

## Nbd 5 –Report-Vibration

In this section, we found

**NO2 Main Boiler Feed pump Vibration high and beyond the limits.** Other feed pumps were not available for checks

**No1 FO purifier Vibration is on the higher end.** Other purifiers were not available for checks

Detailed graphical analysis given at the end of this section

Name	Type	Date	Value	Unit
<b>DDS 2014\Kara G-Ndb 5\01-No2 Main feed pp Mot NDE</b>				
Point 1-H\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	4/12/2016 20:57:26	6.15	mm/s
Point 1-H\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	4/12/2016 20:57:30	0.864	g
Point 2-V\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	4/12/2016 20:58:13	6.89	mm/s
Point 2-V\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	4/12/2016 20:58:17	0.681	g
Point 3-A\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	4/12/2016 20:58:59	4.36	mm/s
Point 3-A\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	4/12/2016 20:59:03	0.197	g
<b>DDS 2014\Kara G-Ndb 5\ 02-No2 Main feed pp Mot DE</b>				
Point 1-H\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	4/12/2016 20:59:49	6.31	mm/s
Point 1-H\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	4/12/2016 20:59:54	1.35	g
Point 2-V\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	4/12/2016 21:00:44	5	mm/s
Point 2-V\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	4/12/2016 21:00:49	0.703	g
Point 3-A\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	4/12/2016 21:01:54	3.09	mm/s
Point 3-A\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	4/12/2016 21:01:59	0.646	g
<b>DDS 2014\Kara G-Ndb 5\ 03-No2 Main feed pp DE</b>				

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Point 1-H\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	4/12/2016 21:03:27	8.52	mm/s
Point 1-H\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	4/12/2016 21:03:32	5.77	g
Point 1-H\Demod_RMS	Dmd-Wb < None >	4/12/2016 21:03:51	11.8	g
Point 2-V\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	4/12/2016 21:04:04	5.39	mm/s
Point 2-V\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	4/12/2016 21:04:09	3.79	g
Point 3-A\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	4/12/2016 21:04:51	6.56	mm/s
Point 3-A\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	4/12/2016 21:04:57	5.22	g
<b>DDS 2014\Kara G-Ndb 5\ 04-No2 Main feed pp NDE</b>				
Point 1-H\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	4/12/2016 21:06:01	6.13	mm/s
Point 1-H\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	4/12/2016 21:06:05	1.81	g
Point 2-V\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	4/12/2016 21:06:39	4.56	mm/s
Point 2-V\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	4/12/2016 21:06:43	1.37	g
Point 3-A\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	4/12/2016 21:07:20	3.69	mm/s
Point 3-A\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	4/12/2016 21:07:24	2.48	g
<b>DDS 2014\Kara G-Ndb 5\ 05-No1 FO Purifier Mot NDE</b>				
Point 1-H\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 8:42:02	11.7	mm/s
Point 1-H\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 8:42:06	0.31	g
Point 2-V\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 8:42:37	8.4	mm/s
Point 2-V\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 8:42:42	0.909	g
Point 3-A\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 8:43:18	3.69	mm/s
Point 3-A\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 8:43:22	0.473	g
<b>DDS 2014\Kara G-Ndb 5\Machine 06-No1 FO Purifier Mot DE</b>				
Point 1-H\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 8:44:08	7.92	mm/s

