



A Division of
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Mr. G. D. Calkins
Decommissioning Program Manager
Office of Standards Development
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Calkins:

This letter is in response to your call for comments contained in Revision 2 of NUREG-0590. While most of these comments pertain to NUREG/CR-1481, Financing Strategies for Nuclear Power Plant Decommissioning, we are also concerned with terminology as discussed in Revision 2 of NUREG-0590 and Supplement 1, Revision 1 of NUREG-0436. The comments are prompted by our role as utility consultants specializing in capital recovery economics, and my knowledge concerning: (1) the generally accepted depreciation accounting practices and regulatory rules as they are applied to utilities; and (2) the regulatory processes that implement these practices and rules through approval of depreciation rates and/or inclusion of depreciation provisions in the revenue requirements utilities are allowed to recover through rates to customers.

My interpretation is that the analysis in NUREG-0584 was tilted away from internal funding approaches. While not as strong, the tilt remains in NUREG/CR-1481. However, even with the tilt, the new study concludes "that no alternative dominates". It seems clear that a more balanced approach would favor internal funding, leaving the regulator with the determination of which of the several methods of capital recovery that meet generally accepted accounting practices and regulatory rules he should allow. Whether there is agreement or not that this tilt exists, regulations that might ensue as a result of this study should ensure that service rate regulators have the flexibility they require to respond to the particular circumstances surrounding the facilities involved. Because they are unique, each nuclear power plant must be treated individually. While we do not agree with the conclusions in NUREG/CR-1481, it provides the NRC with the basis for promulgating regulations that will ensure adequate financial assurance and will not be burdensome to rate payers.

It would be helpful if discussions of the methods of capital recovery (approaches to financing the decommissioning) used to ensure that

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customers served by facilities pay all costs related to those facilities used terminology that makes it clear to the reader exactly what method is being discussed. The sinking fund method of depreciation is not a new concept, and its most common application is as an internal method of depreciation. I doubt that I am the only depreciation analyst who finds confusing the use of the term "sinking fund" to refer to external funding approaches. Accurate use of terminology would go a long way toward eliminating the need to search studies for a description sufficiently detailed to discern the particular method being discussed. My suggestions are as follow:

1. Prepaid Invested Fund

This is the method referred to in NUREG-0590 as prepayment, and NUREG/CR-1481 as funding at commissioning.

2. Progressively Paid Invested Fund

This is the method referred to in NUREG-0590 and NUREG/CR-1481 as sinking fund.

3. Internal Sinking Fund Depreciation

This is the sinking fund method of depreciation implemented with an undepreciated rate base. This is the classical definition for implementation of sinking fund through charging the customer with the annuity component of the depreciation expense, but not the interest component, and not subtracting the reserve in the determination of rate base.

4. Internal Modified Sinking Fund Depreciation

This is the sinking fund method of depreciation implemented with a depreciated rate base. This is the classical definition for implementation of sinking fund through charging the customer with both the annuity and interest components of depreciation expense and subtracting the reserve in the determination of rate base.

5. Straight Line Depreciation

This is the method referred to in NUREG/CR-1481 as funding at decommissioning using amortization of a negative salvage value that is constant in terms of current dollars.

Internal Sinking Fund Depreciation and Internal Modified Sinking Fund Depreciation are vaguely referred to but not addressed in NUREG/CR-1481,

even though Internal Modified Sinking Fund Depreciation has been approved by state regulatory bodies for the capital recovery of decommissioning costs and seem fast on its way to becoming the most common method. No discussion of financial strategies can be considered complete without the evaluation of these two methods. My September 20, 1979, letter to you commenting on NUREG-0584 contained an extensive discussion of the sinking fund method of depreciation. NUREG/CR-1481 contains an extensive discussion of equity. Internal Sinking Fund and Internal Modified Sinking Fund Depreciation generate unique patterns of capital recovery and revenue requirements that are very significant to the discussion of equity. It is precisely these patterns that cause Internal Modified Sinking Fund Depreciation to be appealing to regulators.

NUREG/CR-1481 would have been greatly enhanced if the generally accepted accounting practices and regulatory rules applicable to depreciation had been spelled out and discussion included as to how the various capital recovery methods fit the practices and rules. Put in very simple terms, these practices and rules require that capital recovery be in a manner consistent with the pattern of asset consumption (pattern of benefits received by customers), and include the actual cost of removal expected to be incurred, at the price level at the time of incurrence.

