7030 Ryburn Dr. Millington, TN Phone: (901) 873-5300 Fax: (901) 873-5301 www.gohispeed.com

September 2, 2021

Vaughn Pasha
Viking Range
Greenville, MS

Vaughn,

The following is a summary of findings from the Air Compressor vibration survey at the various Viking plants in Greenville, MS. Please let us know if there are any questions or comments.

QualiTest® uses a four-step rating system for defects.

Class I: Defect is present, but effect on reliability is not clear; no immediate action is required. Continue to normally monitor.

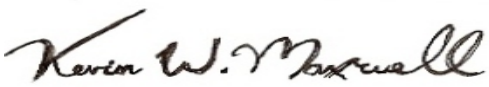
Class II: Defect (s) present that may cause problem in long term (2-6 months). Repair during normal maintenance scheduling. Continue to monitor.

Class III; Defect (s) present that may cause failure in short term (less than 2 months). This should be addressed as soon as practical, with a high maintenance priority. Increase monitoring frequency.

Class IV; Defect (s) present that makes continued reliability unpredictable, and possibility of secondary damage is high. Repairs should be made ASAP. An unscheduled shutdown should be considered for repairs

As always, it has been a pleasure to serve Viking Range-Greenville MS. If there are any comments or questions, do not hesitate to contact us.

Sincerely,



ISO Certified Vibration Analyst, Category III

Cell: 901-486-4565
Email: kwilliam@gohispeed.com

Summary

DBP99D12-R GD
Vibration data of the motor and compressor indicates no significant issues present in this unit during this survey.

EBM99F21-R GD
Compressor end has high vibration. Unit was also very noisy during our assessment. Data shows dominant vibration at 4 x input rpm. Sidebands of 6 Hz. around this peak indicates internal wear defects present in compressor unit. Compressor needs to be inspected soon. Ensure motor and coupling are in good order. Rated as a **CLASS II** defect.

EBQ99M-C GD
Vibration data of the motor and compressor indicates no significant issues present in this unit during this survey.

EBP99D-C GD
Outboard end of compressor has slightly high vibration. Harmonics of input rpm are present throughout spectra indicating some looseness wear may be present in compressor section. We need to establish a better trend to help determine severity. This is a **CLASS I** defect for now.

101-98-C GD
Vibration data of the motor and compressor indicates no significant issues present in this unit during this survey.

102-98-C GD
Data is showing some non-synchronous vibration in the outboard end of the compressor. This may indicate bearing issues possibly in the thrust bearings in the compressor. We need to establish a better trend to help determine severity; however, we do recommend a thorough inspection of the unit as scheduling allows. Rated as a **CLASS II** defect.

CDS 75T-C KEASER
Vibration data of the motor and compressor indicates no significant issues present in this unit during this survey.

122-C KEASER
Vibration data of the motor and compressor indicates no significant issues present in this unit during this survey.

ASD-40-88-C KEASER
Vibration data of the motor and compressor indicates no significant issues present in this unit during this survey.

EBM99J-V GD
Compressor section seemed to have elevated temperature. Severity is unclear at this time, as vibration data doesn't currently show signs of issue present. Rated as a **CLASS I** defect.

EBHOJC-V GD
Vibration data of the motor and compressor indicates no significant issues present in this unit during this survey.

23-DC GD
Motor and compressor both have slightly high vibration. This unit is belt driven and is also mounted to what appears to be a flexible frame. This is likely contributing to the vibration. For now, it is recommended to inspect all motor/compressor fasteners, inspect sheaves for wear and misalignment, and ensure belts are in good shape and propel tensioned. Rated as a **CLASS II** defect.

LRS230-45B-L GD

Vibration data of the motor and compressor indicates no significant issues present in this unit during this survey.

L30RS-10A-L GD

Vibration data of the motor and compressor indicates no significant issues present in this unit during this survey.

Abbreviated Last Measurement Summary

****

Database: Viking Range Greenville.rbm
Area: VIKING RANGE GREENVILLE PLANT
Route No. 1: COMPRESSORS