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Point 1-H\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 8:44:12	0.419	g
Point 2-V\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 8:44:45	7.39	mm/s
Point 2-V\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 8:44:49	0.31	g
Point 3-A\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 8:45:27	3.32	mm/s
Point 3-A\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 8:45:31	0.262	g
<b>DDS 2014\Kara G-Ndb 5\ 07-No1 FO Purifier Bowl Top</b>				
Point 1-H\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 8:46:52	9.15	mm/s
Point 1-H\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 8:46:55	0.611	g
Point 2-V\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 8:47:33	5.27	mm/s
Point 2-V\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 8:47:37	0.506	g
Point 3-A\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 8:48:14	6.32	mm/s
Point 3-A\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 8:48:18	0.783	g
<b>DDS 2014\Kara G-Ndb 5\08-No 2 LO Purifier Bowl Top</b>				
Point 1-H\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 8:54:13	3.62	mm/s
Point 1-H\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 8:54:17	0.509	g
Point 1-H\DEMOD RMS	Dmd-Wb < None >	5/12/2016 8:54:34	0.943	g
Point 2-V\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 8:54:55	5.51	mm/s
Point 2-V\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 8:54:59	0.418	g
Point 3-A\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 8:55:52	2.27	mm/s
Point 3-A\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 8:55:57	0.529	g
<b>DDS 2014\Kara G-Ndb 5\ 09-No1 Mooring Mot NDE</b>				
Point 1-H\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 9:42:37	1.08	mm/s
Point 1-H\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 9:42:41	0.627	g

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Point 2-V\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 9:43:25	0.619	mm/s
Point 2-V\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 9:43:29	0.51	g
Point 3-A\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 9:44:04	1.22	mm/s
Point 3-A\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 9:44:09	0.134	g
<b>DDS 2014\Kara G-Ndb 5\10-No1 Mooring Mot DE</b>				
Point 1-H\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 9:45:08	1.26	mm/s
Point 1-H\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 9:45:11	1.03	g
Point 2-V\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 9:46:01	1.04	mm/s
Point 2-V\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 9:46:06	0.98	g
Point 3-A\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 9:46:42	0.805	mm/s
Point 3-A\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 9:46:47	0.533	g
<b>DDS 2014\Kara G-Ndb 5\ 11-No 2 Mooring Mot NDE</b>				
Point 1-H\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 9:48:08	2.11	mm/s
Point 1-H\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 9:48:13	0.623	g
Point 2-V\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 9:48:57	0.918	mm/s
Point 2-V\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 9:49:00	0.836	g
Point 3-A\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 9:49:31	2.38	mm/s
Point 3-A\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 9:49:36	0.176	g
<b>DDS 2014\Kara G-Ndb 5\12-No 2 Mooring Mot DE</b>				
Point 1-H\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 9:50:22	2.32	mm/s
Point 1-H\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 9:50:26	1.23	g
Point 2-V\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 9:50:59	0.947	mm/s
Point 2-V\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 9:51:03	1.32	g

