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Regulatory Improvements for Power Reactors Transitioning to Decommissioning; Request for Comment on Draft Regulatory Basis

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General Comment

See attached file(s)

Attachments

DPCJune13

RuleENCLOSURE_Final

Ms. Annette Vietti-Cook
Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
ATTN: Rulemakings and Adjudications Staff

Subject: Decommissioning Plant Coalition Comments on the NRC Draft Regulatory Basis Document Regulatory Improvements for Power Reactors Transitioning to Decommissioning and the NRC Draft Regulatory Analysis for Regulatory Basis: Regulatory Improvements for Decommissioning; Docket ID: NRC-2015-0070

Project Number: 689

Dear Ms. Vietti-Cook;

The Decommissioning Plant Coalition[1] (DPC) is pleased to submit comments on the NRC's Draft Regulatory Basis[2] and on its accompanying draft Regulatory Analysis[3] with appreciation for the effort of the NRC staff and with the hope that we can offer well founded suggestions on improving the rulemaking as it moves forward.

The DPC endorses the comments, proposals, and suggestions of the Nuclear Energy Institute and in the enclosure to this letter offers additional comments on select portions of the draft Regulatory Basis, the draft Regulatory Analysis and answers to select questions in the Federal Register Notice.

The staff has made a number of overall findings that we endorse, including:

- The need for a power reactor decommissioning rulemaking is not based on any identified safety or security concerns.
- The NRC understands that the decommissioning process can be improved and made more efficient, open, and predictable by reducing its reliance on

[1] The DPC was established in 2001 out of the recognition that the overwhelming attention of the regulator, the industry and policy makers would be focused on the operating fleet and provides a forum for the identification of federal policy and regulatory issues of unique or special concern to decommissioning civilian nuclear facilities. Since its inception, plants that have been represented in the work of the DPC include: Big Rock (MI), Connecticut Yankee (CT), Crystal River (FL), Humboldt Bay (CA), LaCrosse (WI), Maine Yankee (ME), Rancho Seco (CA), San Onofre (CA), Vermont Yankee (VT), Yankee Rowe (MA), and Zion (IL).

[2] 82 *Fed. Reg.* 13, 778 (March 15, 2017)

[3] ADAMS Accession No. ML16271A511

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licensing actions *(i.e.,* license amendment and exemption requests) to achieve a long-term regulatory framework.

While supportive of the findings, the DPC believes that these two documents can be significantly improved in terms of consistency of approach to the different decommissioning states of permanently shut down facilities and with clarity on the applicability of proposed changes.

Most importantly, there needs to be a focused effort on improving accuracy, adequacy, and consistency throughout the documents on how they approach, describe, and apply recommendations for what would be characterized as "Level 3" – or "ISFSI" only status. As currently analyzed and described, there are distinctions that have been omitted between sites where:

- all fuel is in dry cask storage although the plant is not yet undergoing active decommissioning;
- all fuel is in dry cask storage and the plant is in the midst of decommissioning; and
- only the fuel and GTCC in dry casks remains.

The lack of clarity, consistency, and specificity is likely a result of an emphasis on the transition from operations to shut down status. There must be an emphasis on the ultimate goal of all sites to "look alike" with respect to NRC regulations and expectations when only the fuel and GTCC in dry casks remains. In other words, let's begin with the end in mind.

In addressing new approaches, either in proposing new requirements or additional guidance, especially in those matters that fall more within the public policy arena, the staff must take better account of the risk(s) of the activities that these initiatives would address. The DPC notes that the NRC staff recently depicted the calculated safety risk of dry cask storage at between $1.8X10^{-12}$ and $3.2X10^{-13}$ [4]. This is a level of risk that needs to be factored into many analyses. Whatever the precise calculation of risk one assigns to stages of decommissioning and fuel status at sites that are permanently shut down, it is far below the Commission's safety expectations for the reactor that once operated at that site.

