

MEMORANDUM

March 27, 1979

TO: Dennis Crutchfield, Chief, Technical and Administrative Branch,
Program Support Staff, NRC
FROM: Paul Fine, Technical Assistant, PSS *Paul C. Fine*
SUBJECT: COST OF REPLACEMENT POWER

One of the questions for the record of the hearing of March 13, 1979, of a Senate Appropriations Subcommittee was as follows:

The cost of generating the electricity lost by shutting down Fitzpatrick, Surry I and II, Beaver Valley, and Maine Yankee.

In order to obtain information for use in answering this question, I checked with the appropriate Project Managers in the Division of Operating Reactors and then contacted the licensees involved. The information obtained is given below.

Maine Yankee

The attached letter of March 22 from J. E. Randazza, Vice President of Maine Yankee Atomic Power Co., was received by telecommunications on March 23 and by mail on March 26. This indicates that replacement power will be supplied by burning oil and will cost, on the average, about 27 mills per kilowatt hour, compared to the nuclear fuel cost of approximately 3.3 mills per kilowatt hour. At a net capacity rating of 830 megawatts and a monthly capacity factor of approximately 95% as given in the letter, the additional cost of supplying electricity by burning oil instead of nuclear fuel would be about \$450,000 per day. (Operating reports to NRC give capacity factors, based on design electrical rating, of 93% in January 1979 and 95% in February 1979.)

Beaver Valley

Information was furnished by telephone on March 22 by Bob Irvin, Technical Assistant to the Vice President for Operations of the Duquesne Light Co. He indicated that replacement power would be supplied by burning coal or by purchasing power from other utilities; burning oil would be the last choice. Duquesne gets 47.5% of the output of Beaver Valley 1, and the cost to replace this portion would be \$2.4 million per month for coal, \$0.4 million per month for the purchase of power, and \$0.25 million per month for increased cost of operation and maintenance such as additional coal handling, ash disposal, and maintenance of coal-burning plants. The cost to Duquesne of burning nuclear fuel is about \$0.8 million per month (3.8 mills per kilowatt hour), so that the net cost of replacement power would be about \$2.25 million per month. For the total output of Beaver Valley 1, the cost of replacement power would be about \$4.7 million per month or \$140,000 per day. This is for a capacity factor of 74%. (Operating reports to NRC give capacity factors, based on design electrical rating, of 36.9% in January 1979 and 76.5% in February 1979.)

Surry 1

Information was furnished by telephone on March 22 by Ralph Sylvia, Director of Nuclear Operations, Virginia Electric Power Co. He indicated that replacement power would be supplied by burning 30,000 barrels of oil per day if the capacity factor were 100%. The current price for the oil would be \$15 to \$18 per barrel, with the latter being more likely. The net cost of replacement power would then be \$540,000 per day for oil minus \$90,000 per day for nuclear fuel not consumed, amounting to \$450,000 per day. This is adjusted for a capacity factor of 75%. The calculation gives a result of \$337,500 per day, although I understood Mr. Sylvia to say \$375,000 per day. He indicated that the cost of additional operation and maintenance activities would not be substantial, although there is some cost for shutting down and starting up a reactor. (With regard to the capacity factor, operating reports to NRC give figures, based on design electrical rating, of 85% for January 1979 and 90% for February 1979.)

Fitzpatrick

Information was furnished by telephone on March 23 by George T. Berry, Executive Director of the Power Authority of the State of New York. He indicated that replacement power would be supplied by burning 32,000 barrels of oil per day at \$16 per barrel of \$512,000 per day. The cost of nuclear fuel not consumed would be 4 mills per kilowatt hour or \$77,000 per day, so that the net cost of replacement power would be \$435,000 per day. This is for a capacity factor of 100%. (Operating reports to NRC give capacity factors, based on design electrical rating, of 72% for January 1979 and 91% for February 1979.)

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