

April 15, 2021

**Dell Power AECI** 

Subject: April vibration service report

Most of the machines surveyed were found to be in good condition with the exception of the following: Supporting data included.

**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.

<u>Class II:</u> Defect (s) present that may cause problem in long term (2-6 months.). Repair during normal maintenance scheduling. Continue to monitor.

<u>Class III:</u> 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

**Hi-Speed Industrial Service** tests and inspects industrial machinery and equipment and makes recommendations concerning maintenance and repairs based on its experience in the field of industrial repair and maintenance. The information contained herein is provided as an opinion only, not as a guaranty or warranty of the matters discussed herein.

This completes our assessment of your equipment for this survey. Thank you for your business and don't hesitate to call if you have any comments or questions.

Sincerely,

David W Shook

David W. Shook Senior Reliability Specialists

**Hi-Speed** Industrial Service

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# Reportable equipment

## **Cooling Tower Area**

## Cooling tower fans 2, 9

Units have an elevated motor speed vibration. Inspect the motor fasteners, base, drive shaft, couplings and alignment as time allows. **Rated a Class I Defect.** 

## Cooling tower 10, 12

Units have what looks to be elevated fan blade pass vibrations in the motor. No immediate action is required at this time other than a quick visual inspection. **Rated a Class I Defect.** 

## Cooling tower 11

Unit has an elevated motor speed vibration. Inspect the motor fasteners, base, drive shaft, couplings, and alignment at the next opportunity. **Rated a Class II Defect.** 

# Circulating water pump 2

The unit has an elevated shaft speed vibration in the top motor bearing data. There could be some imbalance in the pump impeller. No immediate action is required at this time. We will watch this unit carefully for changes. **Rated a Class I Defect.** 

## Gas Turbine Unit 1

## LP Recirculating pump 1

Vibration data for the motor shows a possible shaft alignment or coupling issue. Inspect the unit for loose fasteners, hub and coupling defects, and shaft alignment at the next opportunity. **Rated a Class II Defect.** 

## Gas Turbine Unit 2

# LP recirculating pump 2

Vibration data for the motor shows a possible shaft alignment or coupling issue. Inspect the unit for loose fasteners, hub and coupling defects, and shaft alignment at the next opportunity. **Rated a Class I Defect.** 

# Boiler feed water pump 2A

The nelson drive has the highest overall vibration at 0.33"/second velocity peak for the inboard axial. The velocity spectrum shows 2 dominant peaks, one is input speed of 59.52 Hz at 0.14"/sec peak and the 2<sup>nd</sup> peak, which is the highest is at 66.21 Hz with an amplitude of 0.27"/sec peak. Output speed appears to be 59.47Hz. We will need specific detailed information about the nelson drive bearings and other internal components that could generate frequencies in the range of the ones that we are seeing in the data to help determine the root cause of the vibrations other than shaft speed. Rated a Class II Defect.

### **Steam Turbine Unit**

### Vacuum pump 2

The unit vibrations are up since the last data in the Summer. The motor inboard bearing fits could be loose, or possibly some pump cavitation vibrations are being transferred by the coupling into the motor. The pump is showing the fundamental vane pass and first harmonic in the outboard bearing. We recommend inspecting the unit coupling for wear, perform a lift check on the motor shaft and check that the pump is operating optimally. We believe the motor will need to be changed out. Rated a Class II Defect.

#### **Service Water Pumps**

#### Service water pump 1A

The pump vibrations seem to indicate cavitation in the pump. Check the operating parameters. **Rated a Class I Defect.** 

