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**POLICY ISSUE**  
 (Notation Vote)

November 26, 1990

SECY-90-386

For: The Commissioners  
From: James M. Taylor  
 Executive Director for Operations  
Subject: NRC POLICY ON THE ACCUMULATION PERIOD FOR DECOMMISSIONING FUNDS FOR PREMATURELY SHUT DOWN REACTORS  
Purpose: To request Commission review of four policy options and approval of the recommended policy on the appropriate period for accumulating decommissioning funds and other decommissioning issues for prematurely shutdown reactors.

Discussion: I. Background

The decommissioning regulations amending 10 CFR Parts 30, 40, 50, 51, 70 and 72 published on June 27, 1988 (53 FR 24018) established several acceptable methods by which power reactor licensees may provide assurance that they will have sufficient funds to decommission their plants by the time the plants are permanently shut down. This rule was issued as an "adequate protection" rule. (53 FR 24018 at p. 24043.) Essentially all power reactor licensees plan to use external sinking funds that accumulate decommissioning money over the remaining facility operating life (as determined by the operating license term). In considering the final decommissioning rule, the Commission acknowledged that there might be instances in which reactors would permanently shut down before attaining a full-term operating life. However, because it was viewed as unlikely that many instances of premature decommissioning would occur, the rule did not explicitly provide remedies for this situation. For plants that had shut down before the effective date of the rule (i.e., July 27, 1988), requirements for contents of the decommissioning plan, including provisions for assuring adequate funding, may be modified with approval of the Commission to reflect the fact that the decommissioning process had been initiated previously (10 CFR 50.82(a)).

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NOTE: TO BE MADE PUBLICLY AVAILABLE WHEN THE FINAL SRM IS MADE AVAILABLE

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For plants that permanently shut down after July 27, 1988, §50.82(a) requires that an application to terminate the operating license must be made within 2 years following permanent cessation of operations. Moreover, §50.82(c)(1) requires that decommissioning plans which propose an alternative that delays completion of decommissioning by including a period of storage or long-term surveillance must provide that "[f]unds needed to complete decommissioning be placed into an account segregated from licensee assets and outside the licensee's administrative control during the storage or surveillance period, or a surety method or fund statement of intent be maintained with the criteria of §50.75(e)." Section 50.75(e) calls for funds to be provided by one of three methods: prepayment, surety, or an external sinking fund "in which the total amount of funds would be sufficient to pay decommissioning costs at the time termination of operation is expected." The purpose of these provisions is to require all power reactor licensees to have or guarantee all funds estimated to be needed for decommissioning by the time the plant is shut down. When viewed in conjunction with the provisions of §50.75, these funding requirements are designed to "provide reasonable assurance that the Commission's objective is met, namely that at the time of permanent end of operations sufficient funds are available to decommission the facility in a manner which protects public health and safety" (53 FR 24018, at 24030-31, emphasis added).

## II. Plants Prematurely Shutdown After July 27, 1988

Currently, three plants are in this category: Fort St. Vrain, Rancho Seco, and Shoreham. (As explained in Enclosure 1-D, General Public Utilities Nuclear Corporation (GPUN), the licensee for TMI-2, has not formally indicated that the facility has been permanently shutdown. As a practical matter, however, the staff views the TMI-2 facility as having been permanently shutdown as of March 28, 1979.) Summaries of each plant's physical, regulatory, and funding status are provided in Enclosures 1-A to 1-D. Licensees of the three plants prematurely shut down after the effective date of the decommissioning rule have proposed funding arrangements which differ from the requirement of 50.75(e) that decommissioning funds be available at the time the plant permanently ceases operation.

The Public Service Company of Colorado (PSC), the licensee for Fort St. Vrain, submitted an exemption request dated March 19, 1990, to extend the collection period for decommissioning funds beyond the date of permanent

shutdown. The licensee also noted, and the staff concurs, that the formulas in §50.75(c) for certifying amounts for decommissioning do not apply to HTGRs such as Fort St. Vrain. PSC proposed a funding accumulation period extending to 2008, which would have been the period of funds accumulation had Fort St. Vrain continued to operate for its full license term. In a letter dated November 5, 1990, PSC submitted a proposed decommissioning plan that is based on the DECON alternative (immediate dismantlement). Then PSC would convert Fort St. Vrain to a gas-fired independent generator by 1995. If PSC's plans for conversion of Fort St. Vrain do not materialize, it proposes to continue with the SAFSTOR option that it originally chose.

The Long Island Lighting Company (LILCO), the licensee for Shoreham, submitted a request dated June 11, 1990, that seeks Commission relief from the reporting, certification, and funding provisions of sections 50.33(k), 50.75, and 50.82. LILCO requested the staff to determine either that these regulations do not apply to Shoreham or, alternatively, that the Commission grant an exemption to them.

The Sacramento Municipal Utility District (SMUD), the licensee for Rancho Seco, has submitted a request for exemption from the "requirement to have full decommissioning funding at the time of the termination of operation." Included in the request was a proposal to extend the period of funding accumulation into the reactor's safe storage period (until the time of actual dismantlement).

In short, none of the three licensees involved, PSC, LILCO, or SMUD proposes to comply with 50.75(e); i.e. none proposes to provide prepayment or a surety or an external sinking fund in which the total amount is sufficient to pay decommissioning costs "at the time termination of operation is expected."

### III. Options for Commission Consideration

To address the issue of the funding period that should be allowed for plants prematurely shutdown after the decommissioning rule, the staff has developed the four options analyzed in Enclosure 2. It needs to be pointed out that applying any of these options to the three plants already shut down would be, in effect, a relaxation of the regulations in that none of the plants have accumulated all the necessary funds. In summary, these four options are:

(A) Require licensees to have funds for decommissioning at the time of permanent shutdown as required by the existing decommissioning rule;

(B) Allow licensees who propose to put their plants in safe storage for some period to collect decommissioning funds over the original term of the operating license;

(C) Allow licensees to collect decommissioning funds over a five year period after permanent cessation of operations, provided they will have sufficient funds to conduct decommissioning activities over this five year period; and

(D) Determine the appropriate collection period for each licensee on a case-by-case basis.

