



Ralph L. Andersen, CHP
SENIOR DIRECTOR
RADIATION SAFETY & ENVIRONMENTAL PROTECTION
NUCLEAR GENERATION DIVISION

12/10/2011
76 FR 77431

(3)

February 10, 2012

Ms. Cindy K. Bladey
Chief, Rules, Announcements, and Directives Branch (RADB)
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

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Subject: Comments on Draft Regulatory Guide DG-4014, "Decommissioning Planning During Operations" (Docket ID NRC-2011-0286)

Project Number: 689

Dear Ms. Bladey:

The Nuclear Energy Institute (NEI)¹ is pleased to provide these comments on Draft Guide-4014 ("DG-4014"), which provides guidance on implementation of the Decommissioning Planning Rule (76 Fed. Reg. 35,512; June 17, 2011) ("DPR"). The nuclear industry is firmly committed to planning, funding, and conducting decommissioning of licensee facilities safely, efficiently, and in a manner protective of public health and the environment. Further, the industry believes that NRC regulations should, and currently do, contain appropriate requirements to provide reasonable assurance that legacy sites will be prevented.

¹ NEI is responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including regulatory, financial, technical and legislative issues. NEI members include all companies licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry.

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NEI submitted extensive comments on the draft DPR and a previous version of DG-4014.² Although the current draft of DG-4014 represents a substantial improvement compared to the previous version, there are several issues that we believe must be addressed before the document is finalized. First, DG-4014 must be clarified to ensure that it does not result in a *de facto* codification of the industry's voluntary Groundwater Protection Initiative ("GPI").³ Otherwise, the guidance may have the effect of incorporating the GPI into the NRC's regulatory framework – despite the Commission's express direction to the contrary.⁴ The nuclear power industry remains fully committed to voluntary implementation of the GPI; however, unintentional codification of the GPI would be contrary to the Commission's direction in this area and would undermine the backfitting arguments used by the NRC to justify imposition of the DPR without performing the analysis required by 10 C.F.R. § 50.109(a)(3). Second, although the backfit discussion provided in the *Federal Register* notice accompanying DG-4014 may be accurate in certain cases, we believe that it is potentially overbroad and could lead to an inappropriately rote treatment of backfitting issues if adopted by the staff as boilerplate.⁵ Third, DG-4014 should be clarified to ensure that it does not function to limit licensees' ability to use the provisions of Part 20 that allow license termination under restricted conditions (10 C.F.R. § 20.1403) or alternate criteria (10 C.F.R. § 20.1404). Each of these comments is discussed in greater detail below. Finally, we raise several more specific comments and requests for clarification in Section IV below.

I. Without Further Clarification, DG-4014 Could Result in a *De Facto* Codification of the Voluntary GPI.

DG-4014 presents relatively straight-forward implementation guidance for nuclear power plant licensees – that is, continue implementing the groundwater protection programs called for in NEI-07-07 and, generally, no further action will be required in order to comply with the DPR. While this guidance provides simplicity and clarity for nuclear power plant licensees, it also creates an environment where – in practice – licensee compliance with the voluntary GPI may become a *de facto* prerequisite to compliance with 10 C.F.R. Part 20.

² See "RIN 3150-AH45: Comments for Decommissioning Planning Rulemaking and Guidance Documents," May 8, 2008 (NEI Comment Letter).

³ NEI-07-07, "Industry Ground Water Protection Initiative – Final Guidance Document," August 2007.

⁴ See *e.g.*, Staff Requirements – SECY-11-0019 – Senior Management Review of Overall Regulatory Approach to Groundwater Protection, August 15, 2011 (directing the staff to monitor the industry's implementation of the GPI, but not to regulate it).

⁵ See "Decommissioning Planning During Operations: Draft regulatory guide; request for comment," 76 Fed. Reg. 77431 (Dec. 13, 2011)(DG-4014).

During the notice and comment period on the DPR, NEI raised serious concerns that the rule was codifying the voluntary GPI.⁶ The NRC responded to this concern, stating:

The final rule does not codify the actions that power reactor licensees are performing voluntarily under the GPI. New 10 CFR 20.1406(c) requires power reactor licensees to conduct their operations, to the extent practical, to minimize the introduction of residual radioactivity into the site, including the subsurface. The GPI does not specify licensee activities to minimize contamination at the site. Revised 10 CFR 20.1501(a) specifies that survey and monitoring requirements must be performed of residual radioactivity in areas, including the subsurface, that are potential radiological hazards. This final rule identifies significant residual radioactivity at the site as a potential radiological hazard. This specification of survey and monitoring requirements is not part of the GPI.⁷

The idea that the GPI should remain voluntary was confirmed in several Staff Requirements Memoranda issued after publication of the DPR, in which the Commission repeatedly stressed the voluntary nature of the GPI and expressly declined to incorporate the GPI into the regulatory framework. For example, in SRM-SECY-11-0019 "Senior Management Review of Overall Regulatory Approach to Groundwater Protection" the Commission stated:

The Commission has approved the SMRG recommendation not to incorporate the voluntary industry initiative on groundwater protection into the regulatory framework. The staff should, instead, monitor the effectiveness of the industry initiatives.

