



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

July 8, 2016

The Honorable James M. Inhofe
Chairman, Committee on Environment
and Public Works
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

The Executive Director for Operations of the U.S. Nuclear Regulatory Commission (NRC) appeared before the Committee on Environment and Public Works on April 21, 2016, at the hearing entitled, "Enabling Advanced Reactors and a Legislative Hearing on S.2795, the Nuclear Energy Innovation and Modernization Act." From that hearing, you forwarded follow-up questions for the hearing record to Mr. Victor M. McCree. Enclosed are the responses to those questions which represents the views of the technical staff of the NRC. If I can be of further assistance, please do not hesitate to contact me at (301) 415-1776.

Sincerely,

A handwritten signature in blue ink, appearing to read "E. Dacus", is written over a faint, circular watermark of the NRC seal.

Eugene Dacus, Director
Office of Congressional Affairs

Enclosures:
As stated

cc: Senator Barbara Boxer

The Honorable James Inhofe

QUESTION 1.

In your testimony, you state that “Significant time and resources would be required over several years to implement the full range of additional activities described in the bill...”. Your testimony also states that “...the NRC currently has extensive ongoing and planned activities...”

a) Please describe in detail the extent to which NRC’s “ongoing and planned activities” would be mutually exclusive of the activities envisioned in S.2795 and the extent to which they could be complementary.

b) Please describe in detail the challenges with regard to implementing the advanced reactor provisions in S.2795.

c) Are the milestones in S.2795 achievable? If not, please provide specifics with detailed explanations.

ANSWER.

a. The U.S. Nuclear Regulatory Commission (NRC) is developing a vision and strategy document that outlines the NRC’s plan to ensure readiness for effective and efficient review of future non-light-water reactor (non-LWR) applications. It contains three key strategic objectives: enhance technical readiness, optimize regulatory readiness, and optimize communication. The document addresses activities that need to be undertaken in three timeframes: near term (0–5 years), midterm (5–10 years), and long term (beyond 10 years). Specific implementation action plans will be developed by early calendar year (CY) 2017. The vision and strategy

document has recently been shared with Department of Energy (DOE) staff for its comment, and the NRC expects to seek broader stakeholder comment in the coming weeks.

Key near-term strategies include acquiring or developing sufficient knowledge, technical skills, and capacity to perform non-LWR regulatory reviews; acquiring or developing sufficient computer codes and tools to perform non-LWR regulatory reviews; and establishing a more flexible, risk-informed, performance-based, non-LWR regulatory review process within the bounds of existing regulations. The goal is for the staff's review efforts to be commensurate with the safety performance of the non-LWR design being considered. Of particular interest to some stakeholders is the development of both a conceptual design assessment process and a staged review process. Outreach activities will particularly focus on vetting the proposal for these processes over the next few months.

Within the limited resources in the current budget, the NRC has worked with DOE in developing design criteria that are specific to non-LWR technologies. Staff is currently taking public comments on these criteria as input to consider as a draft Regulatory Guide is prepared and published for formal comment; it is currently expected to be issued for comment by the end of CY 2016.

There are many similarities between the requirements in S.2795 and the NRC's ongoing activities, although S.2795 would require the NRC to undertake these activities on an accelerated schedule and would require development of additional reports to Congress with coordination through the Secretary of Energy. The fundamental requirements related to advanced reactors in S.2795 are complementary in concept to the NRC's ongoing activities.

b. As noted in the response to question (a), significant progress is being made within the limited resources in the current budget. The increased reporting requirements in the bill, in the near-

term would challenge limited resources. The longer-term requirements would have a lesser impact on NRC activities, but would nevertheless reflect an increase in workload on limited resources.

c. Yes, the milestones in S.2795 are achievable. However, as noted in the response to question (b), achieving those milestones with limited resources would be a challenge to implementing the NRC's ongoing activities.

QUESTION 2. Would a limit on annual fees limit the NRC's safety and security inspections of operating reactor licensees? If so, please describe any impacts in detail including why costs for safety and security inspections of operating reactor licensees would not be recovered under 10 CFR Part 170 (hourly fee for service).

ANSWER.