Under all four options, licensees who intend to dismantle their plants immediately would need to provide assurance, before commencement of decommissioning activities, that they will have sufficient decommissioning funds to dismantle the facility as proposed. The staff believes that Option A, requiring plants to comply fully with the timing requirement of the current rule would appear to impose a very severe financial burden on these three licensees. The staff believes that Option C should be adopted for the three plants currently shutdown after the effective date of the rule and for all future prematurely decommissioned plants. Option C would require that funds for decommissioning be provided in full five years after permanent cessation of operation. For the three plants under current consideration, decommissioning funds would be required to be accumulated in full within five years after adoption of this policy. A five year time frame is consistent with providing reasonable assurance that funds would be available before commencement of substantial decommissioning activities because it is highly unlikely that licensees would encounter difficulties that would cause them to default on their decommissioning funding in that time. Further, a licensee would need to provide assurance that it will have sufficient funds to conduct decommissioning activities such as safe storage over this five year period. Longer period of funds accumulation, such as those implicit in the request by SMUD for the staff to consider funding accumulation on a "case-by-case basis," would reduce the assurance that the Commission sought when it chose to require that funds for operating plants be in place by the time of permanent shutdown. While regulated utilities may have somewhat greater financial security than that of ordinary business ventures, the licensees' status as regulated utilities is insufficient justification for allowing extended SAFSTOR-period collections, given the Commission's explicit rejection of this rationale as justification for use of the internal reserve in the final decommissioning rule.



To codify this policy, the staff proposes to develop a proposed rule allowing prematurely shutdown plants five years to fund or guarantee decommissioning for plants in SAFSTOR. This proposed rule would also address the issue of whether the Commission should distinguish between reactors that shut down prematurely as the result of accidents and those that shut down prematurely for reasons other than accidents.

At a public meeting with the NRC staff on October 17, 1990, the General Manager of SMUD discussed the company's position on the timing of accumulating decommissioning funds appropriate for the Rancho Seco facility, as reflected in a letter to the Executive Director of Operations dated October 17, 1990, copy attached as Enclosure 3.

In its letter, SMUD urges "that the Commission not limit the NRC Staff's discretion to choose among the three proposed options, or other possible options..." for the accumulation of decommissioning funds. The three options that SMUD refers to are (1) immediate funding, (2) funding over five years, and (3) funding over the life of the license. Instead, SMUD suggests that the "the Staff should be left with the authority and flexibility to consider the timing of decommissioning funding for prematurely shut down plants on a case-by-case basis..." SMUD suggests that it is a good example for the staff to allow the accumulation of decommissioning funds over a long period of time because it is "a state agency that cannot become bankrupt" and that it has the legal authority to establish its own rates to cover costs. SMUD contends that the decommissioning regulations, 10 CFR 50.75 and 50.82, do not require full funding at the time operations cease; however, as indicated above, it is incorrect. In fact, this letter and SMUD's letter of July 24, 1990 appear to be contradictory. In the July 24, 1990 letter, SMUD requested an exemption from the requirements of 10 CFR 50.75 and 50.82, to be fully funded by the time of termination of operations.

The staff has considered SMUD's recommendation for the accumulation period for decommissioning funding. The staff believes, however, that other factors outweigh SMUD's views:

(1) SMUD's view that the staff has discretion under the rule to establish different timing requirements on a case by case basis is in error. The rule calls for funding to be available by prepayment, surety or by sinking funds with all funds available at the time operation is permanently terminated. Any other option, including the staff proposal discussed below, is a relaxation of the requirements of 10 CFR 50.75(e);

(2) the ratepayers elected by popular vote to shut down Rancho Seco prematurely even though prior to the vote, local Sacramento newspapers reported that, according to SMUD board members, decommissioning could cost as much as \$500 million;

(3) the decommissioning regulations, which require that sufficient funds to decommission must be provided by the time that plant permanently shuts down, existed prior to the ratepayers' vote; and

(4) the accumulation of decommissioning funds over a five year period would not impose an inordinate financial burden on the licensee. Using some preliminary estimates by the licensee, decommissioning Rancho Seco may cost above \$300 million, which would result in a possible rate increase of only six percent over the five year period.

In summary, the staff believes that the NRC should allow plants that have shutdown prematurely after the effective date of the decommissioning rule to fund decommissioning over five years. As indicated, five years is short enough to provide reasonable assurance that funds will be available to decommission. At the same time, it provides sufficient leeway so as not to impose an inordinate financial burden on licensees. (The Commission noted in the preamble to the final decommissioning rule that it is important not to impose such burdens (53 FR 24018, at p.24033)). Although licensees might suffer adverse financial effects from a five year collection period, none of the three licensees considered herein should be forced to default or file for bankruptcy as a result of this policy. The three plants already shut down after the rule would be issued exemptions to collect funds over five years.

#### IV. Plants Permanently Shut Down Before July 27, 1988

Seven plants had permanently shut down before July 27, 1988, the effective date of the decommissioning rule, and pursuant to section 50.82(a) their decommissioning plans may be modified to the extent that decommissioning has already begun. These plants are: Dresden 1, Fermi 1, Humboldt Bay, Indian Point 1, La Crosse, Peach Bottom 1 and, with the qualifications discussed below, TMI-2. Of these, decommissioning plans for Humboldt Bay, Fermi 1, and Peach Bottom 1 have been formally approved by the NRC. However, the funding aspects of these plans have been approved only for Humboldt Bay. Licensees for three of the other plants have submitted decommissioning plans that are in various stages of staff review.

