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

September 11, 2019

Coca-Cola
Memphis, TN

The following is a summary of findings from the September 2019 monthly vibration survey at your facility. All equipment collected was found in satisfactory condition except for the following items. 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

Defects

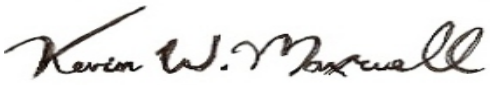
Warmer 2 Water Pump
Drive end motor bearing seems to have a higher than normal temperature. Data also shows a possible bearing issue beginning to take place. For now, ensure bearing has adequate lubrication. We will monitor this closely. Rated as a **CLASS II** defect.

Ammonia Compressors
There appears to be quite a bit of belt movement in these units. This is most likely causing some unnecessary high vibration. It is recommended to inspect all belts for proper tension. Refer to belt manufacturer for belt tension specs. Rated as a **CLASS II** defect.

Mix Tank 6 Mixer Drive
Gearbox data shows defects/wear in the bearings and/or gears. Inspect unit as scheduling allows. Rated as a **CLASS II** defect.

As always, it has been a pleasure to serve CCBC Memphis Bottling Plant. If there are any comments or questions, do not hesitate to contact us.

Sincerely,



ISO Certified Vibration Analyst, Category III

HI-SPEED INDUSTRIAL SERVICE

QualiTest® Diagnostics

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

Abbreviated Last Measurement Summary

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Database: Coca-Cola.rbm
Area: PRODUCTION

MEASUREMENT POINT		OVERALL LEVEL	HFD / VHFD
BF-1	- MEYER BOTTLE FILLER #1	(10-Sep-19)	
		OVERALL LEVEL	1K-20KHz
	MOH	.120 In/Sec	.076 G-s
	MIH	.051 In/Sec	.126 G-s
	MIA	.083 In/Sec	.130 G-s
	GIA	.063 In/Sec	.118 G-s
	GIH	.096 In/Sec	.120 G-s
	GOH	.016 In/Sec	
ACE-109	- AIR CONVEYOR FAN 109	(10-Sep-19)	
		OVERALL LEVEL	1K-20KHz
	MOH	.148 In/Sec	.910 G-s
	MIH	.131 In/Sec	.070 G-s
TECH1SYPMP	- TECHNIBLEND 1 SYRUP PUMP	(10-Sep-19)	
		OVERALL LEVEL	1K-20KHz
	MOH	.063 In/Sec	.061 G-s
	MIH	.029 In/Sec	.030 G-s
	MIA	.043 In/Sec	.024 G-s
	GIA	.050 In/Sec	.014 G-s
	GIH	.025 In/Sec	.011 G-s
	GOH	.032 In/Sec	
	PIH	.017 In/Sec	
	POH	.019 In/Sec	
TECH1WTRP	- TECHNIBLEND 1 WATER PUMP	(10-Sep-19)	
		OVERALL LEVEL	1K-20KHz
	MOH	.061 In/Sec	.303 G-s
	MIH	.045 In/Sec	.153 G-s
	MIA	.046 In/Sec	.042 G-s
ACE-101	- AIR CONVEYOR FAN 101	(10-Sep-19)	
		OVERALL LEVEL	1K-20KHz
	MOH	.072 In/Sec	.073 G-s
	MIH	.059 In/Sec	.071 G-s
ACE-102	- AIR CONVEYOR FAN 102	(10-Sep-19)	
		OVERALL LEVEL	1K-20KHz
	MOH	.272 In/Sec	.052 G-s
	MIH	.030 In/Sec	.058 G-s
ACE-103	- AIR CONVEYOR FAN 103	(10-Sep-19)	
		OVERALL LEVEL	1K-20KHz
	MOH	.303 In/Sec	.059 G-s
	MIH	.075 In/Sec	.058 G-s
ACE-104	- AIR CONVEYOR FAN 104	(10-Sep-19)	
		OVERALL LEVEL	1K-20KHz
	MOH	.114 In/Sec	.068 G-s
	MIH	.054 In/Sec	.095 G-s
ACE-105	- AIR CONVEYOR FAN 105	(10-Sep-19)	
		OVERALL LEVEL	1K-20KHz
	MOH	.053 In/Sec	.090 G-s
	MIH	.061 In/Sec	.081 G-s
ACE-106	- AIR CONVEYOR FAN 106	(10-Sep-19)	
		OVERALL LEVEL	1K-20KHz
	MOH	.120 In/Sec	.115 G-s
	MIH	.043 In/Sec	.147 G-s

ACE-107 - AIR CONVEYOR FAN 107 (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MOH	.205 In/Sec	.123 G-s
MIH	.089 In/Sec	.061 G-s

ACE-108 - AIR CONVEYOR FAN 108 (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MOH	.333 In/Sec	.087 G-s
MIH	.114 In/Sec	.105 G-s

WRMR1CNVDR - WARMER 1 CONVEYOR DRIVE (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MOH	.144 In/Sec	.094 G-s
MIH	.076 In/Sec	.147 G-s
MIA	.056 In/Sec	.389 G-s
GIA	.055 In/Sec	.409 G-s
GIH	.032 In/Sec	.300 G-s
GOH	.0054 In/Sec	

WRMR1WTRP - WARMER 1 WATER PUMP (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MOH	.057 In/Sec	.334 G-s
MIH	.034 In/Sec	.091 G-s