The staff should make it clear in its stakeholder engagements that, while the agency will continue to monitor the industry's voluntary initiatives, no changes to the regulatory framework are currently being contemplated. The staff is cautioned to remember that its purpose is to monitor these efforts, not to regulate them.⁸

Indeed, the Commissioners' vote sheets on SECY-11-0019 reveal a significant concern that assessment of the voluntary GPI through formal regulatory programs, like the Reactor Oversight Process (ROP), could result in imposition of a *de facto* rule imposing the GPI. For example, Commissioner Svinicki stated:

The SMRG concluded that incorporating the industry program into the regulations would not improve safety, and it therefore would not meet the cost-benefit backfit provisions of 10 CFR § 50.109. Nevertheless, the staff plans to issue a generic communication regarding leaks and spills onsite in order to convey its observation that the industry programs are providing

⁶ See 76 Fed. Reg. 35,532 (explaining NEI's comment that "the proposed [DPR] would codify in the regulations for power reactor licensees the actions which such licensees have voluntarily agreed to perform under the GPI.").

⁷ 76 Fed. Reg. 35,533 (emphasis added).

⁸ "Staff Requirements – SECY-11-0019 – Senior Management Review of Overall Regulatory Approach to Groundwater Protection," Aug. 15, 2011.

more active management of situations that can lead to unplanned releases, and to inform licensees that the staff plans to continue to assess the effectiveness of the programs through the ROP. However, I am concerned that this approach will amount to implementing a *de facto* rule.⁹

Although supporting continued evaluation of the voluntary GPI via the ROP, Commissioner Ostendorff shared Commissioner Svinicki's concern, stating:

[W]hile I support the staff's plans to issue a generic communication on leaks and spills, I share Commissioner Svinicki's concern that, such guidance, if not clear, may create "de facto" regulations. The staff should make it clear in the generic communication that, while the agency will continue to evaluate the industry's voluntary initiatives through the ROP, no changes to the regulatory framework are currently being contemplated.¹⁰

Commissioner Magwood also expressly recognized that the staff's continued monitoring of the voluntary GPI created a potentially "slippery slope," and cautioned the staff to "remember that its purpose is to monitor these efforts, not to regulate them."¹¹

In a subsequent Staff Requirements Memorandum dealing specifically with proposed changes to the public radiation safety cornerstone of the ROP, the Commission stressed that the staff's efforts in the area of groundwater and environmental monitoring should continue to focus on compliance with the agency's regulatory requirements:

The Commission has approved the staff's commitment to work with internal and external stakeholders on potential enhancements to the performance indicator program, but has not approved changes to the radiological effluent performance indicator or other modifications to the reactor oversight process (ROP) related to groundwater contamination control at this time. NRC inspections of groundwater and environmental monitoring and radioactive effluents should continue to focus on assessing licensee compliance with NRC regulatory requirements.¹²

⁹ "Commission Voting Record, Senior Management Review of Overall Regulatory Approach to Groundwater Protection: Commissioner Svinicki's Comments SECY-11-0019," May 23, 2011.

¹⁰ "Commission Voting Record, Senior Management Review of Overall Regulatory Approach to Groundwater Protection: Commissioner Ostendorff's Comments SECY-11-0019," June 27, 2011.

¹¹ "Commission Voting Record, Senior Management Review of Overall Regulatory Approach to Groundwater Protection: Commissioner Magwood's Comments SECY-11-0019," June 6, 2011.

¹² "Staff Requirements – SECY-11-0076 – Improving the Public Radiation Safety Cornerstone of the Reactor Oversight Process," November 8, 2011 (emphasis added).

Without additional clarification, DG-4014 could have the unintended effect of imposing a *de facto* requirement for nuclear power plant licensees to implement the groundwater protection programs called for in NEI-07-07 – despite the Commission’s direction to the contrary. Specifically, although DG-4014 contains useful boilerplate language regarding the effect of Regulatory Guides (*i.e.*, “unless this regulatory guide is part of the licensing basis for a facility, the staff may not represent to the licensee that the licensee’s failure to comply with the positions in this regulatory guide constitutes a violation.”), given the history described above, further explanation of how the staff will proceed if a licensee is not adequately implementing the voluntary GPI is needed.