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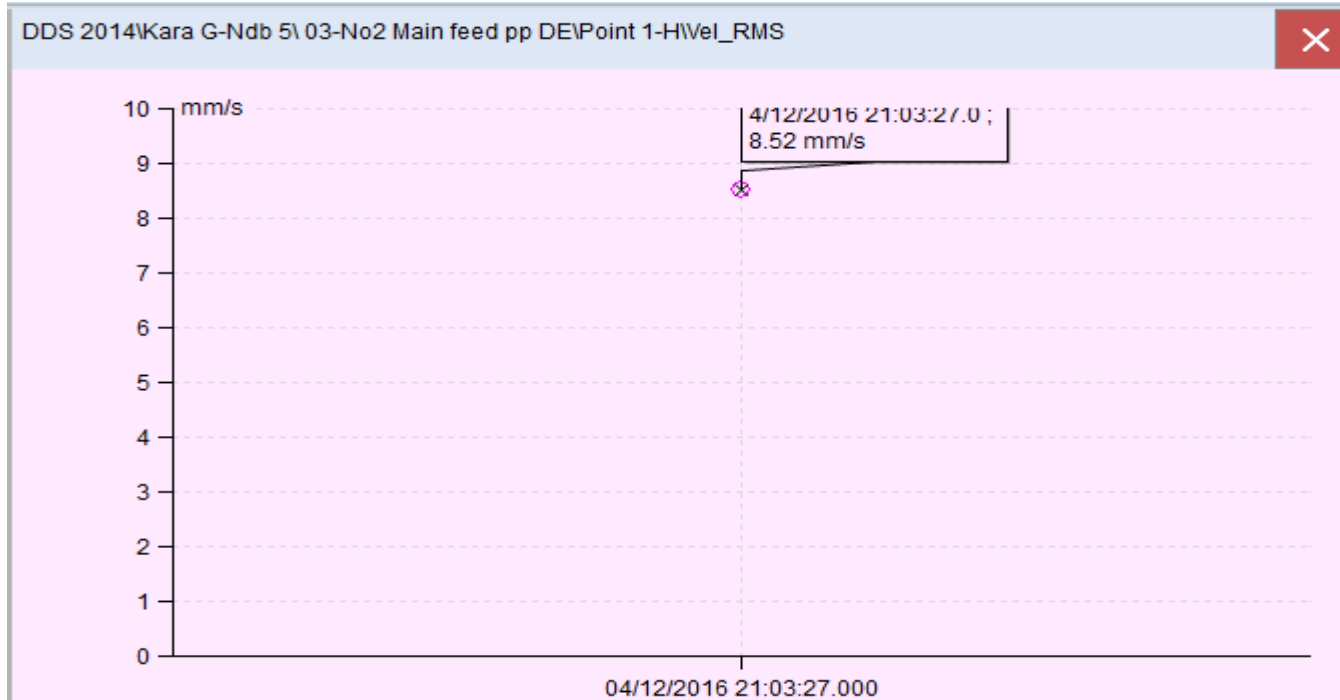
Point 3-A\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 10:15:13	1.1	mm/s
Point 3-A\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 10:15:18	0.384	g
<b>DDS 2014\Kara G-Ndb 5\ 13-No 1 COT Tur Top</b>				
Point 1-H\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 11:33:45	5.04	mm/s
Point 1-H\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 11:33:49	1.77	g
Point 2-V\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 11:35:02	2.52	mm/s
Point 2-V\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 11:35:05	1.18	g
Point 3-A\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 11:35:49	2.79	mm/s
Point 3-A\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 11:35:54	2.4	g
<b>DDS 2014\Kara G-Ndb 5\ 14-No 1 COT Tur Bot</b>				
Point 1-H\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 11:37:16	3.35	mm/s
Point 1-H\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 11:37:20	8.38	g
Point 2-V\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 11:38:01	1.26	mm/s
Point 2-V\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 11:38:05	5.32	g
Point 3-A\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 11:38:45	2.15	mm/s
Point 3-A\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 11:38:50	13.1	g
<b>DDS 2014\Kara G-Ndb 5\15-No1 COT GB Top</b>				
Point 1-H\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 11:39:44	3.07	mm/s
Point 1-H\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 11:39:47	3.82	g
Point 2-V\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 11:40:21	1.09	mm/s
Point 2-V\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 11:40:25	1.68	g
Point 3-A\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 11:41:02	1.77	mm/s
Point 3-A\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 11:41:07	5.45	g

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<b>DDS 2014\Kara G-Ndb 5\ 16-No1 COT GB Bot</b>				
Point 1-H\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 11:42:16	2.24	mm/s
Point 1-H\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 11:42:21	5.85	g
Point 1-H\Demod_RMS	Dmd-Wb < None >	5/12/2016 11:42:41	9.01	g
Point 2-V\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 11:43:08	0.725	mm/s
Point 2-V\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 11:43:12	2.11	g
Point 3-A\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 11:43:52	1.45	mm/s
Point 3-A\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 11:43:56	1.83	g
Point 3-A\Demod_RMS	Dmd-Wb < None >	5/12/2016 11:44:16	3.18	g
<b>DDS 2014\Kara G-Ndb 5\ 17-No 1 COP Top Brg</b>				
Point 1-H\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 12:33:27	2.71	mm/s
Point 1-H\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 12:33:31	0.236	g
Point 1-H\Demod_RMS	Dmd-Wb < None >	5/12/2016 12:33:50	0.451	g
Point 2-V\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 12:34:13	1.96	mm/s
Point 2-V\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 12:34:18	0.207	g
Point 3-A\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 12:34:52	3.45	mm/s
Point 3-A\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 12:34:56	0.237	g
<b>DDS 2014\Kara G-Ndb 5\ 18-No 1 COP Bot Brg</b>				
Point 1-H\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 12:36:06	1.35	mm/s
Point 1-H\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 12:36:09	1	g
Point 2-V\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 12:36:58	1.45	mm/s
Point 2-V\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 12:37:01	0.881	g
Point 3-A\Vel_RMS	Vel RMS (600 - 60,000 [RPM])	5/12/2016 12:38:24	2.35	mm/s