# Abbreviated Last Measurement Summary

Database: AECI Dell Power Plant.rbm

Area: Coooling Tower

Report Date: 15-Apr-21 07:58

MEASUREMENT POINT		OVERALL LEVEL	HFD / VHFD	EQUIPMENT SPEED	
CTW1	- Cooling	Tower Fan 1 OVERALL LEVEL	(09-Apr-21)		
	,	OVERALL LEVEL	1K-20kHz		
	MOH	.293 In/Sec	3.675 G-s	1780.0 RPM	
	MOP	.069 G-s		_,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	MOV	.161 In/Sec	.783 G-s		
	MIH	.161 In/Sec .251 In/Sec	2.235 G-s		
	MIP	.104 G-s	2.233 6 5		
	MIV	.184 In/Sec	737 G-s		
	MIA	.315 In/Sec			
CTW2	- Cooling	Tower Fan 2 OVERALL LEVEL	(09-Apr-21)		
	_	OVERALL LEVEL	1K-20kHz		
	MOH	.249 In/Sec	1.121 G-s	1780.0 RPM	
	MOP	.217 G-s			
	MOV	.264 In/Sec	3.287 G-s		
	MIH	.264 In/Sec .261 In/Sec	2.712 G-s		
	MIP	.475 G-s			
	MIV	.168 In/Sec	2.198 G-s		
	MIA	.384 In/Sec	1.556 G-s		
CTW4	- Cooling	Tower Fan 4 OVERALL LEVEL	(09-Apr-21)		
		OVERALL LEVEL	1K-20kHz		
	MOH	.239 In/Sec	1.201 G-s	1780.0 RPM	
	MOP	.019 G-s			
	MOV	.224 In/Sec .252 In/Sec	1.974 G-s		
	MIH	.252 In/Sec	2.422 G-s		
	MIP	.050 G-s			
	MIV	.154 In/Sec	1.016 G-s		
	MIA	.277 In/Sec	.349 G-s		
CTW5	- Cooling	Tower Fan 5	(09-Apr-21)		
		OVERALL LEVEL	1K-20kHz		
	MOH	.266 In/Sec	.988 G-s	1780.0 RPM	
	MOP	.049 G-s			
	MOV	.185 In/Sec .302 In/Sec	.827 G-s		
	MIH		2.453 G-s		
	MIP	.107 G-s			
	MIV	.129 In/Sec	.845 G-s		
	MIA	.311 In/Sec	.636 G-s		
CTW6	- Cooling	Tower Fan 6 OVERALL LEVEL	(09-Apr-21)		
	MOH	.380 In/Sec	4.373 G-s	1780.0 RPM	
	MOP	.059 G-s			
	VOM	.315 In/Sec .304 In/Sec	2.150 G-s		
	MIH	.304 In/Sec	3.255 G-s		

	MTD		100 C-					
	MIP		.109 G-	-s n/Sec	010	C ~		
	MIV			•				
	MIA		.339 11	n/Sec	.503	G-S		
CTW7	_	Cooling	Tower Fan	7	(09-	Anr-21)		
CIW	_	COOLING I		LEVEL		_		
	мон				1.773		1780.0	DDM
	MOP		.203 II	-	1.773	G-S	1780.0	KPM
	MOV			-s n/Sec	056	C-a		
				•				
	MIH			•	.700	G-S		
	MIP		.263 G-		1 015	<b>a</b> -		
	MIV			n/Sec				
	MIA		.239 Ir	n/Sec	.774	G-S		
CTW8	_	Cooling T	Tower Fan	Ω	(09-	Apr-21)		
CINO		COOLING I		LEVEL		-		
	мон		.366 Ir			nz G-s	1700 0	DDM
				•	3.224	G-S	1780.0	RPM
	MOP		.055 G-	-	1 471	•		
	MOV			n/Sec				
	MIH		.228 Ir	-	2.429	G-s		
	MIP		.071 G-	_		_		
	MIV			n/Sec				
	MIA		.358 Ir	n/Sec	1.667	G-s		
CTW9		Cooling D	Darram Eam	9	(00	7 21\		
CIND		COOLING			=	•		
	MOII			LEVEL	3.497		1780.0	DDM
	MOH		.407 II	•	3.491	G-S	1780.0	RPM
	MOP				1 525	<b>a</b> -		
	MOV			n/Sec				
	MIH			-	3.765	G-S		
	MIP		.075 G-	_		_		
	MIV			•	1.638			
	MIA		.325 Ir	n/Sec	. 615	G-s		
CTW10	_	Cooling T	lower Fan	10	(09-	Apr-21)		
CINIO		cooring r	OVERALL		1K-20k	-		
	мон		.372 Ir		1.718		1780.0	DDM
	MOP		.071 G-	•	1.710	G-S	1780.0	KPM
	MOV			n/Sec	2 400	C-a		
					1.759			
	MIH		.101 G-	•	1.759	G-S		
	MIP				1 000	•		
	MIV			n/Sec				
	MIA		.316 11	n/Sec	. 447	G-S		
CTW11	_	Cooling T	lower Fan	11	(09-	Apr-21)		
011111		00011119	OVERALL		1K-20k	_		
	мон		.699 Ir			G-s	1780 0	D DM
	MOP		.029 G-	•	2.033	G-5	1700.0	KFM
	MOV				1.512	C-e		
	MIH		.361 II	•	2.788			
			.436 II		2.700	G S		
	MIP				2 422	C-2		
	MIV			•	2.433			
	MIA		.186 II	n/Sec	. 335	G−S		
CTW12	_	Cooling T	Cower Fan	12	(09-	Apr-21)		
		222-119 1	OVERALL		1K-20k			
	мон			n/Sec	1.833		1780.0	RPM
			55 11	,		- <del>-</del>		<b></b>

