1201 F Street, NW, Suite 1100
Washington, DC 20004
P: 202.739.8187
mgk@nei.org
nei.org

NUCLEAR ENERGY INSTITUTE

August 4, 2016

The Honorable Stephen G. Burns
Chairman
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Nuclear Energy Institute Supplementary Comments for the July 26, 2016 Stakeholder Meeting

Project Number: 689

Dear Chairman Burns:

The Nuclear Energy Institute (NEI)[1] appreciated the opportunity to share the industry's perspective on NRC regulatory programs during the July 26, 2016 meeting with NRC stakeholders. This follow-up letter is intended to highlight and supplement key industry points made during the meeting, and is not intended to limit the impact or use of the information presented during the meeting itself. The topics discussed in this letter are organized into three areas: Stable, Predictable and Efficient Regulatory Framework; NRC Efficiency and Effectiveness; and Risk-informed Culture and Processes.

The Continuing Need for a Stable, Predictable and Efficient Regulatory Framework

As the industry heads into the future, it is imperative that a stable, predictable and efficient regulatory framework exist for advanced reactors, including small modular reactors, and the use of innovative technologies in existing and new plant designs. These innovative technologies include, but are not limited to, digital instrumentation and control of safety systems and accident tolerant fuel. As mentioned by Mr. Gaillard in his remarks at the stakeholder meeting, industry recognizes and supports NRC efforts to develop advanced reactor design criteria as an important step in building a licensing framework that will enable NRC to efficiently license non-light water reactors. NRC must stay disciplined to the intent when implementing

[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.

regulatory frameworks and allow for adjustment in instances where it is clear that an operational condition was not specifically addressed in the regulations.

The Commission Should Appropriately Limit Use of the Compliance Exception

The agency's backfitting and issue finality rules provide an important means to ensure that agency and industry resources are properly focused. When implemented with the necessary discipline, the rule enhances the effectiveness of the agency's regulatory program. In this vein, we welcome the direction provided in the June Tasking Memorandum issued by the Executive Director for Operations (EDO), as well as the associated efforts to reintroduce the Committee to Review Generic Requirements (CRGR) in reviewing certain proposed rules. Too often, however, the backfitting rules are treated as an obstacle to be overcome by the NRC staff, rather than as a tool to enhance regulatory decision-making. Viewing the backfitting rule in this way often results in failure to properly identify backfits and, more recently, in misapplication of the "compliance exception." This is often seen through the questionable use of the compliance exception in inspection findings. NEI communications on use of the compliance exception have consistently stressed that the lynchpin to appropriate application of the exception is distinguishing between: (1) situations in which a "licensee has failed to meet known and established standards of the Commission because of omission or mistake of fact," and (2) situations in which the staff seeks to impose a "new or modified interpretation[] of what constitutes compliance."[2] We believe that the NRC's ongoing work to revise the agency's cost-benefit guidance provides an important opportunity to address this issue, and request that the Commission give the staff clear direction to ensure that use of the exception is consistent with the policy direction provided in the preamble to the 1985 backfitting rule. It is recommended that this direction be provided in a staff requirements memorandum, similar to the direction provided by the Commission on the use of qualitative factors.[3]

Further, I wanted to take this opportunity to reiterate NEI's position on the use of qualitative factors in the agency's backfitting analyses. Contrary to statements made during the meeting, NEI has not advocated that the NRC abandon the use of qualitative factors in its cost-benefit analyses. We have indeed objected to reliance on qualitative information to justify imposition of proposed backfits in situations where robust quantitative risk analyses were available and failed to demonstrate that the proposed backfits would result in a substantial increase in safety or security. This does not, however, suggest that qualitative information can never be useful in regulatory decision-making (*i.e.*, should be abandoned). Consistent with the Commission's direction in SRM-SECY-14-0087, we believe that the agency's guidance on the conduct of cost-benefit and backfitting analyses "should continue to encourage quantifying costs to the extent possible

[2] *See* Letter from E.C. Ginsberg, NEI, to M. Doane, NRC (Nov. 7, 2014)(describing backfitting concerns related to a requirement for certain Part 70 licensees to develop quantitative exposure standards for dermal and ocular chemical exposures); Letter from E.C. Ginsberg, NEI, to the Hon. S.G. Burns, NRC, "Industry Backfit Concerns Regarding Generic Letter (GL) 2015-01, Treatment of Natural Phenomena Hazards (NPH) in Fuel Cycle Facilities," (April 24, 2015); Letter from A.R. Pietrangelo, NEI, to W.R. Dean, NRC, "Nuclear Energy Institute Comments in Support of Exelon Generation Company Backfit Appeal" (Jan. 20, 2016); Letter from A.R. Pietrangelo, NEI, to V.M. McCree "Nuclear Energy Institute Comments in Support of Exelon Generation Company Second-Level Backfit Appeal" (June 16, 2016); Letter from A.R. Pietrangelo, NEI, to V. M. McCree, NRC, "Nuclear Energy Institute Comments on Tasking Memorandum dated June 9, 2016," (July 19, 2016).

