February 4th 2016, the average billed real power demand reduction was 153.34 kW.
- Apparent Power Average Apparent power average demand was reduced by 162.01 kVA (10.12%) when the USES[®] System was activated.
- <u>Reactive Power</u> Under low load, the reactive power demand was reduced an average of 438.83 kVAR (45.98%) when the USES[®] System was activated.
- Power Factor Under low load, the power factor improved from .84 to .94 (11.31%) and remained lagging when the USES[®] System was activated.
- <u>Amperage</u> Under low load, the circuit amperage was reduced by approximately 206.94 amps (10.72%) per phase for a total of 620.82 amps when the USES[®] System was activated.
- Voltage Voltage improved by an average of 3.068 volts (.62%) per phase (VAB, VBC, VCA) when the USES[®] System was activated.

Savings and ROI Calculations

Evaluation of the USES[®] System installed at the Cott Beverages Tampa facility verifies a range of demand reductions at low load when the USES[®] System is activated. During the TIS testing period, when the facility was operational, the average extrapolated billed demand reduction was estimated to be 153.34 kW. The total projected annual reduction of energy consumed is 740,740 kWh per year.

Assuming the 2015 average cost of Florida power of .108 per kWh will increase in 2016 to .113 per kWh and by 0.005 per kWh each year thereafter, ROI savings are shown on the following proforma:

	S SVGS/yr	KWh/yr SVG	СОР	Year
	\$79,999	740,740	\$0.108	1
	\$83,703	740,740	\$0.113	2
	\$87,407	740,740	\$0.118	3
	\$91,111	740,740	\$0.123	4
Years 1-5	\$94,814	740,740	\$0.128	5
\$437,036	\$98,518	740,740	\$0.133	6
	\$102,222	740,740	\$0.138	7
	\$105,925	740,740	\$0.143	8
	\$109,629	740,740	\$0.148	9
Years 6-10	\$113,333	740,740	\$0.153	10
\$529,629	\$117,036	740,740	\$0.158	11
	\$120,740	740,740	\$0.163	12
	\$124,444	740,740	\$0.168	13
	\$128,148	740,740	\$0.173	14
Years 11-15	\$ <u>131,851</u>	<u>740,74</u> 0	\$0.178	<u>15</u>
\$622,221	<mark>\$1,588,887</mark>	11,111,100		Total

Actual ROI = 1.73 years

- Year 1 savings = \$79,999.
- Purchase Cost, not including installation costs = \$138,720.
- > Total Savings over 15 years = \$1,588,887 \$138,720 = \$1,450,167.

USES[®] Power Quality Benefits

The installation of the USES[®] System at Cott Beverages Tampa, Florida facility has resulted in measurable and verifiable demand reductions and power quality improvements, as well as other benefits which cannot be measured. A discussion of the power quality improvements resulting from the USES[®] System is presented below:

Real Power Demand - The USES[®] System reduces real power demand in two principal ways: through amperage reductions on the circuit, which also reduce "Copper Losses", and through the reduction of Harmonic Distortion (HD) in the amperage and voltage supplied to operating loads, which improves motor efficiency. The amount of real power demand reduction associated with the USES[®] System exceeds that of power factor correction capacitor (PFCC) equipment because of the reduced (HD), and additional proprietary benefits.

Power Factor – Power Factor is the ratio of real power to apparent power. Because the USES[®] System reduces both real power demand and apparent power demand, the Power Factor is improved and approaches unity, or 100%. Because the USES[®] System does not create RLC resonance, any leading Power Factor will have no effect on the performance or reliability of the equipment.

Reactive Power, Apparent Power and Amperage – The USES[®] System reduces the reactive power on the circuit in a manner which does not create RLC resonance. Each USES[®] Model XL-3D-480v power conditioner reduces reactive power by 27-29 kVAR and each USES[®] Model XL-3Y-480v power conditioner reduces reactive power by 17-19 kVAR. A reduction in reactive power results in a corresponding decrease in the apparent power on the circuit. This, in turn, results in a decrease in the amount of amperage on the circuit, which results in a decrease in real power demand as a result of reduced "Copper Losses" on the circuit. Copper losses manifest themselves as heat in motors and conductors and can reduce the useful life of motors, transformers and sensitive electronic equipment. The reduction in reactive power on the circuit also acts to "stiffen" the circuit by reducing overall circuit impedance. A "stiff" circuit will reduce the creation of voltage total harmonic distortion as a result of current harmonics.

Voltage Improvement - By improving voltage across each of the three phases (VAB, VBC, and VCA), circuit amperage is further reduced and motors will run cooler and last longer. Increased voltage will also lessen the likelihood of equipment tripping off due to utility voltage sags. Fluctuations in voltage are dampened by the coupling of the three phases of power supplied, which will lessen any likelihood of equipment tripping problems associated with voltage fluctuations.

Harmonics – The USES[®] System reduces the Harmful Harmonic Distortion (HHD) of the amperage and voltage on the circuit by passing all power generated within the USES[®] System through 60 Hz band-pass Filters. Because the USES[®] System is connected to the electrical circuit in parallel, some HD will continue to pass on to the operational loads. However, because a significant portion of the

power supplied to the load is "choked" to 60 Hz, total HD supplied to the load is reduced. This action significantly reduces the HHD in the voltage and current provided to the operating motors, thus increasing motor efficiency. This also drastically reduces the amount of NON POWER CURRENT or harmonic current, which the utility meter measures as kWh. Problems associated with circuit harmonics include:

- Excessive Neutral Currents, where voltage harmonics result in additional current on the circuit neutral conductor, resulting in additional heat, possible overloading and the need to install additional neutral conductors.
- Overheated transformers, where harmonics generated on the secondary side of a delta-wye transformer will circulate on the primary side of the transformer. Some types of transformer losses, such as skin losses and eddy currents will increase by the square of the harmonic order.
- > Overheated solenoid coils and lighting ballasts.
- Positive, negative and zero sequence voltages on motors and generators, where certain harmonic frequencies will try to rotate the motor forward or backward, or simply heat up the motor.
- Incorrect reading power meters, especially disc type watt-hour meters and averaging type current meters.
- > Failure of electronic equipment, including nuisance tripping and overload.
- Nuisance tripping of circuit protection devices including false tripping of relays and failure of UPS devices to properly transfer.
- Blown fuses and overheated power factor correction capacitors due to the cumulative effects of harmonic THD and RLC resonance.

Spike and Surge Protection - Inherent in the USES[®] System, but not measured, is the ability to provide superior spike and surge suppression capabilities. A surge is any voltage increase lasting 3 or more nanoseconds. A spike is any voltage increase lasting less than 3 nanoseconds. The USES[®] device detects any surges or spikes traveling along one of the active phases and shunts it to the other two phases. From there, the transformer/choke sets within the USES[®] device attenuate the surge/spike through the action of the "chokes", which use capacitors and inductors to resist the change in voltage and associated change in current, and flatten out the waveform. The surge/spike is recycled as usable power for the circuit. Because USES[®] "Wye" units were specified for this application, the USES[®] System will protect the circuit against ground fault transients or lightning strikes which can enter the circuit through the neutral conductor.

Timed Interval Sampling (TIS) Techniques

Timed Interval Sampling (TIS) techniques are used to determine actual performance of the USES[®] System. In order to ensure the accuracy, transparency and repeatability of the TIS evaluation, Power Shaver, Energy Saving Systems has developed TIS methods which adhere to the International Performance Measurement & Verification Protocols (IPMVP). The IPMVP, endorsed by the U.S. Department of Energy, provides an overview of the best practice techniques available for verifying the results of energy savings projects.

Timed Interval Sampling is a statistical method of energy measurement with regard to electrical consumption, measured as average wattage demand reductions over a short span of time. It is used in facilities with dynamic electrical loads where energy use is a function of manufacturing, environmental loads, and related equipment. TIS techniques are utilized to minimize the high degree of variables present when measuring energy consumption. These variables often include: weather conditions, facility operational techniques, and load variations.

When the USES[®] System is being evaluated, it is alternately activated and deactivated at timed intervals such as 5, 10 or 15 minutes, to compare the average demand of real power by the loads in the facility under equal conditions. All samples are recorded and averaged in each respective operating condition (on vs. off), in order to demonstrate the effects that the USES[®] System has on the circuit when activated and deactivated. Power Shaver used The NERVE energy intelligent 20-20 monitoring system and software Data Logger to perform TIS metering and recording. This "True RMS" meter meets the standards of the National Institute of Standards and Technology and the IPMVP.

Evaluation of the USES[®] System performance was made through analysis of the data recorded from the TIS testing. The Nerve 20-20 monitoring system was connected at a point at or near the main service breaker at each of the three service entrances serving the entire facility in order to measure overall circuit power quality and average energy savings. The USES[®] System was activated and deactivated for intervals of two minutes during the test period to measure the changes in overall power quality in each operating condition. A separate test of the cumulative effect of the USES[®] power conditioners was also conducted to confirm that each of the units is operating properly. The differences between conditioned and unconditioned power quality was determined and averaged to demonstrate the overall effect that the USES[®] System has on the circuit.

- All recorded data was evaluated and averaged in the following manner to determine the overall average performance of the USES[®] System.
- Each instantaneous change in power quality was determined by comparing the last onesecond with the USES[®] System on to the first one-second with the USES[®] System off, and vice-versa.

