



## Nebraska Public Power District

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June 17, 1991

NLS9100384

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Mail Station P1-137  
Washington, DC 20555

Gentlemen:

SUBJECT: Second Year Deposit to External  
Decommissioning Fund

The Nuclear Regulatory Commission (the "NRC") published in the Federal Register amendments to 10 CFR Part 50 (53 FR 24018) dated June 27, 1988, a final rule specifying the requirements for the decommissioning of electric utility nuclear generating facilities. The Nebraska Public Power District (the "District") has submitted the District's Decommissioning Funding Plan (the "Plan"), associated Trust Agreement and Agreement for Investment Management Services on June 13, 1990. These documents satisfy the requirements of NRC Regulation 10 CFR 50.75 dated June 27, 1988.

The District has reviewed the Plan to determine the 1990 (second year) deposit to the external trust fund to be \$6,328,600. The attached Plan documents the calculation for the \$6,328,600 deposit requirement.

Attached is a signed amendment to Section 2.02. Deposits into Trust Fund of the Trust Agreement, which conforms to the Plan submitted to the NRC on June 13, 1990.

The District provides the attached documents to certify that certain minimum funds will be set aside in an external trust fund for purposes of decommissioning of CNS. If you have any questions regarding the CNS Decommissioning Funding Plan, please contact T. E. Trouba, Financial Planning and Budget Manager at (402) 563-5589.

Sincerely,

C. B. Horn  
Nuclear Power Group Manager

Attachments

cc: Regional Administrator, NRC Region IV w/attach  
NRC Resident Inspector, Cooper Nuclear Station w/attach

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## Cooper Nuclear Station

### Decommissioning Funding Plan

#### Section 1 - Introduction

Nebraska Public Power District (the "District") owns and operates Cooper Nuclear Station (the "CNS"), which is a nominally rated 800 MW nuclear generating plant located on a site on the west bank of the Missouri River approximately 65 miles south of Omaha. CNS contains a boiling water reactor (the "BWR") which is designed to supply steam to a turbine-generator to produce a gross electrical output of approximately 800 MW under normal operating conditions. In July, 1974, the District received from the Nuclear Regulatory Commission (the "NRC") an Operating License to operate CNS at 100% reactor core power. The Operating License authorizes operations of CNS at reactor core power levels not in excess of 2,381 MW (thermal). The current Operating License is valid through June 4, 2008. The District has submitted a request to the NRC for an extension of the Operating License to recover the construction period.

#### Section 2 - NRC Financial Regulation for Decommissioning

NRC regulation 10 CFR 50, dated June 27, 1988, [53 Fed. Reg. 24049], sets forth the financial criteria for decommissioning licensed nuclear facilities. This criteria has been addressed in this Decommissioning Funding Plan of the District (the "Plan"). The NRC defines Decommission as: "to remove (as a facility) safely from service and reduce residual radioactivity to a level that permits release of the property for unrestricted use and termination of license."

#### Section 3 - NRC Decommissioning Estimate - Cooper Nuclear Station

NRC regulation 10 CFR 50.75(c) dated June 27, 1988, discusses the minimum amounts required to demonstrate reasonable assurance of funds available for decommissioning, by reactor type and power level.

First, a Minimum Decommissioning Amount for decommissioning licensed facilities is calculated based on a boiling water reactor ("BWR") and on the facility's megawatt thermal rating ("MWt"). CNS is a BWR of 2,381 MWt rating. The computation for the Minimum Decommissioning Amount in 1986 dollars for CNS is as follows:

(\$104 million + \$9000 P)  
where P equals the reactor's MWt rating  
\$104 million + \$9000 (2,381 MWt)  
\$104 million + \$21.4 million = \$125.4 million

Second, the Minimum Decommissioning Amount is to be adjusted annually using the following formula:

$$(\text{Minimum Decommissioning Amount}) \times (.65L + .13E + .22B)$$

The "L", "E" and "B" in the formula are escalation factors for Labor, Energy and Waste Burial, respectively. Further, the Energy Index is composed of two factors - Industrial Power & Light Fuel Oils weighted as indicated. For CNS, the January 1986 Minimum Decommissioning Amount of \$125.4 million is escalated as follows:

#### Indices

##### Labor

U.S. Department of Labor - Bureau of Labor Statistics Employment Cost Index  
Private Nonfarm Workers Compensation (Midwest Region)  
December, 1990/January, 1986 Labor =  $107.1/125.0 = .8568$

##### Energy

U.S. Department of Labor - Bureau of Labor Statistics Producer Price Index  
Industrial Power (West North Central Region) October, 1990 = 121.2  
and January, 1986 = 115.65  
Light Fuel Oils October, 1990 = 104.8 and January, 1986 = 82.0