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.042 G-s
       MOP
                        .341 In/Sec 2.487 G-s
       MOV
       MIH
                        .206 In/Sec
                                         2.041 G-s
       MIP
                        .065 G-s
                        .282 In/Sec
                                        1.518 G-s
       MIV
       MIA
                                           .406 G-s
3CW-P-001 - Circ Water Pump 1
                                           (09-Apr-21)
                       OVERALL LEVEL 1K-20kHz
       MOH
                         .151 In/Sec
                                          .287 G-s
                                                           507.0 RPM
       MOP
                        .124 G-s
                        .037 In/Sec
.148 In/Sec
       MOV
                                          .335 G-s
       MIH
                                          .242 G-s
                        .126 G-s
       MIP
                       .038 In/Sec .264 G-s
.030 In/Sec .302 G-s
OVERALL LEVEL 1K-20KHz
.029 In/Sec .269 G-s
                                         .264 G-s
       MIV
                                          .302 G-s
       MIA
       PIH
                                        .269 G-s
       PIP
                         .131 G-s
                                          (09-Apr-21)
 3CW-P-002 - Circ Water Pump 2
                      er Pump 2 (09-Apr-:
OVERALL LEVEL 1K-20kHz
.422 In/Sec .161 G-s
                        .422 In/Sec
                                         .161 G-s
                                                       507.0 RPM
       MOH
                        .075 G-s
       MOP
                                        .260 G-s
       MOV
                        .141 In/Sec
                        .260 In/Sec
       MIH
                                          .252 G-s
       MIP
                        .123 G-s
                      .035 In/Sec .351 G-s
.043 In/Sec .288 G-s
OVERALL LEVEL 1K-20KHz
       MIV
       MIA
                                          .304 G-s
       PIH
                        .075 In/Sec
       PIP
                        .100 G-s
LFAA2 - LFAA 1B
                                           (09-Apr-21)
                       OVERALL LEVEL 1K-20kHz
                        .076 In/Sec
                                                          1770.0 RPM
       MOH
                                          .449 G-s
                        .244 G-s
       MOP
                        .071 In/Sec
                                          .396 G-s
       MOV
                        .062 In/Sec
       MIH
                                          .256 G-s
       MIP
                        .183 G-s
       MIV
                        .074 In/Sec
                                          .275 G-s
       MIA
                        .033 In/Sec
                                          .369 G-s
                       OVERALL LEVEL 1K-20KHz
       PIH
                                         .228 G-s
                       .011 In/Sec
       PIP
                        .080 G-s
   Clarification Of Vibration Units:
     Acc --> G-s RMS
Vel --> In/Sec PK
                                                     Abbreviated Last Measurement
Summary
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Database: AECI Dell Power Plant.rbm