This report shows all differences in electrical performance with the USES[®] System activated and deactivated including:

- Real Power demand reductions (Watts)
- Apparent Power reductions (VA)
- Reactive Power reductions (VAR)
- Power Factor improvement (%)
- Amperage reductions across each phase (Amps)
- Voltage improvements across each phase (Volts)

Graphs and Data Tables

Through evaluation of the NERVE 20-20 monitoring system recordings collected on February 4th 2016, we have prepared a series of graphs and data tables to show the effect of the USES[®] System. The following graphs are presented below, showing all changes to power quality when the USES[®] System is activated or de-activated:

- Graph 1 Real Power (KW) This graph shows real power in KW during the February 4th 2016 TIS testing.
- Graph 2 Apparent Power (KVA) This graph shows apparent power in KVA during the February 4th 2016 TIS testing.
- Graph 3 Reactive Power (kVAR) This graph shows reactive power in kVAR during the February 4th 2016 TIS testing.
- Graph 4 Power Factor This graph shows power factor as a decimal during the February 4th 2016 TIS testing.
- Graph 5 Amperage (Amps) This graph shows current in amps for 3 phases during the February 4th 2016 TIS testing.
- Graph 6 Voltage (Volts) This graph shows the voltage in volts for 3 phases during the February 4th 2016 TIS testing.

The following data tables are presented to show the average observed performance of the USES[®] System during the February 4th 2016 TIS testing. Please note that during the testing, each USES[®] unit was tested individually to ensure performance and evaluate circuit improvements

- > Table 1 Real Power (KW) from the February 4^{th} 2016 TIS testing.
- Table 2 Apparent Power (KVA) from the February 4th 2016 TIS testing.
- Table 3 Reactive Power (kVAR) from the February 4th 2016 TIS testing.
- \rightarrow Table 4 Power Factor from the February 4th 2016 TIS testing.
- Table 5 Amperage (Amps) 3 phases from the February 4th 2016 TIS testing.
- Table 6 Voltage (Volts) 3 phases from the February 4th 2016 TIS testing.
- All Data Tables and Graphs, together with all raw data are included.

Graph 1a

Power Shaver®

NERVE Live 20-20





Graph 1a above shows the **MDP-1** Real Power Demand in kW during the TIS testing on February 4th 2016 between 8:10am and 9:03am. With (7) USES[®] model XL-3D-480V power conditioners operating, the real power demand is reduced an average of **110.70 kW**.

Graph 1b

Power Shaver®

NERVE Live 20-20





<u>Graph 1b</u> above shows the **MDP-2** Real Power Demand in kW during the TIS testing on February 4th 2016 between 11:04am and 11:32am. With (5) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V power conditioners operating, the real power demand is reduced an average of **69.63 kW**.

<u>Graph 1c</u>

Power Shaver®

NERVE Live 20-20





<u>Graph 1c</u> above shows the **Blow Mold** Real Power Demand in kW during the TIS testing on February 4th 2016 between 12:28pm and 1:19pm. With (4) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V power conditioners operating, the real power demand is reduced an average of **108.18 kW**.

<u>Graph 1d</u>

Power Shaver®

NERVE Live 20-20





<u>Graph 1d</u> above shows the **Office** Real Power Demand in kW during the TIS testing on February 4th 2016 between 2:09pm and 2:39pm. With (1) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V power conditioners operating, the real power demand is reduced an average of **16.89 kW**.

Real Power Demand (KW) Billed								
	Intervals							
				System	System	Change		
Interval Tin	ne Frame	# USES	Status	On	Off	At Transition		
			L					
8:11:52 AM	8:11:56 AM		off	377.62	510.30	132.67		
8:13:51 AM	8:13:54 AM		on	367.12	548.75	181.63		
8:15:51 AM	8:15:54 AM		off	385.48	510.83	125.35		
8:17:52 AM	8:17:56 AM		on	439.17	562.71	123.55		
8:19:54 AM	8:19:59 AM		off	485.50	564.80	79.30		
8:21:52 AM	8:21:56 AM		on	416.94	527.18	110.24		
8:23:51 AM	8:23:57 AM		off	468.12	565.40	97.28		
8:25:53 AM	8:25:56 AM		on	388.53	451.46	62.93		
8:27:52 AM	8:27:56 AM		off	378.18	479.37	101.19		
8:29:51 AM	8:29:54 AM		on	360.44	500.06	139.62		
8:31:51 AM	8:31:56 AM		off	338.49	457.58	119.09		
8:33:51 AM	8:33:57 AM		on	354.72	453.84	99.12		
8:35:50 AM	8:35:56 AM		off	489.22	562.70	73.49		
8:37:51 AM	8:37:56 AM		on	391.13	518.22	127.09		
8:39:51 AM	8:39:57 AM		off	370.90	466.53	95.63		
8:41:52 AM	8:41:57 AM		on	385.64	487.30	101.66		
8:43:52 AM	8:43:56 AM		off	403.44	548.73	145.29		
8:45:52 AM	8:45:56 AM		on	398.47	529.61	131.14		
8:47:53 AM	8:47:57 AM		off	425.78	514.70	88.92		
8:49:51 AM	8:49:56 AM		on	463.20	572.67	109.47		
8:51:53 AM	8:51:56 AM		off	366.10	453.14	87.04		
8:53:52 AM	8:53:57 AM		on	381.08	524.35	143.28		
8:55:48 AM	8:55:54 AM		off	387.28	466.99	79.72		
8:57:53 AM	8:57:59 AM		on	408.80	566.12	157.32		
8:59:52 AM	8:59:56 AM		off	361.75	496.60	134.85		
9:01:52 AM	9:01:56 AM		on	459.80	555.99	96.19		
Transition Avg	- On to Off			402.03		104.60		
Transition Avg	- Off to On				515.23	116.80		
Average - All T	ransitions		110.70					

<u>Table 1a</u>

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<u>**Table 1a**</u> above shows the analysis of the **MDP-1** kW data of (7) USES[®] model XL-3D-480V units collected by the NERVE 20-20 monitoring system during the TIS testing on February 4th 2016. The real power demand is reduced an average of **110.70 kW**. Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.

Real Power Demand (KW) Billed								
Intervals					Instant			
			System	System	Change			
e Frame	# USES	Status	On	Off	At Transition			
11:05:55 AM		on	243.26	302.73	59.46			
11:07:57 AM		off	345.58	394.49	48.91			
11:09:57 AM		on	237.57	302.53	64.96			
11:11:54 AM		off	471.24	556.84	85.60			
11:13:57 AM		on	365.67	415.28	49.61			
11:15:57 AM		off	346.65	417.12	70.48			
11:17:54 AM		on	328.01	406.63	78.61			
11:19:57 AM		off	329.72	401.48	71.76			
11:21:57 AM		on	322.13	401.82	79.69			
11:23:57 AM		off	416.58	484.01	67.42			
11:25:57 AM		on	367.58	451.52	83.94			
11:27:54 AM		off	379.79	452.46	72.67			
11:29:57 AM		on	334.80	406.98	72.17			
	e Frame 11:05:55 AM 11:07:57 AM 11:09:57 AM 11:13:57 AM 11:13:57 AM 11:17:54 AM 11:19:57 AM 11:23:57 AM 11:23:57 AM 11:23:57 AM 11:25:57 AM	Power Destination Intervals Intervals # USES 11:05:55 AM 11:07:57 AM 11:07:57 AM 11:09:57 AM 11:15:57 AM 11:15:57 AM 11:17:54 AM 11:17:54 AM 11:19:57 AM 11:21:57 AM 11:23:57 AM 11:25:57 AM 11:25:57 AM 11:25:57 AM 11:25:57 AM 11:25:57 AM	All Power Deman Intervals Intervals # USES Status 11:05:55 AM on 11:07:57 AM off 11:09:57 AM off 11:154 AM off 11:15:57 AM on 11:15:57 AM off 11:17:54 AM off 11:19:57 AM off 11:19:57 AM off 11:21:57 AM on 11:23:57 AM on 11:25:57 AM on 11:25:57 AM on	Intervals System On e Frame # USES Status System On 11:05:55 AM on 243.26 11:07:57 AM off 345.58 11:09:57 AM on 237.57 11:11:54 AM off 471.24 11:13:57 AM on 365.67 11:15:57 AM on 328.01 11:19:57 AM off 329.72 11:21:57 AM on 322.13 11:23:57 AM on 322.13 11:23:57 AM off 316.58 11:23:57 AM on 327.57 11:21:57 AM on 327.72 11:23:57 AM on 327.73 11:23:57 AM on 327.73 11:25:57 AM on 327.73 11:25:57 AM on 327.79 11:29:57 AM on 334.80	All Power Demand (KW) Billed Intervals System System e Frame # USES Status On Off 11:05:55 AM on 243.26 302.73 11:07:57 AM off 345.58 394.49 11:09:57 AM on 237.57 302.53 11:11:54 AM off 471.24 556.84 11:13:57 AM on 365.67 415.28 11:15:57 AM on 328.01 406.63 11:19:57 AM on 328.01 406.63 11:21:57 AM on 322.13 401.82 11:23:57 AM on 322.13 401.82 11:23:57 AM on 329.72 401.48 11:23:57 AM on 329.73 401.82 11:23:57 AM on 322.13 401.82 11:23:57 AM on 367.58 451.52 11:27:54 AM on 334.80 406.98			

Table 1b

Transition Avg - On to Off		345.28		69.47
Transition Avg - Off to On			414.91	69.78
Average - All Transitions	69.63			

<u>**Table 1b**</u> above shows the analysis of the **MDP-2** kW data of (5) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V units collected by the NERVE 20-20 monitoring system during the TIS testing on February 4th 2016. The real power demand is reduced an average of **69.63 kW**. Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.