Is the equal annual revenue stream in terms of constant dollars, defined as desirable on Page IV-12 of NUREG/CR-1481, really equitable? It has the effect of pushing revenue requirements off to future customers, a process I have difficulty defining as equitable. My difficulty may be due in part to knowledge that the only capital recovery method I am aware of that would result in such a stream of revenue requirements violates the generally accepted accounting practices and regulatory rules applicable to depreciation. Violation of generally accepted accounting practices is not to be taken lightly. Capital recovery determined in a manner consistent with accounting practices and regulatory rules should determine revenue requirements, not the other way around. Assumptions concerning the pattern of revenue requirements should not be allowed to dictate the capital recovery, particularly if based on a controversial definition of equity.

The definition of liquidity evident in NUREG/CR-1481 is the same one I had difficulty relating to in NUREG-0584, and commented on in my letter of September 20, 1979. The definition seems to be that capital recovery amounts collected from customers that are reinvested internally by the utility, are not liquid, and that the collections invested in anything other than the utility, are liquid. This definition is not logical. Liquidity of external investments is dependent upon investment strategy, particularly that related to when the investments must be turned into cash. The fact that the magnitude of funds available through sale of debt securities prior to their maturity is dependent upon the whims of the marketplace has not even been mentioned. It is likely that a high degree of liquidity would result from the

availability of a significant amount of bondable property as a result of decreased utility financing needs through reinvestment of collections from customers. However, the ability to sell securities is dependent upon the financial viability of the utility, which in turn is dependent upon the adequacy of rate regulation. Like the author of NUREG-0584, it is obvious that the authors of NUREG/CR-1481 have little faith in the adequacy of rate regulation.

The authors of NUREG/CR-1481 recognize the importance of rate making alternatives. Rate regulation is important, since capital recovery will not occur until its need is reflected in rates charged to customers. Like the author of NUREG-0584, the authors of NUREG/CR-1481 do not seem to recognize that regulators set utility rates based on revenue requirements, not the present value of revenue requirements. This was one of the two major points in my September 20, 1979, letter. A meaningful comparison of the impact of alternative capital recovery methods must include the impact on customers in terms of current dollars. The authors point out that, even in terms of present value, Progressively Paid Invested Fund is twice as costly as Straight Line Depreciation, and Prepaid Invested Fund is three times as costly. The authors claim these differences are not significant. My experience in trying to obtain adequate capital recovery for nuclear decommissioning is that regulators in the process of making a decision in a rate case probably would not agree with this claim. Since this study was done for a group of Commissioners, am I to assume that these Commissioners agree that differences in depreciation expense that generate a two or three to one difference in present value of revenue requirements is not significant? Measured in terms of actual rates to customers, (current dollars, not constant dollars) the differentials between Straight Line Depreciation and the two invested methods will be even greater. NUREG/CR-1481 cannot be considered to be complete without an adequate presentation of the revenue requirement impact in terms of current dollars. It would be helpful if the patterns of revenue requirements were presented on a cumulative basis, rather than the incremental basis included in NUREG/CR-1481, as the picture presented is more readily understandable.

The authors of NUREG/CR-1481 correctly point out that a flexible approach to capital recovery of nuclear decommissioning costs is very important. This need cannot be over stressed. The degree of financial assurance that will result from the NRC's policy reevaluation will vary directly with the degree of flexibility allowed.

Use of a corporate model in evaluating financial strategies should provide a basis for estimating the effect of alternative capital recovery methods on risk. Capital recovery and risk (return) are inseparably linked; therefore, alternative approaches to capital recovery should affect the cost of money. NUREG/CR-1481 provides no indication that the model was used for this purpose.

NUREG/CR-1481 repeats the contention of the author of NUREG-0584 that utilities may be able to obtain an IRS ruling that under certain conditions the annual collections from customers to feed an Invested Fund are an expense for Federal income tax purposes in the year collected. The utility industry has received an opposite signal from the IRS.

