COMMISSIONING ENGINEER'S COMMENTS

12 Aug 92

1308 Rolled Unit #7 ~~Mechanically~~
Let unit creep and Listened. Unit was then
Raised up @ 20 RPM steps To 120 RPM.
Run out Readings were Taken. ~~Hort~~

1430 Normal shutdown.

1530 Rolled unit for ballancing Information
Took data at 60 RPM, 90 RPM, & 120 RPM

1430 Completed first balance Run data gathering

13 Aug 92

1100 Rolled Unit #7 for second balance Roll
for data gathering. 200 Lbs. of weight was
placed on Arm #6 before Roll

1155 ~~Compted~~ Completed second balance Roll @
90 & 120 RPM. Lowered head gate and brake
for Lunch.

1245 Relocating 200 Lb weights 60° in direction
of Rotation.
Raise head gate To rewater Unit #7

1400 Rolled Unit To 90 RPM and waited for Data
To be collected

1450 Raised speed To 120 RPM for second second of Data

1535 Stop Unit and lowered head gate for relocation
of weights

14 Aug 92

0900 Rolled Unit #7 for 4th Balance Roll for checking
Bearing run out & collecting Data

(NOTE)
T-4 Tripped off Line Last night but did not

By Donald Keith Phillips Date 14 Aug 92

COMMISSIONING ENGINEER'S COMMENTS

14 Aug 92 (cont.)

Trip Line breakers. Operator walked out to look at Transformer before going back to control room to trip Yard Breakers. Wire to 87T were lifted and tagged for testing. They should have been landed before T-4 was energized.

0915 Unit @ 90RPM for balancing run.

0921 Raised unit speed to 120RPM

0945 stopped unit and lowered head ~~head~~ gate. When sprial pressure started to drop off we opened ~~a~~ the gates to 50% upon Tony's request. Unit RPM when to 60RPM before gates were reclosed & sprial case pressure dropped to 30PSI.

1100 Raising head gates for 5th balancing run

1122 Started Unit #7 and increased speed to 90RPM. Upon starting we had an abnormal mechanical alarm. 3UA was dropping out due to 63GT not closing ~~to pick up~~. Confirmed the high pressure ~~fi~~ lift pump was working and showing 2600PSI and filter was not ~~cloded~~ closed. Will check circuit after shut down before restarting.

1138 Increased speed to 120RPM.

1154 stopped unit

1315 started sequence for starting unit but had a 63GTX relay that would not pick up. Upon inspecting system before proceding it was found that valve to pressure switch was closed.

1324 Restarted unit for bearing runin. Run may not go long due to rope in turbine & bearing run out being .011.

1335 shuddown to try a test to see why turbine has

By Donald Keith Phillips Date 14 Aug 92

COMMISSIONING ENGINEER'S COMMENTS

14 Aug 92 (Cont.)
such a Turbance in it.
1400 shut down Unit To Test Uaccum Line by depressing Air cushine & Venting.
Using head cover pressure gauged installed @ 100 inches on head cover, we depressed Tail wate till gauge Read 20 PSI. [Unit #6 when depressed would Read 20 PSI & Unit #5 ~~was~~ would Read 17 PSI]. Doug went To the Tail Race & 20PP was opened To Vent. Pipe was verified To be opened.
1430 Unit #7 was Restarted After meeting with Tony, Steve B., Doug Kenney, Charles (MIL), & Myself. We Agreed To closely watch bearing heat Rise To see Trend. Tony H. will call his office To discuss problem.
1720 Stop Unit #7. Everyone was satisfied with Results of bearing Run-in.

17 Aug 92 (Monday)
1010 Watering up unit #7
1134 Rolled unit To 60 RPM To check vibration before Raising speed To 120 RPM. After unit was up to speed field breaker was closed with shorting bar on stator winding. After performing short circuit saturation Test the 64N Relay was checked with Approximally 300 Amp being Applied To stator windings.