Real Power Demand (KW) Billed								
	Intervals			•		Instant		
				System	System	Change		
Interval T	ime Frame	# USES	Status	On	Off	At Transition		
			on					
12:31:44 PM	12:32:15 PM		off	419.22	539.95	120.73		
12:33:53 PM	12:33:57 PM		on	432.53	538.51	105.99		
12:35:51 PM	12:35:54 PM		off	418.70	521.35	102.65		
12:37:52 PM	12:37:54 PM		on	427.35	539.10	111.76		
12:39:51 PM	12:40:27 PM		off	415.40	517.96	102.56		
12:41:52 PM	12:41:54 PM		on	432.26	553.67	121.41		
12:43:51 PM	12:43:54 PM		off	411.36	524.40	113.04		
12:45:23 PM	12:45:57 PM		on	435.36	511.68	76.32		
12:47:51 PM	12:47:54 PM		off	428.03	525.49	97.45		
12:49:44 PM	12:49:55 PM		on	412.04	520.69	108.65		
12:51:50 PM	12:51:54 PM		off	430.13	536.55	106.43		
12:53:45 PM	12:54:15 PM		on	432.93	526.24	93.31		
12:55:47 PM	12:55:55 PM		off	413.71	513.90	100.19		
12:57:51 PM	12:57:55 PM		on	411.31	495.45	84.15		
12:59:51 PM	12:59:54 PM		off	411.01	520.21	109.20		
1:01:51 PM	1:01:54 PM		on	418.68	523.50	104.83		
1:03:35 PM	1:03:39 PM		off	408.18	518.32	110.14		
1:05:51 PM	1:05:55 PM		on	420.76	538.51	117.75		
1:08:17 PM	1:08:22 PM		off	426.01	512.54	86.53		
1:09:14 PM	1:09:17 PM		on	414.97	522.70	107.73		
1:10:04 PM	1:10:08 PM		off	412.53	523.50	110.97		
1:10:59 PM	1:11:03 PM		on	408.97	515.23	106.26		
1:11:52 PM	1:11:56 PM		off	413.64	520.78	107.14		
1:14:02 PM	1:14:05 PM		on	426.07	533.58	107.51		
1:15:52 PM	1:15:56 PM		off	411.08	525.14	114.06		
1:17:02 PM	1:17:05 PM		on	414.53	522.49	107.96		
Transition Av	g - On to Off			419.49		106.24		
Transition Av	g - Off to On				524.67	104.12		
Average - All	Transitions		105.18					

Table 1c

<u>**Table 1c**</u> above shows the analysis of the **Blow Mold** kW data of (4) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V units collected by the NERVE 20-20 monitoring system during the TIS testing on February 4th 2016. The real power demand is reduced an average of **105.18 kW**. Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.

Real Power Demand (KW) Billed								
	Intervals					Instant		
				System	System	Change		
Interval Tin	ne Frame	# USES	Status	On	Off	At Transition		
2:11:00 PM	2:11:00 PM		off	110.99	131.64	20.64		
2:13:00 PM	2:13:00 PM		on	108.32	130.36	22.04		
2:15:00 PM	2:15:00 PM		off	99.34	117.64	18.30		
2:17:00 PM	2:17:00 PM		on	91.94	108.67	16.74		
2:19:00 PM	2:20:00 PM		off	90.78	108.91	18.13		
2:22:00 PM	2:22:00 PM		on	99.35	115.98	16.62		
2:24:00 PM	2:24:00 PM		off	64.50	76.48	11.98		
2:26:00 PM	2:26:00 PM		on	95.72	130.13	34.40		
2:28:00 PM	2:28:00 PM		off	98.47	115.49	17.03		
2:30:00 PM	2:30:00 PM		on	92.61	108.29	15.68		
2:32:00 PM	2:32:00 PM		off	77.09	91.73	14.64		
2:34:00 PM	2:34:00 PM		on	63.45	81.11	17.66		
2:37:00 PM	2:37:00 PM		off	71.78	83.27	11.49		
2:38:00 PM	2:38:00 PM		on	73.35	83.20	9.85		

Table 1d

Transition Avg - On to Off		88.41		16.03
Transition Avg - Off to On			105.92	17.75
Average - All Transitions	16.89			

<u>**Table 1d</u>** above shows the analysis of the **Office** kW data of (1) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V units collected by the NERVE 20-20 monitoring system during the TIS testing on February 4th 2016. The real power demand is reduced an average of **16.89 kW**. Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.</u>

Graph 2a

Power Shaver®

NERVE Live 20-20





Graph 2a above shows the **MDP-1** Apparent Power in kVA during the TIS testing on February 4th 2016 between 8:10am and 9:03am. With (7) USES[®] model XL-3D-480V power conditioners operating. The apparent power is reduced an average of **58.34 kVA.**

Graph 2b

Power Shaver®





Graph 2b above shows the **MDP-2** Apparent Power in kVA during the TIS testing on February 4th 2016 between 11:04am and 11:32am. With (5) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V power conditioners operating. The apparent power is reduced an average of **36.99 kVA**.

Graph 2c

Power Shaver®

NERVE Live 20-20



Cott Beverage – Blow Mold – Apparent Power

Graph 2c above shows the **Blow Mold** Apparent Power in kVA during the TIS testing on February 4th 2016 between 12:28pm and 1:19pm. With (4) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V power conditioners operating. The apparent power is reduced an average of **56.99 kVA**.

Graph 2d

Power Shaver®

NERVE Live 20-20





<u>Graph 2d</u> above shows the **Office** Apparent Power in kVA during the TIS testing on February 4th 2016 between 2:09pm and 2:39pm. With (1) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V power conditioners operating. The apparent power is reduced an average of **9.69 kVA**.

Apparent Power (KVA) Measured							
	Intervals					Instant	
				System	System	Change	
Interval Tin	ne Frame	# USES	Status	On	Off	At Transition	
8:11:52 AM	8:11:56 AM	0	off	422.42	495.41	72.99	
8:13:51 AM	8:13:54 AM	0	on	444.25	543.28	99.03	
8:15:51 AM	8:15:54 AM	0	off	438.42	505.07	66.65	
8:17:52 AM	8:17:56 AM	0	on	541.32	612.82	71.50	
8:19:54 AM	8:19:59 AM	0	off	563.18	595.17	31.99	
8:21:52 AM	8:21:56 AM	0	on	507.51	570.86	63.35	
8:23:51 AM	8:23:57 AM	0	off	539.52	592.92	53.40	
8:25:53 AM	8:25:56 AM	0	on	447.84	482.67	34.83	
8:27:52 AM	8:27:56 AM	0	off	432.46	479.38	46.92	
8:29:51 AM	8:29:54 AM	0	on	404.64	474.55	69.90	
8:31:51 AM	8:31:56 AM	0	off	380.34	447.78	67.44	
8:33:51 AM	8:33:57 AM	0	on	403.47	464.07	60.60	
8:35:50 AM	8:35:56 AM	0	off	560.16	604.22	44.06	
8:37:51 AM	8:37:56 AM	0	on	452.27	519.62	67.35	
8:39:51 AM	8:39:57 AM	0	off	432.98	481.07	48.10	
8:41:52 AM	8:41:57 AM	0	on	442.69	497.74	55.05	
8:43:52 AM	8:43:56 AM	0	off	459.85	536.39	76.54	
8:45:52 AM	8:45:56 AM	0	on	438.34	505.33	66.99	
8:47:53 AM	8:47:57 AM	0	off	461.51	508.28	46.77	
8:49:51 AM	8:49:56 AM	0	on	519.39	575.57	56.18	
8:51:53 AM	8:51:56 AM	0	off	420.11	467.23	47.12	
8:53:52 AM	8:53:57 AM	0	on	429.21	496.49	67.29	
8:55:48 AM	8:55:54 AM	0	off	436.40	487.35	50.95	
8:57:53 AM	8:57:59 AM	0	on	477.28	556.96	79.69	
8:59:52 AM	8:59:56 AM	0	off	403.35	467.40	64.05	
9:01:52 AM	9:01:56 AM	0	on	526.45	572.04	45.59	
Transition Avg	- On to Off			460.97		55.15	
Transition Avg	Transition Avg - Off to On				520.76	61.53	
Average - All T	ransitions		58.34				

<u>Table 2a</u>

Table 2a above shows the analysis of the **MDP-1** Apparent Power data of (7) USES[®] model XL-3D-480V units collected by the NERVE 20-20 monitoring system during the TIS testing on February 4th 2016. The test data shows an apparent power reduction of about **58.34 kVA.** Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.

Apparent Power (KVA) Measured								
	Intervals					Instant		
				System	System	Change		
Interval Tin	ne Frame	# USES	Status	On	Off	At Transition		
11:05:47 AM	11:05:55 AM		on	281.31	318.23	36.93		
11:07:54 AM	11:07:57 AM		off	407.80	428.52	20.72		
11:09:54 AM	11:09:57 AM		on	282.73	318.90	36.17		
11:11:47 AM	11:11:54 AM		off	538.92	569.97	31.05		
11:13:54 AM	11:13:57 AM		on	440.21	467.72	27.51		
11:15:54 AM	11:15:57 AM		off	423.34	463.82	40.49		
11:17:51 AM	11:17:54 AM		on	372.11	413.75	41.64		
11:19:54 AM	11:19:57 AM		off	387.39	425.60	38.20		
11:21:54 AM	11:21:57 AM		on	386.15	431.45	45.30		
11:23:51 AM	11:23:57 AM		off	482.19	518.47	36.28		
11:25:54 AM	11:25:57 AM		on	424.16	472.99	48.82		
11:27:51 AM	11:27:54 AM		off	434.83	474.51	39.68		
11:29:54 AM	11:29:57 AM		on	396.39	437.05	40.66		
11.20.04 /41	11.20.07 All			550.05	-+01.00	40.00		

Table 2b

Transition Avg - On to Off		404.42		34.40
Transition Avg - Off to On			441.61	39.58
Average - All Transitions	36.99			

<u>**Table 2b</u>** above shows the analysis of the **MDP-2** Apparent Power data of (5) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V units collected by the NERVE 20-20 monitoring system during the TIS testing on February 4th 2016. The test data shows an apparent power reduction of about **36.99 kVA.** Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.</u>