The status of TMI-2 is somewhat different from that of plants in either category. The background is discussed in Enclosure 1-D. The plant has not operated since 1979 and

the licensee has informed NRC that its present energy supply plans do not reflect the return of this unit to service. Further, the licensee is not making any attempt to preserve its capital investment in TMI-2. The licensee, however, also informed NRC that it is not considering decommissioning Unit 2 until Unit 1 ceases operation and that it has not declared a permanent cessation of operation of Unit 2. The licensee has indicated that it therefore is not required to submit a decommissioning plan for Unit 2 and plans to fund decommissioning of Unit 2 on a schedule commensurate with the remaining license period of Unit 1. As noted in Enclosure 1-D, the licensee has requested approval for placing the plant in a special status identified as Post Defueling Monitored Storage (PDMS). The staff's review of this request is ongoing. The staff views the TMI-2 facility as having been permanently shut down since 1979 and believes that it should be treated for decommissioning funding purposes like the other plants in this category.

The decommissioning rule puts these seven plants into a separate category. Section 50.82(a) provides that the decommissioning plan requirements for these plants "may be modified with the approval of the Commission to reflect the fact that the decommissioning process has been initiated previously." The Supplementary Information accompanying the rule indicates that while the funding and recordkeeping requirements of the rule apply to these reactors, "[d]etails concerning financial assurance, primarily the time period for accumulating funds not set aside during operation, would be decided on a case-by-case basis."

Since the plants had been shut down and, to varying degrees, had begun SAFSTOR before the effective date of the decommissioning rule, the staff in discussions with licensees of these plants generally agreed with licensee proposals to permit these licensees to accumulate funds in external accounts over a period of time that generally coincides with the remaining terms of their operating licenses. For Humboldt Bay, the staff approved a funding period that approximated the remaining term of its operating license. Using its decision on Humboldt Bay as a precedent, the staff has indicated the acceptability of, but has not yet formally approved, similar approaches for Dresden 1 and La Crosse. This approach would not be fully consistent with the rationale derived from the rule and outlined above for the plants permanently shut down after July 27, 1988. However, in promulgating the rule, the Commission specifically provided that funding details, primarily the time period for accumulating funds, would be treated separately for plants shut down before July 27, 1988 on a case-by-case basis. It may be inferred that both the timing requirements of the rule and the adequate protection determination as it

relates to the timing of the provision of funds were to be applied in a prospective manner. Thus, for the plants already in a permanent shutdown mode, the rule left the questions of timing up to the judgment of NRC. The staff believes it is reasonable to permit plants in this special category to accumulate funds during the remainder of the original license period. In summary, the staff believes this approach is reasonable in that (1) the preamble of the rule and the provisions of §50.82(a) were developed to provide some degree of flexibility depending on the extent to which decommissioning activities had already begun and (2) the staff tentatively accepted licensee proposals to extend funding for these plants well into the safe storage period. Thus, as a matter of fairness, the staff plans to continue to allow collection of decommissioning funds during the SAFSTOR period for the foregoing plants that shut down before the effective date of the rule.

#### V. Subsidiary Issues

There are two subsidiary issues relating to funding and other decommissioning issues for prematurely shutdown plants:

(1) Do licensees of shutdown reactors need to submit the certification to the formula amount pursuant to sections 50.33(k) and 50.75(c) when the formula will be supplanted in the near-term by site-specific estimates? The certification approach was developed for plants that would be operating for several years and is not meant to apply to plants nearing cessation of operations. Five years before shutdown, a licensee is required to develop a site-specific estimate pursuant to §50.75(f). This site-specific estimate would be further refined by the requirements of §50.82 at the time of shutdown. Requiring a generic certification when a site-specific plan is imminent would be unnecessary and not in keeping with the underlying purpose of the decommissioning rule. Thus, the staff recommends that certification to the formula amount be waived for the three plants discussed in Section II provided that the licensee's decommissioning funding plan is based on a site-specific study, which the licensee submits or commits to submit within a reasonable period after being informed by the staff of the adoption of this policy.

(2) Should funds needed for near-term decommissioning activities be in external reserves until actually used for decommissioning? LILCO, for example, has proposed that, because funds will likely be expended for immediate dismantlement of Shoreham and deposits with the Long Island Power Authority will provide a three month "cushion," they do not need to deposit funds with an external trustee. In view of the Commission's explicit rejection of any form of

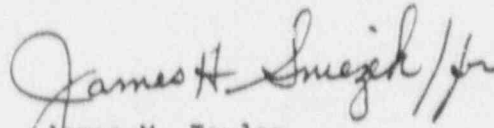


internal reserve in its deliberations on the final decommissioning rule, the staff believes that licensees of all plants, including those prematurely shut down, should continue to be required to guarantee or maintain funds in external accounts until actually expended for decommissioning.

Recommendation:

That the Commission:

1. Approve Option C for plants that have or will prematurely shut down after July 27, 1988 and approve the staff's recommendations on the two subsidiary issues. Within 30 working days after the staff is informed of the Commission's decision, the staff intends to issue exemptions to or otherwise inform licensees of the Commission's policy on the funding period and subsidiary issues.
2. Note that the staff intends to prepare a proposed rule for Commission approval that modifies requirements with respect to decommissioning funding for prematurely shutdown plants pursuant to the policy discussed herein. This rule will address possible special considerations for plants that shut down after an accident.
3. Note that the Office of the General Counsel has no legal objection to the recommended policies.

  
James M. Taylor  
Executive Director  
for Operations

Enclosures:

1. Plant Status Summaries
  - A. Fort St. Vrain
  - B. Rancho Seco
  - C. Shoreham
  - D. Three Mile Island Unit 2
2. Funding Period Options
3. SMUD Letter

Commissioners' comments or consent should be provided directly to the Office of the Secretary by COB Monday, December 10, 1990.