[3] "Staff Requirements – SECY-14-0087 – Qualitative Consideration of Factors in the Development of Regulatory Analyses and Backfit Analyses," (March 4, 2015)(SRM-SECY-14-0087).

and use qualitative factors to inform decision making in limited cases, when quantitative analyses are not possible or practical."

Level of Detail in New Plant and SLR Applications and Review

Recent experience suggests that the NRC's expectations for the level of detail in new plant applications in many cases exceed what is needed to perform the review, having a negative impact on the predictability of the schedule and cost of NRC's review. The Early Site Permit (ESP) application submitted by PSEG took seventy-one (71) months and the NRC review fees exceeded the utility's costs to develop the application by 50%. This unfortunate result was due, in large part, to requests for additional detail going beyond that called for by regulatory guidance in place at the time of ESP submittal and beyond that necessary for the NRC to make required safety findings. Additionally, the size of design certification applications in recent years has grown considerably, reflecting a trend that calls for increasing levels of detail, even for designs that have fewer safety-related systems and are orders of magnitude safer than current designs. It is requested that the NRC perform a review of recently completed new-plant applications to identify necessary changes in practices and guidance, and to provide greater assurance that future safety reviews are properly focused.

Further, our recent review of the Draft Second License Renew (SLR) Generic Aging Lessons Learned (GALL) report and Standard Review Plan (SRP) identified several instances where inspection scope and inspection frequency of aging management programs (AMPs) were increased without supporting operating experience or technical basis. Unnecessary expansions of SLR requirements must be avoided.

Additionally, as mentioned by Mr. Atkinson during the July 26 meeting, it is also requested that the unnecessary burden of Tier 2* be eliminated and that its elimination not result in the inappropriate expansion of Tier 1.

Decommissioning Transition

The current process for transitioning plants from operations to decommissioning – via exemptions and license amendments – is highly inefficient. The current regulations do not appropriately address the risk reduction that occurs when plants permanently shut down and defuel. The impact has been an unpredictable, time-sensitive workload for NRC and industry. The impact to NRC resources is further magnified when multiple plants request these exemptions in the same timeframe. The lack of an efficient regulatory framework to govern this transition is one of several issues being addressed in an ongoing NRC rulemaking – and is, in fact, the only decommissioning issue that has not been previously considered in a rulemaking. Effective NRC rules are already in place to assure the safety of the decommissioning process itself – as has been demonstrated at 10 plants that have already completed the process. With several additional plants anticipated to shut down in the near future, transition inefficiency should be addressed through rulemaking in an expeditious manner so that NRC and industry resources can be better managed. The regulatory basis for a transition efficiency rulemaking is well documented in the numerous exemptions already approved, thus NRC is well positioned to move forward. It is requested that the Commission direct initiation of a rulemaking to be implemented by the end of 2017, to facilitate an efficient transition from operating to decommissioning requirements and eliminate the need for most, if not all, exemptions.

NRC Efficiency and Effectiveness

Project AIM

The nuclear industry is very supportive of the agency's Project AIM initiative and lauds the successes seen thus far. The agency's prioritization and re-baselining effort identified 151 individual activities that NRC recommended be shed, de-prioritized, or incrementally reduced. While the re-baselining is a discrete effort, it is vitally important that changes in processes and culture be made to maintain the gains in efficiency and effectiveness well into the future. As the size of the industry that NRC regulates continues to decrease, due in part to plant retirements, it is important that efforts continue to methodically evaluate appropriate staffing levels and distribution in the agency. Additionally, NSIR, with its current size and breadth, should be reviewed to ensure that its structure and resources are appropriately adjusted to match anticipated regulatory needs for the industry. It is requested, that the NRC institutionalize processes that periodically assess and prioritize the importance of both emerging and existing activities. These processes should utilize a risk-informed approach to determine agency priorities, level of effort, course of action and schedule. The NRC, as the sole regulatory authority able to service the licensing docket, must also ensure that cost-beneficial licensing actions – those that improve plant reliability and efficiency – are appropriately prioritized and reviewed.