Apparent Power (KVA) Measured								
	Interva	ls				Instant		
				System	System	Change		
Interval Ti	me Frame	# USES	Status	On	Off	At Transition		
12:00:00 AM	12:00:00 AM	0	on					
12:31:44 PM	12:32:15 PM	0	off	481.59	546.02	64.43		
12:33:53 PM	12:33:57 PM	0	on	495.26	552.65	57.39		
12:35:51 PM	12:35:54 PM	0	off	479.30	535.03	55.74		
12:37:52 PM	12:37:54 PM	0	on	489.85	549.89	60.04		
12:39:51 PM	12:40:27 PM	0	off	478.75	532.21	53.46		
12:41:52 PM	12:41:54 PM	0	on	491.16	551.63	60.47		
12:43:51 PM	12:43:54 PM	0	off	474.09	535.56	61.47		
12:45:23 PM	12:45:57 PM	0	on	489.23	537.92	48.69		
12:47:51 PM	12:47:54 PM	0	off	492.17	538.62	46.46		
12:49:44 PM	12:49:55 PM	0	on	474.88	533.75	58.87		
12:51:50 PM	12:51:54 PM	0	off	490.75	547.94	57.19		
12:53:45 PM	12:54:15 PM	0	on	486.51	538.78	52.27		
12:55:47 PM	12:55:55 PM	0	off	476.28	538.30	62.02		
12:57:51 PM	12:57:55 PM	0	on	474.03	520.23	46.20		
12:59:51 PM	12:59:54 PM	0	off	472.15	531.90	59.75		
1:01:51 PM	1:01:54 PM	0	on	479.93	537.90	57.97		
1:03:35 PM	1:03:39 PM	0	off	471.95	531.27	59.32		
1:05:51 PM	1:05:55 PM	0	on	484.40	549.27	64.87		
1:08:17 PM	1:08:22 PM	0	off	488.31	533.04	44.73		
1:09:14 PM	1:09:17 PM	0	on	477.23	536.45	59.22		
1:10:04 PM	1:10:08 PM	0	off	476.98	536.58	59.61		
1:10:59 PM	1:11:03 PM	0	on	471.86	529.48	57.63		
1:11:52 PM	1:11:56 PM	0	off	475.10	533.15	58.05		
1:14:02 PM	1:14:05 PM	0	on	488.39	546.33	57.94		
1:15:52 PM	1:15:56 PM	0	off	477.86	537.62	59.75		
1:17:02 PM	1:17:05 PM	0	on	476.72	534.97	58.25		
Transition Av	g - On to Off			481.34		57.07		
Transition Av	g - Off to On				538.33	56.91		
Average - All	Transitions		56.99					

Table 2c

<u>**Table 2c</u>** above shows the analysis of the **Blow Mold** Apparent Power data of (4) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V units collected by the NERVE 20-20 monitoring system during the TIS testing on February 4th 2016. The test data shows an apparent power reduction of about **56.99 kVA.** Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.</u>

Apparent Power (KVA) Measured										
	Intervals				Instant					
				System	System	Change				
Interval Tin	ne Frame	# USES	Status	On	Off	At Transition				
2:11:00 PM	2:11:00 PM		off	130.84	142.34	11.50				
2:13:00 PM	2:13:00 PM		on	127.54	139.81	12.26				
2:15:00 PM	2:15:00 PM		off	115.98	126.17	10.19				
2:17:00 PM	2:17:00 PM		on	110.44	120.09	9.65				
2:19:00 PM	2:20:00 PM		off	109.51	119.94	10.43				
2:22:00 PM	2:22:00 PM		on	119.08	128.44	9.36				
2:24:00 PM	2:24:00 PM		off	79.90	86.99	7.09				
2:26:00 PM	2:26:00 PM		on	112.24	125.77	13.53				
2:28:00 PM	2:28:00 PM		off	118.16	128.05	9.89				
2:30:00 PM	2:30:00 PM		on	109.75	118.45	8.70				
2:32:00 PM	2:32:00 PM		off	94.21	102.39	8.19				
2:34:00 PM	2:34:00 PM		on	79.34	90.46	11.12				
2:37:00 PM	2:37:00 PM		off	89.37	96.26	6.90				
2:38:00 PM	2:38:00 PM		on	90.31	96.09	5.78				

Table 2d

Transition Avg - On to Off		106.19		9.17
Transition Avg - Off to On			115.80	10.22
Average - All Transitions	9.69			

<u>**Table 2d</u>** above shows the analysis of the **Office** Apparent Power data of (1) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V units collected by the NERVE 20-20 monitoring system during the TIS testing on February 4th 2016. The test data shows an apparent power reduction of about **9.69 kVA.** Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.</u>

Graph 3a

Power Shaver®

NERVE Live 20-20



Cott Beverage – MDP 1 – Reactive Power

<u>Graph 3a</u> above shows the MDP-1 Reactive Power in kVAR during the TIS testing on February 4th 2016 between 8:10am and 9:03am. With (7) USES[®] model XL-3D-480V power conditioners operating. The reactive power is reduced an average of 157.97 kVAR.

Graph 3b

Power Shaver®





Graph 3b above shows the **MDP-2** Reactive Power in kVAR during the TIS testing on February 4th 2016 between 11:04am and 11:39am. With (5) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V power conditioners operating. The reactive power is reduced an average of **134.65 kVAR**.

Graph 3c

Power Shaver®

NERVE Live 20-20





<u>Graph 3c</u> above shows the Blow Mold Reactive Power in kVAR during the TIS testing on February 4th 2016 between 12:28pm and 1:19pm. With (4) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V power conditioners operating. The reactive power is reduced an average of **120.57 kVAR**.

Graph 3d

Power Shaver®

NERVE Live 20-20





<u>Graph 3d</u> above shows the **Office** Reactive Power in kVAR during the TIS testing on February 4th 2016 between 2:09pm and 2:39pm. With (1) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V power conditioners operating. The reactive power is reduced an average of **25.64 kVAR**.

Reactive Power (KVAR)									
	Intervals			-	-	Instant			
				System	System	Change			
Interval Tin	ne Frame	# USES	Status	On	Off	At Transition			
8:11:52 AM	8:11:56 AM	0	off	139.29	312.58	173.29			
8:13:51 AM	8:13:54 AM	0	on	183.03	339.21	156.18			
8:15:51 AM	8:15:54 AM	0	off	167.69	321.68	153.99			
8:17:52 AM	8:17:56 AM	0	on	184.59	377.48	192.89			
8:19:54 AM	8:19:59 AM	0	off	206.50	353.84	147.34			
8:21:52 AM	8:21:56 AM	0	on	171.02	341.40	170.39			
8:23:51 AM	8:23:57 AM	0	off	193.99	322.77	128.78			
8:25:53 AM	8:25:56 AM	0	on	167.65	321.52	153.87			
8:27:52 AM	8:27:56 AM	0	off	164.91	320.47	155.56			
8:29:51 AM	8:29:54 AM	0	on	199.47	318.39	118.92			
8:31:51 AM	8:31:56 AM	0	off	124.34	262.91	138.58			
8:33:51 AM	8:33:57 AM	0	on	150.13	334.28	184.15			
8:35:50 AM	8:35:56 AM	0	off	209.83	333.18	123.35			
8:37:51 AM	8:37:56 AM	0	on	174.32	346.96	172.64			
8:39:51 AM	8:39:57 AM	0	off	152.34	292.70	140.36			
8:41:52 AM	8:41:57 AM	0	on	148.54	321.75	173.21			
8:43:52 AM	8:43:56 AM	0	off	173.67	346.29	172.62			
8:45:52 AM	8:45:56 AM	0	on	172.09	332.09	159.99			
8:47:53 AM	8:47:57 AM	0	off	152.38	323.39	171.02			
8:49:51 AM	8:49:56 AM	0	on	184.63	336.47	151.84			
8:51:53 AM	8:51:56 AM	0	off	145.19	295.85	150.66			
8:53:52 AM	8:53:57 AM	0	on	158.96	324.34	165.38			
8:55:48 AM	8:55:54 AM	0	off	154.59	319.56	164.97			
8:57:53 AM	8:57:59 AM	0	on	180.88	326.68	145.80			
8:59:52 AM	8:59:56 AM	0	off	137.60	317.91	180.32			
9:01:52 AM	9:01:56 AM	0	on	197.19	358.22	161.03			
Transition Avg	- On to Off			169.03		153.91			
Transition Avg	- Off to On				327.00	162.02			
Average - All Transitions 157.97									

<u>Table 3a</u>

<u>**Table 3a</u>** above shows the analysis of the **MDP-1** Reactive Power data of (7) USES[®] model XL-3D-480V units collected by the NERVE 20-20- monitoring during the TIS testing on February 4th 2016. The test data shows a reactive power reduction of about **157.97 kVAR.** Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.</u>

Reactive Power (KVAR)									
	Intervals								
				System	System	Change			
Interval Tin	ne Frame	# USES	Status	On	Off	At Transition			
11:05:47 AM	11:05:55 AM		on	53.69	176.96	123.27			
11:07:54 AM	11:07:57 AM		off	101.98	238.49	136.52			
11:09:54 AM	11:09:57 AM		on	45.50	172.68	127.19			
11:11:47 AM	11:11:54 AM		off	150.66	321.56	170.90			
11:13:54 AM	11:13:57 AM		on	99.21	221.44	122.23			
11:15:54 AM	11:15:57 AM		off	89.39	240.68	151.30			
11:17:51 AM	11:17:54 AM		on	96.97	237.23	140.26			
11:19:54 AM	11:19:57 AM		off	98.12	236.73	138.62			
11:21:54 AM	11:21:57 AM		on	78.93	220.35	141.42			
11:23:51 AM	11:23:57 AM		off	172.58	274.55	101.97			
11:25:54 AM	11:25:57 AM		on	134.32	262.67	128.35			
11:27:51 AM	11:27:54 AM		off	106.32	247.20	140.88			
11:29:54 AM	11:29:57 AM		on	126.56	248.79	122.23			