The DPC believes the NRC can modify 10 C.F.R. Part 72 and the applicable portions of 10 C.F.R. Parts 50 and 73 so as to create alignment between the 10 C.F.R. Part 72 general licensee that has only spent fuel storage and GTCC storage in dry casks remaining on site with the state currently approved for 10 C.F.R. Part 72 specific licensees. This process could be defined in 10 C.F.R. 50.82 without requiring the general licensee to file a license application in accordance with Sub-part B of 10

[4] Slide 4, NRC staff presentation, Public Meeting re Graded Approach, March 24, 2017.

C.F.R. Part 72. The licensee would have the option of complying with the requirements of 10 C.F.R. 72.32 regarding emergency planning and 10 C.F.R. 73.51 regarding physical security in lieu of 10 C.F.R. 50.47 and Appendix E, and 10 C.F.R. 73.55, respectively. This action would eliminate the need for numerous exemptions and other approvals that general licensees need to acquire after achieving Stand-Alone ISFSI status. The NRC can then establish that a License Termination Plan that has been approved by the NRC in accordance with 10 C.F.R. 50.82(a)(10) would meet the applicable requirements for the Decommissioning Plan in 10 C.F.R. 72.30.

We also suggest that the NRC address in this rulemaking the disposition of records relating to the reactor once its systems, structures, and components have been dismantled and removed from the site. This is another exemption that is routinely requested and approved during the decommissioning process.

We have the most experience in safe and secure decommissioning and spent fuel storage in the U.S., if not the world, and we hope that the Commission will once again take to heart our past and renewed suggestions that the NRC ensure that the contents of their two documents accurately and clearly lead to a rulemaking result with sites within its regulatory purview that are with respect to all safety and security requirements virtually identical to those earlier shut down facilities that were and are safely and securely managed by our members.

Sincerely,

Michael S. Callahan
Governmental Strategies Inc on behalf of the Decommissioning Plant Coalition

Enclosure: As stated

Enclosure

Detailed Comments of the DPC regarding the NRC's Draft Regulatory Basis, Draft Regulatory Analysis and Questions in the Federal Register

The DPC endorses the comments and recommendations of the Nuclear Energy Institute. We add our own dealing with several issues in order to provide the perspective of the years of world-class safe and secure decommissioning and spent fuel (and Greater-Than-Class-C waste) storage at our sites.

For the Regulatory Basis:
Executive Summary:

The Executive Summary describes the intent to codify the historically granted exemptions that have customarily been approved for licensee sites where nuclear power generating activities have permanently ceased. It does describe, "Levels," that track to the status of the spent fuel to be stored. We endorse that general approach.

As currently analyzed and described, there are distinctions that have been omitted between sites where:

- all fuel and GTCC is in dry cask storage although the plant is not yet undergoing active decommissioning;
- all fuel and GTCC is in dry cask storage and the plant is in the midst of decommissioning; and
- only the fuel and GTCC in dry casks remains.

Applicability:

The Regulatory Basis has analyses that are inconsistent or not clear on applicability, notably in discussing the staff's recommendations concerning Fitness for Duty, in the staff seeking to address issues in Appendix H, and elsewhere.

On page 33, it appears that the rule would apply to those that shut down after its effective date:

"The NRC would apply these updated requirements to power reactors that permanently shut down and defuel and enter into decommissioning after the effective date of the final rule."

The listing on page 33 that immediately follow the quoted sentence above does not completely capture the staff's intention:

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"Accordingly, the NRC envisions that the requirements would apply to holders of licenses for the following:
• Nuclear power plants currently licensed under 10 CFR Part 50;
• Nuclear power plants currently being constructed under construction permits (CPs) issued under 10 CFR Part 50, or whose CPs may be reinstated;
• Future nuclear power plants whose CPs and operating licenses are issued under 10 CFR Part 50; and
• Current and future nuclear power plants licensed under 10 CFR Part 52."