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Area: UNIT 1

Report Date: 15-Apr-21 07:58

MEASUREMENT	POINT OVERALL LEVEL	HFD / VHFD	EQUIPMENT SPEED
LP #1 -	LP recirc unit #1	(09-Apr-21)	
	OVERALL LEVEI	_	
мон	.690 In/Sec		3565.0 RPM
MOP	.528 G-s	1.071 0 0	3303.0 11211
MOV	.060 In/Sec	.095 G-s	
MIH	.000 In/Sec		
	-	.200 G-S	
MIP	.077 G-s	217 0	
MIV	.109 In/Sec		
MIA	.131 In/Sec		
	OVERALL LEVEI		
PIH	.174 In/Sec	.238 G-s	
PIP	.055 G-s		
PIV	.092 In/Sec	.219 G-s	
POH	.084 In/Sec	.257 G-s	
POP	.022 G-s		
POV	.099 In/Sec		
POA	.096 In/Sec	.131 G-s	
D-P-001A -	Boiler Feed Water 1A	(09-Apr-21)	
	OVERALL LEVEI	1K-20KHz	
MOH	.104 In/Sec	.211 G-s	3567.0 RPM
MOP	.046 G-s		
MOV	.148 In/Sec	.253 G-s	
MIH	.081 In/Sec		
MIP	.109 G-s		
MIV	.136 In/Sec	.309 G-s	
MIA	.051 In/Sec		
	OVERALL LEVEI		
NIA	.202 In/Sec		
NIH	.101 In/Sec		
NIV	.101 In/Sec		
	.112 In/Sec		
NOV	-	.626 G-s	
NOH	.130 In/Sec		
NOA	.229 In/Sec		
	OVERALL LEVEI		
BFA	.057 In/Sec		
PIH	.066 In/Sec		
PIV	.069 In/Sec	.120 G-s	
POV	.080 In/Sec	.131 G-s	
POH	.094 In/Sec	.109 G-s	
1 -	CT Lube Oil Pump 1	(09-Apr-21)	
	OVERALL LEVEI	1K-20kHz	
MOH	.036 In/Sec	.184 G-s	3570.0 RPM
MOP	.046 G-s		
MIH	.033 In/Sec	.116 G-s	
MIP	.023 G-s		
MIA	.037 In/Sec	.303 G-s	
'HYD !1 -	CT Hyd Pump 2	(09-Apr-21)	
	OVERALL LEVEI	1K-20kHz	
MOTT	.170 In/Sec	.050 G-s	1780.0 RPM
MOH			
MOH	.017 G-s		

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MIH .061 In/Sec .112 G-s
MIP .016 G-s
MIV .076 In/Sec .343 G-s
MIA .152 In/Sec .680 G-s
OVERALL LEVEL 1K-20KHz
PIH .289 In/Sec 1.268 G-s
PIP .834 G-s
PIV .184 In/Sec 2.228 G-s
PIA .160 In/Sec .817 G-s
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Clarification Of Vibration Units:

Acc --> G-s RMS
Vel --> In/Sec PK

Abbreviated Last Measurement

Summary

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Database: AECI Dell Power Plant.rbm

Area: UNIT 2

Report Date: 15-Apr-21 07:58

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	EQUIPMENT SPEED
LP #2 - LP re	ecirc unit #2	(09-Apr-21)	
	OVERALL LEVEL		
MOH	.073 In/Sec	.400 G-s	3565.0 RPM
MOP	.143 G-s		
MOV	.105 In/Sec	.136 G-s	
MIH	.083 In/Sec	.268 G-s	
MIP	.060 G-s		
MIV	.223 In/Sec		
MIA	.276 In/Sec	.276 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.191 In/Sec	.419 G-s	
PIP	.096 G-s		
PIV	.112 In/Sec		
POH	.081 In/Sec	.324 G-s	
POP	.118 G-s		
POV	.105 In/Sec	.207 G-s	
POA	.125 In/Sec	.138 G-s	
2FD-P-002A - Boile	er Feed Water 2A	(09-Apr-21)	
	OVERALL LEVEL	1K-20KHz	
MOH	.200 In/Sec	.218 G-s	3567.0 RPM
MOP	.041 G-s		
MOV	.142 In/Sec	.272 G-s	
MIH	.142 In/Sec	.381 G-s	
MIP	.056 G-s		
MIV	.273 In/Sec	.624 G-s	
MIA	.201 In/Sec	.173 G-s	
	OVERALL LEVEL	1K-20kHz	
NIA	.333 In/Sec		
NIH	.292 In/Sec	.100 G-s	
NIV	.097 In/Sec	.110 G-s	
NOV	.186 In/Sec	.113 G-s	
NOH	.292 In/Sec	.129 G-s	