Accelerate Efforts to Enhance the Efficiency and Reliability of Licensing and Oversight

During the past decade the efficiency and reliability of the NRC's licensing activities have not kept pace with the industry's needs, leading to increased review time, excessive costs, and uncertainty in outcomes. While NRR has made great progress on reducing the backlog of license application reviews in the past year, more should be done. Actions being taken under Project AIM, Task 19, to enhance the predictability, timeliness, and efficiency of operating reactor licensing reviews are currently not scheduled to take effect before the second half of FY 2018. We believe this effort can be accomplished sooner. The issuance of an April 18, 2016 memorandum to NRR staff (ML16202A029) establishing a common set of expectations in licensing review efforts is a positive step forward. It is requested that the NRC accelerate these efforts and expand them to encompass other NRC offices involved in licensing.

Additionally, an area that should receive additional attention is length of time to approve topical reports. Topical reports are a means by which industry and NRC gain efficiency by addressing issues once; which can be applied to multiple licensees. However, due to the excessive length of time for approval of these reports, many individual licensees have been forced to abandon the wait and pursue alternative actions. Thus we request that a focused effort be put in place to reduce the current backlog as well as improve topical report approval timeframes.

As noted during the stakeholder meeting, both the Component Design Bases Inspection (CDBI) and Triennial Fire Protection Inspection are very resource intensive for both industry and NRC. These inspections have generated few inspection findings exceeding very low safety significance. While efforts are underway to address industry concerns associated with CDBI inspections, a broader review of inspection activities should be performed to ensure that inspection resources are adequately risk-informed and used

efficiently. This review should consider changes in the frequency and scope of CDBI and Fire Protection inspections.

From the standpoint of business management and accounting, licensees expect and deserve improvements in the NRC's identification and management of the costs for licensing and regulatory oversight actions. NRC fees charged for reviews and inspections are highly variable. Review schedules are not clearly identified and are not consistently managed or maintained. Invoices provided to licensees contain insufficient detail to substantiate charges, or ensure that charges are directly related to work for the licensee. It is requested that NRC establish and clearly communicate a schedule, along with the expected number of hours needed for each licensing action. When there is a departure from the budget estimate or planned schedule, the NRC should promptly notify the licensee. This would enable timely discussions between NRC and licensees on actions necessary to address resource and schedule changes. Industry also requests that NRC invoices provide a more detailed accounting of charges that describes what services were provided and by whom.

Risk-Informed Culture and Processes

As former Commissioner Ostendorff has noted, it is the Commission, not the staff, who makes determinations of what is required for "adequate protection," and that "adequate protection" does not mean either absolute protection or zero risk. Given the maturity of the commercial nuclear industry, it is requested that the NRC do more to risk-inform its culture and processes as outlined in the following areas:

<u>The NRC Should Vigorously Support Risk-Informed Initiatives</u>

There is little dispute that risk-informed initiatives increase safety focus and enhance overall plant safety. The improved safety focus from risk-informed programs helps both the NRC and the industry target resources on the items of greatest safety benefit. Unfortunately progress has slowed considerably in this area. Much of this decline is attributed to a lack of clarity, reliability and efficiency in NRC actions. A current example is the Risk-Informed Completion Time Initiative (4b); a voluntary industry initiative which allows licensees to use risk information to extend Tech Spec allowed outage times. This initiative is expected to support substantial safety benefits when it is implemented throughout the fleet. Tech Spec Task Force Traveler 505 (TSTF-505), an NRC-approved generic application template, is intended to streamline the application development and review process for 4b. However, NRC staff objections to the NRC-approved program, and the re-examination of questions that were identified and settled in the initial review have held up progress on a pilot application for almost four years.

Further, recent NRC reviews of risk-informed applications have impeded more widespread use of risk insights to improve safety. Probabilistic Risk Assessment (PRA) reviews have become extremely resource-intensive due, in part, to a lack of credit given to processes established by the industry and NRC to assure PRA technical adequacy (RG 1.200, ASME/ANS PRA Standard and PRA peer reviews). Significant time and resources are expended on issues that have little safety or risk importance. NRC reviews are too often delayed by a lack of consensus among NRC staff. There is a varied level of understanding of risk-informed decision-making concepts among NRC staff, which has led to regulatory unpredictability and a loss of focus in risk-informed review efforts. In particular, reviews associated with Fire PRAs have been problematic, and have contributed to ongoing conservatism in Fire PRAs as NRC deliberations on methods

have unnecessarily stretched out over many years at a significant cost to the industry and without commensurate safety benefits.