The simple fix to the page 33 issue would be to add to the first bullet, "…that permanently cease nuclear power generating activities after the effective date of this rule-making." There are many places throughout where the Regulatory Basis can be improved and state applicability clearly.

We suggest the Regulatory Basis be reviewed to ensure the final summary and its Appendices be much clearer and more consistent on what is applicable to which facilities.

Implementation Issues:

The summary offers, again on page 33, that:

"However, an overarching implementation issue for this rulemaking is the expected transition of multiple operating power reactors to decommissioning status prior to publication of the final rule. Licensees who are transitioning facilities to decommissioning during the implementation period may need specialized implementation provisions. The staff will consider implementation issues in more detail during the development of the final rule."

This paragraph presents two concerns:

- If the rule is not to be applicable to operating power reactors who permanently shut down before the publication of the final rule, then how can there be specialized implementation provisions needed for those shutdown reactors?
- If the staff intends to consider these, "specialized," issues in more detail during development of the final rule, then we suggest that NRC share with affected licensees more information on what these issues might be in order to discern if they would in fact be applicable.

Backfitting:

There is a need for clarity on the position that, on the one hand, a decommissioning rule-making is not based on safety or security concerns, and that a proposed rule that would codify exemptions would not impose new or changed requirements on

licensees in decommissioning because licensees would be acting under these exemptions; and on the other hand that the staff is proposing requirements that would exceed those that are already mandated by the Commission (see pages 46 and 47 of the NRC's summary).

We have these observations:

- The rulemaking isn't addressing any safety or security deficiencies, but there are proposals that would exceed those currently in effect that go beyond the stated intent to reduce administrative burdens and improve efficiency.
- If an exemption that is currently in effect requires renewal, what will be the requirement that the NRC will turn to- the new rule or the exemption that was in effect?
- If the NRC would decide in the above case that the new rule/requirement would be imposed, what would support the Commission to impose it if there are no safety or security concerns that underpin it?
- Can these inconsistencies lead to situations in which sites that arrive in an ISFSI only status where only the fuel and GTCC in dry casks remain are differently regulated than those that preceded them?

Recent Experience with Power Reactor Decommissioning:

On pages 17 and 30, at least, the staff describes recent experience:

"…licensees that are currently transitioning to decommissioning are establishing a long-term regulatory framework…"

We suggest this depiction be deleted and replaced with a better depiction that appears elsewhere on page 30[1] since clearly the licensees do not establish the framework, the Commission does.

Appendix D: Drug & Alcohol Testing

The staff responded to our ANPR comments in this area:

"In response to comments that decommissioning power reactors should only have to employ corporate FFD requirements, and should not be subject to Part 26, the NRC staff has determined that industrial FFD programs would be insufficient because application would vary from site to site. Further, corporate programs do not provide assurance that licensees will implement an FFD program that provides reasonable assurance that individuals who have unescorted access to the SFP (a

[1] "…decommissioning licensees have sought and been provided NRC approval of exemptions and amendments to reduce regulatory requirements no longer needed or no longer relevant for permanently shut down and defueled reactors because the hazard presented by a decommissioning plant is significantly reduced from the time when the plant was operating, as well as to streamline and add efficiencies to the overall licensing basis that reflect the decommissioning status of the plant."

vital area) are trustworthy and reliable, and can safely and competently perform their assigned duties and responsibilities in a manner that prevents radiological sabotage." (page D-15)"

There is no analysis provided allowing us to evaluate the staff's determination that industrial FFD programs are insufficient. We believe the levels of risk needed for a federally mandated testing regime at these sites are not met at permanently shut down sites. For example, at Level 3, an indicated risk at 10^{-13} would seem outside the realm of federal intervention in such activities.

Our collective experience at the various levels indicate that we have been well able to afford safe and secure storage whether licensees elect to continue with its previous Part 26 program or employ effective alternatives, especially in light of the low risks of the storage mission.

