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January 13, 2020

Coca-Cola
Memphis, TN

The following is a summary of findings from the January 2020 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
The DE motor bearing still has 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 2, 4 and 5
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.

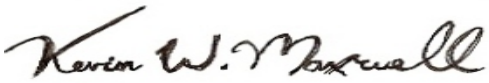
Mix Tank 4 Mixer Drive
Drive has excessive vibration which has caused the mount posts to break at the welds on the tank. Mixer shaft may be bent which would cause the torsional vibration seen in this unit. Unit needs attention soon. Rated as a **CLASS III** defect.

Mix Tank 5 Mixer Drive
Gearbox data shows some signs of defects/wear in the bearings and/or gears. Inspect unit as scheduling allows. Rated as a **CLASS II** defect.

Mix Tank 6 Mixer Drive
Gearbox data shows some signs of 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
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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	(08-Jan-20)	
	OVERALL LEVEL	1K-20KHz
MOH	.135 In/Sec	.114 G-s
MIH	.071 In/Sec	.080 G-s
MIA	.060 In/Sec	.188 G-s
GIA	.056 In/Sec	.231 G-s
GIH	.068 In/Sec	.121 G-s
GOH	.017 In/Sec	
ACE-109 - AIR CONVEYOR FAN 109	(08-Jan-20)	
	OVERALL LEVEL	1K-20KHz
MOH	.120 In/Sec	.869 G-s
MIH	.099 In/Sec	1.058 G-s
TECH1SYPMP - TECHNIBLEND 1 SYRUP PUMP	(08-Jan-20)	
	OVERALL LEVEL	1K-20KHz
MOH	.050 In/Sec	.067 G-s
MIH	.036 In/Sec	.042 G-s
MIA	.040 In/Sec	.036 G-s
GIA	.056 In/Sec	.038 G-s
GIH	.028 In/Sec	.031 G-s
GOH	.077 In/Sec	
PIH	.021 In/Sec	
POH	.026 In/Sec	
TECH1WTRP - TECHNIBLEND 1 WATER PUMP	(08-Jan-20)	
	OVERALL LEVEL	1K-20KHz
MOH	.065 In/Sec	.209 G-s
MIH	.055 In/Sec	.091 G-s
MIA	.0098 In/Sec	.0023 G-s
ACE-101 - AIR CONVEYOR FAN 101	(08-Jan-20)	
	OVERALL LEVEL	1K-20KHz
MOH	.078 In/Sec	.049 G-s
MIH	.131 In/Sec	.143 G-s
ACE-102 - AIR CONVEYOR FAN 102	(08-Jan-20)	
	OVERALL LEVEL	1K-20KHz
MOH	.078 In/Sec	.116 G-s
MIH	.060 In/Sec	.075 G-s
ACE-103 - AIR CONVEYOR FAN 103	(08-Jan-20)	
	OVERALL LEVEL	1K-20KHz
MOH	.198 In/Sec	.184 G-s
MIH	.080 In/Sec	.109 G-s
ACE-104 - AIR CONVEYOR FAN 104	(08-Jan-20)	
	OVERALL LEVEL	1K-20KHz
MOH	.423 In/Sec	.169 G-s
MIH	.094 In/Sec	.332 G-s
ACE-105 - AIR CONVEYOR FAN 105	(08-Jan-20)	
	OVERALL LEVEL	1K-20KHz
MOH	.119 In/Sec	.066 G-s
MIH	.045 In/Sec	.076 G-s
ACE-106 - AIR CONVEYOR FAN 106	(08-Jan-20)	
	OVERALL LEVEL	1K-20KHz
MOH	.052 In/Sec	.168 G-s
MIH	.038 In/Sec	.138 G-s

ACE-107 - AIR CONVEYOR FAN 107 (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.191 In/Sec	.079 G-s
MIH	.100 In/Sec	.115 G-s

ACE-108 - AIR CONVEYOR FAN 108 (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.389 In/Sec	.529 G-s
MIH	.221 In/Sec	.308 G-s

WRMR1CNVDR - WARMER 1 CONVEYOR DRIVE (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.114 In/Sec	.183 G-s
MIH	.081 In/Sec	.484 G-s
MIA	.050 In/Sec	.384 G-s
GIA	.042 In/Sec	.264 G-s
GIH	.061 In/Sec	.469 G-s
GOH	.013 In/Sec	

WRMR1WTRP - WARMER 1 WATER PUMP (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.058 In/Sec	.226 G-s
MIH	.038 In/Sec	.103 G-s
MIA	.036 In/Sec	.196 G-s

SPIRLCONV1 - SPIRAL CONVEYOR DRIVE 1 (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.192 In/Sec	.101 G-s
MIH	.085 In/Sec	.163 G-s
MIA	.114 In/Sec	.109 G-s
PH	.107 In/Sec	.219 G-s

BF-2 - MEYER BOTTLE FILLER #2 (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.072 In/Sec	.028 G-s
MIH	.073 In/Sec	.028 G-s
GIH	.031 In/Sec	.019 G-s
GOH	.0083 In/Sec	
GS1	.0051 In/Sec	
GS2	.0097 In/Sec	
GS3	.0079 In/Sec	
GS4	.0063 In/Sec	

