Main Turbine Vector Calculations

UNIT # 1 **LOAD:** 840 **Date:** 12/12/2002 **TIME:** 10:00

LOCATION	1X	PHASE		STATIC Magnitude	STATIC Phase	COUPLE Magnitude	COUPLE Phase
BEARINGS							
BEARING T-1	0.5	85	HP	1.2	40	0.9	197
BEARING T-2	2.1	30				0.9	17
BEARING T-3	4.0	258	IP	1.0	284	3.1	250
BEARING T-4	2.4	57				3.1	70
BEARING T-5	0.7	288	LPA	1.5	269	0.8	73
BEARING T-6	2.3	263				0.8	253
BEARING T-7	0.4	172	LPB	1.5	306	1.8	135
BEARING T-8	3.2	311				1.8	315
BEARING T-9	0.4	58	LPC	1.0	287	1.3	93
BEARING T-10	2.2	279				1.3	273
BEARING T-11	1.4	118	GEN	2.0	117	0.7	294
BEARING T-12	2.7	116				0.7	114
BEARING T-13	0.7	306					
COUPLINGS							
"A" Coupling TE	2.1	8	HP-IP	0.4	6	1.7	8
"A" Coupling GE	1.4	189				1.7	188
"B" Coupling TE	1.3	46	IP-LPA	2.4	359	1.8	146
"B" Coupling GE	4.0	345				1.8	326
"C" Coupling TE	3.7	214	LPA-LPB	1.8	218	1.9	210
"C" Coupling GE	0.3	327				1.9	30
"D" Coupling TE	4.3	273	LPB-LPC	2.9	271	1.4	276
"D" Coupling GE	1.5	267				1.4	96
"E" Coupling TE	0.6	263	LPC-GEN	0.9	290	0.4	151
"E" Coupling GE	1.2	303				0.4	331

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TURBINE VECTORS

ROTOR	STATIC CORRECTION				COUPLE CORRECTION			
			Oz/Mil Vibration				Oz/Mil Vibration	
	Critical Speed	H. S. Number	Critical Speed	Running Speed	Critical Speed	H. S. Number	Critical Speed	Running Speed
HP	2600-2800	2.8	3	10	>3600	1.6	Subcritical	5
IP	1900-2100	2.6	3	8	>3600	1.8	Subcritical	4.5
LPA	1700-1900	2.8	4	10	3200-3400	2.4	2	4
LPB	1800-2000	2.8	4	10	3200-3400	2.5	2	4
LPC	1800-2000	2.8	4	10	3200-3400	2.5	2	4
GEN		2.1		4		2.9		5
EXCITER		2.7		2				
COUPLING		1.7		4				

	BALANCE SHOT CALCULATIONS			
LOCATION	STATIC SHOT Running Speed		COUPLE SHOT Running Speed	
	Ounce	Location	Ounce	Location
HP Rotor	12.11	58	4.65 4.65	323 143
"A" Coupling	1.40	123		
IP Rotor	7.83	320	14.17 14.17	358 178
"B" Coupling	9.54	116		
LPA Rotor	14.75	287	3.38 3.38	127 307
"C" Coupling	7.19	335		
LPB Rotor	14.55	324	7.02 7.02	180 0
"D" Coupling	11.59	28		
LPC Rotor	9.58	305	5.03 5.03	138 318
"E" CPL	3.41	47		
Generator	8.20	198	3.25 3.25	303 123
EXCITER	1.40	333		

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