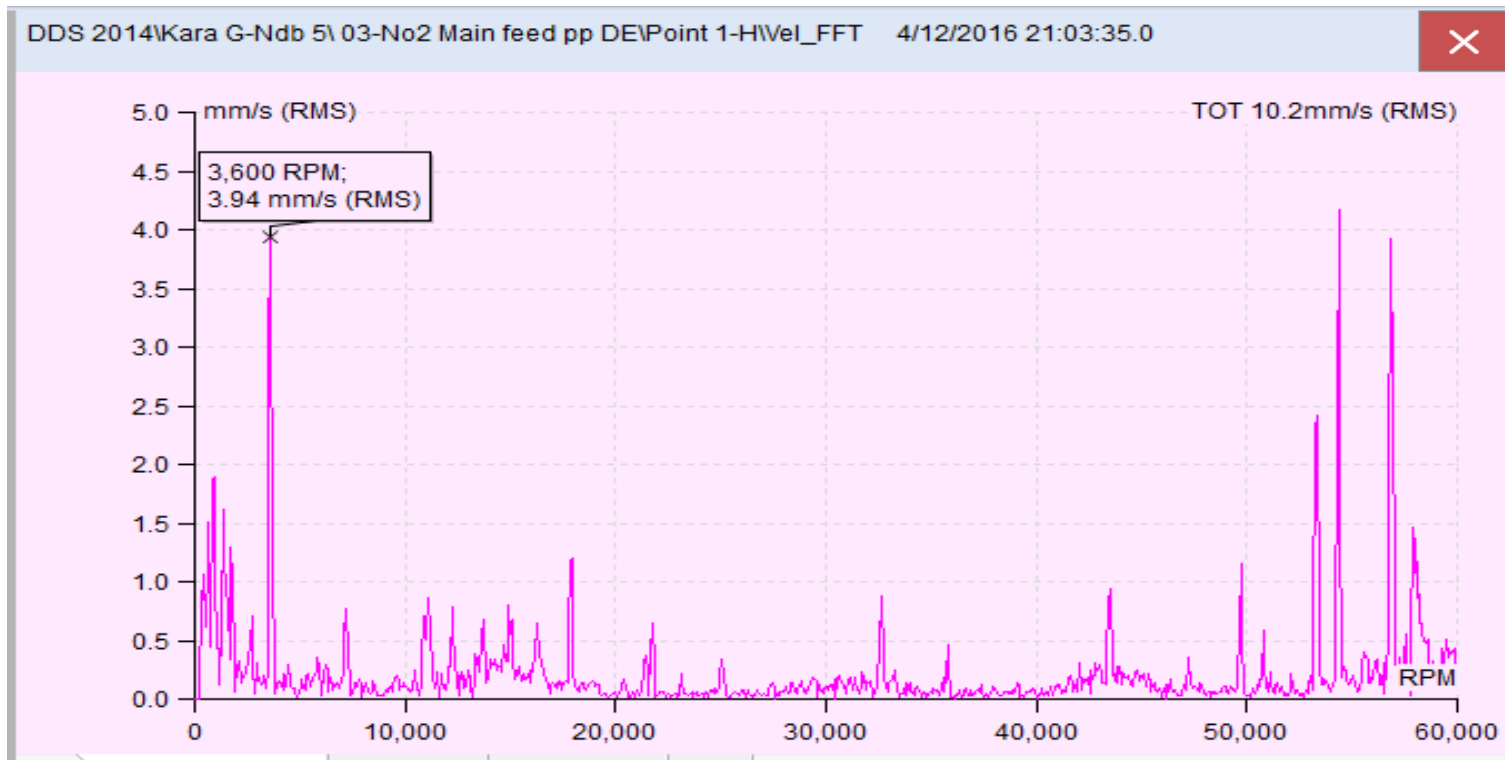
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Point 3-A\Acc_RMS	Acc RMS (30,000 - 960,000 [RPM])	5/12/2016 12:38:29	0.615	g
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**Higher Vibration level 8.52 mm/s**

