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

September 18, 2020

St Jude KRCC
Memphis TN

The following is a summary of findings from the semi-annual KRCC AHU vibration survey at your facility. 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

KRCC SEMI-ANNUAL

AHU8 SF A
All collected vibration data is within acceptable limits. No action required at this time.

AHU8 SF B
All collected vibration data is within acceptable limits. No action required at this time.

AHU8 SF C
All collected vibration data is within acceptable limits. No action required at this time.

AHU8 SF D
All collected vibration data is within acceptable limits. No action required at this time.

AHU8 RF A
All collected vibration data is within acceptable limits. No action required at this time.

AHU8 RF B
All collected vibration data is within acceptable limits. No action required at this time.

AHU8 RF C
All collected vibration data is within acceptable limits. No action required at this time.

AHU8 RF D
All collected vibration data is within acceptable limits. No action required at this time.

AHU9 SF A
All collected vibration data is within acceptable limits. No action required at this time.

AHU9 SF B
Motor vibration data indicates possible electrical fluting present in the motor bearings. Amplitudes are increasing each survey and should be repaired or replaced as scheduling allows. Ensure new motor has a grounding mechanism such as an Aegis Grounding Ring and/or insulated bearings. Rated as a **CLASS II** defect.

AHU9 SF C
Motor vibration data indicates possible electrical fluting present in the motor bearings..Rated as a **CLASS II** defect.

AHU9 SF D
All collected vibration data is within acceptable limits. No action required at this time.

AHU9 RF A
All collected vibration data is within acceptable limits. No action required at this time.

AHU9 RF B
All collected vibration data is within acceptable limits. No action required at this time.

AHU9 RF C
All collected vibration data is within acceptable limits. No action required at this time.

AHU9 RF D
All collected vibration data is within acceptable limits. No action required at this time.

AHU10 SF A
All collected vibration data is within acceptable limits. No action required at this time.

AHU10 SF B
All collected vibration data is within acceptable limits. No action required at this time.

AHU10 SF C
All collected vibration data is within acceptable limits. No action required at this time.

AHU10 SF D
All collected vibration data is within acceptable limits. No action required at this time.

AHU10 RF A
All collected vibration data is within acceptable limits. No action required at this time.

AHU10 RF B
All collected vibration data is within acceptable limits. No action required at this time.

AHU11 SF A
All collected vibration data is within acceptable limits. No action required at this time.

AHU11 SF B
All collected vibration data is within acceptable limits. No action required at this time.

AHU11 SF C
All collected vibration data is within acceptable limits. No action required at this time.

AHU11 RF A
All collected vibration data is within acceptable limits. No action required at this time.

AHU11 RF B
All collected vibration data is within acceptable limits. No action required at this time.

AHU11 RF C
All collected vibration data is within acceptable limits. No action required at this time.

Abbreviated Last Measurement Summary

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Database: stjude~1.rbm
Station: KRCC
Route No. 1: KRCC FEB-JULY

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
AHU8SFA - AHU 8 SF A	(10-Sep-20)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.101 In/Sec	.570 G-s
MIH	.166 In/Sec	1.088 G-s
AHU8SFB - AHU 8 SF B	(10-Sep-20)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.053 In/Sec	.463 G-s
MIH	.061 In/Sec	.609 G-s
AHU8SFC - AHU 8 SF C	(10-Sep-20)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.043 In/Sec	.574 G-s
MIH	.072 In/Sec	.938 G-s
AHU8SFD - AHU 8 SF D	(10-Sep-20)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.071 In/Sec	.356 G-s
MIH	.083 In/Sec	.492 G-s
AHU8RFA - AHU 8 RF A	(10-Sep-20)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.104 In/Sec	.123 G-s
MIH	.109 In/Sec	.473 G-s
MIA	.040 In/Sec	.137 G-s
AHU8RFB - AHU 8 RF B	(10-Sep-20)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.120 In/Sec	.244 G-s
MIH	.126 In/Sec	.183 G-s
MIA	.067 In/Sec	.118 G-s
AHU8RFC - AHU 8 RF C	(10-Sep-20)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.045 In/Sec	.195 G-s
MIH	.040 In/Sec	.254 G-s
MIA	.090 In/Sec	.149 G-s
AHU8RFD - AHU 8 RF D	(10-Sep-20)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.041 In/Sec	.198 G-s
MIH	.037 In/Sec	.231 G-s
MIA	.042 In/Sec	.146 G-s
AHU9SFA - AHU 9 SF A	(10-Sep-20)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.078 In/Sec	.577 G-s
MIH	.127 In/Sec	.833 G-s
AHU9SFB - AHU 9 SF B	(10-Sep-20)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.107 In/Sec	.754 G-s
MIH	.234 In/Sec	3.786 G-s
AHU9SFC - AHU 9 SF C	(10-Sep-20)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.098 In/Sec	.660 G-s
MIH	.144 In/Sec	1.018 G-s

