MASTER

DUQUESNE LIGHT COMPANY
SHIPPINGPORT ATOMIC POWER STATION

TEST RESULTS

DLCS 1740405

GOVERNOR PERFORMANCE TESTS

CORE I SEED 2

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Purpose

To determine the load at which each of the governor valves open when the primary plant average temperature is at 500 F.

Conclusions

The loads at which the governor valves opened are as follows:

<u>Valve Number</u>	<u>Gross Generator Load</u>
2	16.5
3	34.5
4	49.0

Description of Test Equipment and Test Procedure

The generator load was raised from 9.6 MW to 65.0 MW in varying increments. At each generator load a measurement was made to determine the movement of the governor bar from the previous setting. The measurements were made between a reference punch mark on the governor valve servomotor piston rod and the top of the servomotor housing.

The term "governor bar position" is used figuratively for this measurement since the governor bar is inside the steam chest and is not accessible for measurements. The movement recorded, however, is proportional to the governor bar movement but is in the opposite direction.

No formal procedure was issued for this test.

Results

DLCS 1740405, Governor Performance Test, was performed on June 14, 1960. Table I is a compilation of the data taken during the test. Figure 1 is a plot of gross generator output versus governor bar position and governor oil pressure.

Table II is a comparison of the past performances of this test with the present performance.

The distances of the governor valves from the governor bar are adjusted so that the governor bar must move a small distance after a particular valve is fully open before the next valve starts to open. This causes the plateaus on the curve in Figure 1.

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POWER STATIONS DEPARTMENT
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TABLE I

June 14, 1960

Generator Output	Governor Oil Pressure	Governor Bar Position
MW	Psig	Inches
9.6	Data Not Taken	8 3/16
14.3		7 61/64
15.9		7 47/64
16.5		7 41/64
16.6		7 37/64
16.8		7 34/64
17.6		7 29/64
21.6		7 20/64
25.5		7 8/64
29.6		7
32.0	30.0	6 56/64
33.0	30.0	6 50/64
33.9	29.4	6 42/64
34.6	29.0	6 29/64
34.9	28.0	6 20/64
38.1	27.2	6 9/64
41.1	26.9	5 63/64
45.0	26.3	5 52/64
47.1	26.0	5 42/64
48.2	25.5	5 32/64
48.9	25.0	5 20/64
49.0	24.5	5 8/64
51.0	23.9	4 63/64
53.0	23.5	4 55/64
55.5	23.5	4 45/64
65.0	20.0	3 46/64

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TABLE II

		Performances of Test			
	1	2	3	4	5
Date	2-17-58	9-12-58	3-9-59	3-19-59	6-14-60
Governor Valve	Governor Valve Opens (MW)				
2	22	16.6	**	17	16.5
3	*	33.6	**	35	34.5
4	45	48.4	**	50	49.0

* No data taken, valve stem broken

** No data taken, valves not operating properly

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1/12/61