TECH2SYPMP - TECHNIBLEND 2 SYRUP PUMP (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.031 In/Sec	.038 G-s
MIH	.049 In/Sec	.016 G-s
MIA	.024 In/Sec	.023 G-s
GIA	.026 In/Sec	.0086 G-s
GIH	.026 In/Sec	.016 G-s
GOH	.027 In/Sec	
PIH	.023 In/Sec	
POH	.032 In/Sec	
POA	.043 In/Sec	

TECH2WTRP - TECHNIBLEND 2 WATER PUMP (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.053 In/Sec	.201 G-s
MIH	.046 In/Sec	.085 G-s
MIA	.046 In/Sec	.034 G-s

WRMR2CNVDR - WARMER 2 CONVEYOR DRIVE (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.057 In/Sec	.135 G-s
MIH	.039 In/Sec	.202 G-s
MIA	.052 In/Sec	.259 G-s
GIA	.031 In/Sec	.283 G-s
GIH	.030 In/Sec	.330 G-s
GOH	.0054 In/Sec	

WRMR2WTRP - WARMER 2 WATER PUMP (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.087 In/Sec	.287 G-s
MIH	.058 In/Sec	.550 G-s

SPRLRCONVD - SPIRAL 2 CONVEYOR DRIVE (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.212 In/Sec	.062 G-s
MIH	.188 In/Sec	.208 G-s
MIA	.265 In/Sec	.176 G-s
GIA	.145 In/Sec	.274 G-s
GIH	.213 In/Sec	.142 G-s
GOH	.202 In/Sec	

Area: SUPPORT

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

C-2 - AMMONIA COMPRESSOR C-2 (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.431 In/Sec	.230 G-s
MIH	.327 In/Sec	.344 G-s
MIA	.179 In/Sec	.189 G-s
PIH	.424 In/Sec	.326 G-s
POH	.466 In/Sec	.425 G-s

C-4 - AMMONIA COMPRESSOR C-4 (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.411 In/Sec	.432 G-s
MIH	.410 In/Sec	.487 G-s
MIA	.192 In/Sec	.532 G-s
PIH	.302 In/Sec	.591 G-s
POH	.287 In/Sec	.429 G-s

C-5 - AMMONIA COMPRESSOR C-5 (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.367 In/Sec	.372 G-s
MIH	.431 In/Sec	.301 G-s
MIA	.260 In/Sec	.198 G-s
PIA	.150 In/Sec	.450 G-s
PIH	.196 In/Sec	.202 G-s
POH	.502 In/Sec	.056 G-s

CO2EVAPMP2 - CO2 EVAPORATOR PUMP 2 (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.078 In/Sec	.146 G-s
MIH	.064 In/Sec	.106 G-s
MIA	.083 In/Sec	.094 G-s

E-100 - E-100 WATER TREATMENT PUMP (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.104 In/Sec	.442 G-s
MIH	.084 In/Sec	.464 G-s
MIA	.080 In/Sec	.407 G-s
PH	.097 In/Sec	.225 G-s

E-200 - E-200 WATER TREATMENT PUMP (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.050 In/Sec	.238 G-s
MIH	.036 In/Sec	.256 G-s
MIA	.097 In/Sec	.187 G-s
PH	.080 In/Sec	.281 G-s

E-300 - E-300 WATER TREATMENT PUMP (08-Jan-20)

	OVERALL LEVEL	1K-20KHz

	MOH	.080 In/Sec	.454 G-s
	MIH	.115 In/Sec	.311 G-s
	MIA	.110 In/Sec	.199 G-s
	PH	.130 In/Sec	.108 G-s

Q-100 - Q-100 PROCESS WATER PUMP (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.139 In/Sec	.312 G-s
MIH	.143 In/Sec	.329 G-s
MIA	.204 In/Sec	.197 G-s

Area: MIXING

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

TNK1MXRDRV - TANK 1 MIXER DRIVE (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.199 In/Sec	.135 G-s
MIH	.185 In/Sec	.042 G-s
GIH	.207 In/Sec	.069 G-s

TNK2MXRDRV - TANK 2 MIXER DRIVE (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.122 In/Sec	.062 G-s
MIH	.110 In/Sec	.056 G-s
GIH	.133 In/Sec	.068 G-s

TNK3MXRDRV - TANK 3 MIXER DRIVE (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.235 In/Sec	.221 G-s
MIH	.155 In/Sec	.250 G-s
GIH	.188 In/Sec	.626 G-s

TNK4MXRDRV - TANK 4 MIXER DRIVE (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.348 In/Sec	.133 G-s
MIH	.373 In/Sec	.146 G-s
GIH	.439 In/Sec	.144 G-s

TNK5MXRDRV - TANK 5 MIXER DRIVE (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.197 In/Sec	.154 G-s
GIH	.237 In/Sec	1.006 G-s

TNK6MXRDRV - TANK 6 MIXER DRIVE (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.080 In/Sec	.147 G-s
GIH	.055 In/Sec	.592 G-s

TNK7MXRDRV - TANK 7 MIXER DRIVE (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.223 In/Sec	.137 G-s
GIH	.132 In/Sec	.073 G-s

TNK8MXRDRV - TANK 8 MIXER DRIVE (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.066 In/Sec	.057 G-s
GIH	.073 In/Sec	.047 G-s

TNK9MXRDRV - TANK 9 MIXER DRIVE (08-Jan-20)

	OVERALL LEVEL	1K-20KHz
MOH	.089 In/Sec	.021 G-s
GIH	.048 In/Sec	.176 G-s

Clarification Of Vibration Units:
Acc --> G-s RMS

Vel --> In/Sec PK