18 Aug 92 (Tuesday)
No Testing To Allow for mounting of bracket for Instumenting Load Rejection & pump Testing.

By Donald Keith Phillips Date 17 Aug 92

COMMISSIONING ENGINEER'S COMMENTS

18 Aug 92 (CONT.)
T-4 WAS de-engerize TO ALLOW S/N TO PLACE flex LINKS in Iso-phase bus for Unit #8.

By Donald Keith Phillips Date 18 Aug 92

COMMISSIONING ENGINEER'S COMMENTS

3 Sept 92

@ 0826 Starting Unit #7
0830 Stopped Unit #7 due To ACB 770 would not close. Problem was found To be in governor. Trouble shooting now.
0915 Starting Unit #7. Line Receiver & Pulse Driver card was bad in governor.
0920 Unit #7 Loaded To 26 MW and +9 MVAR
1315 Compled ≈ 50% Load heat Run
1316 Reduced Load To 0MW and 0-MVAR To begin No Load heat Run
1713 Initiated stop for No Load Heat Run. Avg. heat Rate Rise for Last hour was .46°C

By Donald Keith Phelps Date 3 Sept 92

COMMISSIONING ENGINEER'S COMMENTS

9 Sept 92

1. Placed clearance on U-7 wicket gates @ 100% for Grant & others to look at grease leak seal problem on wicket gates.
2. Placed clearance on High Pressure Lift pump & exciter for E/C to change filter on High pressure Lift and clean excieter ~~clo~~ clectorer Ring.

