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St Jude KRCC Memphis TN

The following is a summary of findings from the 2022 annual KRCC AHU and EF 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.

<u>Class I:</u> 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.

<u>Class IV</u>; 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 AHU

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

Motor vibration data indicates bearing race defects possible due to electrical fluting present in motor bearing races. Seems worse at DE of motor. Motor will likely need attention in the next few months. Ensure new motor has a grounding mechanism such as an Aegis Grounding Ring on the DE and insulated ODE bearing. Rated as a **CLASS II** defect.

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 on the DE and insulated ODE bearing. Rated as a **CLASS II** defect.

AHU9 SF C

Motor vibration data indicates bearing race defects possible due to electrical fluting present in motor bearing races. Seems worse at DE of motor. 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

Motor vibration data indicates bearing race defects possible due to electrical fluting present in motor bearing races. Rated as a **CLASS II** defect.

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.

********* Database: stjude~1.rbm Station: KRCC MEASUREMENT POINT OVERALL LEVEL HFD / VHFD _____ _____ _____ (07-Dec-22) AHU8SFA - AHU 8 SF A
 OVERALL LEVEL
 1 - 20 KHz

 .073 In/Sec
 .664 G-s

 .158 In/Sec
 1.376 G-s

 .174 In/Sec
 1.231 G-s
MOH MTH MIA AHU8SFB - AHU 8 SF B (07-Dec-22) OVERALL LEVEL 1 - 20 KHz .060 In/Sec .269 G-s .079 In/Sec .907 G-s .083 In/Sec .362 G-s MOH MIH MTA AHU8SFC - AHU 8 SF C (07-Dec-22) OVERALL LEVEL 1 - 20 KHz .070 In/Sec .820 G-s .187 In/Sec 1.735 G-s .111 In/Sec 1.150 G-s .820 G-s MOH MIH MIA AHU8SFD - AHU 8 SF D (07-Dec-22) OVERALL LEVEL 1 - 20 KHz .087 In/Sec .090 In/Sec .097 In/Sec .302 G-s .390 G-s MOH MIH .240 G-s MIA (07-Dec-22) AHU8RFA - AHU 8 RF A OVERALL LEVEL 1 - 20 KHz .079 In/Sec MOH .125 G-s .357 G-s .069 In/Sec MIH .053 In/Sec .106 G-s MIA AHU8RFB - AHU 8 RF B (07-Dec-22)
 OVERALL LEVEL
 1 - 20 KHz

 .057 In/Sec
 .150 G-s

 .052 In/Sec
 .391 G-s
.057 In/Sec .150 G-s .052 In/Sec .391 G-s .052 In/Sec .163 G-s MOH MIH MTA AHU8RFC - AHU 8 RF C (07-Dec-22)
 OVERALL LEVEL
 1 - 20 KHz

 .056 In/Sec
 .083 G-s

 .045 In/Sec
 .127 G-s

 .055 In/Sec
 .075 G-s
MOH MIH MIA (07-Dec-22) AHU8RFD - AHU 8 RF D OVERALL LEVEL 1 - 20 KHz .038 In/Sec .159 G-s .050 In/Sec .412 G-s .070 In/Sec .256 G-s MOH MIH MIA AHU9SFA - AHU 9 SF A (07-Dec-22) OVERALL LEVEL 1 - 20 KHz .062 In/Sec .759 G-s .130 In/Sec 1.472 G-s .327 In/Sec .777 G-s MOH MIH MIA (07-Dec-22) AHU9SFB - AHU 9 SF B OVERALL LEVEL 1 - 20 KHz
 .101 In/Sec
 .759 G-s

 .331 In/Sec
 3.933 G-s

 .257 In/Sec
 .413 G-s
MOH .759 G-s MIH MIA

AHU9SFC - AHU 9 SF C

Abbreviated Last Measurement Summary

(07-Dec-22)