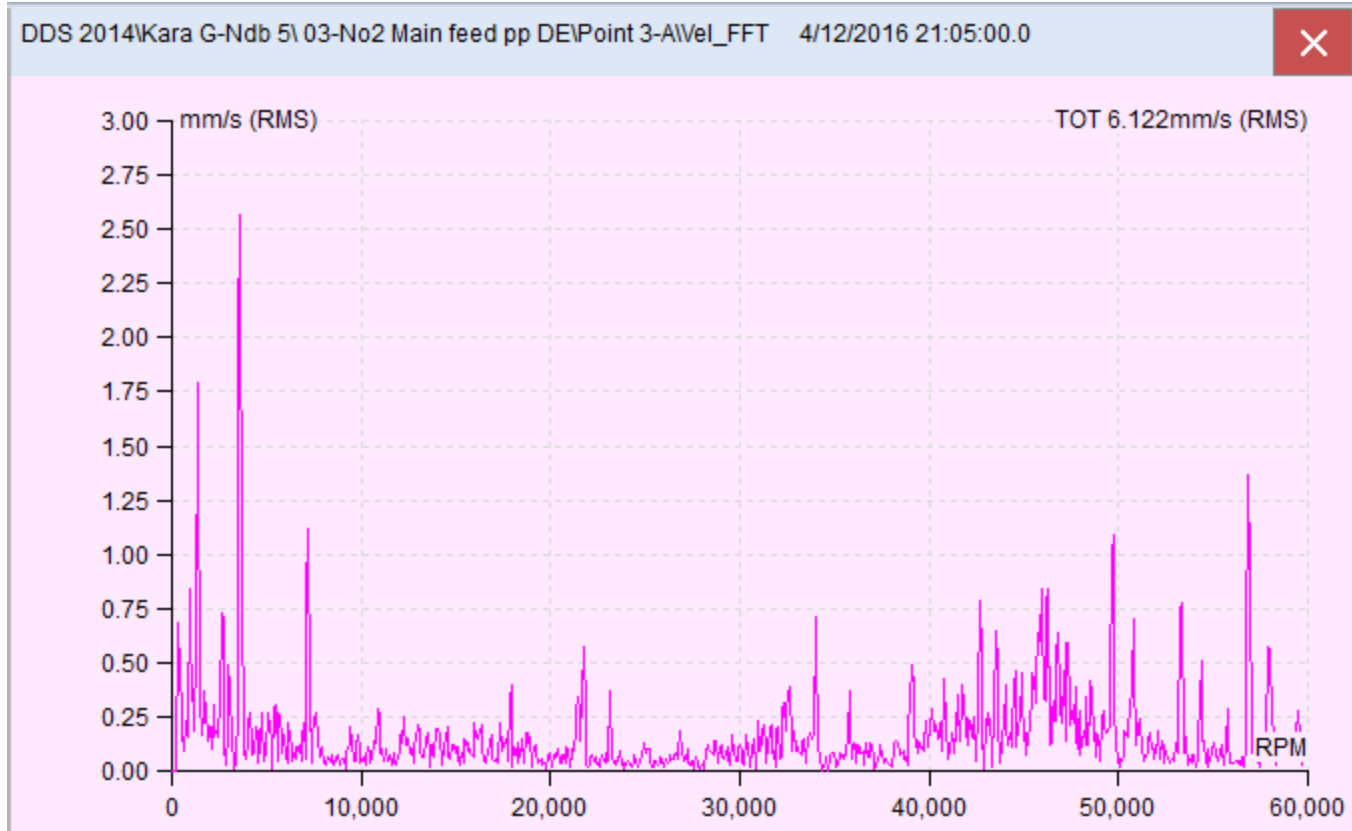
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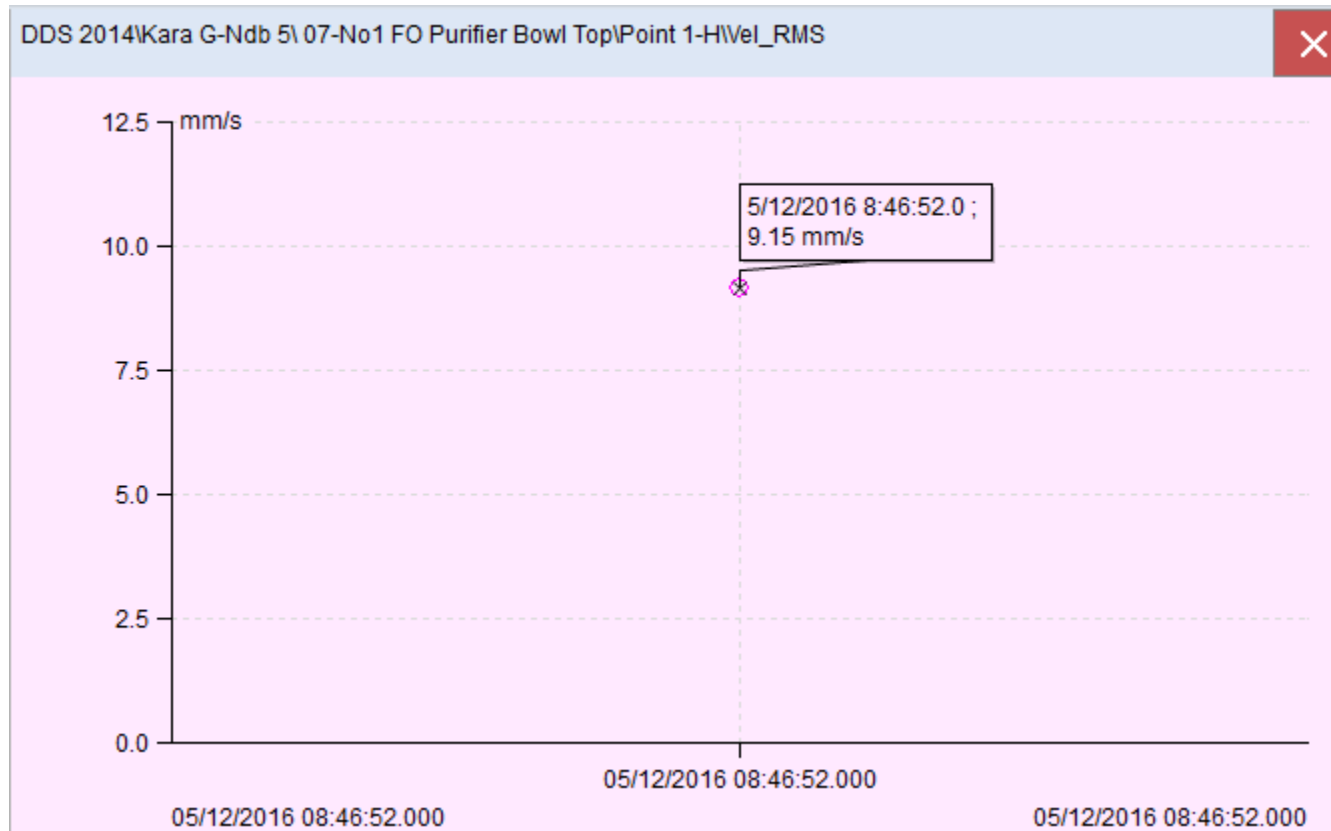
Looseness of the Running components seems to be the dominant issue. No2 Boiler feed pump needs an overhaul maintaining impeller/wear ring clearances. Gear box to be also checked