Appendix F: Decommissioning Trust Funds

The staff should consider revising the regulation to allow access to 3% of the generic formula or actual market value of the decommission trust fund, whichever is greater, or additional level of funding prior to the submittal of the Post Shutdown Activities Report (PSDAR) and permanent fuel removal. This will support plants that announce their intent to decommission well in advance of permanent shutdown.

The additional funding for planning will allow for greater detailed planning, approval of licensing submittals, and approval of state or local regulatory requirements to allow for an efficient start to active decommissioning at the time for permanent plant shutdown. This will ultimately lead to a more efficient, cost-effective decommissioning project.

Appendix H: Current Regulatory Approach

The comments that follow are in recognition of the Regulatory Basis' finding:

"The NRC staff concluded that the current decommissioning regulations with respect to the four subjects identified above are sufficient to protect public health and safety and the environment because the underlying technical conclusions that support the regulations have not changed." (page H-2)"

With respect to matter of Spent Fuel Management Requirements of 10 C.F.R. 72.218, 10 C.F.R. 50.54(bb), 10 C.F.R. 50.82, and 10 C.F.R. 52.110 (pp. H29 – H36), the DPC understands the desire of NMSS to take the opportunity of this rule making to address this matter.

The DPC recommends adoption of Option One.

10 C.F.R. 72.218 (a) indicates the need for, “a plan for removal of the spent fuel stored under the general license from the reactor site.”

The plan can only be supplied by the Department of Energy. The removal will be according to its schedules, using transport casks it deems appropriate, utilizing routes it devises via rail, truck, and/or barge, etc. It may remove it to a repository or to an interim site.

Such a plan will not address any deficiency in the protection of the public health and safety and the environment.

Beyond that, we question if this requirement should remain in 10 C.F.R. 72.218(a). As the requirement stemmed from a rule issued in 1989, such a plan may then have seemed straightforward given the then-recent passage of the NWPA Amendments of 1987. The subsequent 1996 rule was issued at a time when there was a general understanding that the Department’s contractual obligation to begin to remove fuel from these sites beginning in 1998 would not be fulfilled. As the staff notes:

“However, after the 1996 decommissioning rule change, there is no longer a requirement for a detailed DP for dismantlement and decommissioning, and thus no requirement for the licensee to consider and document, or for the NRC to review and approve, how to manage and remove the spent fuel offsite before decommissioning structures, systems, and components that support moving, unloading, and shipping of spent fuel.”

The staff acknowledges that the 1996 rule making Statement of Considerations (SOC) does not specifically reference 72.218. Nonetheless, the NRC staff concludes that an original reference to 50.82 (and further to 50.54(bb)) is appropriate and correct.

We would suggest that the 72.218 reference to the plan is not supported by the 1996 SOC, that the decommissioning framework in existence at that time clearly would recognize that a licensee could not do the work that the Department was then (and now) struggling to accomplish. An equally supportable fix to the issue would be to drop the requirement from 10 C.F.R. 72.218(a).

Beyond that, the staff states, “the NRC staff notes that most licensees have already undertaken the spent fuel management planning envisioned by 10 CFR 72.218 to some degree, whether it is through use of dry casks that have associated transportation certificates, a provision for the use of fuel handling equipment at a nearby power reactor, or some other means of addressing the potential need to manipulate fuel in dry storage before the end of ISFSI operations."

Despite that finding, Option 3 would require a licensee to demonstrate the ability to manipulate fuel in dry storage before the end of ISFSI operations until the fuel is transferred to DOE. We believe Option 2 would eventually lead to the same result.

We believe that NRC and licensee requirements and activities already address this matter.

NUREG-1257 (the GEIS for Continued Storage of Spent Fuel) documents the NRC's analysis of the impacts of continued storage of spent fuel at an ISFSI until transfer to DOE. The analysis examined short-term (60 years) up to indefinite storage assuming the unlikely event that transfer to DOE does not occur. The NRC concluded that all NRC-licensed dry cask storage systems are designed to withstand all postulated design basis accidents without any loss of safety functions and that the likelihood of an event that would exceed NRC's public dose standards during the period prior to transferring fuel to DOE is very low.

