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**DUKE POWER**

May 29, 1997

U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

Subject: McGuire Nuclear Station, Unit 1  
Docket No. 50-369  
RCCA Testing Results

NRC Bulletin 96-01, dated March 8, 1996, requested holders of operating licenses for Westinghouse-designed plants to take actions and supply information to the NRC regarding recent control rod insertion problems. The requirements of Bulletin 96-01 expired at the end of 1996; however, McGuire voluntarily performed control rod drop testing on February 14, 1997 and rod drag testing on March 6, 1997 for Unit 1 end of cycle 11. The reactor core was comprised entirely of Framatome Mark BW fuel.

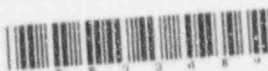
Drop times to the dashpot and from the dashpot to rod bottom were measured for all rods except those in Control Bank B. An unrelated electrical problem developed such that Control Bank B could not be removed from the core for the drop test without a significant impact on the outage duration. Rod drop time data is provided in Attachment 1 for the remaining RCCAs.

All rods were well within the Technical Specification required time of 2.2 seconds to the dashpot. The average drop time for all rods was 1.38 seconds. The maximum burnup fuel assembly under a RCCA was 51,850 MWD/MTU.

Attachment 2 provides the results of the in-pool drag tests. From this data. The maximum dashpot drag force during withdrawal was 72 pounds and the maximum above dashpot drag force during withdrawal was 63 pounds. These drag forces are within acceptable limits.

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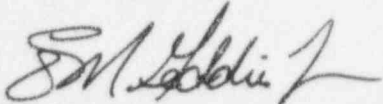


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U.S. Nuclear Regulatory Commission  
May 29, 1997  
Page 2

Questions concerning this data, should be directed to  
Richard Clark at (704)382-5823 or Kay Crane at (704) 875-  
4306.

Sincerely,



H. B. Barron, Vice President  
McGuire Nuclear Station

*For*

Attachment 1  
McGuire 1 Cycle 11  
RCCA Drop Time

	EOC 2/14/97 DASH POT	EOC 2/14/97 ROD BOTTOM	EOC 2/14/97 Time in Dashpot	EOC Burnup MWD/MTU	Difference EOC-BOC Time to DP	Difference EOC-BOC Time in DP
ROD						
B-4	1.304	1.604	0.300	28770	-0.046	-0.120
B-6	N/A	N/A	N/A	31340	N/A	N/A
B-8	1.376	1.796	0.420	28540	0.016	0.020
B-10	N/A	N/A	N/A	31200	N/A	N/A
B-12	1.343	1.683	0.340	28860	-0.017	-0.130
C-5	1.310	1.630	0.320	35020	-0.030	-0.100
C-7	1.327	1.627	0.300	39800	-0.013	-0.090
C-9	1.326	1.646	0.320	39910	-0.034	-0.100
C-11	1.329	1.689	0.360	35150	-0.021	-0.090
D-2	1.443	1.803	0.360	28540	-0.017	-0.160
D-4	1.379	1.820	0.441	35280	0.039	0.051
D-8	1.331	1.671	0.340	39360	-0.019	-0.080
D-12	1.439	1.900	0.461	35210	0.069	0.071
D-14	1.456	1.825	0.369	28840	-0.014	-0.111
E-3	1.308	1.668	0.360	35320	-0.042	-0.050
E-13	1.370	1.730	0.360	35000	0.000	-0.090
F-2	N/A	N/A	N/A	31070	N/A	N/A
F-6	1.397	1.877	0.480	38650	0.047	0.060
F-8	1.433	1.994	0.561	47630	0.073	0.121
F-10	1.398	1.978	0.580	39140	0.058	0.160
F-14	N/A	N/A	N/A	31400	N/A	N/A
G-3	1.306	1.626	0.320	39750	-0.054	-0.070
G-13	1.327	1.667	0.340	39690	-0.043	-0.050
H-2	1.436	1.916	0.480	28440	0.036	0.060
H-4	1.311	1.651	0.340	40030	-0.039	-0.080
H-6	1.372	1.852	0.480	47390	0.032	0.050
H-8	1.480	1.981	0.501	51850	0.100	0.101
H-10	1.412	1.933	0.521	47540	0.092	0.081
H-12	1.331	1.671	0.340	39560	-0.009	-0.080
H-14	1.477	1.917	0.440	28270	0.067	0.030
J-3	1.308	1.648	0.340	39590	-0.052	-0.080
J-13	1.326	1.666	0.340	39690	-0.054	-0.060
K-2	N/A	N/A	N/A	31620	N/A	N/A
K-6	1.398	1.898	0.500	38550	0.058	0.090
K-8	1.473	2.054	0.581	47310	0.103	0.111
K-10	1.438	1.958	0.520	38880	0.088	0.100
K-14	N/A	N/A	N/A	31190	N/A	N/A
L-3	1.330	1.670	0.340	35420	-0.020	-0.100
L-13	1.349	1.669	0.320	35150	-0.031	-0.070
M-2	1.485	1.825	0.340	28690	-0.005	-0.110
M-4	1.380	1.841	0.461	35160	0.050	0.061
M-8	1.332	1.672	0.340	39320	-0.028	-0.090
M-12	1.399	1.900	0.501	35190	0.059	0.061
M-14	1.584	1.984	0.400	28610	0.094	-0.010
N-5	1.309	1.609	0.300	35010	-0.041	-0.100
N-7	1.327	1.667	0.340	39600	-0.013	-0.090
N-9	1.348	1.708	0.360	39970	-0.002	-0.080
N-11	1.310	1.650	0.340	35240	-0.050	-0.020
P-4	1.344	1.644	0.300	28310	-0.006	-0.180
P-6	N/A	N/A	N/A	31230	N/A	N/A
P-8	1.397	1.797	0.400	28390	0.037	0.000
P-10	N/A	N/A	N/A	31350	N/A	N/A
P-12	1.325	1.625	0.300	28650	-0.035	-0.140
AVERAGE	1.375	1.770	0.395	35635	0.004	-0.029