MEASUREMENT POINT		OVERALL LEVEL	HFD / VHFD
DBP99D12-R - DBP99D12-R	GD	(25-Aug-21)	
		OVERALL LEVEL	1K-20KHz
MOH		.080 In/Sec	1.386 G-s
MOV		.084 In/Sec	.717 G-s
MOA		.072 In/Sec	.704 G-s
MIH		.067 In/Sec	.682 G-s
MIV		.100 In/Sec	1.099 G-s
MIA		.107 In/Sec	1.526 G-s
CIH		.037 In/Sec	.940 G-s
CIV		.092 In/Sec	.803 G-s
CIA		.106 In/Sec	.425 G-s
COH		.055 In/Sec	1.091 G-s
COV		.086 In/Sec	.827 G-s
COA		.098 In/Sec	.698 G-s
EBM99F21-R - EBM99F21-R	GD	(25-Aug-21)	
		OVERALL LEVEL	1K-20KHz
MOH		.286 In/Sec	1.186 G-s
MOV		.188 In/Sec	.786 G-s
MOA		.363 In/Sec	.650 G-s
MIH		.207 In/Sec	1.368 G-s
MIV		.211 In/Sec	.886 G-s
MIA		.390 In/Sec	.854 G-s
CIH		.255 In/Sec	1.346 G-s
CIV		.145 In/Sec	1.365 G-s
CIA		.195 In/Sec	1.468 G-s
COH		.204 In/Sec	1.948 G-s
COV		.259 In/Sec	2.944 G-s
COA		.304 In/Sec	1.451 G-s
EBQ99M-C - EBQ99M-C	GD	(25-Aug-21)	
		OVERALL LEVEL	1K-20KHz
MOH		.149 In/Sec	.328 G-s
MOV		.168 In/Sec	.470 G-s
MOA		.136 In/Sec	.477 G-s
MIH		.141 In/Sec	.400 G-s
MIV		.175 In/Sec	.560 G-s
MIA		.115 In/Sec	.377 G-s
CIH		.116 In/Sec	.640 G-s
CIV		.143 In/Sec	.612 G-s
CIA		.123 In/Sec	.398 G-s
COH		.102 In/Sec	.882 G-s
COV		.175 In/Sec	1.399 G-s
COA		.225 In/Sec	1.458 G-s

EBP99D-C - EBP99D-C GD (25-Aug-21)

	OVERALL LEVEL	1K-20KHz
MOH	.165 In/Sec	.971 G-s
MOV	.446 In/Sec	1.027 G-s
MOA	.181 In/Sec	1.398 G-s
MIH	.107 In/Sec	.664 G-s
MIV	.138 In/Sec	.954 G-s
MIA	.126 In/Sec	.826 G-s
CIH	.098 In/Sec	.917 G-s
CIV	.246 In/Sec	1.390 G-s
CIA	.115 In/Sec	.801 G-s
COH	.161 In/Sec	2.478 G-s
COV	.287 In/Sec	2.216 G-s
COA	.211 In/Sec	1.714 G-s

101-98-C - 101-98-C GD (25-Aug-21)

	OVERALL LEVEL	1K-20KHz
MOH	.084 In/Sec	.768 G-s
MOV	.103 In/Sec	.768 G-s
MOA	.073 In/Sec	.634 G-s
MIH	.065 In/Sec	1.328 G-s
MIV	.134 In/Sec	1.349 G-s
MIA	.089 In/Sec	.694 G-s
CIH	.042 In/Sec	1.801 G-s
CIV	.133 In/Sec	1.344 G-s
CIA	.046 In/Sec	.421 G-s
COH	.052 In/Sec	1.443 G-s
COV	.122 In/Sec	1.168 G-s
COA	.106 In/Sec	1.813 G-s

102-98-C - 102-98-C GD (25-Aug-21)

	OVERALL LEVEL	1K-20KHz
MOH	.076 In/Sec	.749 G-s
MOV	.121 In/Sec	.463 G-s
MOA	.075 In/Sec	.699 G-s
MIH	.043 In/Sec	.899 G-s
MIV	.109 In/Sec	.835 G-s
MIA	.067 In/Sec	.878 G-s
CIH	.043 In/Sec	2.548 G-s
CIV	.133 In/Sec	1.321 G-s
CIA	.058 In/Sec	.553 G-s
COH	.101 In/Sec	3.180 G-s
COV	.107 In/Sec	1.233 G-s
COA	.186 In/Sec	2.912 G-s

CDS 75T-C - CDS 75T-C KEASER (25-Aug-21)

	OVERALL LEVEL	1K-20KHz
MOH	.077 In/Sec	.951 G-s
MOV	.119 In/Sec	.130 G-s
MOA	.062 In/Sec	.210 G-s
MIH	.057 In/Sec	.859 G-s
MIV	.068 In/Sec	.332 G-s
MIA	.049 In/Sec	.200 G-s
CIH	.118 In/Sec	1.286 G-s
CIV	.155 In/Sec	.681 G-s
CIA	.155 In/Sec	1.262 G-s
COH	.064 In/Sec	.650 G-s
COV	.140 In/Sec	.207 G-s
COA	.111 In/Sec	.167 G-s

122-C - 122-C KEASER (25-Aug-21)

	OVERALL LEVEL	1K-20KHz
MOH	.081 In/Sec	.204 G-s
MOV	.078 In/Sec	.040 G-s
MOA	.020 In/Sec	.089 G-s
MIH	.070 In/Sec	.738 G-s
MIV	.101 In/Sec	.116 G-s
MIA	.036 In/Sec	.264 G-s
CIH	.054 In/Sec	.542 G-s

