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OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Attention: Rulemaking and Adjudications Staff

Subject: Entergy Comments on NRC's Advance Notice of Proposed Rulemaking on Entombment Options for Power Reactors

Reference: *Federal Register* Vol. 66, No. 200, Pages 52551-52554, dated October 16, 2001 (Entombment Options for Power Reactors – Advance Notice of Proposed Rulemaking)

CNRO-2001-00053

Dear Madam Secretary:

Entergy Nuclear, Inc. (Entergy) is pleased to submit our comments in the above captioned matter.

Entergy endorses NRC's efforts to ensure that entombment is an option for decommissioning of power reactors. We agree that entombment is a safe option, and can be a viable option depending on the circumstances that exist after a reactor is permanently shutdown. Entergy currently has no plans to use the entombment option. It is difficult, however, to predict circumstances that may exist when a unit is shutdown. Availability of low level waste facilities, transportation issues, spent fuel storage and Greater Than Class C (GTCC) waste disposition are some of the issues that could impact decommissioning activities in the future. Entombment, therefore, becomes a necessary option to develop now if present decommissioning alternatives (DECON and SAFSTOR) are not viable in the future.

It is difficult to select a preferred option from those presented in the Federal Register Notice. All of the options overlap somewhat and none solve all of the problems and concerns that can be identified at this time. Entergy desires an entombment option which is safe (as easily demonstrated to the public), does not involve dual regulation with other Federal or local authorities, does not involve changing rules during the process, and avoids extensive hearings and uncertainty in implementing the option. These criteria are satisfied best by a solution that falls between Option 1 and 2 as presented in the Notice - an extended SAFSTOR option that may involve entombment depending on the length of the extension.

Template = SECY-067

SECY-02 /

Uncertainty of situations that may exist in the future, such as those mentioned above, may force a shutdown power reactor to delay decommissioning beyond the 60-year limit presently specified in the regulations [i.e. 10CFR50.82(a)(3)]. Situations that could develop may be relatively short term (less than 20 years) or permanent. If a delay is needed for a short term, an exemption to the 60-year limit (hold unit in the existing SAFSTOR condition) may be the best option. However, flexibility in the present rule, beyond "necessary to protect public health and safety" is needed. If the delay will be long term, then physical entombment may be the desired method to extend the SAFSTOR period. For this situation, establishing physical entombment criteria in rulemaking is desirable as long as the criteria are simple and flexible. Criteria should be limited to basic radiological, institutional and administrative standards. It should require continuation of an NRC license until the entombment is no longer necessary (the site meets 10CFR20 sub-part E criteria without the entombment).

In the above captioned Advance Notice of Proposed Rulemaking, the NRC asked for comments associated with the following questions:

A.1. Does the existing 10 CFR 50.82 (a)(3) provide an adequate basis to allow periods of entombment beyond 60 years? If not, in what way should the regulations be changed?

As discussed above, the existing regulation only allows extension of the 60-year period for public health and safety considerations. Additional flexibility, for short term extensions to the 60-year period, are desired for other issues which may arise in the future which may not be directly related to public health and safety. In addition, simple criteria should be developed to allow entombment as an option for longer-term extension of SAFSTOR.

A.2. Is 10 CFR part 20, subpart E, adequate to achieve license termination using an entombment approach? If not, how and why should this rule be modified?

The 25 mR limit prescribed is adequate for an entombed facility. However, if the entombment is postulated to fail, it is unclear if the 100mR/500mR restricted limits could be proven to be met, at least during the early entombment period. If the restricted limits cannot be met (with a failed entombment), the existing NRC license should be in effect to provide the public assurance that the site will be adequately monitored with adequate institutional and contingency provisions.

A.3. Should entombed facilities be required to maintain some type of NRC license after the facility meets the dose criteria of part 20, subpart E? If so, what conditions need to prevail before the license may be terminated? What alternatives might exist for adequately managing the radioactive materials left in the entombed structure?

As discussed above, the NRC license should be maintained until the facility can be shown to meet the unrestricted or restricted (postulated failed entombment) conditions of 10CFR20 subpart E. At this point the license can be terminated as with present decommissioning

alternatives. Once the license is terminated, the regulations should specifically prohibit further radiological regulation by other federal and/or state/local agencies.

A.4. A new part is being considered in the regulations to establish performance objectives and requirements for licensing an entombed disposal facility. Should this option replace subpart E for purposes of entombment or should a licensee have a choice between using Subpart E approach or the entombed facility license approach? Should the dose-based criteria for the entombed facility license be based on subpart E dose limits? If not, what should be the basis for those limits.

Based on discussions above, entombment should be considered as an option for longer-term extension of the SAFSTOR period beyond the present 60-year limit. Subpart E criteria should apply to the entombed facility. This allows for termination of the license if the 25mR and restricted dose limits are met. If the restricted limits are not met, then the license should continue until they are met - perhaps for an extended period of time. A new part is not necessary to govern this extended SAFSTOR condition. Flexibility in the existing regulations should be made to allow this extension and provide basic criteria for entombment as an option for longer-term extensions of the SAFSTOR condition.