NOA		In/Sec	.125 G-s				
		LL LEVEL					
BFA		In/Sec					
PIH			.067 G-s				
PIV	.175	In/Sec	.104 G-s				
POV			.073 G-s				
РОН	.103	In/Sec	.061 G-s				
CT1 -	CT Lube Oil Pump	o 1	(09-Apr-21	)			
			1K-20kHz				
MOH			.215 G-s	3570.0 RPM			
MOP		G-s					
MIH	.039	In/Sec	.116 G-s				
MIP	.0055	G-s					
MIA	.043	In/Sec	.269 G-s				
CTHYD! -	CT Hyd Pump 1		(09-Apr-21	)			
			1K-20kHz				
MOH		In/Sec		1780.0 RPM			
MOP	.081	G-s					
MIH	.024	In/Sec	.798 G-s				
MIP	.361						
MIA	.050	In/Sec	.808 G-s				
	OVERA	LL LEVEL	1K-20KHz				
PIH	.089	In/Sec	.996 G-s				
PIP		G-s					
PIV	.111	In/Sec	1.946 G-s				
PIA	.076	In/Sec	1.718 G-s				
ABF -	Aux Boiler Fan		(09-Apr-21	)			
	OVERA	LL LEVEL	1K-20kHz				
MOH	.125	In/Sec	.156 G-s	3550.0 RPM			
MOP	.016						
VOM	.272	In/Sec	.420 G-s				
MIH	.067	In/Sec	.230 G-s				
MIP	.065						
MIV	.062	In/Sec	.244 G-s				
MIA	.125	In/Sec	.034 G-s				
	on Of Vibration						
	> G-s I	-	_				
	> In/Sec 1	PK	A	bbreviated Last Measurement			
Summary ************************************							
Database: AECI Dell Power Plant.rbm							
		r steam to					
	Report Date: 15-Apr-21 07:58						
MEASUREMENT I	POINT OVERAL	L LEVEL	HFD / VHFD	EQUIPMENT SPEED			

3CW-P-004 - CCW Booster Pump 2 (09-Apr-21)
OVERALL LEVEL 1K-20kHz
MOH .171 In/Sec .183 G-s 1775.0 RPM