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT Monday, December 3, 1990, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

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ENCLOSURE 1-A

FORT ST. VRAIN

Plant Status

Fort St. Vrain (FSV) was permanently shut down on August 18, 1989 because of failure of the control rod drives and degradation of the steam generator ring headers. The licensee, Public Service Company of Colorado (PSC), began defueling on November 27, 1989 and completed the removal of one-third of the core (the maximum capacity of its on-site fuel storage wells) on February 7, 1990. Completion of defueling is held up pending resolution of final disposition of the spent fuel. PSC plans to either ship the fuel to a DOE facility in Idaho for reprocessing or to construct an independent spent fuel storage installation.

Regulatory Status

PSC applied for a possession-only license on November 21, 1989 as supplemented on April 25, 1990. A Notice of Consideration of Issuance of Amendment and Opportunity for Hearing related to the requested possession-only license was published in the Federal Register on May 16, 1990.

PSC submitted a Preliminary Decommissioning Plan, dated June 30, 1989, that described a long term SAFSTOR period followed by dismantling. PSC submitted a Proposed Decommissioning Plan in accordance with 10 CFR 50.82, dated November 5, 1990, that proposed to use the immediate DECON option.

Decommissioning Funding Status

PSC proposed to accumulate decommissioning funds in an external account in accordance with the new decommissioning rule. PSC proposes to accumulate these funds in the period of July 1990 through 2008 in accordance with an NRC staff request dated October 4, 1989. The year 2008 is the expiration date of Fort St. Vrain's operating license. A request for exemption from 10 CFR 50.82 regarding the period for fund accumulation was submitted to the NRC on March 19, 1990. Approval of this exemption would allow PSC to accumulate the decommissioning funds in their external account over that period of time.

As of September 30, 1990, the Fort St. Vrain decommissioning trust fund balance was approximately \$19.8 million. PSC states that the total cost of decommissioning Fort St. Vrain using the immediate DECON option is \$137,129,000.

## ENCLOSURE 1-B

### RANCHO SECO

#### Current Plant Status

Rancho Seco permanently shut down on June 7, 1989. As of December 8, 1989, all fuel was removed from the reactor vessel and stored in the onsite spent fuel pool, where there is a total of 493 fuel assemblies. The plant continues to layup equipment and systems to prevent degradation that would prohibit their return to operation, similar to that of an extended outage.

#### Regulatory Status

The Sacramento Municipal Utility District (SMUD) still holds a full power operating license in accordance with 10 CFR 50. An application for a "possession-only" license amendment was submitted April 26, 1990. In support of the "possession-only" license amendment, SMUD submitted a Plan for Ultimate Disposal of the Facility (PUDF) on July 12, 1990. Additionally, the licensee has submitted applications for Defueled Technical Specifications, a Long Term Defueled Condition Security Plan (no vital areas and a protected area only around the spent fuel pool building), a Long Term Defueled Condition Emergency Plan (emergency planning zone (EPZ) reduced from the 10 mile radius to the site boundary), and an exemption from the annual fee for power reactor operating licenses, 10 CFR Part 171.

#### Decommissioning Funding Status

In the PUDF, the licensee indicated that a site specific cost estimate will be submitted with the proposed decommissioning plan in accordance with 10 CFR 50.82. This plan is due two years after the permanent cessation of power operations; the licensee currently plans to submit this plan in December of 1990. Previous site specific decommissioning cost estimates have been approximately \$278 million.

To satisfy the requirements of 10 CFR 50.33(k), the licensee submitted a certification to the formula in 10 CFR 50.75(c) as their decommissioning cost estimate, which is approximately \$112.8 million for Rancho Seco (in 1990 dollars). Additionally, the licensee requested an exemption from 10 CFR 50.75 and 50.82(c)(1), which require the total amount of funds sufficient to pay decommissioning costs be available at the time of termination of operations. The licensee has not indicated the length of time it would like to accumulate the certification amount (\$112.8 million). When a site-specific study has been completed and a Final Decommissioning Plan has been completed, the licensee will propose a definitive funding pattern.



## ENCLOSURE 1-C

### SHOREHAM

#### Current Plant Status

The Shoreham facility was last operated on June 6, 1987, for pre-operational testing. The Long Island Lighting Company (LILCO) began defueling of the Shoreham facility on July 13, 1989, and completed defueling the reactor vessel on August 8, 1989. Currently, all of the nuclear fuel that was removed from the reactor vessel is being stored in the spent fuel pool. LILCO has completed implementing an equipment preservation program designed to protect from degradation the plant equipment not needed to support a protracted fuel storage operation. LILCO intends to maintain this equipment preservation program until the NRC has approved the transfer of the Shoreham license to an entity of New York State.

#### Regulatory Status

LILCO, by letter dated January 5, 1990, submitted a request to have its operating license, facility operating license NPF-82, amended. LILCO's proposed license amendment would remove the operating authority granted by NPF-82. In addition, LILCO and the Long Island Power Authority (LIPA), by letter dated June 28, 1990, submitted a joint application requesting that ownership of NPF-82 be transferred from LILCO to LIPA. The staff is currently reviewing both of these requests.

#### Decommissioning Funding Status

By letter dated Jun 11, 1990, LILCO submitted a request for a determination from the NRC staff that the decommissioning funding requirements of 10 CFR 50.33(k)(2) and 50.75(b) are not applicable to the Shoreham facility because of LILCO's Site Cooperation and Reimbursement Agreement with LIPA. Alternatively, LILCO requested an exemption to these requirements, if the NRC staff did not agree with LILCO's non-applicability arguments. The staff is currently reviewing this request.

## ENCLOSURE 1-D

### TMI-2

#### Current Plant Status

On March 28, 1979, TMI-2 experienced a loss of coolant accident resulting in major core damage. On July 20, 1979 an order was issued by the NRC staff that suspended the licensee's authority to operate the facility. Since the March 28, 1979 accident, TMI-2 has been in a long-term accident recovery mode.