10 Sept 92

Contractor cleaning paint off servo piston cyclinder. on Unit #8

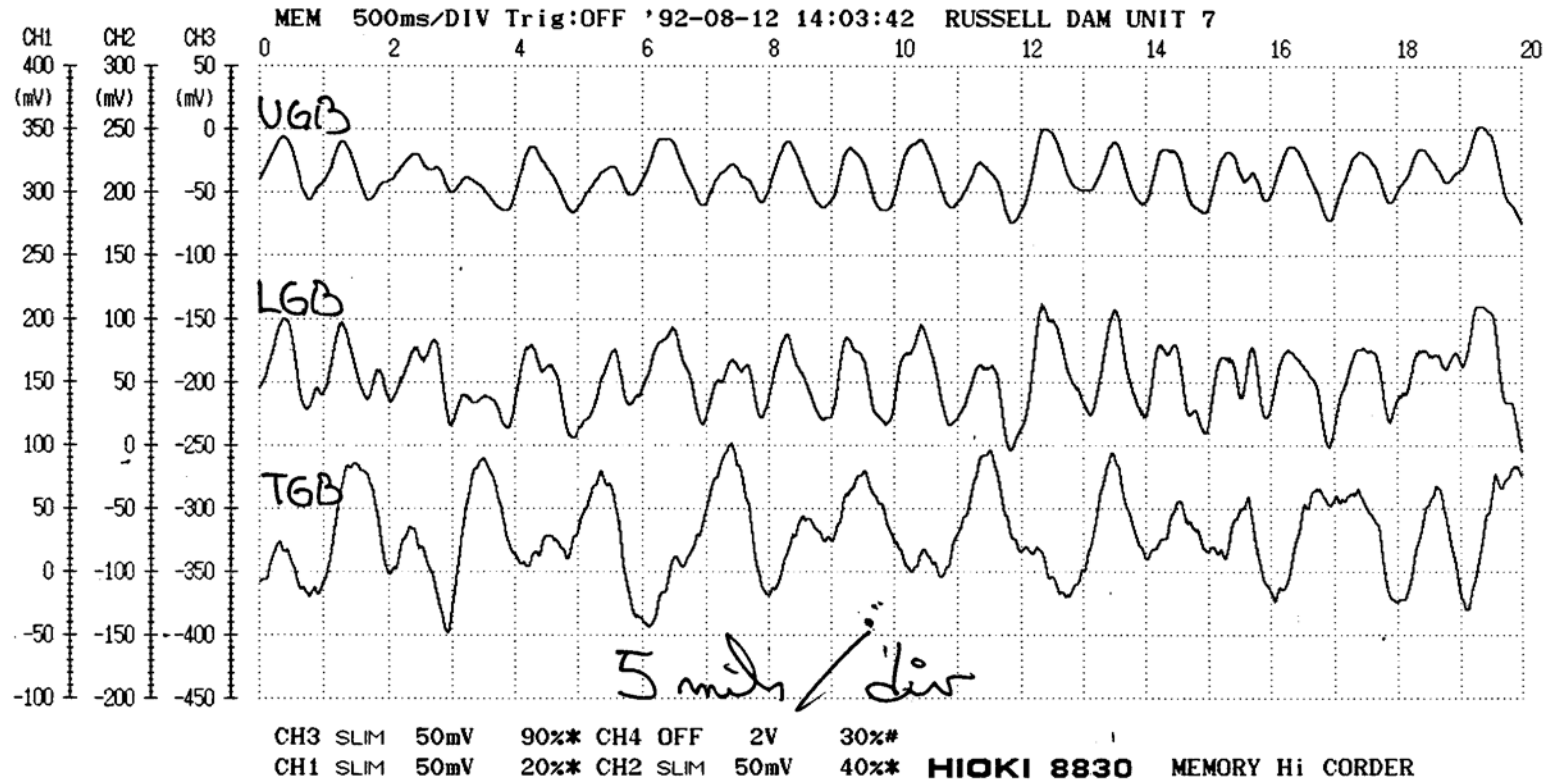
By _____ Date _____

12 Aug 92

Bearing Runout prior to balancing machine.