In addition to potentially running afoul of the Commission’s direction in this area, allowing DG-4014 to result in a *de facto* codification of the voluntary GPI would undermine the justification used by the NRC to avoid performing a backfit analysis prior to imposing the DPR. Specifically, during the rulemaking process NEI vigorously argued that the imposition of the DPR constituted a backfit and required justification via the analysis required under 10 C.F.R. § 50.109(a)(3). The NRC disagreed, stating:

This is not a backfit because it clarifies licensee requirements under existing regulations applicable to licensed operations. The current § 20.1101(a) requires each licensee to implement a radiation protection program to ensure compliance with the regulations in 10 CFR part 20. The current § 20.1101(b) requires each licensee to use, to the extent practical, procedures and engineering controls based upon sound radiation protection principles to achieve occupational doses and doses to members of the public that are ALARA, during operations and during decommissioning. These operating procedures and controls need to include methods to minimize the introduction of residual radioactivity into the site, including the subsurface, during active facility operations to achieve doses that are ALARA. Otherwise, licensees will lack a substantive basis to demonstrate that they have achieved, during the life cycle of the facility (which includes decommissioning), public and occupational exposures that are ALARA. . . .

Licensees should already have these procedures in place as part of their radiation protection program, and 10 CFR 20.1406(c) clarifies this requirement.¹³

Likewise, in addressing the changes to § 20.1501, the NRC stated:

The amended 10 CFR 20.1501(a) replaces the undefined term “radioactive material” with “residual radioactivity,” a term already defined in 10 CFR part 20. As defined in existing 10 CFR 20.1003, residual radioactivity includes subsurface contamination within its scope, and the word “subsurface” is being added to 10 CFR 20.1501(a). The current 10 CFR 20.1501(a)(2)(iii) already requires the evaluation of potential radiological hazards. Thus, as amended, 10 CFR 20.1501(a) makes clear that subsurface residual radioactivity is a potential radiological hazard that is within the scope of these survey requirements. This clarification

¹³ 76 Fed. Reg. 35,563.

of existing requirements does not represent a new NRC position and therefore does not fall within the definition of backfitting as set forth in the applicable backfitting regulations.¹⁴

In essence, the NRC's response to NEI's backfitting arguments was that the DPR was clarifying existing requirements, not imposing new or amended requirements. Thus, the changes were not backfits. At the same time, the discussion provided above makes it clear that the Commission does not consider implementation of the GPI to be required by the DPR or any other provision in Part 20 – thus, its imposition could not have been subsumed by, or included in, whatever clarification was offered by the DPR. *De facto* imposition of the GPI via misapplication of DG-4014 would, therefore, directly undermine the NRC's justification for not performing a backfit analysis prior to imposing the DPR by, in fact, imposing a new or amended requirement, rather than articulating a clarification of an existing requirement. This would be especially problematic here, as the Senior Management Review Group (SMRG) assembled by the Executive Director for Operations to review the agency's overall regulatory approach to groundwater protection has concluded:

[I]n view of the progress being made by industry in protecting groundwater, rulemaking or some other form of regulatory requirement to codify the voluntary initiatives would not result, at this time, in a substantial increase in the overall protection of the public health and safety.¹⁵

As Commissioner Svinicki points out in her vote on SECY-11-0019, the SMRG's conclusion indicates "that incorporating the voluntary GPI into the regulations would not improve safety, and therefore would not meet the cost-benefit provisions of 10 CFR § 50.109."¹⁶ Thus, *de facto* imposition of the GPI would not only impose an unanalyzed backfit, but would impose an unanalyzed backfit that senior NRC management has concluded is very unlikely to survive the analysis required by § 50.109.

In order to avoid this result, the following qualifying language should be added to the "Implementation" section of DG-4104:

While the NRC believes that implementation of the voluntary GPI will result in compliance with the requirements of §§ 20.1406 and 20.1501, the GPI and NRC's regulatory requirements are not completely coextensive. The GPI represents an effort by industry that goes beyond regulatory requirements for protection of public health and safety and the environment. Although public health and safety and environmental protection are enhanced through implementation of the GPI, the initiative is also focused on improving communication with public stakeholders and increasing public confidence. Thus, the groundwater protection programs implemented pursuant to the GPI are more expansive

¹⁴ *Id.*

¹⁵ "Senior Management Review of Overall Regulatory Approach to Groundwater Protection," SECY-11-0119, Feb. 9, 2011, at pg. 3.