.039 G-s

MOP

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MOV
                         .085 In/Sec
                                           .530 G-s
                         .074 In/Sec
       MIH
                                           .501 G-s
       MIP
                         .330 G-s
       MIV
                         .059 In/Sec
                                           .462 G-s
       MIA
                         .075 In/Sec
                                           .218 G-s
                       OVERALL LEVEL
                                          1K-20KHz
                         .101 In/Sec
                                           .269 G-s
       PIH
                         .077 G-s
       PIP
                         .064 In/Sec
       PIV
                                           .373 G-s
       PIA
                         .047 In/Sec
                                           .717 G-s
OCC-P-001 - CLosed Cooling Water 1
                                            (09-Apr-21)
                       OVERALL LEVEL
                                          1K-20kHz
                         .117 In/Sec
                                                            1775.0 RPM
       MOH
                                           .336 G-s
       MOP
                         .051 G-s
       MOV
                         .035 In/Sec
                                           .408 G-s
                                           .390 G-s
       MIH
                         .121 In/Sec
       MIP
                         .121 G-s
       MIV
                         .038 In/Sec
                                           .289 G-s
                         .034 In/Sec
       MIA
                                           .440 G-s
                       OVERALL LEVEL
                                          1K-20KHz
       PIH
                        .076 In/Sec
                                           .428 G-s
                        .075 G-s
       PIP
                        .117 In/Sec
       POH
                                           .389 G-s
       POP
                        .043 G-s
       POV
                         .068 In/Sec
                                           .333 G-s
       POA
                         .067 In/Sec
                                           .543 G-s
3CH-P-001A - Condensate Pump A
                                            (09-Apr-21)
                       OVERALL LEVEL
                                          1K-20kHz
       MOH
                         .125 In/Sec
                                           .128 G-s
                                                            1780.0 RPM
       MOP
                         .039 G-s
       MOV
                         .146 In/Sec
                                           .236 G-s
       MIH
                         .058 In/Sec
                                           .256 G-s
                         .111 G-s
       MIP
                         .051 In/Sec
                                           .253 G-s
       MIV
                         .047 In/Sec
       MIA
                                           .114 G-s
                       OVERALL LEVEL
                                          1K-20KHz
                         .038 In/Sec
       PIH
                                           .084 G-s
       PIP
                         .039 G-s
3CH-P-001 - Condensate Pump B
                                            (09-Apr-21)
                       OVERALL LEVEL
                                          1K-20kHz
                                                            1780.0 RPM
       MOH
                         .035 In/Sec
                                           .458 G-s
       MOP
                         .105 G-s
       MOV
                         .042 In/Sec
                                           .604 G-s
       MIH
                         .033 In/Sec
                                           .499 G-s
       MIP
                         .189 G-s
       MIV
                         .033 In/Sec
                                           .719 G-s
                         .063 In/Sec
                                          1.073 G-s
       MIA
                                          1K-20KHz
                       OVERALL LEVEL
                         .037 In/Sec
       PIH
                                           .852 G-s
       PIP
                         .409 G-s
3AE-P-002 - Vacuum Pump 2
                                            (09-Apr-21)
                       OVERALL LEVEL
                                          1K-20kHz
                                                            1185.0 RPM
       MOH
                         .109 In/Sec
                                           .404 G-s
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.153 G-s
      MOP
                      .166 In/Sec .437 G-s
      MOV
                      .162 In/Sec
                                        .129 G-s
      MIH
                      .070 G-s
      MIP
                      .299 In/Sec
                                       .229 G-s
      MIV
      MIA
                       .170 In/Sec
                                         .103 G-s
                    OVERALL LEVEL 1K-20KHz
      PIH
                      .206 In/Sec
                                        .522 G-s
                      .359 G-s
      PIP
                      .257 In/Sec
.258 In/Sec
      PIV
                                       .781 G-s
                                       .437 G-s
      POH
      POP
                      .288 G-s
      POV
                      .415 In/Sec
                                       .626 G-s
                       .215 In/Sec
                                       .692 G-s
      POA
                     Oil Pump 2 (09-Apr-
OVERALL LEVEL 1K-20kHz
.054 In/Sec .118 G-s
STG2 - STG Lube Oil Pump 2
                                         (09-Apr-21)
      MOH
                                                     3560.0 RPM
      MOP
                       .030 G-s
                      .104 In/Sec .197 G-s
.047 In/Sec .096 G-s
      MOV
      MIH
                      .018 G-s
.066 In/Sec
      MIP
                                      .075 G-s
.206 G-s
      MIV
                      .076 In/Sec
      MIA
STGHyd2 - STG Hyd Pump 2
                                         (09-Apr-21)
                     Pump 2
OVERALL LEVEL 1K-20kHz
.045 In/Sec .361 G-s
      MOH
                                                     1770.0 RPM
      MOP
                      .144 G-s
                                       .423 G-s
      MOV
                      .044 In/Sec
                      .041 In/Sec
                                       .217 G-s
      MOA
                                       .512 G-s
                      .051 In/Sec
      MIH
                                       .494 G-s
                      .043 In/Sec
      MIV
      MIA
                       .048 In/Sec
                                         .241 G-s
                    OVERALL LEVEL 1K-20KHz
                                       .665 G-s
                      .085 In/Sec
.107 In/Sec
      PIH
                                        .405 G-s
      PIV
                      .164 In/Sec
.100 In/Sec
                                        .463 G-s
      PIA
                                        .743 G-s
      POH
      POP
                      .193 G-s
      POV
                      .142 In/Sec
                                        .496 G-s
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#### Clarification Of Vibration Units:

Acc --> G-s RMS

Vel --> In/Sec PK Abbreviated Last Measurement

Summary

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Database: AECI Dell Power Plant.rbm
Area: WATER PUMPS AND VACUUM PUMPS

