

PDR



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 16, 1979

MEMORANDUM FOR: Commissioner Bradford
FROM: Al Kinske, Acting Director, OPE
SUBJECT: PRELIMINARY ASSESSMENT: ECONOMIC IMPACT OF SHUTDOWN OF NUCLEAR PLANTS

The following preliminary assessment on the costs of replacement power which could result from the shutdown of the Stone and Webster reactors has been made at your request. These costs are:

	MWe	Oil Makeup (in millions of dollars/month)	50-50 Oil & Coal Makeup	Coal Makeup
Maine Yankee	790	12.5	8.2	3.9
Beaver Valley	852	13.4	8.8	4.3
Surry 1	788	12.5	8.2	4.0
Surry 2	788	12.5	8.2	4.0
Fitzpatrick	821	13.0	8.5	4.1

These monthly cost estimates are based upon fuel and O&M costs contained in the NRC staff's response to the Honicker petition (SECY-78-560); in that staff analysis variable costs were (in mills/kWh): 8 for nuclear, 15 for coal, and 30 for oil. These costs estimates assume that for short run analysis the plants would operate at essentially full capacity.

Estimation of the impact upon residential electricity consumers is complicated since only a portion of electricity consumption goes to residential users. Moreover, in two instances (Fitzpatrick and Maine Yankee) the reactors supply power to a number of utilities as well as directly to industrial customers. Nonetheless, OPE has made some very rough estimates of the cost increases which average residential customers might experience, assuming that the additional costs are passed through to residential users. These are listed below:

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	Near Term	Longer Term
	(in dollars/month/residential customer)	
Northeastern Utilities (i.e., Maine Yankee)	\$3.40	\$3.40
Duquesne	0	2.65
VEPCO	2.45	4.90
New York State Utilities	.75	.75

For the near term it is assumed that the economic impact associated with Surry 2 is essentially zero since it was down for a steam generator replacement; likewise for Beaver Valley since Duquesne may elect to refuel during this shutdown period. For both the near and the longer term the cost estimates for the Northeast and New York State assume use of all oil makeup energy. The longer term estimate for Duquesne assumes 100 percent coal and for VEPCO assumes a 50-50 oil and coal mix (Surry 1 in the near term and both units for the longer run). Data were obtained from Moody's 1978 Public Utilities Report and were used to estimate residential fractions for New York and Northeast (see attached). The estimates could overstate the costs if the reactors were to remain shut down for a very long period (e.g., a half year or more) since a lower capacity factor, such as 60-70 percent, would be appropriate.

It should be emphasized that the residential impact estimates are predicated on a single set of assumptions--i.e., full cost pass through for each utility to end users via fuel clause adjustment. Of course, the cost burden for commercial and industry users--if carried forward--would eventually wind up in apartment and office rents (commercial) and higher production costs reflected in increased prices for finished goods (industrial). Alternatively, the increased electricity production cost burden might be shifted backward to the utilities and/or Stone and Webster.

Enclosures:
As stated

cc: Chairman Hendrie
Commissioner Gilinsky
Commissioner Kennedy
Commissioner Ahearne
Leonard Bickwit
Sam Chilk
Lee V. Gossick

1977 STATISTICAL DATA FOR NEW YORK UTILITIES^{1/}

	Total Sales (GWhr)	Residential Sales (GWhr)	Percent Residential Sales	Number Residential Customers (in millions)
Niagara Mohawk	31.4	7.9	25	1,190
Long Island Lighting	12.7	5.6	44	360
Consolidated Edison	30.0	7.8	26	2,370
Rochester Electric Corporation	4.9	1.7	35	250
Central Hudson Gas and Electric	4.3	1.2	28	177
New York State Electric and Gas	10.2	4.2	41	570
Orange and Rockland Utilities	3.8	1.1	29	180
TOTAL	97.3	29.5		5,097

^{1/}1978 Moody's (utilities)

1977 STATISTICAL DATA FOR NEW ENGLAND UTILITIES ^{1/}

	Total Sales (GWhr)	Residential Sales (GWhr)	Percent Residential Sales	Number Residential Customers (in thousands)
Central Maine Power Company	5.5	2.2	40	323.5
New England Power Company (wholesale only)	16.2	-	-	-
Connecticut Light and Power Company	9.0	4.1	45	511.5
Bangor Hydro Electric Company	1.2	.35	29	62.4
Maine Public Service	.5	.15	30	25.2
Public Service Company of New Hampshire	5.5	1.7	31	236.8
Cambridge Electric Light Company	NA	NA	NA	NA
Montaup Electric Company	.43	-	-	-
Western Massachusetts Electric Company	3.4	1.1	32	150.2
Central Vermont Public Service	1.7	.6	35	85
TOTALS	43.4	10.2		1,395

^{1/} 1978 Moody's (utilities)