On March 20, 1990, clean-up crews at TMI-2 transferred the last canisters of core debris out of the reactor building. Work scheduled for 1990 includes residual fuel measurements, the preparation for removal of water from the reactor coolant system and reactor vessel, and evaporation of accident generated water. Work will continue through 1991 on additional decontamination to meet target goals and removal of low-level wastes. The licensee plans to have the facility ready for long-term storage, termed Post Defueling Monitored Storage (PDMS) by the end of 1992.

In a letter dated August 5, 1988, the licensee stated that GPU systems present energy supply plans do not reflect the return to service of TMI-2. The licensee has not made, and is not making any attempt to preserve its capital investment at TMI-2.

#### Regulatory Status

General Public Utilities Nuclear Corporation, GPUN, the licensee, still holds a full power operating license in accordance with 10 CFR 50.

For several years after the accident, the licensee, not knowing the full extent of the accident, planned to complete the cleanup, refurbish the facility, and resume operations. As the clean-up progressed, it became apparent that refurbishment costs would be prohibitive. Recognition of this fact allowed for some latitude in the clean-up methodology, schedule and endpoint. In 1985, at a TMI-2 Advisory Panel Meeting in Harrisburg, PA, it was suggested that final clean-up of the highly contaminated portions of the reactor building be deferred once the facility was in a safe, stable configuration. By the end of 1986, the licensee had developed and submitted a proposal to place TMI-2 in PDMS until Unit 1 ceases operating, at which time both units would be decommissioned simultaneously. In an August 16, 1988 submittal, the licensee asked for a "possession-only" license but specifically stated that the request and submittal did not represent a decision to decommission the plant and did not constitute the permanent cessation of operations. As a practical matter, however, the staff views the TMI-2 facility as having been permanently shutdown as of March 28, 1979.

The licensee has combined its site Security Plan, Emergency Plan, Radiation Control Department and most of its Environmental Monitoring Program with TMI-1. The licensee was exempted from the annual fee requirements of 10 CFR Part 171 on May 12, 1989.

Decommissioning Funding Status

The licensee submitted a decommissioning funding plan to the NRC by the July 26, 1990 deadline. The funding plan included the costs associated with the radiological decontamination of structures and components such that unrestricted access will be allowed. The starting point for decommissioning would be the end of PDMS or the year 2014.

The concept of PDMS predated the decommissioning rule and the NRC staff endorsed the concept from the beginning, although, for the purposes of the decommissioning rule, the staff considers TMI-2 to have been permanently shut down as of March 28, 1979. However, the licensee states that it is not considering decommissioning of the facility until Unit 1 ceases operation, and it has not declared permanent cessation of operations. Therefore, it considers that it is not required to submit a decommissioning plan at this time. It plans to comply with 10 CFR 50.33; however, the amount secured will be approximately twice what is required by 10 CFR 50.75(c). The additional funds are in recognition of TMI-2's unique status. The licensee plans to collect these funds during the remainder of its Unit 2 operating license while in PDMS.

Enclosure 2

Four Options for the Accumulation Period for Decommissioning Funds for Plants  
Prematurely Shut Down After July 27, 1988

- A. Require licensees to have all funds for decommissioning at the time of permanent shutdown or as soon as possible thereafter.

Pros:

1. This option tracks the requirements of 10 CFR §50.75(e)(1)(ii).
2. Of the 4 options discussed, this one would provide the greatest assurance of funds for prematurely shutdown plants.

Cons:

1. This option would be inconsistent with the staff's treatment of plants permanently shut down before July 27, 1988.
2. This option would be inconsistent with the Commission's stated policy not to impose inordinate financial burdens on licensees. By requiring decommissioning funds potentially in excess of \$150 million all at once, the NRC could precipitate sufficient financial distress to impede the decommissioning process. In an extreme case, such a burden could adversely affect the licensee's financial stability and jeopardize its ability to accumulate the funds required for decommissioning.

- B. Allow licensees to collect decommissioning funds over the original term of the operating license, notwithstanding the premature shutdown of a power reactor.

Pros:

1. This option would ease the financial impact of premature decommissioning by spreading out funding over a longer period.
2. This option would be consistent with the treatment of licensees that operate their plants for the full term of the operating license and licensees whose plants permanently shut down before July 27, 1988.



Cons:

1. This option would provide significantly reduced assurance of decommissioning funds, particularly for licensees whose plants permanently shut down early in the operating license term.
  2. This option would be inconsistent with §50.82(c), which does not allow accumulation of funds during a secured storage period. One of the reasons for this policy was the consideration that plants that no longer operate produce no revenues for their owners. There is less incentive to decommission than to operate safely because a source of funds derived directly from the plant would no longer be available for decommissioning.
- C. Allow licensees to collect decommissioning funds over some specified period of time (i.e., 5 years) after permanent cessation of operations or after adoption of this policy, provided that there is a demonstrated assurance of funds to conduct pre-dismantlement activities during that period.

Pros:

1. This option would represent a "middle ground" between requiring all funds immediately and an extended collection period that increases uncertainty regarding the availability of funds.
2. Five years is consistent with the Commission's requirement to provide reasonable assurance that funds would be available before commencement of substantial decommissioning activities.
3. A 5-year collection period is analogous to the provisions of §50.75(f), which gives licensees a reasonable period of time (i.e., 5 years before the anticipated end of operation) to accumulate any shortfall of funds that would arise from decommissioning cost differences between the generic certification amounts contained in the formulas in §50.75(c) and site-specific cost estimates required in §50.75(f).

Cons:

1. This option would entail an increased financial burden for licensees with prematurely shut down plants compared to collections over the original operating license term. However, although potentially posing financial difficulties, it does not appear that this would be an inordinate burden for any of the three cases discussed.

2. This option, while not consistent with the requirement of 50.75(e), and thus requiring an exemption, finds some logical support in the underlying purpose of 50.75(f) which provides a period of five years before the end of operations for an adjustment of the level of funding provided to assure adequate funds for site specific decommissioning costs.
  3. This option is not consistent with the tentative informal acceptance by the Staff of the longer funding period proposed by Public Service Company of Colorado.
- D. Do not establish a collection period equally applicable to all licensees, but evaluate the factual situation for each licensee and specify the collection period accordingly. The staff could periodically reevaluate specific situations and alter or terminate collection periods accordingly.