Application of the formula for BWR's published in Draft Regulatory Guide  
DG-1003 (Assuring the Availability of Funds for Decommissioning Nuclear Reactors) results  
in:

$$\begin{aligned}\text{Energy} &= [(121.2/115.65) \times .23] + [(104.8/82.0) \times .77] \\ \text{Energy} &= .2410 + .9841 \\ \text{Energy} &= 1.2251\end{aligned}$$

##### Waste Burial

NUREG-1307 Rev 1 (most current available index as of 5-13-91)  
Washington Index January, 1988/January, 1986  $1.142/1.000 = 1.142$   
Nevada Index January, 1988/January, 1986  $1.125/1.000 = 1.125$

During the last three years, the District has utilized the two referenced burial sites.  
The percentage of waste shipped by volume to each site is as follows:

Richland, Washington	98.5%
Beatty, Nevada	<u>1.5%</u>
	<u>100.0%</u>

A composite escalation factor based on prior waste shipments is developed as follows:

	% of Volume x Index	Escalation = Factor
Richland, Washington	(98.5%) x (1.142)	= 1.125
Beatty, Nevada	( 1.5%) x (1.125)	= <u>.017</u>
	Waste Burial	= <u>1.142</u>

The escalation values for Labor, Energy and Waste Burial are then incorporated into the given formula for the Escalation Factor.

$$\begin{aligned}
 \text{Escalation Factor} &= (.65 \times \text{Labor} + .13 \times \text{Energy} + .22 \times \text{Waste Burial}) \\
 &= .65(.8568) + .13(1.2251) + .22(1.142) \\
 &= .5569 + .1593 + .2512 \\
 &= .9674
 \end{aligned}$$

The Minimum Decommissioning Amount for CNS in 1986 dollars is \$125.4 million as determined earlier in this section. Application of the above Escalation Factor results in the following calculation:

$$1986 \text{ Minimum Decommissioning Amount} \times 1990 \text{ Escalation Factor} = 1990 \text{ Minimum Decommissioning Amount}$$

$$\$125.4 \text{ million} \times .9674 = \$121.3 \text{ million}$$

Third, the NRC regulation 10 CFR 50.75(e) dated June 27, 1988, [53 Fed. Reg. 24050] states that a method of providing for financial assurance must be selected. The District has selected the external trust method to provide financial assurance.

Additionally, the District shall, in accordance with changes to regulation 10 CFR 50.75(f) [53 Fed. Reg. 24051], dated June 27, 1988, at or about 5 years prior to the projected end of operation, submit a preliminary site specific decommissioning plan.

#### Section 4 - Annual Deposits to the Decommissioning Trust Fund

A Trust Agreement, as attached to this Plan, has been created to comply with the new NRC regulation. The Trust Agreement establishes an external trust fund (the "Fund") for the sole purpose of accumulating monies for the estimated cost of Decommissioning CNS. Annual deposits to the Fund will be calculated as follows:

### First Year

The District's Minimum Decommissioning Costs as determined using the herein defined NRC regulated formula divided by 19 (the years of remaining Operating License life and the May 31, 1990, deposit to the FirstTier Bank, N.A., Lincoln, Trustee, at the time of this Plan). For purposes of this Plan, Decommissioning of CNS is assumed to begin at the end of the existing Operating License (June 4, 2008). However, the possibility exists that CNS may be decommissioned earlier because of contractual relationships or other reasons. Furthermore, the District has submitted a request to the NRC for an extension of its Operating License to recover the construction period. Therefore, the possibility exists that CNS may be decommissioned at a later date. In the event a decision is made for an early decommissioning of CNS, a new funding plan will be developed.

NRC 1989 Minimum Decommissioning Amount/years remaining CNS Operating License

\$134.1 million/19 years = \$7.05789  
\$7.058 million (1990 deposit)

The District deposited the \$7.058 million with the Trustee on May 31, 1990.

### Subsequent Years

The annual deposit to the Fund by the District for the second and subsequent years during the term of the Trust Agreement is calculated as follows:

A. Adjusted Minimum Decommissioning Amount as determined by the NRC regulation 10 CFR 50.75(c)	\$ 121,300,000
B. Less the current balance in the Fund	\$ 7,384,600
C. Equals the uncollected Estimated Minimum Decommissioning Amount (A - B)	\$ 113,915,400
D. CNS Remaining Years of Operating Life	18
E. Present Years Annual Payment (C / D)	\$ 6,328,600

The District has limited the investment and reinvestment of Decommissioning Trust Funds to the following: (1) Direct obligation of or obligations guaranteed by the United States of America; (2) bonds, debentures, or notes issued by any of the following federal agencies: Federal Intermediate Credit Banks, Federal Home Loan Bank System, Federal National Mortgage Association, or Federal Land Bank; (3) receipts of interest and cash deposits shall be invested on a short-term basis in cash equivalents, short-term investments or mutual funds as the investment manager determines appropriate; and (4) investments shall have a maturity of less than or equal to 10 years, with the portfolio having an average maturity of 5 to 6 years.