Table 3b

Transition Avg - On to Off		104.17		140.03
Transition Avg - Off to On			238.41	129.28
Average - All Transitions	134.65			

<u>**Table 3b</u>** above shows the analysis of the **MDP-2** Reactive Power data of (5) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V units collected by the NERVE 20-20- monitoring during the TIS testing on February 4th 2016. The test data shows a reactive power reduction of about **134.65 kVAR**. Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.</u>

Reactive Power (KVAR)								
	Interva	ls			-	Instant		
				System	System	Change		
Interval Ti	me Frame	# USES	Status	On	Off	At Transition		
12:00:00 AM	12:00:00 AM	0	on					
12:31:44 PM	12:32:15 PM	0	off	191.93	324.57	132.63		
12:33:53 PM	12:33:57 PM	0	on	208.29	326.76	118.47		
12:35:51 PM	12:35:54 PM	0	off	192.44	305.30	112.87		
12:37:52 PM	12:37:54 PM	0	on	202.76	326.76	124.00		
12:39:51 PM	12:40:27 PM	0	off	192.94	323.94	131.00		
12:41:52 PM	12:41:54 PM	0	on	201.71	319.56	117.85		
12:43:51 PM	12:43:54 PM	0	off	192.48	318.06	125.58		
12:45:23 PM	12:45:57 PM	0	on	203.45	328.40	124.95		
12:47:51 PM	12:47:54 PM	0	off	205.50	320.11	114.61		
12:49:44 PM	12:49:55 PM	0	on	192.35	316.82	124.47		
12:51:50 PM	12:51:54 PM	0	off	203.90	316.70	112.80		
12:53:45 PM	12:54:15 PM	0	on	201.16	321.13	119.96		
12:55:47 PM	12:55:55 PM	0	off	193.94	303.08	109.13		
12:57:51 PM	12:57:55 PM	0	on	280.44	289.82	9.38		
12:59:51 PM	12:59:54 PM	0	off	190.70	283.38	92.68		
1:01:51 PM	1:01:54 PM	0	on	194.06	317.91	123.86		
1:03:35 PM	1:03:39 PM	0	off	189.65	314.63	124.97		
1:05:51 PM	1:05:55 PM	0	on	189.65	325.51	135.86		
1:08:17 PM	1:08:22 PM	0	off	202.21	316.74	114.53		
1:09:14 PM	1:09:17 PM	0	on	213.17	317.36	104.19		
1:10:04 PM	1:10:08 PM	0	off	191.80	317.36	125.57		
1:10:59 PM	1:11:03 PM	0	on	189.65	315.25	125.60		
1:11:52 PM	1:11:56 PM	0	off	189.61	315.25	125.64		
1:14:02 PM	1:14:05 PM	0	on	275.58	327.62	52.05		
1:15:52 PM	1:15:56 PM	0	off	194.49	318.86	124.37		
1:17:02 PM	1:17:05 PM	0	on	194.54	319.48	124.94		
Transition Av	g - On to Off			203.02		118.95		
Transition Av	g - Off to On				316.55	122.20		
Average - All	Transitions		120.57					

Table 3c

<u>**Table 3c</u>** above shows the analysis of the **Blow Mold** Reactive Power data of (4) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V units collected by the NERVE 20-20- monitoring during the TIS testing on February 4th 2016. The test data shows a reactive power reduction of about **120.57 kVAR**. Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.</u>

Reactive Power (KVAR)										
	Intervals					Instant				
				System	System	Change				
Interval Tin	ne Frame	# USES	Status	On	Off	At Transition				
2:11:00 PM	2:11:00 PM	0	off	46.04	71.27	25.23				
2:13:00 PM	2:13:00 PM	0	on	46.58	72.35	25.76				
2:15:00 PM	2:15:00 PM	0	off	41.10	64.66	23.56				
2:17:00 PM	2:17:00 PM	0	on	38.92	59.20	20.28				
2:19:00 PM	2:20:00 PM	0	off	32.33	51.50	19.17				
2:22:00 PM	2:22:00 PM	0	on	32.89	58.65	25.76				
2:24:00 PM	2:24:00 PM	0	off	14.25	40.55	26.30				
2:26:00 PM	2:26:00 PM	0	on	37.27	63.57	26.30				
2:28:00 PM	2:28:00 PM	0	off	37.27	63.58	26.31				
2:30:00 PM	2:30:00 PM	0	on	33.98	59.75	25.76				
2:32:00 PM	2:32:00 PM	0	off	26.30	52.61	26.30				
2:34:00 PM	2:34:00 PM	0	on	9.86	44.94	35.07				
2:37:00 PM	2:37:00 PM	0	off	16.44	43.29	26.85				
2:38:00 PM	2:38:00 PM	0	on	16.44	42.74	26.30				

Table 3d

Transition Avg - On to Off		30.69		24.82
Transition Avg - Off to On			56.33	26.46
Average - All Transitions	25.64			

<u>**Table 3d</u>** above shows the analysis of the **Office** Reactive Power data of (1) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V units collected by the NERVE 20-20- monitoring during the TIS testing on February 4th 2016. The test data shows a reactive power reduction of about **25.64 kVAR**. Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.</u>

Graph 4a

Power Shaver®

NERVE Live 20-20



Cott Beverage – MDP 1 – Power Factor

<u>Graph 4a</u> above shows the MDP-1 Power Factor in decimals during the TIS testing on February 4th 2016 between 8:10am and 9:03am. With (7) USES[®] model XL-3D-480V power conditioners operating. The power factor is increased on average from **81% to 92%.**

Graph 4b

Power Shaver®

NERVE Live 20-20



Cott Beverage – MDP 2 – Power Factor

<u>Graph 4b</u> above shows the MDP-2 Power Factor in decimals during the TIS testing on February 4th 2016 between 11:04am and 11:39am. With (5) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V power conditioners operating. The power factor is increased on average from 85% to 94%.

Graph 4c

Power Shaver®

NERVE Live 20-20



Cott Beverage – Blow Mold – Power Factor

<u>Graph 4c</u> above shows the **Blow Mold** Power Factor in decimals during the TIS testing on February 4th 2016 between 12:28pm and 1:19pm. With (4) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V power conditioners operating. The power factor is increased on average from **82% to 92%.**

Graph 4d

Power Shaver®

NERVE Live 20-20





<u>Graph 4d</u> above shows the **Office** Power Factor in decimals during the TIS testing on February 4th 2016 between 2:09pm and 2:39pm. With (1) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V power conditioners operating. The power factor is increased on average from **88% to 96%.**

Table 4a

Power Factor									
	Intervals					Instant			
				System	System	Change			
Interval Tin	Interval Time Frame # USES		Status	On	Off	At Transition			
8:11:52 AM	8:11:56 AM	0	off	0.90	0.78	0.12			
8:13:51 AM	8:13:54 AM	0	on	0.97	0.79	0.18			
8:15:51 AM	8:15:54 AM	0	off	0.91	0.79	0.12			
8:17:52 AM	8:17:56 AM	0	on	0.99	0.87	0.12			
8:19:54 AM	8:19:59 AM	0	off	0.93	0.84	0.09			
8:21:52 AM	8:21:56 AM	0	on	0.97	0.87	0.11			
8:23:51 AM	8:23:57 AM	0	off	0.92	0.84	0.08			
8:25:53 AM	8:25:56 AM	0	on	0.92	0.86	0.07			
8:27:52 AM	8:27:56 AM	0	off	0.92	0.80	0.12			
8:29:51 AM	8:29:54 AM	0	on	0.90	0.76	0.14			
8:31:51 AM	8:31:56 AM	0	off	0.90	0.78	0.12			
8:33:51 AM	8:33:57 AM	0	on	0.91	0.82	0.09			
8:35:50 AM	8:35:56 AM	0	off	0.92	0.86	0.06			
8:37:51 AM	8:37:56 AM	0	on	0.93	0.80	0.12			
8:39:51 AM	8:39:57 AM	0	off	0.93	0.83	0.11			
8:41:52 AM	8:41:57 AM	0	on	0.92	0.82	0.10			
8:43:52 AM	8:43:56 AM	0	off	0.91	0.78	0.13			
8:45:52 AM	8:45:56 AM	0	on	0.88	0.76	0.12			
8:47:53 AM	8:47:57 AM	0	off	0.87	0.79	0.08			
8:49:51 AM	8:49:56 AM	0	on	0.90	0.80	0.09			
8:51:53 AM	8:51:56 AM	0	off	0.92	0.83	0.09			
8:53:52 AM	8:53:57 AM	0	on	0.90	0.76	0.14			
8:55:48 AM	8:55:54 AM	0	off	0.90	0.84	0.07			
8:57:53 AM	8:57:59 AM	0	on	0.93	0.79	0.15			
8:59:52 AM	8:59:56 AM	0	off	0.89	0.75	0.14			
9:01:52 AM	9:01:56 AM	0	on	0.92	0.82	0.09			
Transition Avg	- On to Off			0.92		0.10			
Transition Avg	Transition Avg - Off to On				0.81	0.11			
Average - All Transitions 0.11									

<u>**Table 4a</u>** above shows the analysis of the **MDP-1** Power Factor data of (7) USES[®] model XL-3D-480V units collected by the NERVE 20-20- monitoring during the TIS testing on February 4th 2016. The test data shows the power factor is increased on average from **81% to 92%.** Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.</u>