¹⁶ "Commission Voting Record, Senior Management Review of Overall Regulatory Approach to Groundwater Protection: Commissioner Svinicki's Comments SECY-11-0019," May 23, 2011.

than what is required by §§ 20.1406 and 20.1501 and failure to implement all or part of the voluntary GPI does not equate to a violation of 10 C.F.R. Part 20. As the Commission has directed, the NRC staff will continue to monitor the voluntary GPI, but is not to "regulate" implementation of the GPI. Further, any enforcement action must be based on failure to adhere to the Commission's regulations, not on a failure to implement the GPI. Finally, the NRC recognizes that GPI was written to provide licensees with substantial implementation flexibility and that the industry may modify the initiative without prior NRC approval. This guidance document is not intended to reduce such flexibility or to require prior NRC approval of any changes to the GPI.

Although we offer this language to carefully qualify and limit use of the GPI as a compliance tool, we note that the specific actions nuclear power plant licensees must take to comply with the DPR survey and monitoring requirements remain unclear. For example, despite the fact that the agency has stressed that the GPI is not being imposed on power plant licensees and that the DPR did not impose new or amended requirements, DG-4014 states "[f]or nuclear power plants, existing radiological monitoring programs and subsurface (ground water) monitoring conducted by implementation of [NEI's] Ground Water Protection Initiative . . . is generally considered adequate to meet the DPR."¹⁷ Thus, contrary to the justification provided in the DPR for not performing a backfitting analysis, it appears that some new or amended requirements are being imposed beyond what was required prior to issuance of the DPR (*i.e.*, existing radiological environmental monitoring programs).

II. The Backfitting Discussion Provided in the *Federal Register* Notice Published with DG-4014 is Potentially Overbroad and Should not be Adopted as Boilerplate.

The *Federal Register* notice published with DG-4014 contains the following discussion:

The statement of considerations for the DPR discussed that rule's compliance with applicable backfitting provisions (76 FR 35511, at 35562–63). This regulatory guide presents the NRC staff's first guidance addressing compliance with § 20.1501(a) and (b) and the newly-added paragraph (c) of § 20.1406. The first issuance of guidance on a newly-changed or newly-added rule provision does not constitute backfitting or raise issue finality concerns, inasmuch as the guidance must be consistent with the regulatory requirements in the newly-changed or newly-added rule provisions and the backfitting and issue finality considerations applicable to the newly changed or newly-added rule provisions must logically apply to this guidance. Therefore, issuance of guidance addressing the newly-changed and newly-added provisions of the amended rule does not constitute issuance of "changed" or "new" guidance within the meaning of the definition of "backfitting" in 10 CFR 50.109(a)(1). Similarly, the issuance of the guidance addressing the newly-changed or newly added provisions of the amended rule,

¹⁷ DG-4014, at pg. 3 (emphasis added).

by itself, does not constitute an action inconsistent with any of the issue finality provisions in 10 CFR Part 52. Accordingly, no further consideration of backfitting or issue finality is needed as part of the issuance of this guidance addressing compliance with the newly changed provisions of § 20.1501 and newly-added paragraph (c) of § 20.1406.¹⁸

NEI is concerned that the language contained in the *Federal Register* notice will be adopted as boilerplate, which will simply propagate the assumption that the guidance in question is consistent with the underlying regulatory requirements. This type of circular reasoning should be avoided. Instead, NEI believes that the proper approach in situations where a regulatory guide presents the NRC staff's first guidance addressing compliance with a new or changed regulatory requirement is for the NRC staff to provide an analysis specifically articulating how, in fact, the guidance is consistent with the newly-changed or newly-added rule provisions in question. Admittedly, such an analysis may yield the conclusion contained in the *Federal Register* language quoted above. The point here is that such a conclusion should not be foregone, but, rather, should be adequately explained and supported. Indeed, the NEI's comments in Section I above deal with a potential inconsistency between DG-4014, the DPR, and subsequent Staff Requirements Memoranda. Further, if not rectified, this inconsistency would have backfitting implications (see discussion above).

Although unlikely in the case of DG-4014,¹⁹ in situations where interpretive guidance lags behind the effective date of a newly-changed or newly-added rule NEI believes that the NRC staff should perform a separate evaluation of any "applicable staff positions" that have been imposed on licensees between the effective date of the rule and the time that the guidance is finalized. In such situations, it would be inappropriate to simply assume that the NRC has not taken a position on one of its own legally binding regulations. Instead, the staff should carefully review any applicable staff positions and evaluate the backfitting implications of the guidance in light of those positions (*e.g.*, concluding either that the guidance is consistent with the underlying requirement and any applicable staff positions, or that the positions taken in the guidance document – when contrasted with "applicable staff positions" – may result in the imposition of backfits).