Pros:

1. This option would evaluate the reasonableness of decommissioning funding assurance on a plant- and licensee-specific basis. This approach would have the effect of being less arbitrary than establishing a general collection period that might not be justified for a particular licensee. Thus, for example, a longer collection period might be justified for an operating, stable utility in reasonable financial health while not justified for entities of dubious viability. Alternatively, smaller licensees who would suffer undue hardship from a short collection period could have the length of their collection periods extended.
2. This option would be consistent with the more flexible approach specified in §50.82 for licensees that permanently shut down their facilities before July 27, 1988.

Cons:

1. This option would potentially require greater NRC resources to perform plant-specific reviews and periodic auditing. However, because few plants would be expected to shut down prematurely, resource demands should not be substantial.
2. This option would rely on judgments made about the longer term financial and political stability of different licensees. Although the uncertainty of these judgments could be mitigated by periodic reevaluations, this approach could lead to inconsistencies in treatment of different licensees. It would take great care to assure consistent application of "adequate protection" standards in each case-by-case assessment.



**SMUD**

SACRAMENTO MUNICIPAL UTILITY DISTRICT □ 6201 S Street, P.O. Box 15830, Sacramento CA 95852-1830, (916) 452-3211  
AN ELECTRIC SYSTEM SERVING THE HEART OF CALIFORNIA

October 17, 1990  
GM 90-777

James M. Taylor  
Executive Director For Operations  
United States Nuclear Regulatory Commission  
Washington, DC 20555

Dear Director Taylor:

Thank you for allowing me to present the District's opinion on the treatment of timing of Decommissioning Funding for Prematurely Shutdown Nuclear Plants.

As we discussed in our meeting on October 17, 1990, I have attached a copy of a memorandum from the District's Counsel analyzing the appropriate NRC staff treatment for this timing.

I appreciate this opportunity to reiterate our position on this issue which is of extreme importance to the customer/owners of the District.

Sincerely,

S. David Freeman  
General Manager

Attachment

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WRITER'S DIRECT DIAL NUMBER

## M E M O R A N D U M

TO: S. David Freeman, General Manager  
Sacramento Municipal Utility District

FROM: Thomas A. Baxter *TAB*  
David R. Lewis

SUBJECT: Decommissioning Funding Accumulation Periods  
for Prematurely Closed Nuclear Power Plants

DATE: October 16, 1990

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### I. Introduction

This memorandum examines how the Nuclear Regulatory Commission (NRC) should treat the timing of decommissioning funding for prematurely shut down nuclear plants. Because the NRC's regulations do not address this issue squarely, and in light of the premature shutdowns of the Shoreham, Fort St. Vrain, and Rancho Seco facilities, we understand that the NRC Staff is seeking Commission guidance on three options: (1) immediate funding; (2) funding over five years; and (3) funding through the end of the license term.



As discussed below, we strongly recommend that the Staff not seek such a decision from the Commission, and that the Commission not limit the NRC Staff's discretion to choose among the three proposed options, or other possible options for that matter. Instead, the Staff should be left with the authority and flexibility to consider the timing of decommissioning funding for prematurely shut down plants on a case-by-case basis, and to fashion a decommissioning funding schedule that considers the particular circumstances of the licensee.

We believe that this type of flexibility meets the NRC's intent underlying its decommissioning rule. The decommissioning rule was intended to be a flexible regulation -- one that provided reasonable assurance that funds would be available for decommissioning when needed without imposing undue financial burdens on the licensees. These precepts militate against limiting options and toward individual consideration of the particular circumstances presented by a prematurely shut down plant. Only by this means can the NRC arrive at a course that provides the requisite reasonable assurance of funding without imposing undue burdens. In one individual case, the NRC might determine that accelerated funding is appropriate, but in another, where there is sufficient assurance of ultimate funding, a longer term of accumulation might be in order. Rancho Seco

provides a good illustration of the latter, being a state agency that cannot become bankrupt and that has the legal authority to establish its own rates to cover costs.

If, on the other hand, the Commission is inclined to preselect a particular option and limit the discretion of the Staff, we believe that it may only do so in a rulemaking proceeding. The Commission would be establishing substantive obligations, which under the Administrative Procedure Act (APA), must be preceded by notice and opportunity for comment.

The basis for these recommendations and conclusions is presented below. First, a brief overview of the decommissioning rule and its purposes is discussed. Then, the pertinent policy considerations are examined, and Rancho Seco's situation described to place the issue in context. Finally, the procedural requirements of the APA are briefly addressed.

## II. Overview of the Decommissioning Rule

Under 10 C.F.R. § 50.75(c) and (e), the licensees of nuclear plants are required to establish decommissioning funding mechanisms, such as an external sinking fund. A licensee who is an electric utility may use a generic "certification" amount prescribed in the NRC rule as the initial funding target. Five years before the "projected" end of operations, such licensees

are required to submit a preliminary decommissioning plan which "shall also include plans for adjusting levels of funds assured for decommissioning to demonstrate that a reasonable level of assurance will be provided that funds will be available when needed to cover the costs of decommissioning." 10 C.F.R. § 50.75(f). The proposed decommissioning plan itself (due within two years following permanent cessation of operations, and in no case later than one year prior to expiration of the operating license) must include a "plan for assuring the availability of adequate funds for completion of decommissioning." 10 C.F.R. § 50.82(b)(4).

The NRC has explained that

Consideration of these steps, first establishing a general level of adequate financial responsibility for decommissioning early in life, followed by periodic adjustments, and then evaluations of specific provisions close to the time of decommissioning, will provide reasonable assurance that the Commission's objective is met, namely that, at the time of permanent end of operations sufficient funds are available to decommission the facility in a manner which protects the public health and safety.