UGB ⇒ Upper Guide Bearing
LGB ⇒ Lower Guide Bearing
TGB ⇒ Turbine Guide Bearing

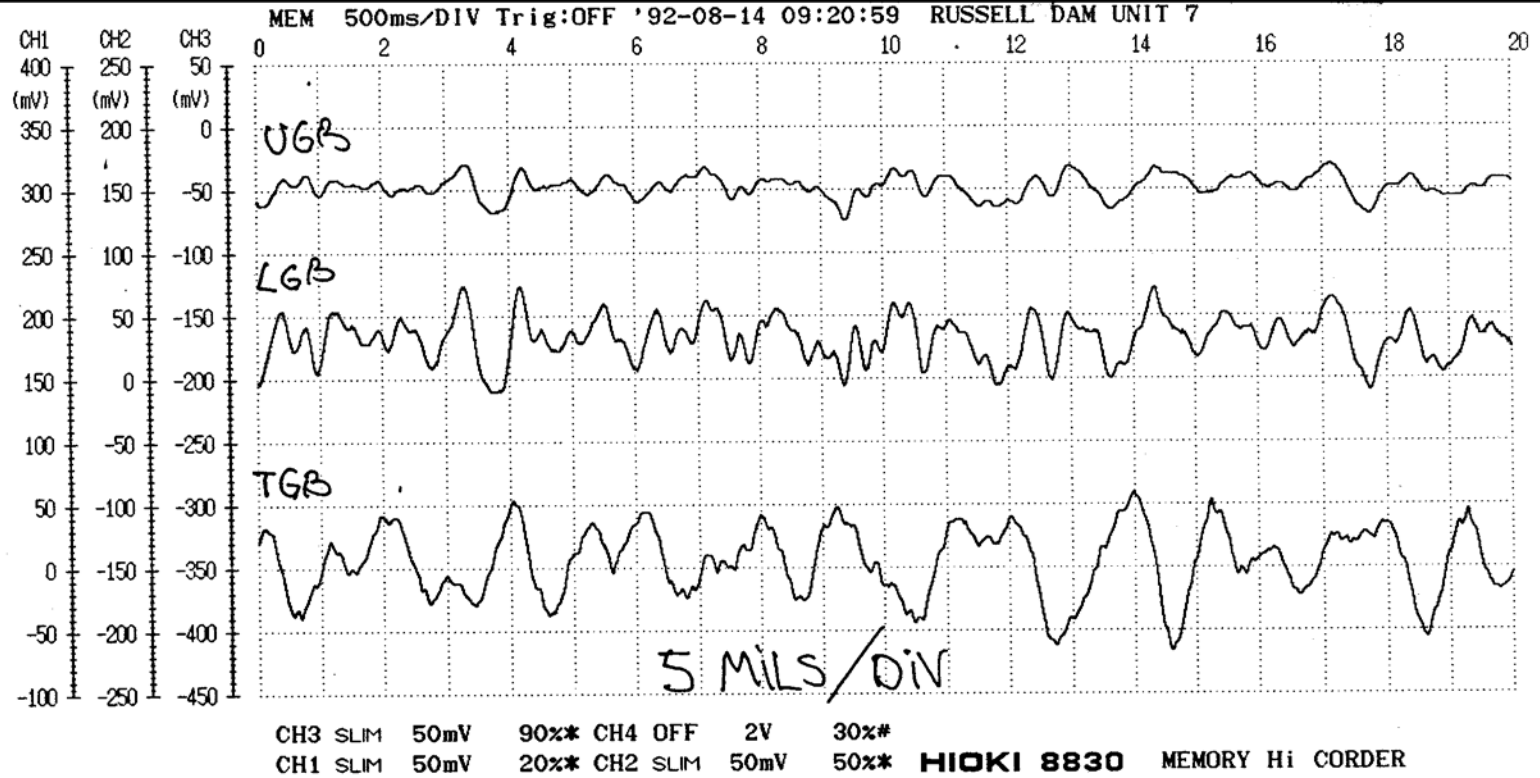
120 RPM



3rd Run and changing weight location

120 RPM

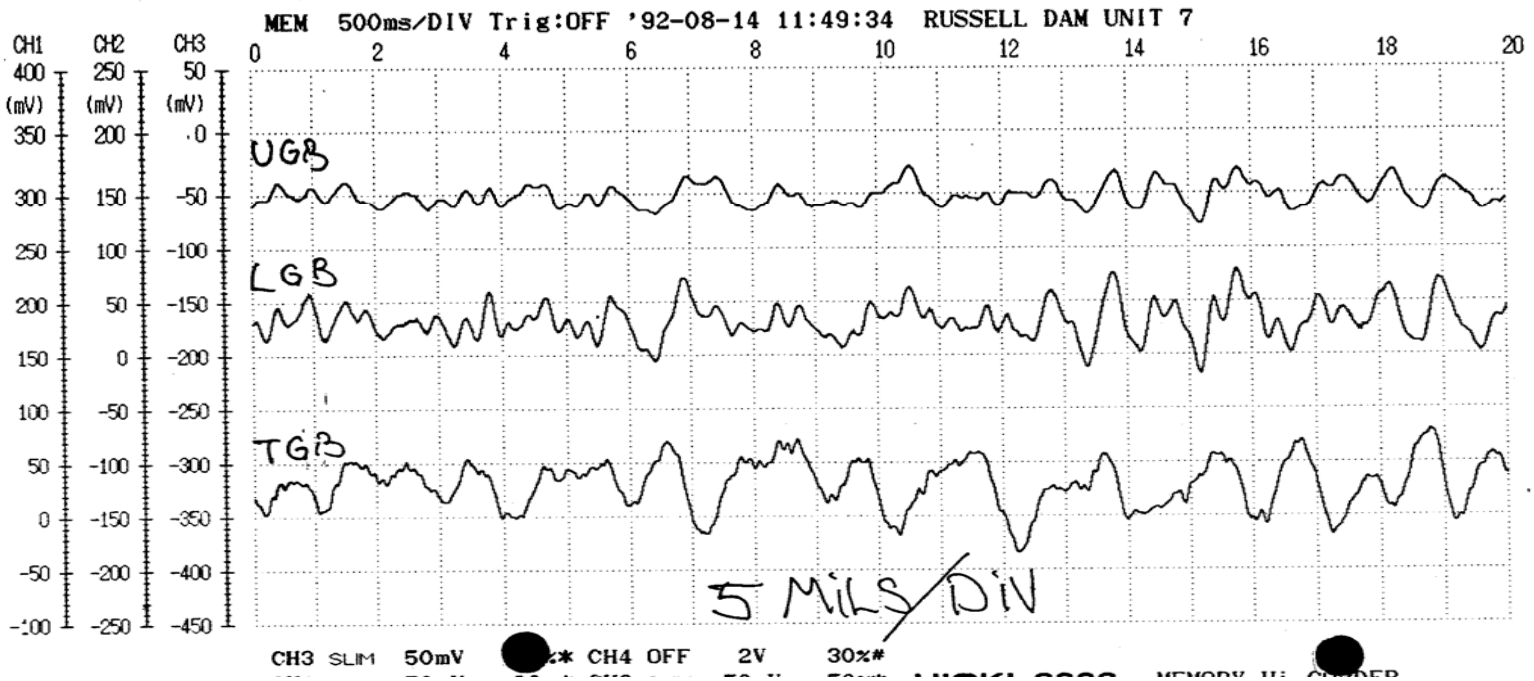
250 lbs
bias 10



Final Balancing Run for Unit #7

120 RPM

175 lbs
bias 10
75 lbs
bias 11

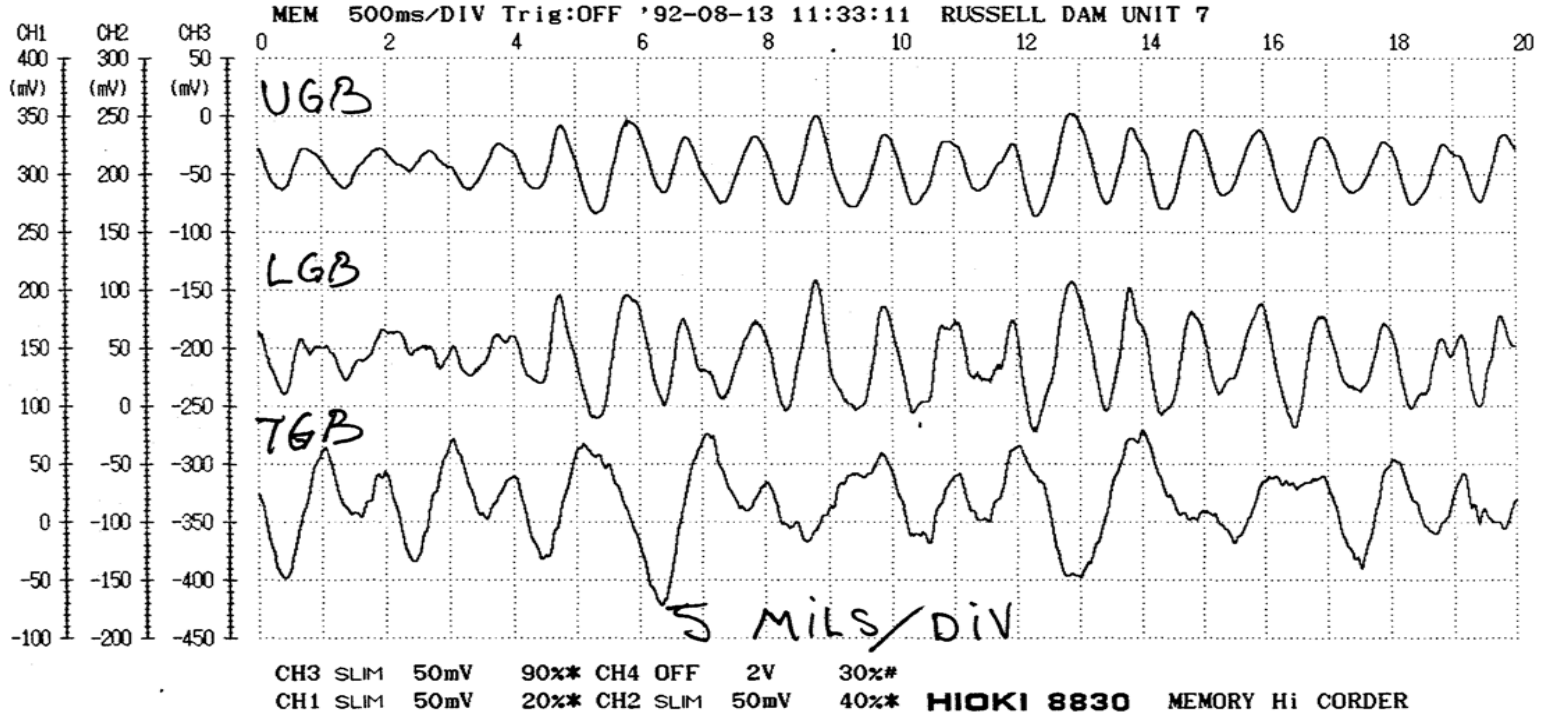


1st Run with weight

120RPM

200 lbs

bias 1

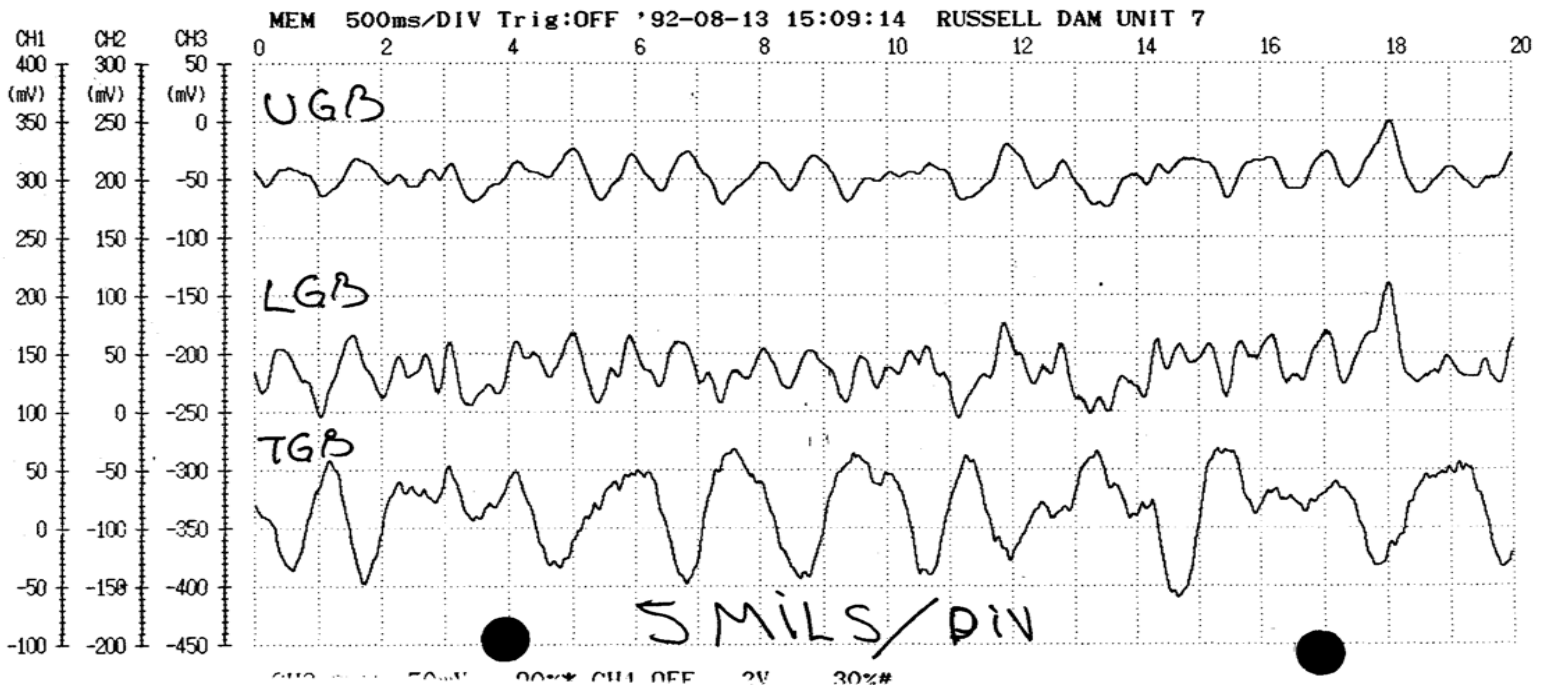


2nd Run after changing weight location

120RPM

275 lbs

bias 11



BALANCING & BEARING HEAT RUN-IN 1XP

UNIT NO. 7 FOREBAY 473.78

DATE 14 Aug. 92 TAILWATER 327.78 SPIRAL CASE 64.5

MECHANICAL RUN

TIME	% GATE	RPM	BEARING TEMP TB	LG	UG	TG	OIL TEMP UG	TB	TG	RUN OUT GEN	TURB	TG O.P.