Table 4b

	Power Factor									
Intervals					Instant					
					Change					
Frame	# USES	Status	On	Off	At Transition					
1:05:55 AM		on	0.93	0.84	0.08					
1:07:57 AM		off	0.94	0.87	0.08					
1:09:57 AM		on	0.95	0.84	0.11					
1:11:54 AM		off	0.92	0.82	0.10					
1:13:57 AM		on	0.96	0.90	0.06					
1:15:57 AM		off	0.98	0.89	0.09					
1:17:54 AM		on	0.91	0.81	0.09					
1:19:57 AM		off	0.94	0.85	0.09					
1:21:57 AM		on	0.96	0.86	0.10					
1:23:57 AM		off	0.93	0.86	0.07					
1:25:57 AM		on	0.92	0.84	0.09					
1:27:54 AM		off	0.92	0.84	0.08					
1:29:57 AM		on	0.95	0.86	0.09					
	Frame 1:05:55 AM 1:07:57 AM 1:09:57 AM 1:1557 AM 1:13:57 AM 1:13:57 AM 1:13:57 AM 1:25:57 AM 1:21:57 AM 1:23:57 AM 1:23:57 AM 1:25:57 AM 1:25:57 AM	Intervals Frame # USES 1:05:55 AM	# USES Status 1:05:55 AM on 1:07:57 AM off 1:09:57 AM on 1:11:54 AM off 1:13:57 AM on 1:15:57 AM on 1:15:57 AM on 1:15:57 AM on 1:15:57 AM on 1:19:57 AM on 1:21:57 AM on 1:23:57 AM on 1:25:57 AM on 1:27:54 AM on 1:29:57 AM on	# USES Status System On 1:05:55 AM on 0.93 1:07:57 AM off 0.94 1:09:57 AM off 0.95 1:11:54 AM off 0.92 1:13:57 AM on 0.96 1:15:57 AM on 0.96 1:15:57 AM off 0.98 1:17:54 AM off 0.98 1:19:57 AM on 0.91 1:19:57 AM off 0.93 1:21:57 AM on 0.91 1:21:57 AM on 0.92 1:23:57 AM off 0.93 1:25:57 AM on 0.92 1:27:54 AM on 0.92 1:27:54 AM off 0.92 1:29:57 AM on 0.95	Frame # USES Status System On System Off 1:05:55 AM on 0.93 0.84 1:07:57 AM off 0.94 0.87 1:09:57 AM off 0.92 0.84 1:11:54 AM off 0.92 0.82 1:13:57 AM on 0.96 0.90 1:15:57 AM off 0.98 0.89 1:17:54 AM off 0.98 0.89 1:19:57 AM off 0.94 0.85 1:21:57 AM off 0.93 0.84 1:19:57 AM off 0.93 0.86 1:23:57 AM off 0.93 0.86 1:23:57 AM off 0.93 0.86 1:23:57 AM off 0.93 0.86 1:25:57 AM on 0.92 0.84 1:27:54 AM off 0.92 0.84 1:29:57 AM on 0.95 0.86					

Transition Avg - On to Off		0.94		0.08
Transition Avg - Off to On			0.85	0.09
Average - All Transitions	0.09			

<u>**Table 4b**</u> above shows the analysis of the **MDP-2** Power Factor data of (5) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V units collected by the NERVE 20-20- monitoring during the TIS testing on February 4th 2016. The test data shows the power factor is increased on average from **85% to 94%.** Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.

Table 4c

Power Factor								
	Intervals	5				Instant		
				System	System	Change		
Interval Ti	me Frame	# USES	Status	On	Off	At Transition		
12:00:00 AM	12:00:00 AM	0	on					
12:31:44 PM	12:32:15 PM	0	off	0.92	0.81	0.11		
12:33:53 PM	12:33:57 PM	0	on	0.92	0.82	0.10		
12:35:51 PM	12:35:54 PM	0	off	0.92	0.82	0.10		
12:37:52 PM	12:37:54 PM	0	on	0.92	0.82	0.10		
12:39:51 PM	12:40:27 PM	0	off	0.92	0.82	0.10		
12:41:52 PM	12:41:54 PM	0	on	0.91	0.80	0.11		
12:43:51 PM	12:43:54 PM	0	off	0.92	0.82	0.11		
12:45:23 PM	12:45:57 PM	0	on	0.90	0.84	0.06		
12:47:51 PM	12:47:54 PM	0	off	0.92	0.82	0.10		
12:49:44 PM	12:49:55 PM	0	on	0.92	0.82	0.10		
12:51:50 PM	12:51:54 PM	0	off	0.91	0.82	0.10		
12:53:45 PM	12:54:15 PM	0	on	0.90	0.82	0.08		
12:55:47 PM	12:55:55 PM	0	off	0.92	0.84	0.08		
12:57:51 PM	12:57:55 PM	0	on	0.92	0.84	0.08		
12:59:51 PM	12:59:54 PM	0	off	0.92	0.82	0.10		
1:01:51 PM	1:01:54 PM	0	on	0.92	0.82	0.10		
1:03:35 PM	1:03:39 PM	0	off	0.93	0.82	0.11		
1:05:51 PM	1:05:55 PM	0	on	0.92	0.82	0.11		
1:08:17 PM	1:08:22 PM	0	off	0.92	0.83	0.09		
1:09:14 PM	1:09:17 PM	0	on	0.92	0.82	0.10		
1:10:04 PM	1:10:08 PM	0	off	0.93	0.82	0.11		
1:10:59 PM	1:11:03 PM	0	on	0.92	0.82	0.10		
1:11:52 PM	1:11:56 PM	0	off	0.92	0.82	0.10		
1:14:02 PM	1:14:05 PM	0	on	0.92	0.82	0.10		
1:15:52 PM	1:15:56 PM	0	off	0.93	0.82	0.11		
1:17:02 PM	1:17:05 PM	0	on	0.92	0.82	0.10		
Transition Av	g - On to Off			0.92		0.10		
Transition Av	g - Off to On				0.82	0.09		
Average - All	Transitions							

<u>**Table 4c</u>** above shows the analysis of the **Blow Mold** Power Factor data of (4) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V units collected by the NERVE 20-20- monitoring during the TIS testing on February 4th 2016. The test data shows the power factor is increased on average from **82% to 92%.** Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.</u>

Table 4d

Power Factor								
Intervals Instant								
				System	System	Change		
Interval Tin	ne Frame	# USES	Status	On	Off	At Transition		
2:11:00 PM	2:11:00 PM	0	off	0.94	0.87	0.08		
2:13:00 PM	2:13:00 PM	0	on	0.94	0.86	0.08		
2:15:00 PM	2:15:00 PM	0	off	0.93	0.86	0.08		
2:17:00 PM	2:17:00 PM	0	on	0.96	0.88	0.08		
2:19:00 PM	2:20:00 PM	0	off	0.97	0.88	0.08		
2:22:00 PM	2:22:00 PM	0	on	0.96	0.89	0.07		
2:24:00 PM	2:24:00 PM	0	off	0.99	0.91	0.08		
2:26:00 PM	2:26:00 PM	0	on	0.94	0.77	0.17		
2:28:00 PM	2:28:00 PM	0	off	0.96	0.89	0.07		
2:30:00 PM	2:30:00 PM	0	on	0.95	0.88	0.07		
2:32:00 PM	2:32:00 PM	0	off	0.98	0.89	0.09		
2:34:00 PM	2:34:00 PM	0	on	1.00	0.89	0.11		
2:37:00 PM	2:37:00 PM	0	off	1.00	0.93	0.07		
2:38:00 PM	2:38:00 PM	0	on	0.99	0.92	0.06		

Transition Avg - On to Off		0.96		0.08
Transition Avg - Off to On			0.88	0.08
Average - All Transitions	0.08			

<u>**Table 4d</u>** above shows the analysis of the **Office** Power Factor data of (1) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V units collected by the NERVE 20-20- monitoring during the TIS testing on February 4th 2016. The test data shows the power factor is increased on average from **88% to 96%.** Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.</u>

Graph 5a

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NERVE Live 20-20



Cott Beverage – MDP 1 – Current

<u>Graph 5a</u> above shows the MDP-1 Current in Amps per phase during the TIS testing on February 4th 2016 between 8:10am and 9:03am. With (7) USES[®] model XL-3D-480V power conditioners operating. The current is reduced an average of **74.39 Amps per phase.**

Graph 5b

Power Shaver®

NERVE Live 20-20



Cott Beverage – MDP 2 – Current

<u>Graph 5b</u> above shows the **MDP-2** Current in Amps per phase during the TIS testing on February 4th 2016 between 11:04am and 11:39am. With (5) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V power conditioners operating. The current is reduced an average of **47.58 Amps per phase.**

Graph 5c

Power Shaver®

NERVE Live 20-20



Cott Beverage – Blow Mold – Current

<u>Graph 5c</u> above shows the Blow Mold Current in Amps per phase during the TIS testing on February 4th 2016 between 12:28pm and 1:19pm. With (4) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V power conditioners operating. The current is reduced an average of **73.03 Amps per phase.**

Graph 5d

Power Shaver®

NERVE Live 20-20





<u>Graph 5d</u> above shows the Office Current in Amps per phase during the TIS testing on February 4th 2016 between 2:09pm and 2:39pm. With (1) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V power conditioners operating. The current is reduced an average of **11.94 Amps per phase.**