SPIRLCONV1 - SPIRAL CONVEYOR DRIVE 1 (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MOH	.368 In/Sec	.203 G-s
MIH	.105 In/Sec	.177 G-s
MIA	.124 In/Sec	.125 G-s
PH	.163 In/Sec	.192 G-s

BF-2 - MEYER BOTTLE FILLER #2 (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MIH	.046 In/Sec	.041 G-s
MIA	.052 In/Sec	.024 G-s
GIH	.047 In/Sec	.036 G-s
GOH	.0072 In/Sec	
GS1	.0056 In/Sec	
GS2	.0060 In/Sec	
GS3	.0087 In/Sec	
GS4	.011 In/Sec	

TECH2SYPMP - TECHNIBLEND 2 SYRUP PUMP (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MOH	.040 In/Sec	.076 G-s
MIH	.024 In/Sec	.020 G-s
MIA	.024 In/Sec	.028 G-s
GIA	.020 In/Sec	.020 G-s
GIH	.028 In/Sec	.021 G-s
GOH	.028 In/Sec	
PIH	.018 In/Sec	
POH	.023 In/Sec	

TECH2WTRP - TECHNIBLEND 2 WATER PUMP (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MOH	.063 In/Sec	.291 G-s
MIH	.048 In/Sec	.164 G-s
MIA	.053 In/Sec	.112 G-s

WRMR2CNVDR - WARMER 2 CONVEYOR DRIVE (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MOH	.042 In/Sec	.099 G-s
MIH	.042 In/Sec	.301 G-s
MIA	.037 In/Sec	.228 G-s
GIA	.043 In/Sec	.503 G-s
GIH	.030 In/Sec	.336 G-s
GOH	.0049 In/Sec	

WRMR2WTRP - WARMER 2 WATER PUMP (10-Sep-19)

	OVERALL LEVEL	1K-20KHz

	MOH	.083 In/Sec	.502 G-s
	MIH	.065 In/Sec	.727 G-s

SPRLRCONVD - SPIRAL 2 CONVEYOR DRIVE (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MOH	.337 In/Sec	.102 G-s
MIH	.216 In/Sec	.122 G-s
MIA	.265 In/Sec	.223 G-s
GIH	.142 In/Sec	.289 G-s
GOH	.123 In/Sec	

Database: Coca-Cola.rbm
Area: SUPPORT

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

C-1 - AMMONIA COMPRESSOR C-1 (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MOH	.463 In/Sec	.525 G-s
MIH	.511 In/Sec	.928 G-s
MIA	.354 In/Sec	2.794 G-s
PIH	.340 In/Sec	.681 G-s
POH	.280 In/Sec	.920 G-s

C-3 - AMMONIA COMPRESSOR C-3 (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MOH	.272 In/Sec	.643 G-s

C-4 - AMMONIA COMPRESSOR C-4 (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MOH	.570 In/Sec	.284 G-s
MIH	.533 In/Sec	.438 G-s
MIA	.230 In/Sec	.344 G-s
PIH	.336 In/Sec	.661 G-s
POH	.301 In/Sec	.760 G-s

C-5 - AMMONIA COMPRESSOR C-5 (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MOH	.421 In/Sec	.244 G-s
MIH	.458 In/Sec	.254 G-s
MIA	.288 In/Sec	.256 G-s
PIH	.237 In/Sec	.537 G-s
POH	.286 In/Sec	.876 G-s

CO2EVAPMP2 - CO2 EVAPORATOR PUMP 2 (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MOH	.071 In/Sec	.180 G-s
MIH	.065 In/Sec	.098 G-s

Q-100 - Q-100 PROCESS WATER PUMP (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MOH	.159 In/Sec	.530 G-s
MIH	.155 In/Sec	.582 G-s
MIA	.161 In/Sec	.370 G-s

Database: Coca-Cola.rbm
Area: MIXING

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

TNK1MXRDRV - TANK 1 MIXER DRIVE (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MIH	.158 In/Sec	.112 G-s
GIH	.182 In/Sec	.065 G-s

TNK2MXRDRV - TANK 2 MIXER DRIVE (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MIH	.133 In/Sec	.077 G-s
GIH	.222 In/Sec	.099 G-s

TNK3MXRDRV - TANK 3 MIXER DRIVE (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MIH	.211 In/Sec	.397 G-s
GIH	.238 In/Sec	.455 G-s

TNK4MXRDRV - TANK 4 MIXER DRIVE (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MOH	.202 In/Sec	.014 G-s
GIH	.199 In/Sec	.333 G-s

TNK5MXRDRV - TANK 5 MIXER DRIVE (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MIH	.177 In/Sec	.311 G-s
GIH	.192 In/Sec	.899 G-s

TNK6MXRDRV - TANK 6 MIXER DRIVE (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MIH	.055 In/Sec	.472 G-s
GIH	.121 In/Sec	1.988 G-s

TNK8MXRDRV - TANK 8 MIXER DRIVE (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MIH	.123 In/Sec	.044 G-s
GIH	.143 In/Sec	.066 G-s

TNK9MXRDRV - TANK 9 MIXER DRIVE (10-Sep-19)

	OVERALL LEVEL	1K-20KHz
MIH	.075 In/Sec	.332 G-s
GIH	.242 In/Sec	.487 G-s

Clarification Of Vibration Units:

Acc --> G-s RMS

Vel --> In/Sec PK