			OVERALL LEVEL	1 - 20 KHz
MOH			.105 In/Sec	.593 G-s
MIH			.272 In/Sec	3.835 G-s
MIA			.283 In/Sec	2.238 G-s
AUIOCED	- 7411 0	SE D	(07 D = -00)	
ANUSSED	- And 9	SF D	OVERALL LEVEL	1 - 20 KHz
МОН			.112 In/Sec	1.030 G-s
MIH			.077 In/Sec	.687 G-s
MIA			.139 In/Sec	.741 G-s
AHU9RFA	- AHU 9	RF A	(07-	Dec-22)
Nor			OVERALL LEVEL	1 - 20 KHz
MOH			.040 In/Sec	.252 G-S
MIN			062 In/Sec	.728 G-s
AHU9RFB	- AHU 9	RF B	(07-	Dec-22)
			OVERALL LEVEL	1 - 20 KHz
MOH			.045 In/Sec	.376 G-s
MIH			.045 In/Sec	.308 G-s
MIA			.070 In/Sec	.363 G-s
AUTODEC	- 7411 0	DF C	(07-	Dog-22)
ANUSKEC	- And 9	KF C	OVERALL LEVEL	1 - 20 KHz
МОН			.085 In/Sec	.265 G-s
MIH			.057 In/Sec	.683 G-s
MIA			.064 In/Sec	.426 G-s
AHU9RFD	- AHU 9	RF D	(07-	Dec-22)
			OVERALL LEVEL	1 - 20 KHz
MOH			.092 In/Sec	.231 G-s
MIH			.060 In/Sec	.308 G-S
MIA			.151 IN/Sec	.403 G-S
AHU10SFA	- AHU10	SF A	(07-	Dec-22)
			OVERALL LEVEL	1 - 20 KHz
MOH			.088 In/Sec	1.063 G-s
MIH			.168 In/Sec	1.321 G-s
MIA			.272 In/Sec	.664 G-s
	a1 0	AA A	(07-0	
AHUIUSFB	- AHUIU	SF B	(U/-	Dec-22)
мон			.060 In/Sec	.645 G-s
MIH			.054 In/Sec	.774 G-s
MIA			.109 In/Sec	.936 G-s
AHU10SFC	- AHU10	SF C	(07-	Dec-22)
			OVERALL LEVEL	1 - 20 KHz
MOH			.064 In/Sec	.539 G-s
MIH			.149 IN/Sec	1.181 G-S
MIA			.195 11/ 560	1.545 6-5
AHU10SFD	- AHU10	SF D	(07-	Dec-22)
			OVERALL LEVEL	1 - 20 KHz
MOH			.100 In/Sec	1.239 G-s
MIH			.220 In/Sec	2.489 G-s
MIA			.222 In/Sec	1.930 G-s
		Dog-22)		
AUOTOKLA	- AHUIU	RE A	U/-	1 - 20 KH-
мон			.078 In/Sec	.399 G-s
MIH			.087 In/Sec	.552 G-s
MIA			.049 In/Sec	.287 G-s
FIH			.086 In/Sec	.505 G-s
AHU10RFB	- AHU10	RF B	(07-	Dec-22)
			OVERALL LEVEL	1 - 20 KHz
MOH			.148 IN/Sec	.042 G-S
MIH			.130 11/360	/0 6-5

MIA	.093 In/Sec .413 G-s
FIH	.128 In/Sec .516 G-s
AHU11 SFA - AHU11 SFA	(07-Dec-22)
	OVERALL LEVEL 1 - 20 KHz
MOH	.034 In/Sec .113 G-s
MIH	.021 In/Sec .125 G-s
AHU11 SFB - AHU11 SFB	(07-Dec-22)
	OVERALL LEVEL 1 - 20 KHz
MOH	.028 In/Sec .111 G-s
MIH	.010 In/Sec .191 G-s
	(07 Dec 22)
AHOII SFC - AHOII SFC	(07-Dec-22)
МОН	$\frac{1}{1} = 20 \text{ Miz}$
MTH	151 G S
Mi II	.055 IN/Sec .212 G 5
AHU11 RFA – AHU11 RFA	(07-Dec-22)
	OVERALL LEVEL 1 - 20 KHz
MOH	.056 In/Sec .110 G-s
MIH	.068 In/Sec .179 G-s
AHII11 REB - AHII11 REB	(07-Dec-22)
	OVERALL LEVEL $1 - 20$ KHz
MOH	.065 In/Sec .156 G-s
MIH	.095 In/Sec .173 G-s
AHU11 RFC - AHU11 RFC	(07-Dec-22)
	OVERALL LEVEL 1 - 20 KHz
MOH	.066 In/Sec .074 G-s
MIH	.079 In/Sec .099 G-s
Clarification Of Vibration Units	:
Acc> G-s RMS	
Vel> In/Sec PK	

As always, it has been a pleasure to serve St. Jude Children's Research Hospital. If there are any comments or questions, do not hesitate to contact us.

Sincerely,

Kerin W. Maxuell

ISO Certified Vibration Analyst, Category III



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