The assumption made for Straight Line Depreciation in NUREG/CR-1481 that internally invested funds would be turned into cash at the end of plant life is useful for simplifying calculations, but may cloud distinctive patterns of revenue requirements beyond the end of plant life that may have particular regulatory significance. Some estimate a period of up to twelve years to accomplish the immediate removal process defined in NUREG-0436 and NUREG-0590 as DECON. The resulting expenditure pattern can do strange things to the revenue requirements that would be generated by the various capital recovery methods. The time period for expenditures will be significant to the ability to make use of all tax benefits available (based on current tax laws). The period is also significant to the ability to turn either internally or externally invested funds into cash under favorable circumstances. Unless a decommissioning method is selected that includes a long delay period, a requirement that internally invested funds be turned into cash at the end of plant life is ill advised, because of the unnecessary strain that would be imposed upon financial requirements.

As mentioned above, internally invested methods reduce financing requirements, which in turn reduce risk and cost of money, and thereby enhance the financial assurance aspects of decommissioning. Prepaid Invested Fund must be evaluated as having a detrimental impact on the financial viability of the utility industry, since it would require a large amount of borrowing that would be done solely for the purposes of investing. Thus, a method claimed to meet a need for financial assurance would actually have a detrimental effect on financial viability. Actions of governmental bodies too often have a result in conflict with the expressed intent. The need for financial assurance should not be allowed to become another example.

NUREG/CR-1481 suggests the future income tax reduction resulting from the actual expenditures for decommissioning be given to current customers through normalization. The result would be to reduce current revenue requirements, the opposite effect usually associated with normalization.

The regulatory arena provides two choices for handling differences between book depreciation and tax depreciation. These choices are normalization and flow through. Two distinctly different situations exist for the creation of tax benefits. The most familiar situation is when a current benefit is either given to current customers or is spread over the life of the facility creating that benefit. The other situation is when a future expenditure is expected to create a tax benefit at that time. While it can be argued that a current benefit should be normalized and a future benefit

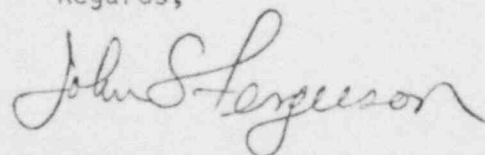
should be flowed through, competent regulation would not allow flowing through a current benefit and normalizing a future benefit. As a compromise position, it would be reasonable to handle both present and future benefits through flow through or handle both through normalization. It is well known that tax depreciation is for purposes of financing, not recovery. It is also well known that the intent of Congress in providing for high depreciation rates for tax purposes, was to provide industry with additional cash for expansion and modernization. Normalization allows this intent to occur, whereas flow through does not. Therefore, normalization of a present benefit is consistent with the existence of that benefit and should be allowed.

While there can be no question as to the existence of a benefit presently, the assumption of a future benefit carries with it a certain amount of uncertainty as to the timing of the benefit and whether the benefit will in fact exist at that time. In view of this uncertainty, it can be argued that the benefit should not be distributed until such time as its existence is confirmed.

In order for a tax benefit to result from the actual expenditures for decommissioning, the tax laws at that time will have to allow such a benefit and the utility will require sufficient taxable income to make use of the benefit. The ability to use the benefit implies financial viability at that time, thus, normalization implies the existence of that viability. This is in direct conflict with the contention of the authors of NUREG/CR-1481 that external funding will provide needed financial assurance because of the uncertainty that utilities will be financially viable at the time decommissioning is required. If the authors are really serious in suggesting normalization, they must not believe their own contention that future financial viability of utilities is subject to question.

It is my hope, both as a regulatory consultant and a consumer of electric energy, that the policy re-evaluation will not impose unwarranted financial burdens on utilities having nuclear generating units. In my opinion, NUREG/CR-1481 does not provide the even handed evaluation of alternative financial strategies needed by the Commission to ensure that unwarranted financial burdens are not imposed. However, the conclusion "that no alternative dominates" can, and should, be used by the Commission as a basis for promulgating regulations that will allow service rate regulators the flexibility to allow capital recovery methods that are appropriate to the particular situation. Such regulations would not (1) preclude the use of any of the five capital recovery methods defined on page 2 of this letter, (2) specify the circumstances under which any of the five methods would be required, or (3) prescribe the exact manner in which any of the five methods would be implemented.

Regards,



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