0900	0	0	35	36	32	26	30	35	23	-	-	0
0905	9	90	42	36	33	26	30	34	24	-	-	12.2
0915	9	90	51	37	34	30	31	34	24	-	-	11.8
0925	18.5	120	58	38	36	32	31	35	24	-	-	11.1
0935	18.5	120	61	39	37	38	32	36	24	-	-	10.5
1120	0	0	43	38	35	30	32	36	25	-	-	11
1125	9	90	47	39	35	30	32	36	25	-	-	11.8
1140	18.5	120	58	39	36	33	32	36	26	-	-	10.8
1150	18.5	120	62.5	40	37	40	33	37	28	7.5	11	10
1300	0	0	46	40	36	33	33	37	27	-	-	0
1330	18.5	120	60	40	36	37	33	37	28	-	-	10.5
1355	9	90	54	40	37	38	33	37	29	-	-	10
1430	0	0	48	40	37	36	33	37	29	-	-	9.2
1445	18.5	120	63	41	38	41	33	37	31	-	-	9.2
1500	18.5	120	65	42	39	44	34	38	33	-	-	8.7
1515	18.5	120	65.5	42.5	40	46	34	39	35	-	-	8
1530	18.5	120	66	43	40	46	34.5	39	36	-	-	15
1545	18.5	120	66.5	43	40.5	44	35	40	33	-	-	15