Finally, we note that going forward the situation presented by DG-4014 – *i.e.*, draft guidance being issued for comment nearly six months after issuance of the associated final rule – should be rare. Specifically, in its Staff Requirements Memorandum on consideration of the cumulative effects of regulation the Commission stated:

The staff should publish draft guidance with proposed rules and publish final guidance with the final rule. The EDO should promptly inform the Commission of any instances, and the associated reasons, where a proposed rule package will be provided to the Commission

¹⁸ 76 Fed. Reg. 77,431, 77,431-77,432 (Dec. 13, 2011).

¹⁹The effective date of the DPR is December 17, 2012. 76 Fed. Reg. 35,512.

without having completed the draft guidance. Exceptions to this approach should be very limited and approved by the Commission.²⁰

Adherence to this practice will allow both the NRC and other stakeholders to examine interpretive guidance together with the associated draft and final rules, and to more coherently address any backfitting implications posed by the guidance. Industry believes that backfitting implications of any new or amended rule and the associated guidance can be most meaningfully examined when the rule and guidance are published for comment at the same time. In this vein, we note that the opportunity to challenge final rules (*i.e.*, final "orders") in the United States Courts of Appeal runs 60 after issuance.²¹ When issuance of interpretive guidance is delayed, it hinders stakeholders' ability to evaluate potential challenges because specific information on how the rule provisions will be interpreted and applied may not be available until after the time for filing a petition for review has run. Issuing interpretive guidance and rules together will force implementation decisions regarding the meaning of a new or amended requirement to be made and vetted with the public contemporaneously with promulgation of the requirement itself.

III. DG-4014 Should not Unduly Limit Decommissioning Options.

DG-4014 describes the decommission regulations as "requir[ing] licensees to remediate sites to approved release criteria for unrestricted use (unless they can demonstrate the need for restricted use) without regard to the cost."²² NEI disagrees with this characterization of the decommissioning requirements in Subpart E to 10 C.F.R. Part 20 and recommends that this statement be deleted from DG-4014. Further, although the DPR requires non-reactor licensees to periodically modify decommissioning cost estimates to account for remediation of significant residual radioactivity to levels that would permit unrestricted release, the rule also allows such licensees the option of demonstrating that the requirements for restricted release can be met.²³ Similarly, DG-4014 should be modified to clearly state that, if significant residual radioactivity is detected, licensees will have the opportunity to adequately demonstrate that license termination pursuant to restricted conditions (§ 20.1403) or alternate criteria (§ 20.1404) are reasonable options, in lieu of adjusting decommissioning funding levels to allow for unrestricted release.

Subpart E does not require remediation of sites to the release criteria for unrestricted use without regard to the cost. Subpart E to 10 C.F.R. Part 20 presents three options for license termination: (1) decommissioning the site for unrestricted release (§ 20.1402), (2) decommissioning the site for release under restricted conditions (§ 20.1403), and (3) decommissioning the site for release under alternate criteria (§ 20.1404). Although dose criteria are an important part of each of these options,

²⁰ "Staff Requirements – SECY-11-0032 – Consideration of the Cumulative Effects of Regulation in the Rulemaking Process," Oct. 11, 2011.

²¹ 28 U.S.C. §§ 2341-2351.

²² DG-4014, at pg. 5 (emphasis added).

²³ 76 Fed. Reg. 35,517 ("[T]his final rule amends 10 CFR 30.35, 40.36, 70.25, and 72.30 to require licensees to obtain NRC approval of their DFP based on a DCE for unrestricted release, unless the ability to meet the restricted release criteria can be adequately shown.)

in many cases the determination of which option is appropriate, and the derivation of specific decommissioning goals once an option is selected, require application of the ALARA (as low as is reasonably achievable) principal.

Specifically, with respect to unrestricted release, § 20.1402 states:

A site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a TEDE to an average member of the critical group that does not exceed 25 mrem (0.25 mSv) per year, including that from groundwater sources of drinking water, and the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA). Determination of the levels which are ALARA must take into account consideration of any detriments, such as deaths from transportation accidents, expected to potentially result from decontamination and waste disposal.

Section 20.1403(a) explains that a licensee may terminate its license pursuant to restricted conditions if, in part, it:

[C]an demonstrate that further reductions in residual radioactivity necessary to comply with the provisions of § 20.1402 would result in net public or environmental harm or were not being made because the residual levels associated with restricted conditions are ALARA. Determination of the levels which are ALARA must take into account consideration of any detriments, such as traffic accidents, expected to potentially result from decontamination and waste disposal[.]