Current (Amps)							
	Intervals			Instant			
				System	System	Change	
Interval Time Frame # USES			Status	On	Off	At Transition	
8:11:52 AM	8:11:56 AM	0	off	509.74	602.22	92.48	
8:13:51 AM	8:13:54 AM	0	on	537.53	663.42	125.89	
8:15:51 AM	8:15:54 AM	0	off	530.21	615.46	85.25	
8:17:52 AM	8:17:56 AM	0	on	655.79	746.47	90.68	
8:19:54 AM	8:19:59 AM	0	off	688.04	729.18	41.14	
8:21:52 AM	8:21:56 AM	0	on	615.31	697.61	82.31	
8:23:51 AM	8:23:57 AM	0	off	653.60	723.30	69.70	
8:25:53 AM	8:25:56 AM	0	on	543.53	587.11	43.58	
8:27:52 AM	8:27:56 AM	0	off	526.22	585.92	59.70	
8:29:51 AM	8:29:54 AM	0	on	489.84	578.39	88.55	
8:31:51 AM	8:31:56 AM	0	off	460.05	545.93	85.88	
8:33:51 AM	8:33:57 AM	0	on	485.51	561.92	76.42	
8:35:50 AM	8:35:56 AM	0	off	675.40	732.87	57.48	
8:37:51 AM	8:37:56 AM	0	on	543.36	629.60	86.25	
8:39:51 AM	8:39:57 AM	0	off	520.09	581.10	61.00	
8:41:52 AM	8:41:57 AM	0	on	532.90	603.11	70.22	
8:43:52 AM	8:43:56 AM	0	off	554.54	652.31	97.77	
8:45:52 AM	8:45:56 AM	0	on	526.03	610.67	84.64	
8:47:53 AM	8:47:57 AM	0	off	559.72	617.41	57.69	
8:49:51 AM	8:49:56 AM	0	on	629.69	702.65	72.96	
8:51:53 AM	8:51:56 AM	0	off	508.34	568.89	60.55	
8:53:52 AM	8:53:57 AM	0	on	517.37	602.76	85.39	
8:55:48 AM	8:55:54 AM	0	off	526.41	589.16	62.75	
8:57:53 AM	8:57:59 AM	0	on	575.40	678.89	103.49	
8:59:52 AM	8:59:56 AM	0	off	485.75	566.13	80.39	
9:01:52 AM	9:01:56 AM	0	on	635.02	694.17	59.15	
Transition Avg	- On to Off			557.13		70.14	
Transition Avg	- Off to On				633.33	78.64	
Average - All T	ransitions						

Table 5a

<u>**Table 5a**</u> above shows the analysis of the **MDP-1** Amperage data of (7) USES[®] model XL-3D-480V units collected by the NERVE 20-20- monitoring during the TIS testing on February 4th 2016. The test data shows the current is reduced an average of **74.39** Amps per phase. Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.

<u>Table 5b</u>									
Current (Amps)									
	Intervals Instant								
				System	System	Change			
Interval Tin	ne Frame	# USES	Status	On	Off	At Transition			
11:05:47 AM	11:05:55 AM		on	333.81	380.80	46.99			
11:07:54 AM	11:07:57 AM		off	490.96	517.39	26.43			
11:09:54 AM	11:09:57 AM		on	338.35	384.18	45.84			
11:11:47 AM	11:11:54 AM		off	652.39	691.36	38.97			
11:13:54 AM	11:13:57 AM		on	529.05	565.26	36.21			
11:15:54 AM	11:15:57 AM		off	506.14	559.29	53.15			
11:17:51 AM	11:17:54 AM		on	445.47	499.91	54.44			
11:19:54 AM	11:19:57 AM		off	466.58	515.46	48.87			
11:21:54 AM	11:21:57 AM		on	463.25	521.58	58.32			
11:23:51 AM	11:23:57 AM		off	580.06	627.37	47.30			
11:25:54 AM	11:25:57 AM		on	507.26	570.34	63.08			
11:27:51 AM	11:27:54 AM		off	521.70	572.24	50.54			
11:29:54 AM	11:29:57 AM		on	474.40	526.18	51.78			

Transition Avg - On to Off		485.34		44.21
Transition Avg - Off to On	_		533.18	50.95
Average - All Transitions	47.58			

Table 5b above shows the analysis of the **MDP-2** Amperage data of (5) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V units collected by the NERVE 20-20- monitoring during the TIS testing on February 4th 2016. The test data shows the current is reduced an average of **47.58** Amps per phase. Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.

Current (Amps)								
	Intervals	6			Instant			
				System	System	Change		
Interval T	me Frame	# USES	Status	On	Off	At Transition		
12:00:00 AM	12:00:00 AM	0	on					
12:31:44 PM	12:32:15 PM	0	off	571.81	654.47	82.66		
12:33:53 PM	12:33:57 PM	0	on	588.61	662.76	74.15		
12:35:51 PM	12:35:54 PM	0	off	569.58	641.04	71.46		
12:37:52 PM	12:37:54 PM	0	on	582.60	660.11	77.52		
12:39:51 PM	12:40:27 PM	0	off	567.73	636.47	68.73		
12:41:52 PM	12:41:54 PM	0	on	582.57	659.98	77.41		
12:43:51 PM	12:43:54 PM	0	off	560.78	639.33	78.56		
12:45:23 PM	12:45:57 PM	0	on	579.27	642.38	63.11		
12:47:51 PM	12:47:54 PM	0	off	583.91	643.33	59.42		
12:49:44 PM	12:49:55 PM	0	on	562.77	638.30	75.53		
12:51:50 PM	12:51:54 PM	0	off	581.47	654.50	73.03		
12:53:45 PM	12:54:15 PM	0	on	577.20	643.50	66.30		
12:55:47 PM	12:55:55 PM	0	off	565.55	644.15	78.60		
12:57:51 PM	12:57:55 PM	0	on	562.07	621.60	59.53		
12:59:51 PM	12:59:54 PM	0	off	559.74	635.65	75.91		
1:01:51 PM	1:01:54 PM	0	on	569.42	644.38	74.96		
1:03:35 PM	1:03:39 PM	0	off	559.80	636.34	76.54		
1:05:51 PM	1:05:55 PM	0	on	574.05	656.19	82.14		
1:08:17 PM	1:08:22 PM	0	off	578.93	636.95	58.02		
1:09:14 PM	1:09:17 PM	0	on	565.12	640.87	75.74		
1:10:04 PM	1:10:08 PM	0	off	565.45	641.70	76.25		
1:10:59 PM	1:11:03 PM	0	on	558.48	632.15	73.67		
1:11:52 PM	1:11:56 PM	0	off	563.23	637.69	74.46		
1:14:02 PM	1:14:05 PM	0	on	578.32	652.73	74.42		
1:15:52 PM	1:15:56 PM	0	off	566.15	642.46	76.32		
1:17:02 PM	1:17:05 PM	0	on	563.82	638.03	74.21		
Transition Av	g - On to Off			570.71		73.07		
Transition Av	g - Off to On				643.73	72.98		
Average - All Transitions								

Table 5c

<u>**Table 5c**</u> above shows the analysis of the **Blow Mold** Amperage data of (4) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V units collected by the NERVE 20-20- monitoring during the TIS testing on February 4th 2016. The test data shows the current is reduced an average of **73.03** Amps **per phase.** Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.

<u>Table Su</u>								
Current (Amps)								
	Intervals					Instant		
				System	System	Change		
Interval Tin	ne Frame	# USES	Status	On	Off	At Transition		
2:11:00 PM	2:11:00 PM	0	off	155.45	169.80	14.35		
2:13:00 PM	2:13:00 PM	0	on	152.09	167.12	15.02		
2:15:00 PM	2:15:00 PM	0	off	137.84	150.53	12.70		
2:17:00 PM	2:17:00 PM	0	on	131.27	143.11	11.83		
2:19:00 PM	2:20:00 PM	0	off	130.04	143.06	13.02		
2:22:00 PM	2:22:00 PM	0	on	141.43	152.93	11.50		
2:24:00 PM	2:24:00 PM	0	off	94.42	103.09	8.66		
2:26:00 PM	2:26:00 PM	0	on	132.98	149.05	16.07		
2:28:00 PM	2:28:00 PM	0	off	140.05	152.11	12.06		
2:30:00 PM	2:30:00 PM	0	on	129.75	140.63	10.88		
2:32:00 PM	2:32:00 PM	0	off	111.28	121.43	10.15		
2:34:00 PM	2:34:00 PM	0	on	93.49	107.02	13.53		
2:37:00 PM	2:37:00 PM	0	off	105.36	113.71	8.35		
2:38:00 PM	2:38:00 PM	0	on	106.66	113.76	7.10		

Table 5d

Transition Avg - On to Off		125.87		11.33
Transition Avg - Off to On	_		137.67	12.55
Average - All Transitions	11.94			

<u>**Table 5d</u>** above shows the analysis of the **Office** Amperage data of (1) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V units collected by the NERVE 20-20- monitoring during the TIS testing on February 4th 2016. The test data shows the current is reduced an average of **11.94** Amps per phase. Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.</u>

Graph 6a

Power Shaver®

NERVE Live 20-20



Cott Beverage – MDP 1 – Voltage

<u>Graph 6a</u> above shows the MDP-1 Voltage in Volts per phase during the TIS testing on February 4th 2016 between 8:10am and 9:03am. With (7) USES[®] model XL-3D-480V power conditioners operating. The voltage is increased an average of **3.13 Volts per phase.**

Graph 6b

Power Shaver®

NERVE Live 20-20



Cott Beverage – MDP 2 – Voltage

<u>Graph 6b</u> above shows the MDP-2 Voltage in Volts per phase during the TIS testing on February 4th 2016 between 11:04am and 11:39am. With (5) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V power conditioners operating. The voltage is increased an average of **3.05 Volts per phase.**

Graph 6c

Power Shaver®

NERVE Live 20-20



Cott Beverage – Blow Mold – Voltage

<u>Graph 6c</u> above shows the Blow Mold Voltage in Volts per phase during the TIS testing on February 4th 2016 between 12:28pm and 1:19pm. With (4) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V power conditioners operating. The voltage is increased an average of **4.5 Volts per phase.**

Graph 6d

Power Shaver®

NERVE Live 20-20





<u>Graph 6d</u> above shows the **Office** Voltage in Volts per phase during the TIS testing on February 4th 2016 between 2:09pm and 2:39pm. With (1) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V power conditioners operating. The voltage is increased an average of **1.94 Volts per phase.**