Report Date: 15-Apr-21 07:58

MEASUREMENT POINT OVERALL LEVEL HFD / VHFD EQUIPMENT SPEED

OSW-P-001A - Service Water Pump 1A (09-Apr-21)

```
OVERALL LEVEL 1K-20kHz
                     .051 In/Sec
                                    .151 G-s
      MOH
                                                    1780.0 RPM
      MOP
                    .0098 G-s
                                    .188 G-s
                     .032 In/Sec
      VOM
                     .032 In/Sec
.074 In/Sec
      MIH
                                     .166 G-s
                     .056 G-s
      MIP
                     .045 In/Sec
                                    .182 G-s
      MIV
                     .056 In/Sec
      MIA
                                     .272 G-s
                    OVERALL LEVEL 1K-20KHz
      PIH
                     .172 In/Sec
                                     .730 G-s
                     .375 G-s
      PIP
      PIV
                     .219 In/Sec
                                     .356 G-s
                     .169 In/Sec 1.026 G-s
      POH
                     .392 G-s
      POP
      POV
                     .183 In/Sec
                                   1.084 G-s
      POA
                     .216 In/Sec
                                   3.041 G-s
ORW-P-001B - Deep Well Pump B
                                      (09-Apr-21)
                    OVERALL LEVEL 1K-20kHz
.090 In/Sec .066 G-s
      MOH
                                                1780.0 RPM
      MOP
                     .030 G-s
                     .083 In/Sec
.043 In/Sec
                                   .071 G-s
.060 G-s
      MOV
      MIH
      MIP
                     .039 G-s
                   .049 In/Sec .036 G-s
.026 In/Sec .071 G-s
OVERALL LEVEL 1K-20KHz
      MIV
      MIA
      PIH
                    .022 In/Sec
                                    .031 G-s
                     .016 G-s
      PIP
                                    .018 G-s
                     .066 In/Sec
      PIV
                    .0083 In/Sec
      PIA
                                     .040 G-s
ORW-P-001C - Deep Well Pump C
                                      (09-Apr-21)
                   OVERALL LEVEL 1K-20kHz
                     .115 In/Sec
      MOH
                                     .208 G-s
                                                  1780.0 RPM
      MOP
                     .085 G-s
                     .130 In/Sec
                                     .251 G-s
      MOV
                     .057 In/Sec
                                   1.127 G-s
      MIH
      MIP
                     .607 G-s
                    .072 In/Sec
.059 In/Sec
                                   2.251 G-s
      MIV
      MIA
                                    .666 G-s
                    OVERALL LEVEL 1K-20KHz
                    .030 In/Sec
      PIH
                                    .448 G-s
      PIP
                     .251 G-s
                                    .078 G-s
                     .044 In/Sec
      PIV
                     .028 In/Sec
                                     .414 G-s
______
  Clarification Of Vibration Units:
    Acc --> G-s RMS
            --> In/Sec PK
    Vel
                                              Abbreviated Last Measurement
```

\*\*\*\*\*\*\*\*\*

Summary

Database: AECI Dell Power Plant.rbm

Area: Chiller Module 1 Report Date: 15-Apr-21 07:58 MEASUREMENT POINT OVERALL LEVEL HFD / VHFD EQUIPMENT SPEED

\*\*\* NO DATA Was Found That Meets the Report Specification \*\*\* Abbreviated Last Measurement Summary

\*\*\*\*\*\*\*\*

Database: AECI Dell Power Plant.rbm

Area: Chiller Module 2
Report Date: 15-Apr-21 07:58

MEASUREMENT POINT OVERALL LEVEL HFD / VHFD EQUIPMENT SPEED

\*\*\* NO DATA Was Found That Meets the Report Specification \*\*\*

Abbreviated Last Measurement Summary

Database: AECI Dell Power Plant.rbm

Area: Chiller Module 3
Report Date: 15-Apr-21 07:58

MEASUREMENT POINT OVERALL LEVEL HFD / VHFD EQUIPMENT SPEED

\*\*\* NO DATA Was Found That Meets the Report Specification \*\*\*
Abbreviated Last Measurement Summary

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Database: AECI Dell Power Plant.rbm

Area: Liquid Fuel NOX AND LP REC PUMP

Report Date: 15-Apr-21 07:58

MEASUREMENT POINT OVERALL LEVEL HFD / VHFD EQUIPMENT SPEED

\*\*\* NO DATA Was Found That Meets the Report Specification \*\*\*