53 Fed. Reg. 24,018, 24,030-31 (1988).

The Federal Register statement reflects the NRC's "objective" that sufficient funds be available at the time of

permanent end of operations. The Federal Register statement and rule also make it clear that the rule contemplates such funding over a normal period of operation, commencing with a "general level . . . early in life" followed by adjustment five years before the "projected" end of operations. Similarly, in Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), CLI-88-10, 28 N.R.C. 573, 584-85 (1988), the Commission explained:

The decommissioning rule was issued to ensure that at the conclusion of the lengthy period in which reactors would be in commercial operation there would be funds available for safe and timely decommissioning.

\* \* \*

[T]he rule contemplated a step-by-step decommissioning funding assurance process over a long period of time with an initial certification of funding, periodic updates, a preliminary decommissioning plan at or about 5 years before projected end of operations, and a decommissioning plan submitted as part of the application for licensing termination.

The description in the rule itself of the allowable funding methods indicates such methods should be initially structured to accumulate sufficient decommissioning funding by the time



termination of operations is expected.<sup>1/</sup> The plan that a licensee must submit five years before the projected end of operation, however, need demonstrate only that there is a "reasonable level of assurance" that funds will be available "when needed to cover the costs of decommissioning." See 10 C.F.R. § 50.75(f). There is no provision in the rule stating that a licensee shall have all the funds it needs for decommissioning at the time it ceases operation.

If a licensee chooses to use the SAFSTOR method of decommissioning, 10 C.F.R. § 50.82(c)(1) does require that the licensee's decommissioning plan include a provision that "funds needed to complete decommissioning be placed into an account segregated from the licensee assets and outside the licensee's administrative control during the storage or surveillance period. . . ." As explained more fully below, however, this provision was not written to apply to prematurely shut down plants, but rather to those which operate for a normal reactor life. The rationale behind section 50.82(c)(1) is that there is a need for assurance of funds over the extended timeframe when a

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<sup>1/</sup> For example, an external sinking fund is defined as a fund established and maintained by setting funds aside periodically in an account segregated from licensee assets and outside the licensee's administrative control in which the total amount of funds would be sufficient to pay decommissioning costs at the time termination of operation is expected. 10 C.F.R. § 50.75(e)(1)(ii).

facility is no longer a revenue producing asset. 53 Fed. Reg. at 24,034; NUREG-1221 at D-31. In addition, this provision serves to protect against the possibility of licensee bankruptcy during a lengthy storage period. NUREG-1221 at B-13, D-31.

Even this provision is not a self-effectuating requirement for full funding by a specific date. The storage period may post-date termination of operations by years, and indeed there is nothing in the NRC's regulations that requires the licensee to enter the storage period during the term of its license. Further, the amount that must be set aside to "complete" decommissioning arguably could be less than the total estimated amount by excluding storage costs.

The absence of an absolute requirement to fully fund decommissioning costs by specific dates, such as the time a plant ceases operation, is not surprising. The provisions in 10 C.F.R. §§ 50.75 and 50.82 are primarily intended to require appropriate planning, both financial and technical, which the NRC Staff then reviews. Thus, a licensee's firm legal obligations become defined by its commitments in approved plans required by the

regulations, and not by operation of these regulations alone, which are goal oriented.<sup>2/</sup>

The objective to fund the decommissioning liability by the end of operations is a reasonable planning criterion for normally operating reactors generally. Because existing operating reactors have from about twenty to forty years left before their licenses expire, the licensees may accumulate funds gradually. However, because it is not possible to foresee the precise situation of licensees twenty to forty years hence, or the method or timing of decommissioning such licensees may select, the long-term planning criterion aims for sufficient funding by the projected end of operations. This criterion as applied to reactors operating normally over their expected lives reasonably balances financial assurance against burden.

In addition, the NRC structured its rule to provide flexibility. As was noted during the rulemaking,

The rule provides a framework for the regulation of decommissioning which is adequate for decommissioning after normal operations or after an accident. This flexibility allows for case-by-case

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<sup>2/</sup> A licensee should not be in violation of any regulation if decommissioning costs turn out to be greater than the amount accumulated pursuant to an approved plan.

considerations which are especially important in dealing with an accident situation.

NUREG-1221 at C-14.

Finally, the decommissioning rule reflects the Commission's endeavor to minimize the administrative effort of licensees and to avoid imposing undue financial burdens. See 53 Fed. Reg. at 24,030, 24,033 ("the Commission believes it is important not to impose inordinate financial burdens on licensees.") This sensitivity was manifested in the NRC's decision not to develop financial assurance mechanisms in anticipation of prematurely shutdown plants. The Commission specifically rejected comments calling for the prepayment of funds as a guard against premature shutdown.

An important consideration in selecting an acceptable method for providing funds for decommissioning is that the method be reasonably cost effective. Prepayment of funds has been recognized by several studies as being significantly more expensive than other methods. In view of the unlikely nature of the event being considered [i.e., premature shutdown], prepayment generally has a cost too high for the benefit that would be realized.

53 Fed. Reg. at 24,034. See also NUREG-1221 at D-24. In the same vein, the NRC did not include in the final rule the "make



whole" rate of collection originally considered in the proposed rule for external sinking funds. NUREG-1221 at D-35 to D-36.

III. Application of the Decommissioning Rule to Prematurely Shutdown Plants

As noted by the NRC Staff in review of Fort St. Vrain's premature closure,

In considering the final decommissioning rule, the Commission assumed that power reactor licensees would be able to accumulate funds over the full operating life of the plant as determined by the remaining term of the operating license. It does not appear, however, that the Commission meant to force those licensees who cease operation prematurely to raise the entire amount of required decommissioning funds at the time of shutdown.