A.5. Should the entombed facility option be available only to power reactors? If not, under what circumstances should it be applied to other than power reactors?

Entombment should also be available to non-power facilities. The same circumstances as discussed above should apply.

A.6. Are there other options that the Commission should consider in developing an approach to entombment that will provide for its viability while maintaining the public health and safety?

As discussed previously, the exemption criteria for extension of the 60-year limit, for short time periods (e.g. <20 years), should be more flexible.

In addition, consider establishing/identifying criteria for the next generation of reactors, as well as siting considerations, that could facilitate the use of the entombment alternative.

B.1. To what degree should credit be given to engineered barriers for the purposes of dose reduction to meet the license termination criteria of 10 CFR part 20, Subpart E?

Credit should be given as presently outlined under restricted condition termination in subpart E. If the postulated failure of the entombment exceeds subpart E limits, an NRC license should be required to provide the public assurance that the site will be adequately monitored with adequate institutional and contingency provisions.

C.1. Should material that could be classified as GTCC waste be considered in the entombment approach? Are there circumstances under which residual radioactivity that could be classified as GTCC be allowed to be entombed on site? If so, under what conditions?

Yes, GTCC should be allowed to be entombed. Licensees may want to remove GTCC, if possible, as placing GTCC in the entombment will likely lead to exceeding subpart E limits for a failed entombment and, per discussions above, result in the need for an NRC license for a long period. If GTCC is stored in the entombment, provisions should be made for its removal, if possible, during the entombment period.

D.1. Power reactor licensees are exclusively regulated by the NRC (under 10 CFR part 50), even in Agreement States. The NRC consults with stakeholders, including Agreement and non-Agreement States, about regulatory actions under consideration that may impact stakeholders. What additional role, if any, should the affected States have in the license termination process based on entombment for power reactors? In addition, should an Agreement State be permitted to issue a license for an entombed disposal facility?

Any license termination or entombment scenario should remain under the exclusive regulation of the NRC. An Agreement State should not be permitted to issue a license for an entombed facility. Once the NRC license is terminated, subsequent and/or further radiological regulation by other government agencies (federal, state, or local) should be prohibited.

D.2. Under 10 CFR part 20, subpart E, the entombment contains material having residual radioactivity and is suitable for license termination if the dose criteria are met. However, under other statutes, such as the LLW Policy Act, the material might be considered to be low-level waste. What issues exist for entombment in a State where existing State legislation prohibits LLW disposal?

The issue of LLW does not change if the approach discussed above is taken.

- License termination, under the present criteria of subpart E would occur (using restricted release criteria), or
- The license would continue with extended SAFSTOR (with or without entombment conditions)

There are presently issues with some states after license termination using DECON and unrestricted termination at 25mR. In any case, Federal preemption should be clarified for license termination to avoid dual or changing regulations.

D.3. Are there other issues for an entombment that impact Low-Level Waste Compact?

As long as the facility remains under an NRC license, there should not be impacts regarding LLW compacts. After termination of the license, issues that exist today may continue to exist unless Federal preemption is clarified for facilities that satisfy subpart E criteria.

D.4. If the entombment disposal facility option does not include GTCC waste and the disposal license is issued by an Agreement State, what compatibility categories, as described in NRC's "Policy Statement on Adequacy and Compatibility of Agreement State Programs," published September 3, 1997 (62 FR 46517), and in NRC's Management Directive 5.9, "Adequacy and Compatibility of Agreement State Programs," should be assigned?

As stated earlier, any license needed (typically the existing NRC license) should not be issued by a state.

E.1. Please provide any other considerations or rule changes that the Commission should consider to facilitate license termination based on an entombment approach, while maintaining the requisite protection of the health and safety?

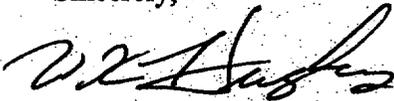
We have no further comments at this time.

E.2. The NRC is interested in the likelihood that licensees would pursue entombment to assist it in formulating its decision regarding the entombment options. Please provide your assessment as to the number of licensees likely to pursue entombment as an option. Specifically, it is requested that reactor licensees indicate their potential interest in choosing the entombment option.

It is difficult to predict the likelihood of future issues that would force Entergy to pursue entombment as an option. If present circumstances prevail, (availability of LLW facilities, apparent future availability of spent fuel and GTCC disposal facilities, etc.) it is unlikely that Entergy would pursue entombment. We recommend a simple approach to entombment, as discussed above, to maintain the option if necessary.

Thank you for the opportunity to provide these comments. If you have any questions concerning this submittal, please contact George Zinke (601-368-5381) or me (601-368-5327).

Sincerely,



Kenneth Hughey
Sr. Manager Business Development
Entergy Nuclear, Inc.

WKH/GAZ/GAR/

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December 27, 2001
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Entergy Nuclear, Inc.

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