The scope of issues seen by the industry leads us to be concerned with the level of understanding and acceptance of risk-informed activities and the use of risk-insights within the agency. This continues to inhibit progress on key initiatives, such as initiatives to use FLEX equipment to enhance plant safety. In the case of the use of FLEX in risk-informed decision making, the lack of action is having a detrimental impact on industry efforts to reduce risk and enhance operational and maintenance efficiencies.

It is important that the NRC staff is provided clear direction to fully support the efficient use of risk-informed decision-making in order to establish a more disciplined, reliable, and predictable regulatory process. In addition, the NRC should expedite development and implementation of a process to evaluate and disposition issues that have little or no impact on plant safety.

NRC Resource Allocations Should be Commensurate with the Risk Significance of the Regulated Activity
In terms of safety significance, there is a significant disparity in the resources devoted to licensing and oversight of some categories of licensees. For example, the NRC should consider reducing its resources given the relatively low risk profile that fuel cycle, uranium recovery and non-power reactor and utilization facilities represent from a public health and safety perspective. Further, while some progress has been made in the transparency and adjustment of milestones and schedules of regulatory initiatives within the fuel cycle arena, there has been little effort or attention paid to prioritizing or evaluating the necessity of continuing these initiatives based on their relative impact on safety or security. Finally, we encourage NRC to adopt the regulatory initiatives integrated schedule concept, including prioritizing the initiatives, beyond the fuel cycle arena to other NRC program areas, e.g., byproduct materials initiatives that impact the Agreement States.

NEI greatly appreciates your consideration of the industry's perspective and looks forward to continuing work with the Commission and NRC staff to help ensure continual improvement. The specific actions requested in this letter are summarized in the attached table for facilitation of use and reference. Please contact me if you have any questions.

Sincerely,

Maria Korsnick

Maria Korsnick

c: The Honorable Kristine L. Svinicki, Commissioner, NRC
The Honorable Jeff M. Baran, Commissioner, NRC
NRC Document Control Desk

Requested Actions

1	Commission should provide the staff with clear direction on the use of the compliance exception to the backfit rule to ensure that use of the exception is consistent with the policy direction provided in the preamble to the 1985 backfitting rule.
2	NRC should perform a review of recently completed new-plant applications to identify necessary changes in practices and guidance and to provide greater assurance that future safety reviews are properly focused.
3	NRC should eliminate Tier 2*. Its elimination should not result in the inappropriate expansion of Tier 1.
4	Commission should direct that the decommissioning rulemaking be implemented by the end of 2017, to facilitate an efficient transition from operating to decommissioning requirements and eliminate the need for most if not all exemptions.
5	NRC should institutionalize the Project AIM re-baselining gains through the establishment of processes that periodically assess the importance and priority of emerging activities and assess the continued importance and effectiveness of existing activities.
6	NRC should accelerate the efforts under Project AIM, Task 19, to enhance the predictability, timeliness, and efficiency of operating reactor reviews and expand these efforts to encompass other NRC offices involved in licensing.
7	NRC should institute actions to reduce the current backlog of topical report reviews and improve topical report approval timeframes.
8	NRC should perform a broad review of inspection activities to ensure that inspection resources are adequately risk-informed and used efficiently. This review should consider changes in the frequency and scope of CDBI and Fire Protection inspections.
9	NRC should establish and clearly communicate a schedule, along with the expected number of hours needed for each licensing action.
10	NRC should promptly notify the licensee when there is a departure from the budget estimate or planned schedule for each licensing action.
11	NRC invoices for payment should provide a more detailed accounting of charges that describes what services were provided and by whom.
12	NRC should clarify the risk-informed decision-making process with NRC staff in order to establish a more disciplined, reliable, and predictable regulatory process.
13	NRC should expedite development and implementation of a process to evaluate and disposition issues that have little or no impact on plant safety.
14	NRC should reduce the resources applied to regulation and oversight of fuel cycle, uranium recovery and non-power reactor and utilization facilities given the relatively low risk profile that they represent.