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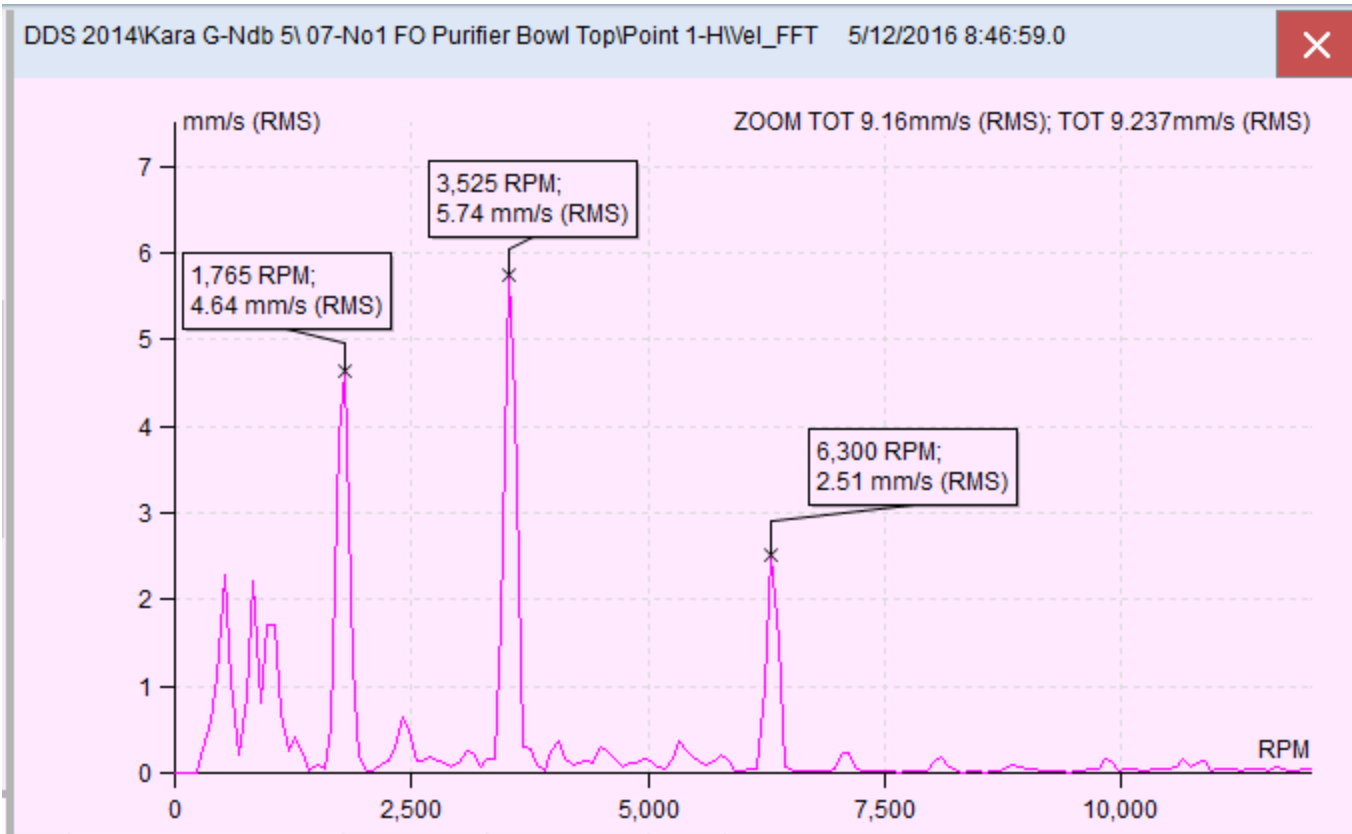
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**Higher RMS vibration level 9.15 mm/s**