AHU9SFD	- AHU 9 SF D	(10-Sep-20)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.063 In/Sec	.535 G-s
	MIH	.085 In/Sec	.848 G-s
AHU9RFA	- AHU 9 RF A	(10-Sep-20)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.173 In/Sec	.423 G-s
	MIH	.184 In/Sec	.981 G-s
	MIA	.170 In/Sec	.382 G-s
AHU9RFB	- AHU 9 RF B	(10-Sep-20)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.099 In/Sec	.467 G-s
	MIH	.074 In/Sec	.891 G-s
	MIA	.057 In/Sec	.255 G-s
AHU9RFC	- AHU 9 RF C	(10-Sep-20)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.027 In/Sec	.625 G-s
	MIH	.075 In/Sec	.751 G-s
	MIA	.057 In/Sec	.242 G-s
AHU9RFD	- AHU 9 RF D	(10-Sep-20)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.063 In/Sec	.363 G-s
	MIH	.042 In/Sec	.814 G-s
	MIA	.052 In/Sec	.305 G-s
AHU10SFA	- AHU10 SF A	(10-Sep-20)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.068 In/Sec	.463 G-s
	MIH	.094 In/Sec	1.001 G-s
AHU10SFB	- AHU10 SF B	(10-Sep-20)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.094 In/Sec	1.189 G-s
	MIH	.077 In/Sec	.631 G-s
AHU10SFC	- AHU10 SF C	(10-Sep-20)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.051 In/Sec	.502 G-s
	MIH	.084 In/Sec	1.046 G-s
AHU10SFD	- AHU10 SF D	(10-Sep-20)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.187 In/Sec	.650 G-s
	MIH	.096 In/Sec	.748 G-s
AHU10RFA	- AHU10 RF A	(10-Sep-20)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.073 In/Sec	.723 G-s
	MIH	.066 In/Sec	1.269 G-s
	MIA	.068 In/Sec	.526 G-s
	FIH	.047 In/Sec	.422 G-s
	FOH	.095 In/Sec	.593 G-s
AHU10RFB	- AHU10 RF B	(10-Sep-20)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.119 In/Sec	.950 G-s
	MIH	.126 In/Sec	.861 G-s
	MIA	.114 In/Sec	.977 G-s
	FIH	.112 In/Sec	.508 G-s
	FOH	.049 In/Sec	.737 G-s
AHU11 SFA	- AHU11 SFA	(10-Sep-20)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.055 In/Sec	.155 G-s
	MIH	.030 In/Sec	.468 G-s

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AHU11 SFB  - AHU11 SFB                    (10-Sep-20)
                              OVERALL LEVEL     1 - 20 KHz
       MOH                     .067 In/Sec       .215 G-s
       MIH                     .018 In/Sec       .380 G-s

AHU11 SFC  - AHU11 SFC                    (10-Sep-20)
                              OVERALL LEVEL     1 - 20 KHz
       MOH                     .095 In/Sec       .344 G-s
       MIH                     .070 In/Sec       .432 G-s

AHU11 RFA  - AHU11 RFA                    (10-Sep-20)
                              OVERALL LEVEL     1 - 20 KHz
       MOH                     .054 In/Sec       .052 G-s
       MIH                     .091 In/Sec       .141 G-s

AHU11 RFB  - AHU11 RFB                    (10-Sep-20)
                              OVERALL LEVEL     1 - 20 KHz
       MOH                     .060 In/Sec       .033 G-s
       MIH                     .094 In/Sec       .222 G-s

AHU11 RFC  - AHU11 RFC                    (10-Sep-20)
                              OVERALL LEVEL     1 - 20 KHz
       MOH                     .047 In/Sec       .028 G-s
       MIH                     .078 In/Sec       .125 G-s

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   Clarification Of Vibration Units:
      Acc      -->  G-s      RMS
      Vel      -->  In/Sec   PK
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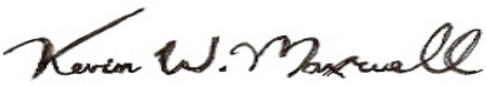
As always, it has been a pleasure to serve your company. If there are any comments or questions, do not hesitate to contact us.

Sincerely,



ISO Certified Vibration Analyst, Category III

HI-SPEED INDUSTRIAL SERVICE

QualiTest® Diagnostics

kwilliam@gohispeed.com
901-486-4565