License termination pursuant to alternate criteria is also an option (*see* § 20.1404(a)):

The Commission may terminate a license using alternate criteria greater than the dose criterion of §§ 20.1402, 20.1403(b), and 20.1403(d)(1)(i)(A), if the licensee—

* * * * *

(3) Reduces doses to ALARA levels, taking into consideration any detriments such as traffic accidents expected to potentially result from decontamination and waste disposal.

In turn, ALARA means:

[M]aking every reasonable effort to maintain exposures to radiation as far below the dose limits in this part as is practical consistent with the purpose for which the licensed activity is undertaken, taking into account the state of technology, the economics of improvements in relation to state of technology, the economics of improvements in relation to benefits to the

public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed materials in the public interest.²⁴

As is clear from this definition, economic considerations – *i.e.*, costs – are relevant in determining whether the projected dose limits and/or residual radioactivity concentrations proposed by a licensee in a decommissioning plan are, in fact, ALARA. Specifically, with respect to evaluations of ALARA in decommissioning space, NUREG-1757, "Consolidated Decommissioning Guidance: Characterization, Survey, and Determination of Radiological Criteria" states:²⁵

NRC staff should review the information supplied by the licensee or responsible party to determine if the licensee has developed a DP that ensures that doses to the average member of the critical group are as low as is reasonably achievable (ALARA). Information submitted should include (a) a cost-benefit analysis (or qualitative arguments) for the preferred option of removing residual radioactivity to a level that meets or exceeds the applicable limit and (b) a description of the licensee's preferred method for showing compliance with the ALARA requirement at the time of decommissioning.²⁶

NUREG-1757 goes on to explain that:

The information supplied by the licensee should be sufficient to allow NRC staff to fully understand the licensee's conclusion that the projected dose limit/residual radioactivity concentrations (hereinafter decommissioning goal) are ALARA. The decommissioning goal should be established at the point that the incremental benefits equal the incremental costs.²⁷

Appendix N to NUREG-1757 provides detailed guidance on how to perform ALARA analyses for decommissioning purposes. Thus, contrary to the description provided in DG-4014, it is clear that cost-benefit balancing via the ALARA analysis plays an important role in determining which license termination option is chosen by a licensee, as well as delineating the decommissioning goal once an option is selected. This approach to license termination protects public health and safety by ensuring that the dose consequences, as well as other relevant factors associated with decommissioning activities (*e.g.*, traffic fatalities), are adequately considered – while providing maximum flexibility so that the decommissioning approach can be tailored on a site-specific basis.

²⁴ 10 C.F.R. § 20.1003 (emphasis added).

²⁵ Although NUREG-1757 deals primarily with decommissioning of materials sites, Revision 1 of NUREG-1700, "Standard Review Plan for Evaluating Nuclear Power Reactor License Termination Plans," contains a cross-reference to the ALARA guidance provided in NUREG-1757. NUREG-1700, at pg. 13.

²⁶ NUREG-1757, Vol. 2, rev. 1, at 6-1 (emphasis added).

²⁷ *Id.* (emphasis added).

IV. Additional, Specific Comments.

- **DG-4014 provides little guidance for non-reactor licensees.** DG-4014 provides little guidance for non-reactor licensees that are required to provide financial assurance. Specifically, if these licensees have had unplanned releases or utilize fluid processes they will be required to:
 - Identify any unmonitored areas in buildings or outside where spills or leaks could occur; and
 - Identify any unmonitored areas on-site where effluents could concentrate

But the draft guide provides no detailed guidance on acceptable methods or approaches that non-reactor licensees can use to identify such areas. As DG-4014 points out, identification of such areas may be complicated by the fact that some areas where significant residual radioactive materials may be present may not be accessible because of the physical layout of systems and structures. The draft guide states that surrogate monitoring (*e.g.*, sentinel monitoring locations) may be appropriate in these circumstances, but offers no further guidance on this topic. This leaves non-reactor licensees largely in the dark with respect to the agency's expectations in this area. In addition, DG-4014 provides little guidance for such licensees on the extent of monitoring and surveillance necessary to address unmonitored areas. This is especially problematic because, as the draft guide highlights, for many licensees, changes to monitoring and surveillance plans will require license amendments.²⁸ The NRC should clarify its expectations in this area.