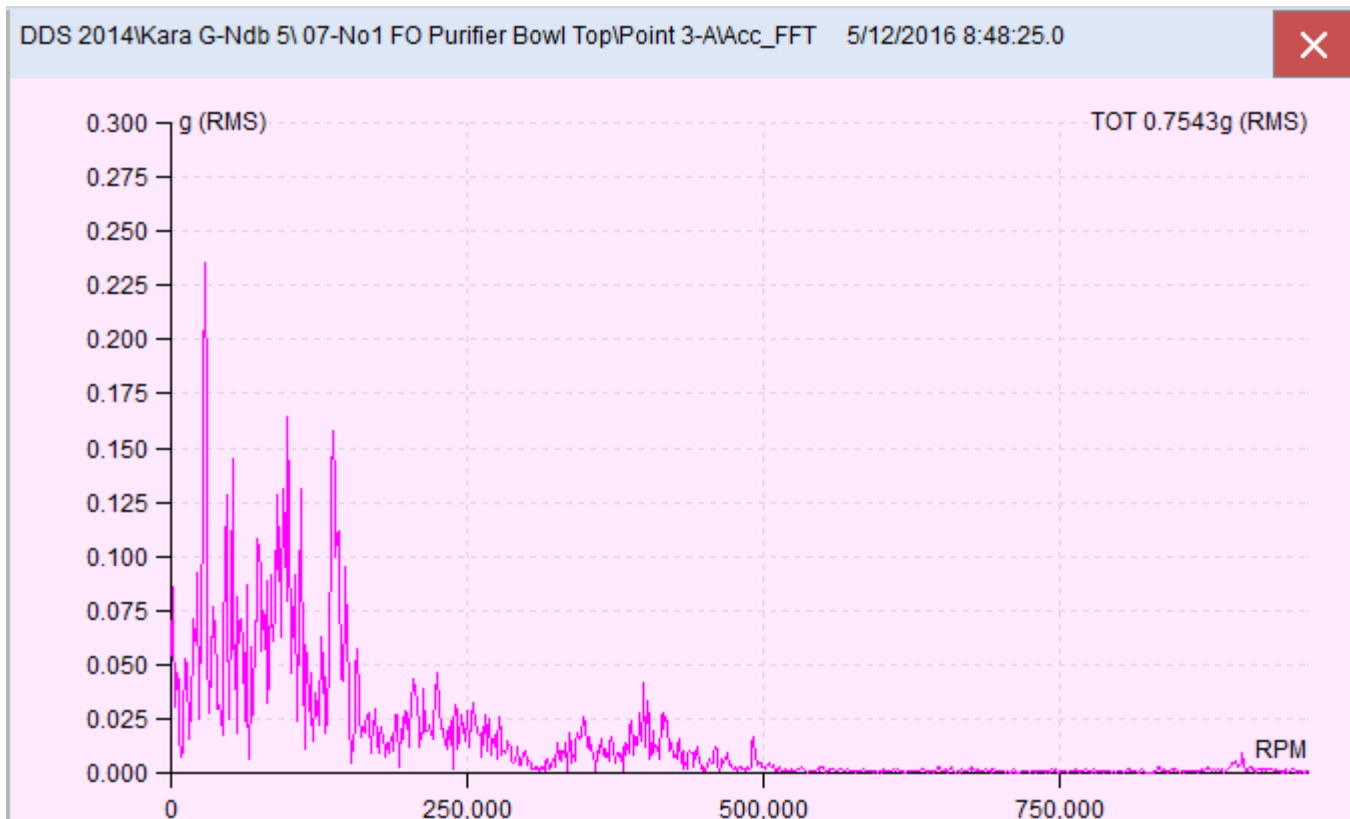
**Cleaning of the bowl is expected to reduce the vibration**

## Nbd 5 –Report-Vibration



FFT above indicates typical Mis-alignment spectrum ( Main shaft to gears, between gears)

## Nbd 5 –Report-Vibration



**Raised Floor indicates Looseness of Foundation bolts, bearing looseness (internal as well as External)**