Line to Line Voltage								
	Intervals				Instant			
				System	System	Change		
Interval Tin	ne Frame	# USES	Status	On	Off	At Transition		
8:11:52 AM	8:11:56 AM	0	off	478.50	475.20	3.30		
8:13:51 AM	8:13:54 AM	0	on	477.10	472.80	4.30		
8:15:51 AM	8:15:54 AM	0	off	477.50	473.80	3.70		
8:17:52 AM	8:17:56 AM	0	on	476.50	473.90	2.60		
8:19:54 AM	8:19:59 AM	0	off	472.60	471.20	1.40		
8:21:52 AM	8:21:56 AM	0	on	476.30	472.30	4.00		
8:23:51 AM	8:23:57 AM	0	off	476.60	473.30	3.30		
8:25:53 AM	8:25:56 AM	0	on	475.70	474.50	1.20		
8:27:52 AM	8:27:56 AM	0	off	474.60	472.40	2.20		
8:29:51 AM	8:29:54 AM	0	on	476.90	473.60	3.30		
8:31:51 AM	8:31:56 AM	0	off	477.40	473.70	3.70		
8:33:51 AM	8:33:57 AM	0	on	479.80	476.80	3.00		
8:35:50 AM	8:35:56 AM	0	off	478.80	476.00	2.80		
8:37:51 AM	8:37:56 AM	0	on	480.60	476.40	4.20		
8:39:51 AM	8:39:57 AM	0	off	480.70	478.00	2.70		
8:41:52 AM	8:41:57 AM	0	on	479.50	476.40	3.10		
8:43:52 AM	8:43:56 AM	0	off	478.90	474.80	4.10		
8:45:52 AM	8:45:56 AM	0	on	481.10	477.60	3.50		
8:47:53 AM	8:47:57 AM	0	off	477.60	475.30	2.30		
8:49:51 AM	8:49:56 AM	0	on	476.20	472.90	3.30		
8:51:53 AM	8:51:56 AM	0	off	477.10	474.30	2.80		
8:53:52 AM	8:53:57 AM	0	on	479.00	475.30	3.70		
8:55:48 AM	8:55:54 AM	0	off	480.00	477.70	2.30		
8:57:53 AM	8:57:59 AM	0	on	478.90	473.60	5.30		
8:59:52 AM	8:59:56 AM	0	off	479.40	476.70	2.70		
9:01:52 AM	9:01:56 AM	0	on	478.70	475.70	3.00		
Transition Avg	- Off to On			477.92		2.99		
Transition Avg	- On to Off				474.78	3.27		
Average - All T	ransitions per	Phase						

<u>Table 6a</u>

<u>**Table 6a**</u> above shows the analysis of the **MDP-1** Voltage data of (7) USES[®] model XL-3D-480V units collected by the NERVE 20-20- monitoring during the TIS testing on February 4th 2016. The test data shows the voltage is increased an average of **3.13 Volts per phase.** Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.

Line to Line Voltage									
	Intervals					Instant			
				System	System	Change			
Interval Tin	ne Frame	# USES	Status	On	Off	At Transition			
11:05:47 AM	11:05:55 AM		on	486.50	482.50	4.00			
11:07:54 AM	11:07:57 AM		off	479.50	478.20	1.30			
11:09:54 AM	11:09:57 AM		on	482.40	479.10	3.30			
11:11:47 AM	11:11:54 AM		off	477.00	476.10	0.90			
11:13:54 AM	11:13:57 AM		on	480.40	477.70	2.70			
11:15:54 AM	11:15:57 AM		off	482.90	478.50	4.40			
11:17:51 AM	11:17:54 AM		on	480.90	477.80	3.10			
11:19:54 AM	11:19:57 AM		off	479.40	476.70	2.70			
11:21:54 AM	11:21:57 AM		on	481.30	477.60	3.70			
11:23:51 AM	11:23:57 AM		off	480.00	477.20	2.80			
11:25:54 AM	11:25:57 AM		on	482.70	478.80	3.90			
11:27:51 AM	11:27:54 AM		off	481.30	478.80	2.50			
11:29:54 AM	11:29:57 AM		on	482.30	479.50	2.80			

Table 6b

Transition Avg - Off to On		481.28		2.74
Transition Avg - On to Off			478.35	3.36
Average - All Transitions per Phase	3.05			

<u>**Table 6b</u>** above shows the analysis of the **MDP-2** Voltage data of (5) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V units collected by the NERVE 20-20- monitoring during the TIS testing on February 4th 2016. The test data shows the voltage is increased an average of **3.05 Volts per phase**. Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.</u>

Line to Line Voltage								
	Interva	ls				Instant		
				System	System	Change		
Interval Ti	me Frame	# USES	Status	On	Off	At Transition		
12:00:00 AM	12:00:00 AM	0	on					
12:31:44 PM	12:32:15 PM	0	off	486.30	481.70	4.60		
12:33:53 PM	12:33:57 PM	0	on	485.80	481.40	4.40		
12:35:51 PM	12:35:54 PM	0	off	486.00	481.90	4.10		
12:37:52 PM	12:37:54 PM	0	on	485.40	481.00	4.40		
12:39:51 PM	12:40:27 PM	0	off	486.90	482.80	4.10		
12:41:52 PM	12:41:54 PM	0	on	486.80	482.50	4.30		
12:43:51 PM	12:43:54 PM	0	off	488.10	483.60	4.50		
12:45:23 PM	12:45:57 PM	0	on	487.60	483.50	4.10		
12:47:51 PM	12:47:54 PM	0	off	486.70	483.40	3.30		
12:49:44 PM	12:49:55 PM	0	on	487.20	482.80	4.40		
12:51:50 PM	12:51:54 PM	0	off	487.40	483.40	4.00		
12:53:45 PM	12:54:15 PM	0	on	486.60	483.40	3.20		
12:55:47 PM	12:55:55 PM	0	off	486.20	482.50	3.70		
12:57:51 PM	12:57:55 PM	0	on	486.90	483.20	3.70		
12:59:51 PM	12:59:54 PM	0	off	487.00	483.10	3.90		
1:01:51 PM	1:01:54 PM	0	on	486.60	482.00	4.60		
1:03:35 PM	1:03:39 PM	0	off	486.80	482.00	4.80		
1:05:51 PM	1:05:55 PM	0	on	487.20	483.30	3.90		
1:08:17 PM	1:08:22 PM	0	off	487.00	483.20	3.80		
1:09:14 PM	1:09:17 PM	0	on	487.60	483.30	4.30		
1:10:04 PM	1:10:08 PM	0	off	487.00	482.80	4.20		
1:10:59 PM	1:11:03 PM	0	on	487.80	483.50	4.30		
1:11:52 PM	1:11:56 PM	0	off	487.10	482.70	4.40		
1:14:02 PM	1:14:05 PM	0	on	487.60	483.20	4.40		
1:15:52 PM	1:15:56 PM	0	off	487.30	483.10	4.20		
1:17:02 PM	1:17:05 PM	0	on	488.20	484.00	4.20		
Transition Av	g - Off to On			486.97		4.12		
Transition Av	g - On to Off				482.82	4.17		
Average - All	Transitions p	er Phase						

Table 6c

<u>**Table 6c</u>** above shows the analysis of the **Blow Mold** Voltage data of (4) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V units collected by the NERVE 20-20- monitoring during the TIS testing on February 4th 2016. The test data shows the voltage is increased an average of **4.15 Volts per phase.** Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.</u>

Line to Line Voltage									
Intervals						Instant			
				System	System	Change			
Interval Time Frame		# USES	Status	On	Off	At Transition			
2:11:00 PM	2:11:00 PM	0	off	486.00	484.00	2.00			
2:13:00 PM	2:13:00 PM	0	on	485.10	483.00	2.10			
2:15:00 PM	2:15:00 PM	0	off	485.80	483.90	1.90			
2:17:00 PM	2:17:00 PM	0	on	486.50	484.50	2.00			
2:19:00 PM	2:20:00 PM	0	off	486.20	484.00	2.20			
2:22:00 PM	2:22:00 PM	0	on	486.20	484.90	1.30			
2:24:00 PM	2:24:00 PM	0	off	488.60	486.40	2.20			
2:26:00 PM	2:26:00 PM	0	on	487.30	487.00	0.30			
2:28:00 PM	2:28:00 PM	0	off	487.10	485.30	1.80			
2:30:00 PM	2:30:00 PM	0	on	488.40	486.30	2.10			
2:32:00 PM	2:32:00 PM	0	off	488.90	486.80	2.10			
2:34:00 PM	2:34:00 PM	0	on	489.80	487.90	1.90			
2:37:00 PM	2:37:00 PM	0	off	489.70	487.90	1.80			
2:38:00 PM	2:38:00 PM	0	on	488.80	487.70	1.10			

<u>Table 6d</u>

Transition Avg - Off to On	487.46		2.00	
Transition Avg - On to Off		485.69	1.88	
Average - All Transitions per Phase	1.94			

<u>**Table 6d</u>** above shows the analysis of the **Office** Voltage data of (1) USES[®] model XL-3D-480V and (1) USES[®] model XL-3Y-480V units collected by the NERVE 20-20- monitoring during the TIS testing on February 4th 2016. The test data shows the voltage is increased an average of **1.94 Volts per phase**. Shaded cells are not included in the average performance calculations because load changes unrelated to the performance of the USES[®] system occurred during the averaging period.</u>

Installation Configuration













The photographs above show the installation of the USES[®] Shunt Efficiency System by Power Shaver, Energy Saving Systems at the Cott Beverages Tampa, Florida Bottling facility located on main service entrances and select subpanels

Test Configuration



The photographs above show the configuration for the Timed Interval Sampling. The Current Transducers and voltage contacts for the NERVE 20-20 monitoring system are connected on the incoming BUSS Bars at the main service entrances.

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Acceptance of TIS Report

Having read the USES[®] System Evaluation for the Cott Beverages Tampa, Florida Bottling facility dated March 30, 2016, I hereby accept the results and agree that Power Shaver, Energy Saving Systems has sufficiently validated the projections as provided in the Purchase Agreement dated April 10, 2015.

Cott

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