In addition, NUREG-1257 states that the NRC, DOE and the nuclear industry have examined storage of spent fuel and concluded that *"degradation of the spent fuel should be minimal over the short-term storage timeframe if conditions inside the canister are appropriately maintained (i.e., consistent with the technical specifications for storage)."*

Given that there are no credible accident scenarios that could damage intact fuel, and the safety record of ISFSI canister, there does not seem to be a need in the decommissioning rule to address manipulation of fuel in dry storage. Packaging of failed fuel prior to emplacement in an ISFSI is addressed in existing NRC regulations. In the unlikely event that failed fueled was suspected after emplacement of spent fuel in the ISFSI, then procedures to address maintenance activities would require prior NRC review per 10 C.F.R. 72.48.

Also, since aging analyses are required to support ISFSI license renewal, it seems more appropriate to address potential fuel degradation under aging management provisions of NRC's regulatory program.

With respect to the staffs' proposal to develop additional guidance to RG-1.185, the logic that there is, in the staffs' words, a "present lack of detail provided to support certain decisions in order to better inform the public and other stakeholders regarding the decommissioning process at *specific* facilities." (Emphasis added).

This rulemaking is not undertaken to address situations at specific or individual facilities. There is nothing in the Commission's charge to the staff to do so. The regulations must address matters that affect the protection of the public heath and safety, not the adequacy of any specific licensee's and/or the NRC staffs' communications.

For the Regulatory Analysis:

1.2 Statement of the Problem

We recommend a change in the statement of the problem. The first paragraph ought to read, " Once a licensee enters the decommissioning phase, certain regulations that did apply during the operating phase are no longer necessary during the decommissioning process.

Other requirements establish a timeframe…"

This is an important change. The current wording does not completely convey the impetus for the rule making and can be improved.

2.1.3 Level 3 – All Fuel Stored in an ISFSI

There are several and will be others that will not have the assumed radiological hazard of a rupture of a borated water storage tank. We recommend this text be revised in accordance with actual conditions that will exist at the ISFSIs once all fuel (and GTCC) is in dry cask storage.

3.5 & 7.1.5 - Clarifying the Spent Fuel Management Requirements

The articulation of the issue is much clearer here than offered in the Regulatory Basis. The key here is the recognition that 50.54 (bb) does not require the plan that 72.218 indicates.

72.218 calls for a plan that only DOE can provide.

The 1989 SOC for ISFSI general licensing rule required such a plan. However, by the time of the 1996 decommissioning rule changes, the Department's schedule for removing the fuel, which seemed more certain in 1989, was already delayed. The Commission declined to require that report in 1996. As we review this issue in 2017, the Department is not closer to a schedule that has near term planning, budget, and execution phases that could support licensee development and NRC evaluation of such plans.

With the passage of the NRC's Continued Storage Rule and its accompanying GEIS, the Commission outlines its expectations that the fuel must remain on site, once again, longer that it envisioned in 1989. Its aging management expectations for spent fuel and GTCC storage address the same. These should be sufficient to address the requirements of 54.54(bb) and the corrected requirements of 72.218.

In the meantime, important work remains to be done by the Department to resolve questions about how it will remove fuel from the site, for example, the need for a decision on whether existing MPCs will be used and, if not, which will. These have

important ramifications on plans, budget, and execution. Licensees are in no better position to answer these than the Commission is to evaluate them at this point.

Therefore, the position we take is that the NRC should remove the requirement in 72.218 that licensees prepare a report on how it will remove the spent fuel (and GTCC) offsite.

We also note that 10 C.F.R. 72.122 (l) already requires that, "(l) *Retrievability*. Storage systems must be designed to allow ready retrieval of spent fuel, high-level radioactive waste, and reactor-related GTCC waste for further processing or disposal." Therefore, this matter is already a built in requirement in NRC's approval of Part 72 licenses. An additional review to address this via this decommissioning rule making is not needed.