CIV	.073 In/Sec	.154 G-s
CIA	.108 In/Sec	.240 G-s
COH	.048 In/Sec	.418 G-s
COV	.101 In/Sec	.489 G-s
COA	.097 In/Sec	.583 G-s

ASD-40-88C - ASD-40-88-C KEASER (25-Aug-21)

	OVERALL LEVEL	1K-20KHz
MOH	.128 In/Sec	1.026 G-s
MOV	.154 In/Sec	.081 G-s
MOA	.080 In/Sec	.490 G-s
MIH	.124 In/Sec	1.233 G-s
MIV	.372 In/Sec	.745 G-s
MIA	.153 In/Sec	1.433 G-s
CIH	.087 In/Sec	.556 G-s
CIV	.263 In/Sec	.365 G-s
CIA	.115 In/Sec	.562 G-s
COH	.128 In/Sec	.546 G-s
COV	.230 In/Sec	.190 G-s
COA	.175 In/Sec	.249 G-s

EBM99J-V - EBM99J-V GD (25-Aug-21)

	OVERALL LEVEL	1K-20KHz
MOH	.085 In/Sec	.747 G-s
MOV	.073 In/Sec	.600 G-s
MOA	.102 In/Sec	1.012 G-s
MIH	.076 In/Sec	.904 G-s
MIV	.072 In/Sec	.648 G-s
MIA	.072 In/Sec	.387 G-s
CIH	.069 In/Sec	1.479 G-s
CIV	.104 In/Sec	1.202 G-s
CIA	.080 In/Sec	1.057 G-s
COH	.043 In/Sec	3.406 G-s
COV	.137 In/Sec	1.361 G-s
COA	.125 In/Sec	1.575 G-s

EBHOJC-V - EBHOJC-V GD (25-Aug-21)

	OVERALL LEVEL	1K-20KHz
MOH	.123 In/Sec	.175 G-s
MOV	.243 In/Sec	.100 G-s
MOA	.109 In/Sec	.088 G-s
MIH	.065 In/Sec	.255 G-s
MIV	.091 In/Sec	.130 G-s
MIA	.092 In/Sec	.148 G-s
CIH	.048 In/Sec	.750 G-s
CIV	.118 In/Sec	.640 G-s
CIA	.092 In/Sec	.521 G-s
COH	.097 In/Sec	.819 G-s
COV	.229 In/Sec	.387 G-s
COA	.156 In/Sec	.497 G-s

23-DC - 23-DC GD (25-Aug-21)

	OVERALL LEVEL	1K-20KHz
MOH	.218 In/Sec	.578 G-s
MOV	.271 In/Sec	.198 G-s
MOA	.204 In/Sec	.131 G-s
MIH	.147 In/Sec	1.214 G-s
MIV	.349 In/Sec	.133 G-s
MIA	.141 In/Sec	.198 G-s
CIH	.160 In/Sec	1.169 G-s
CIV	.258 In/Sec	.730 G-s
CIA	.174 In/Sec	.659 G-s
COH	.190 In/Sec	1.165 G-s
COV	.344 In/Sec	1.832 G-s
COA	.172 In/Sec	1.192 G-s

LRS23045BL - LRS230-45B-L GD (25-Aug-21)

	OVERALL LEVEL	1K-20KHz
MOH	.035 In/Sec	.472 G-s
MOV	.050 In/Sec	.127 G-s

MOA	.047 In/Sec	.193 G-s
MIH	.043 In/Sec	.674 G-s
MIV	.060 In/Sec	.344 G-s
MIA	.028 In/Sec	.304 G-s
CIH	.064 In/Sec	.563 G-s
CIV	.115 In/Sec	.448 G-s
CIA	.093 In/Sec	.316 G-s
COH	.070 In/Sec	.345 G-s
COV	.093 In/Sec	.151 G-s
COA	.053 In/Sec	.093 G-s

L30RS10A-L - L30RS-10A-L GD (25-Aug-21)

	OVERALL LEVEL	1K-20KHz
MOH	.058 In/Sec	.422 G-s
MOV	.124 In/Sec	.290 G-s
MOA	.044 In/Sec	.206 G-s
MIH	.043 In/Sec	.586 G-s
MIV	.078 In/Sec	.319 G-s
MIA	.042 In/Sec	.160 G-s
CIH	.070 In/Sec	.591 G-s
CIV	.163 In/Sec	.728 G-s
CIA	.075 In/Sec	.342 G-s
COH	.068 In/Sec	.187 G-s
COV	.078 In/Sec	.204 G-s
COA	.042 In/Sec	.095 G-s

Clarification Of Vibration Units:

Acc	-->	G-s	RMS
Vel	-->	In/Sec	PK