- **The presence of "fluid processes" alone should not require review under the DPR.** DG-4014 states that non-reactor licensees that are required to provide financial assurance must conduct a more detailed review if there are any "fluid processes" at the site. NEI believes that the radiological pedigree of those processes, as well as existing engineering controls, should be considered in deciding whether a more detailed review is necessary under the DPR. More specifically, there may be licensees required to provide decommissioning funding assurance at a site where fluid processes are employed, but those processes may not utilize materials that present a concern from a decommissioning planning standpoint. For example, the fluid component of a licensee's possession profile may be limited to inert gases or radionuclides with relatively short half-lives, in which case there would be no decommissioning planning concern. Figure 2 should be revised so that if the question "Are there any fluid processes at the site?" is answered "yes," the following factors can be considered, prior to sending the licensee to Figure 3a:

- Is the fluid component of the licensee's possession profile limited to a quantity of radioactive material below which would require decommissioning

²⁸ See DG-4014, at pg. 9.

funding assurance, as specified in §§ 30.35(d), 40.36(b), or 70.25(d)? If yes, no further review is required under the DPR.

- Is the fluid component of the licensee's possession profile limited to radionuclides that have half-lives of less than 120 days? If yes, no further review is required under the DPR.
- Are there engineering provisions in place that eliminate or significantly reduce the likelihood of an unplanned release resulting in a significant environmental impact (*e.g.*, above ground facilities; double containment of vessels, ducts and plumbing; leak detection in liquid containment)? If yes, no further review is required under the DPR.

- **Clarify or define terms, such as "action or regulatory limits" and "release limits."**

These terms are ambiguous and are used at several important points in DG-4014. For example, Figure 3b asks whether detected contamination is "greater than action or regulatory limits?" It is unclear which "limits" the NRC is referencing. Also, the description of Figure 2 on page A-1-3 references a situation where planned discharges are within regulatory limits, but concentrate to greater than "release limits." It is unclear what "release limits" the NRC believes may be exceeded and how those limits are relevant to implementation of the DPR. NEI requests clarification of these terms.

- **"Available sources" that can be used to estimate the amount of significant residual radioactivity should be explored and explained in greater detail.** One substantial challenge associated with implementation of the DPR will be determining whether residual radioactivity present now will require remediation in order to meet the unrestricted release criteria at some point in the distant future when decommissioning occurs. Although DG-4014 references several sources of information that could potentially inform this analysis (*e.g.*, Appendix B to 10 C.F.R. Part 20),²⁹ the document does not provide any meaningful guidance on how licensees should go about making this determination. For example, page 14 of DG-4014 includes a list of "available sources" to assist licensees in estimating the amount of residual radioactivity present, which includes a reference to tables 1, 2, and 3 of Appendix B to 10 C.F.R. Part 20. This reference includes a somewhat cryptic parenthetical statement indicating that "half the table values equates to 25 millirem/year." The explanation of Table 2 in Appendix B states that the concentration values in columns 1 and 2 "radionuclide concentrations which, if inhaled or ingested continuously over the course of a year, would produce a total effective dose equivalent of . . . 50 millirem." Given the assumption of continuous inhalation or ingestion, it is unclear how halving the values in table 2 would equate to receipt of a TEDE of 25 millirem/year by an average member of the critical group, which is the dose receptor of interest for decommissioning purposes. Also, it is unclear how "half of the table values" for Tables 1 (occupational ALIs and DACs) and 3

²⁹ See DG-4014, at pg. 14.

(sewer disposal) "equates to 25 millirem/year." The discussion of "available sources" needs to be substantially expanded to include an articulation of the NRC staff's views on how these sources can be used to determine whether residual radioactivity is "significant."

- **The term "significant residual radioactivity" should be clarified.** The NRC should clarify that the term "significant residual radioactivity" should not be interpreted to mean that the existence of contamination that could require remediation in order to meet the unrestricted release criteria at some future date (if the licensee chooses that decommissioning option) is significant from a public health and safety standpoint. As described in Section III above, the NRC's license termination rule provides several ALARA-based options for decommissioning of nuclear facilities. A number of these options (restricted release and release in accordance with alternate criteria), permit estimated doses that exceed the 25 mrem/year total effective dose equivalent (TEDE) applicable to unrestricted release, without any adverse impact on public health and safety. Thus, DG-4014 should be clarified to ensure that the term "significant residual radioactivity" is not interpreted to imply that the alternatives provided in the license termination rule are in any way unsafe. Further, without such clarification, use of the term "significant residual radioactivity" could cause confusion, given that the NRC's dose limit for individual members of the public is a TEDE of 100 mrem/year.³⁰
- **Recordkeeping requirements applicable to survey results should be clarified.** The DPR requires that "records from surveys describing the location and amount of subsurface residual radioactivity identified at the site must be kept with records important to decommissioning, and such records must be retained in accordance with §§ 30.35(g), 40.36(f), 50.75(g), 70.25(g), or 72.30(d), as applicable."³¹ The supplemental information published with the final rule states:

Under the requirements of §§ 30.35(g), 40.36(f), 50.75(g), 70.25(g), and 72.30(d), licensees must designate the records from 10 CFR 20.1501(b) surveys of subsurface residual radioactivity at the site as records important for decommissioning. Significant residual radioactivity that must be documented in these records would include onsite subsurface residual radioactivity that would later require remediation during decommissioning to meet the unrestricted use criteria of 10 CFR 20.1402 (73 FR 3815; January 22, 2008). . . . Contamination survey results must be included in these records if the surveys are considered important for decommissioning planning.³²

³⁰ 10 C.F.R. § 20.1301.

³¹ 76 Fed. Reg. 35,564 (revised § 20.1501(b))(emphasis added).

³² *Id.* at 35,520-21 (emphasis added).

Thus, based on the language in the DPR, it appears that the results of all surveys performed pursuant to 20.1501 must be designated as "important to decommissioning" and maintained pursuant to the regulations cited above. But DG-4014 offers slightly different guidance, stating:

[Power reactor] licensees should ensure that the results of all surveys conducted per existing monitoring and surveillance programs, including NEI 07-07, that identify significant residual radioactivity are recorded, or incorporated by reference, in records important to decommissioning as specified in 10 CFR 50.75(g).³³

Thus, it is unclear whether all survey results must be considered "important for decommissioning planning," or whether this requirement applies only to survey results that reveal "significant residual radioactivity." It is also unclear whether the DPR and DG-4014 require reactor licensees to review and include survey results collected prior to the effective date of the DPR (*e.g.*, results of GPI surveys collected prior to December 17, 2012). NEI requests clarification on these issues.

- **Add reference to 10 C.F.R. § 50.82(a)(8)(iii) in the last box of Figure 1 on page 6.** DG-4014 states: "[n]uclear power plant licensees should include the effect of survey results in the decommissioning cost estimates required by 10 CFR 50.75(f)(3) and 10 CFR 50.82(a)(8)(iii)."³⁴ But the last box of Figure 1 on page 6 only references § 50.75(f)(3). A reference to § 50.82(a)(8)(iii) should be added to Figure 1.

V. Concluding Comments.

In closing, we request that the NRC staff hold a public workshop, prior to issuance of the final guide, to receive stakeholder feedback on the staff's proposed disposition of comments and related changes to the draft guide. Our rationale for requesting a meeting prior to finalizing the guide includes the following:

- Our comments (and those of some other stakeholders) suggest substantive changes and additions to the draft regulatory guide, for example, providing detailed guidance for non-reactor licensees, properly integrating the full set of decommissioning options permitted in Subpart E to 10 C.F.R. Part 20, defining important terms, and further explaining the use of "available sources." Additional stakeholder feedback on these and other areas, as well as any substantive changes to the draft guide, will help enhance the clarity and completeness of the final guide, and facilitate successful implementation of the DPR.

³³ DG-4014, at pg. 12 (emphasis added).

³⁴ DG-4014, at pg. 9.

- DG-4014 provides initial guidance on implementing a significant rule change, particularly for non-reactor licensees and the NRC regional staff that will be responsible for compliance inspections in this area. Holding a public workshop prior to finalizing the guide affords the opportunity to receive input from the full range of stakeholders in an interactive context and make adjustments to text in the final guide that will better support both consistent implementation by licensees and consistent oversight by NRC.
- SRM-SECY-09-0042 called for such a workshop: "The staff should expeditiously republish the draft guidance related to surveys, subsurface contamination, and minimization of contamination for public comment and should hold a public workshop to explain it and answer questions." Holding the workshop would conform to the Commission's direction.

The final DPR established an 18-month implementation period. Nearly half of that implementation period has already passed and even more of the implementation period will necessarily run before the final guide is issued. The fact that final guidance in this area will not be available until very late in the implementation period will significantly challenge licensees, especially non-reactor licensees, to be in full compliance with the DPR by the current effective date of December 17, 2012. This situation will impose an unnecessary burden on licensees without any discernible health and safety benefit. Therefore, we request that the agency extend the effective date for the DPR to 18 months following issuance of the final guide. If you have any questions regarding our comments, please contact me at 202.739.8111; rla@nei.org.

Sincerely,

A handwritten signature in black ink, appearing to read "Ralph Andersen", with a stylized, cursive script.

Ralph L. Andersen