Also note, "(T)he NRC's licensing reviews and inspection oversight of the design, fabrication, construction, and operation of an ISFSI, assures that the safety and retrievability requirements of 10 CFR Part 72 are maintained during the initial storage period. When spent fuel storage will continue beyond the initial NRC-approved period of operation, the NRC's storage regulations that 10 CFR 72.240 require that renewal applications contain revised technical requirements and operating conditions (fuel storage, surveillance and maintenance, and other Part 72 requirements) that address aging mechanisms and aging effects that could affect structures, systems, and components (SSCs) relied upon for the safe storage of spent fuel." (DSFM ISG – 2, Rev 2, April 26, 2016)

There is sufficient justification for a new alternative to delete the required plan/report from 10 CFR 72.218.

If the NRC believes there is a need for such information to support decommissioning, it should turn to the Department of Energy to supply what information NRC believes it needs.

4.4 Cyber Security

The Regulatory Analysis' statement of the issue needs additional focus. It currently states, "Neither the rule's SOC nor the terms of 10 CFR 73.54 explicitly address the applicability of the cyber security requirements to a nuclear power plant licensee that permanently defuels and shuts down after the rule's effective date."

We do not believe the Commission intended then to create a new category of future shut downs on which to determine applicability. We believe the intent is that it not apply to all permanently shut-down reactors.

Questions In the Regulatory Basis Federal Register Notice:

2. Are there additional factors that the NRC should consider in each regulatory area? What are these factors?

The DPC believes the Regulatory Basis can be improved by taking better account of:

- The reduced risks to the adequate protection of the public health and safety.
- Ensuring that all sites where nuclear power production activities have permanently ceased should have essentially identical regulatory requirements when they reach the state of having all spent fuel and any GTTC in dry casks and the remainder of the site is released by the NRC.
- A greater emphasis on better definition(s) of Level 3 where the staff needs to consider the configurations that exist.

5. Should the NRC address the exemption to § 50.38 for licensees of facilities in decommissioning on a generic basis as a part of this rulemaking? If so, why, and how should the NRC address this issue?

Yes. The DPC suggests the NRC specify that 50.38 is not applicable to sites where nuclear power generating activities have permanently ceased.

12. The NRC staff requests public comments on the following options.
Option 1, no change,
Option 2, develop regulatory guidance,
Option 3, revise the requirements.

The DPC believes we cannot comment on Option 2 & 3. The underpinning definition[2] needs to incorporate the risk to the adequate protection that is present at the site changing its security plan. We believe the NRC would have difficulty in applying its proposed definition without it.

14. The staff is seeking public comment on how such a requirement (for a CAB) might constitute a cost-justified, substantial increase in protection of the public health and safety or the common defense and security.

The DPC generally advises members on the potential benefits of establishing a CAB. We cannot offer a reason how they could represent a substantial increase in protection of the public health and safety or the common defense and security.

Cumulative Effects of Regulation (4): Are there unintended consequences? Does the potential proposed action create conditions that would be contrary to the

[2] "A *decrease in the safeguards effectiveness* of a security plan is a change or series of changes to the security plan that reduces or eliminates the licensee's ability to perform or maintain the security function that was previously performed or provided by the changed element or component without compensating changes to other security plan elements or components."

potential proposed action's purpose and objectives? If so, what are the consequences and how should they be addressed?

Without additional work we have pointed out that there could be unintended consequences:

- Without additional clarity and specificity on applicability considerations, future Commissions and staffs will find itself wondering what was intended to apply to whom. For example, we believe the Commission intended Cyber Security requirements should not apply to future shutdowns when it addressed this matter just several years ago.
- Imposing requirements upon licensees that fall outside a need to address a public heath and safety or security deficiency will prove difficult to implement, inspect, enforce, and fix. A rule making that results in differing regulatory regimes for plants in the same ISFSI only condition will result in a variety of regulatory anomalies that will require future attention.