Attachment 2 - Maximum Withdrawal and Insertion Drag Loads During Spent Fuel Pool RCCA Drag Test  
Drag Test Tool Reference Weight: 170 pounds

RCCA ID	UIEOC11 Fuel Assembly ID	Spent Fuel Pool Storage Location	Withdrawal Maximum Dashpot Drag Load (Pounds)	Insertion Maximum Dashpot Drag Load (Pounds)	Reactor Vessel Core Location Reference	Withdrawal Maximum Out-of-Dashpot Drag Load (Pounds)	Elevation of Maximum Drag Load Above the Dash Pot (Feet)	Insertion Maximum Out-of-Dashpot Drag Load (Pounds)	Elevation of Maximum Drag Load Above the Dash Pot (Feet)
R39	AB16	H-7	25	48	C-11	18	1	9	1
R51	AB30	G-7	21	11	M-4	20	na <sup>A</sup>	10	na
R55	AB24	F-7	29	22	E-3	17	1	10	1
R47	AA02	E-7	22	13	H-4	14	1	5	1
R04	AA01	D-7	19	12	C-7	12	1	3	1
R24	AA29	L-8	31	19	F-10	22	1	13	1
R41	AB64	K-8	20	12	L3	9	1	10	1
R44	AA43	J-8	16	6	N-7	9	1	1	1
R59	AB21	G-8	19	13	B-6	9	1	0	1
R48	AB46	F-8	25	17	C-5	10	1	2	1
R502	AB36	D-8	19	16	P-10	8	na	2	na
R05	AB07	L-9	32	20	D-4	11	1	2	1
R57	AB32	J-9	18	9	K-2	7	na	2	1
R34	AA58	K-11	39	28	K-10	32	3	21	3
R40	AB22	F-11	36	28	D-12	23	1	17	1
R23	AA40	D-11	27	19	G-3	13	1	6	1
R20	AB67	D-12	14	3	M-12	9	na	1	na
R50	AB13	F-12	37	29	E-13	21	3	14	2
R49	AA12	K-12	39	30	H-12	19	1	10	1
R16	AA09	K-13	23	15	N-9	18	1	9	2

Note A: For all "na", the drag loads were consistent throughout the out-of-dashpot drag test distance of approximately 7 1/2 feet.

Attachment 2 (cont.) - Maximum Withdrawal and Insertion Drag Loads During Spent Fuel Pool RCCA Drag Test  
Drag Test Tool Reference Weight: 170 pounds

RCCA ID	UIEOC11 Fuel Assembly ID	Spent Fuel Pool Storage Location	Withdrawal Maximum Dashpot Drag Load (Pounds)	Insertion Maximum Dashpot Drag Load (Pounds)	Reactor Vessel Core Location Reference	Withdrawal Maximum Out-of-Dashpot Drag Load (Pounds)	Elevation of Maximum Drag Load Above the Dash Pot (Feet)	Insertion Maximum Out-of-Dashpot Drag Load (Pounds)	Elevation of Maximum Drag Load Above the Dash Pot (Feet)
R156	AB63	H-13	17	7	L-13	9	na	2	na
R36	K65	G13	54	42	H-10	50 <sup>B</sup>	1	40 <sup>B</sup>	1
R19	K60	F-13	54	45	F-8	52 <sup>B</sup>	1.5	38	1.5
R35	K35	E-13	35	24	H-8	29	8	19	8 & 3
R26	AB14	D-13	17	7	N-5	8	na	1	na
R56	AA48	D-14	45	35	F-6	19	1	30	1
R22	K56	E-14	39	29	H-6	30	1	22	1
R17	K19	F-14	72 <sup>C</sup>	60	K-8	63 <sup>B</sup>	1	53 <sup>B</sup>	1
R500	AA47	H-14	15	16	C-9	10	na	0	na
R01	AA05	K-14	19	12	J-13	12	na	1	na
R15	AA46	K-15	37	29	G-13	31	1	21	1
R52	AA60	H-15	21	13	J-3	11	na	2	na
R28	AA04	F-15	22	10	M-8	14	na	2	na
R10	AB60	D-15	21	14	N-11	16	1	9	1
R27	AA39	K-16	16	8	D-8	11	1	1	1
R21	AA08	H-16	18	10	K-6	14	1	7	1
R31	AB42	G-17	18	8	P-12	10	1	1	1
R08	AB50	E-17	18	8	K-14	7	na	3	na
R42	AB51	E-18	13	5	P-4	8	na	1	na

Note B: Drag load violates Westinghouse F-spec.

Note C: Highest dash pot drag load and within tolerance.

Attachment 2 (cont.) - Maximum Withdrawal and Insertion Drag Loads During Spent Fuel Pool RCCA Drag Test  
Drag Test Tool Reference Weight: 170 pounds

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