Letter from P. Erickson to A. Crawford, Docket No. 50-267, "Fort St. Vrain, Decommissioning Financial Plan and Preliminary Decommissioning Plan -- Request for Additional Information" (Oct. 4, 1989). The Staff proceeded to state its determination that the NRC should allow that licensee "some leeway in the time permitted to collect decommissioning funds." In that case, the Staff suggested funding through the license term (until 2008).

Indeed, it should be noted that the decommissioning rule is written in a manner that makes literal compliance impossible for a prematurely shutdown plant. A prematurely shutdown plant will

not have submitted an updated financial plan five years before the end of operations and may not have the decommissioning cost estimate that would be part of the submittal.

Further, even if the utility had a site-specific decommissioning cost estimate, it would be extremely improvident for the NRC to insist on immediate deposit of the full amount. Rather than increasing financial assurance, NRC insistence on immediate deposit of a sum on the order of one to several hundred million dollars could create financial instability. At the very least, it would cause the utility to draw upon resources that might be better spent for defueling, plant layup, prompt waste disposal, and other activities conducted immediately following cessation of operations to place the facility into a secure non-operational condition.

In sum, while full funding by the end of operations was a reasonable long-term planning criterion for normally operating reactors, it is probably not an appropriate requirement for prematurely shut down plants, as the Staff already has recognized in its Fort St. Vrain review. The balancing of benefits and burdens that the NRC undertook when considering what licensees should do in general -- licensees who were expected to operate their plants for at least another twenty years -- does not apply to a prematurely shut down plant. The burden of immediate or

even short-term funding may be inordinate, not only threatening the stability of the licensee but severely impacting the ratepayer and the competitiveness of the local economy. At this juncture, careful consideration is necessary to determine what is reasonable in light of the specific circumstances.

Clearly, then, it is appropriate to allow a licensee of a prematurely shutdown facility some reasonable period to accumulate funds. What is a reasonable period will depend on the specific circumstances -- how much needs to be accumulated, when the funds will be needed, and the degree of financial security of the licensee. The particular circumstances may very well justify an accumulation period in excess of five years.

The Rancho Seco situation is an apt illustration. SMUD, which shut down Rancho Seco after a June 6, 1989 referendum, has committed to an initial deposit of \$55 million for its external decommissioning sinking fund. See letter from D. Keuter to NRC, Docket No. 50-312, "Decommissioning Financial Plan and Interim Exemption Request from Certain Requirements of 10 C.F.R. 50.75(e)(1)(ii)" (July 24, 1990). SMUD is still evaluating decommissioning options and investigating costs, and has not yet filed a site-specific decommissioning cost estimate. While the District submitted to the NRC on July 12, 1990, a status report on decommissioning planning for Rancho Seco ("Plan for Ultimate

Disposition of the Facility"), it has not yet filed a proposed decommissioning plan under 10 C.F.R. § 50.82. While it is likely that SMUD will propose a storage period of several decades and a funding plan consistent with the timing of major expenditures for decommissioning activities, the NRC should wait for such information, in the form of plans, before deciding on a major element of the financial scheme. The funding accumulation period should not be decided in the abstract, but along with the decommissioning plan, the site specific cost estimate, and the revised financial plan.

A generic policy would not allow the Staff to take into consideration SMUD's ability to generate funds over a long period of time, which is well assured by several factors. First, SMUD maintains multiple generation facilities, power purchase contracts, as well as extensive transmission and distribution facilities. Consequently, its revenue producing capability and financial stability are not wholly dependent on Rancho Seco. Further, SMUD has the statutory authority under California's Municipal Utilities District Act to establish the rates for the power it sells, and therefore the legal authority to recover its costs from the ratepayers irrespective of whether a particular asset is used and useful. In addition, further assurance of adequate decommissioning funding is provided in SMUD's case



because of California's Nuclear Facility Decommissioning Act, which imposes a separate and independent State requirement to fund decommissioning expenses. Finally, SMUD as a municipal utility district is precluded from bankruptcy in the usual sense. Instead, the Bankruptcy Code allows for a "municipal reorganization" where the municipal's liabilities and obligations must eventually be paid.

These same considerations would justify in SMUD's case the accumulation of funds into the storage period and beyond the license term. The planning criterion to segregate during the storage period funds to complete decommissioning was based on the concern that the licensee might not be able to generate further funds if its nuclear plant was no longer a revenue producing asset and on the concern that the licensee might become bankrupt during the period. Neither concern would pertain to SMUD, because again SMUD has its own authority to establish rates to cover costs, including the costs of decommissioning a retired plant, and because SMUD cannot avoid its obligations by bankruptcy.

IV. Limitations Imposed by the Administrative Procedure Act

For the reasons discussed above, we believe that the Staff should not seek confirming guidance from the Commission, and the

Commission should not restrict the discretion of the Staff by preselecting one of the three funding period options, but should instead allow case-by-case consideration of what is appropriate. Only by considering the special circumstances in each case can the NRC determine what is necessary to provide reasonable assurance of funding without imposing undue burdens.

If, however, the Commission is inclined to dictate a generic funding schedule for prematurely shut down plants, it may only do so by rulemaking. The preselection of one of the suggested options would establish a substantive obligation to be imposed on a class of licensee. As discussed above, there is no absolute requirement under the current regulations that a licensee have all funds accumulated by cessation of operations, five years thereafter, or by the end of the license term. Accordingly, the options cannot be viewed as interpretative. Instead, any preselection would be the establishment of a "binding norm" for a situation not addressed by the current rule.

The courts have held that a statement that establishes a substantive standard -- a binding norm -- is a substantive rule. Pacific Gas and Electric Co. v. FPC, 506 F.2d 33, 38 (D.C. Cir. 1974). Similarly, a statement that limits the discretion of an official is a substantive rule. Limerick Ecology Action, Inc. v. NRC, 869 F.2d 719, 734 (3d Cir. 1989). Under the APA, absent

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good cause, a substantive rule may only be promulgated after public notice and opportunity for comment. 5 U.S.C. § 553.

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