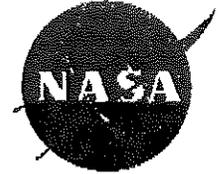


National Aeronautics and  
Space Administration  
**John F. Kennedy Space Center**  
Kennedy Space Center, FL 32899



DE-TPO

December 6, 1996

Reply to Attn of:

Ms. Barbara Taylor  
KVAR Energy Savings, Inc.  
610 Moonpenny Circle  
Port Orange, FL 32127

Dear Ms. Taylor:

Thank you for submitting the Technology Transfer Agreement entitled "Field Analysis Comparison" (KSC reference number K517). This letter will close our action in this matter.

In response to your request, enclosed is the Final Report documenting the results of our test on the KVAR Electrical Optimization System. As stated in the report, Greg Taylor of KVAR provided the test format and a KVAR representative determined the KVAR switch settings. This official report supersedes other NASA documentation previously forwarded to your company.

Please feel free to contact us at (407) 867-1356 if you have any questions. If you have associates who might benefit from technology transfer, we invite you to inform them about our office. We will contact you at a later time to determine if this information has been of benefit to you.

Sincerely,

Charles H. Griffin  
Technology Outreach Program Manager

Enclosure

*Barbara,  
for your review. Ple  
provide any comments  
back to me at 407/867-  
or FAX 407/867-1133  
THH  
O*

**Disclaimer**  
This information was assembled by the United States Government acting through the National Aeronautics and Space Administration. Neither the United States Government nor any agency or person acting on behalf of the United States Government assumes any liability resulting from the use of this information. In addition, the United States Government does not represent or warrant that use of the information will be free from privately owned rights.

AVO

To: DE-TPO/C. Griffin  
From: IM-WEL/J. Weeks

November 27, 1996

Subject: Response to TTA-K517, (KVAR Electrical Optimization System)

Attached for your disposition are the results of our test on the KVAR Electrical Optimization System. Approval of test format was received from Greg Taylor of KVAR Energy Savings Inc. on 11/19/96. The test was performed at the prototype shop (building M7-581) on a 10 H.P compressor motor on 11/22/96. Both initial and final values were recorded from a Dranetz Power Monitor PP1 (NASA Tag #1382136) while connected at distribution panel DPA-C2 (see attached block diagram). The KVAR switch settings were determined by a KVAR representative. All values pertinent to motor efficiency have been recorded on the attached electric motor performance evaluation form. As shown on this form, the real power draw by this motor decreased from 5.63 kW to 5.14 kW after optimization. This corresponds to a power reduction of 8.7%. Please feel free to contact this office if you have any further questions.



John Weeks

cc:  
IM-WEL/J. Heuser  
IM-WEL/R. Eatman  
IM-WEL/L. Jones  
IM-WFD/J. O'Malley

# NASA TESTING

AVO

To: DE-TPO/C. Griffin  
From: IM-WEL/J. Weeks

Subject: Response to TTA-K517.(KVAR Electrical Optimization System)

Attached for your disposition are the results of our test on the KVAR Electrical Optimization System. Approval of test format was received by Gregory Taylor of KVAR energy Savings, Inc. on 11/19/96. The test was performed at the prototype shop (building M7-581) on a 10 H.P. compressor motor on 11/22/96. Both initial and final values were recorded from a Drantz Power Monitor PP1 (NASA Tag #1382136) while connected to the distribution panel DPA-C2 (see attached diagram). The KVAR switch settings were determined by a KVAR representative. All values pertinent to motor efficiency have been recorded on the attached electric motor performance evaluation form. As shown on this form, the real power draw by this motor decreased from 5.63 kw to 5.14 kw after optimization. This corresponds to a power reduction of 8.7%.

  
John Weeks



cc:

IM-WEL/J. Heuser  
IM-WEL/R. Batman  
IM-WEL/L. Jones  
IM-WEL/J. O'Malley

	VOLTAGE (L-N)	CURRENT (A)	POWER (KW)	kvar	POWER FACTOR
<b>INITIAL VALUES</b>					
PHASE A	277	8.09	1.91	1.13	0.86 (LAGGING)
PHASE B	277	7.75	1.89	1.03	0.88 (LAGGING)
PHASE 3	275	7.85	1.84	1.1	0.86 (LAGGING)
TOTAL			5.63	3.26	
<b>FINAL VALUES</b>					
PHASE A	277	6.38	1.76	-0.199	0.99 (LEADING)
PHASE B	277	6.38	1.71	-0.308	0.99 (LEADING)
PHASE C	275	6.38	1.65	-0.215	0.99 (LEADING)
TOTAL			5.14	-0.722	
	1	2	3	4	5
SWITCH SETTINGS	OFF	ON	OFF	OFF	OFF

% POWER REDUCTION = (INITIAL POWER - FINAL POWER) / INITIAL POWER X 100% = 8.7%

- 1) INITIAL VALUES ARE RECORDED PRIOR TO CONNECTION OF KVAR UNIT.
- 2) FINAL VALUES ARE RECORDED AFTER CONNECTION AND OPTIMIZATION OF KVAR UNIT.
- 3) KVAR REPRESENTATIVE TO DETERMINE OPTIMUM SWITCH SETTINGS.
- 4) DRANTZ POWER MONITOR WILL BE USED FOR ALL MEASUREMENTS.

POWER MONITOR MODES, NUMBER: DRANTZ PP1 (NASA TAG 1362134)

KVAR MODES, NUMBER: US2