1600	18.5	120	66.8	43	41	44	35.5	40	32	-	-	15
1615	18.5	120	67	43.5	41.5	44	35.5	40	31	-	-	15
1630	18.5	120	67.1	43.5	41.5	44	36	40	31	-	-	15
1645	18.5	120	67.2	43.7	42	44.5	36	40	30.5	-	-	15
1700	18.5	120	67.3	43.8	42.2	44.5	36	40	30.5	-	-	15

Bearing Heat Run

PHILOM-10 X 10 TO 1 INCH 10TH LINE HEAVY

UNIT 7

100% HEAT RUN

HI POT TEST

31 AUG 92

24 MW + 7MVARS
45MW + 15MVARS
67MW + 22MVARS
85MW + 30MVARS

LEAD REJECTION GENERATOR Mode

Date: 8-26-92
Unit No. 7

Control Room

Forebay: 473.61
Tailwater: 329.34

Time	Run No.	Gen V	Gen Peak	Swing	Gen A	Tach	Peak	Swing	M Watts	M Vars	Fld V	Fld A	Gate Pos	Reg. Mode				Alarms	
16:06	1	13.5 KV	13.6 KV	1	1075	120	132	1	+24	+8	72	760	34%	Auto AC					
	2	Not Recorded																	
18:22	3	13.8 KV	14.1 KV	1	1950	120	140	1	+43	+13	81	1100	44%	Auto AC					
	4	14KV	14.4KV	2	3000	120	153	2	68	+22	93	1250	68%	Auto AC					
	5	14KV	14.5KV	2	3600	120	172	2	84	+30	108	1450	99%	Auto AC					

Load Rejection Generator Mode

NOTE: The Load Rejections were Re-Run due to the machine being Rebalanced. AND

Date: 4 Sep 92

Unit No. 7

Control Room

For Tai

	Time	Run No.	Gen V	Gen Peak	Swing	Gen A	Tach	Peak	Swing	M Watts	M Vars	Fld V	Fld A	Gd Po
25% Load Rejection	1300	1	13.8 KV	13.9	1	1050	120	132	1	24	8	75	920	
50% Load Rejection	1310	2	13.8 KV	14.1	1	2015	120	141	1	45	15	88	1100	
75% Load	0910	3	14 KV	14.4	2	3050	120 RPM	155	2	68	22	100	1275	
100% Load	0925	4	14.1 KV	14.6 KV	2	3700	120 RPM	170	2	85	30	115	1450	