HI-SPEED INDUSTRIAL SERVICE QualiTest® Diagnostics

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

September 16, 2019

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 still 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. 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 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
Report Date: 16-Sep-19 11:19

MEASUREMENT POINT		OVERALL LEVEL	HFD / VHFD
AHU8SFA	- AHU 8 SF A	(11-Sep-19)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.075 In/Sec	.391 G-s
	MIH	.087 In/Sec	.533 G-s
AHU8SFB	- AHU 8 SF B	(11-Sep-19)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.043 In/Sec	.599 G-s
	MIH	.106 In/Sec	.984 G-s
AHU8SFC	- AHU 8 SF C	(11-Sep-19)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.061 In/Sec	.330 G-s
	MIH	.065 In/Sec	.339 G-s
AHU8SFD	- AHU 8 SF D	(11-Sep-19)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.093 In/Sec	.408 G-s
	MIH	.164 In/Sec	.599 G-s
AHU8RFA	- AHU 8 RF A	(11-Sep-19)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.065 In/Sec	.108 G-s
	MIH	.056 In/Sec	.091 G-s
AHU8RFB	- AHU 8 RF B	(11-Sep-19)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.056 In/Sec	.111 G-s
	MIH	.048 In/Sec	.159 G-s
AHU8RFC	- AHU 8 RF C	(11-Sep-19)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.046 In/Sec	.072 G-s
	MIH	.043 In/Sec	.123 G-s
AHU8RFD	- AHU 8 RF D	(11-Sep-19)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.034 In/Sec	.147 G-s
	MIH	.041 In/Sec	.337 G-s
AHU9SFA	- AHU 9 SF A	(11-Sep-19)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.042 In/Sec	.443 G-s
	MIH	.137 In/Sec	.762 G-s
AHU9SFB	- AHU 9 SF B	(11-Sep-19)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.123 In/Sec	.524 G-s
	MIH	.174 In/Sec	1.993 G-s
AHU9SFC	- AHU 9 SF C	(11-Sep-19)	
		OVERALL LEVEL	1 - 20 KHz
	MOH	.141 In/Sec	.542 G-s
	MIH	.130 In/Sec	.573 G-s

AHU9SFD - AHU 9 SF D		(11-Sep-19)	
	OVERALL LEVEL	1 - 20 KHz	
MOH	.070 In/Sec	.449 G-s	
MIH	.069 In/Sec	.636 G-s	
AHU9RFA - AHU 9 RF A		(11-Sep-19)	
	OVERALL LEVEL	1 - 20 KHz	
MOH	.045 In/Sec	.366 G-s	
MIH	.044 In/Sec	.609 G-s	
AHU9RFB - AHU 9 RF B		(11-Sep-19)	
	OVERALL LEVEL	1 - 20 KHz	
MOH	.029 In/Sec	.223 G-s	
MIH	.060 In/Sec	.259 G-s	
AHU9RFC - AHU 9 RF C		(11-Sep-19)	
	OVERALL LEVEL	1 - 20 KHz	
MOH	.086 In/Sec	.192 G-s	
MIH	.078 In/Sec	.365 G-s	
AHU9RFD - AHU 9 RF D		(11-Sep-19)	
	OVERALL LEVEL	1 - 20 KHz	
MOH	.051 In/Sec	.218 G-s	
MIH	.108 In/Sec	.477 G-s	
AHU10SFA - AHU10 SF A		(11-Sep-19)	
	OVERALL LEVEL	1 - 20 KHz	
MOH	.028 In/Sec	.345 G-s	
MIH	.094 In/Sec	.778 G-s	
AHU10SFB - AHU10 SF B		(11-Sep-19)	
	OVERALL LEVEL	1 - 20 KHz	
MOH	.058 In/Sec	.470 G-s	
MIH	.064 In/Sec	.658 G-s	
AHU10SFC - AHU10 SF C		(11-Sep-19)	
	OVERALL LEVEL	1 - 20 KHz	
MOH	.045 In/Sec	.354 G-s	
MIH	.033 In/Sec	.480 G-s	
AHU10SFD - AHU10 SF D		(11-Sep-19)	
	OVERALL LEVEL	1 - 20 KHz	
MOH	.057 In/Sec	.386 G-s	
MIH	.072 In/Sec	.705 G-s	
AHU10RFA - AHU10 RF A		(11-Sep-19)	
	OVERALL LEVEL	1 - 20 KHz	
MOH	.059 In/Sec	.381 G-s	
MIH	.067 In/Sec	.494 G-s	
MIA	.046 In/Sec	.254 G-s	
FIH	.067 In/Sec	.382 G-s	
FOH	.061 In/Sec	.465 G-s	
AHU10RFB - AHU10 RF B		(11-Sep-19)	
	OVERALL LEVEL	1 - 20 KHz	
MOH	.189 In/Sec	.337 G-s	
MIH	.205 In/Sec	.519 G-s	
MIA	.137 In/Sec	.262 G-s	
FIH	.174 In/Sec	.662 G-s	
FOH	.104 In/Sec	.376 G-s	
AHU11 SFA - AHU11 SFA		(11-Sep-19)	
	OVERALL LEVEL	1 - 20 KHz	
MOH	.024 In/Sec	.136 G-s	
MIH	.041 In/Sec	.164 G-s	
AHU11 SFB - AHU11 SFB		(11-Sep-19)	
	OVERALL LEVEL	1 - 20 KHz	
MOH	.065 In/Sec	.119 G-s	

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            MIH                      .016 In/Sec       .181 G-s

      AHU11 SFC  - AHU11 SFC                    (11-Sep-19)
                                  OVERALL LEVEL     1 - 20 KHz
            MOH                      .087 In/Sec       .180 G-s
            MIH                      .061 In/Sec       .260 G-s

      AHU11 RFA  - AHU11 RFA                    (11-Sep-19)
                                  OVERALL LEVEL     1 - 20 KHz
            MOH                      .047 In/Sec       .099 G-s
            MIH                      .076 In/Sec       .065 G-s

      AHU11 RFB  - AHU11 RFB                    (11-Sep-19)
                                  OVERALL LEVEL     1 - 20 KHz
            MOH                      .061 In/Sec       .063 G-s
            MIH                      .089 In/Sec       .089 G-s

      AHU11 RFC  - AHU11 RFC                    (11-Sep-19)
                                  OVERALL LEVEL     1 - 20 KHz
            MOH                      .063 In/Sec       .056 G-s
            MIH                      .093 In/Sec       .074 G-s
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   Clarification Of Vibration Units:
      Acc       -->  G-s       RMS
      Vel       -->  In/Sec    PK
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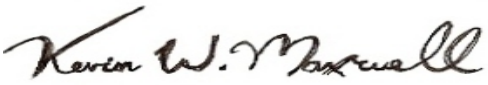
As always, it has been a pleasure to serve your company. If there are any comments or questions, do not hesitate to contact us.

Sincerely,



ISO Certified Vibration Analyst, Category III

HI-SPEED INDUSTRIAL SERVICE

QualiTest® Diagnostics

kwilliam@gohispeed.com
901-486-4565