A limit on annual fees has the potential to limit the NRC's safety and security inspections of operating reactor licensees because the NRC's safety-and-security inspections depend upon certain generic activities that benefit the operating reactor fleet. The NRC cannot bill generic activities through Title 10 of the *Code of Federal Regulations* (10 CFR) Part 170 (fees for services). Instead, the costs of generic activities are recovered through 10 CFR Part 171 (annual fees). Some examples of the generic activities that support safety and security inspections are as follows:

- Guidance—Development of enforcement guidance memorandum and interim enforcement policy in coordination with Office of Enforcement and technical divisions
- Inspection Manuals— development of and revision to Inspection Manual chapters, such as IMC 0612 "Inspection Reports" and office protocol instructions

- Replacing the outdated Reactor Program System used by the inspection program offices and the regions as the primary tool to plan and schedule work assignments and inspection activities and to record inspection findings
- Completing Fukushima lessons-learned activities

QUESTION 3. For all international activities for the last five years, including vendor inspections, please provide the annual spending for each activity and indicate whether the costs were recovered through net appropriations, 10 CFR Part 170 fees, or 10 CFR Part 171 fees.

ANSWER.

The NRC's international activities are recovered through 10 CFR Part 170, "Fees for Facilities, Materials, Import and Export Licenses, and Other Regulatory Services under the Atomic Energy Act of 1954, as Amended;" 10 CFR Part 171, "Annual Fees for Reactor Licenses and Fuel Cycle Licenses and Materials Licenses, including Holders of Certificates of Compliance, Registrations, and Quality Assurance Program Approvals and Government Agencies Licensed by the NRC;" and net appropriations (fee relief). Export and import license applicants and holders are assessed 10 CFR Part 170 fees. International cooperation activities that benefit a group of licensees are assessed as annual fees to that specific fee class. These activities include regulatory information exchanges and policy and priority formulation activities, both of which provide direct input into how the NRC regulates its licensees. Finally, the NRC's international assistance activities to foreign regulatory counterparts for improving safety and security are recovered through net appropriations (fee relief).

All NRC vendor inspection activities are recovered through 10 CFR Part 171's annual fees, assessed to NRC licensees. Reactor vendors are not NRC licensees and not directly subject to most NRC regulations.

The following are the 5-year resources for international and vendor inspection activities recovered by 10 CFR Part 170, 10 CFR Part 171, or net appropriations.

(dollars in thousands)

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
International Activities Budgeted Resources*	25,773	28,264	27,014	30,089	32,434

Recovered through:

10 CFR Part 170 fees	2,529	6,121	5,278	5,480	6,649
10 CFR Part 171 fees	8,176	13,479	12,130	13,685	16,523
Net appropriations	15,068	8,664	9,606	10,924	9,261

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Vendor Inspection Budgeted Resources*	8,471	10,756	12,226	12,777	9,714

Recovered through:

10 CFR Part 171 fees	8,471	10,756	12,226	12,777	9,714
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* budgeted resources were calculated using full-costed FTE rate for fee recovery purposes per the fee rule.

QUESTION 4. Please provide a list of the activities encompassed within S.2795 for which the NRC does not currently have performance metrics and milestone schedules.

a) For each activity, please indicate why performance metrics and milestone schedules do not exist and describe in detail any hindrances to developing them.

b) Please describe how the NRC measures performance and manages workload without performance metrics and milestone schedules for those activities.

ANSWER.

The NRC has performance metrics and milestone schedules for all "requested activities of the Commission," as defined in S.2795, except for "any other activity requested by a licensee or applicant" (Section 4(9)(B)).

a. The words "any other activity requested by a licensee or applicant" could be read as comprising a potentially very broad range of actions, including many routine interactions with licensees and applicants that often may involve "requests by licensees and applicants." The agency may establish performance metrics for these activities on a case-by-case basis. However, many such requests are simple and of short duration and can be effectively and efficiently resolved by staff-to-staff interactions without agency performance metrics and milestone schedules.

b. The NRC staff establishes performance metrics and milestone schedules in all situations for which it believes such measures are necessary and appropriate. In other cases, based on the short duration of the task, the NRC does not believe they are required for effective workload management and efficient and effective decisionmaking.

QUESTION 5. Your written testimony states: "We believe we currently have appropriate performance metrics to provide the desired outcome."

a) Please describe what the desired outcome is.

b) Please describe the extent to which timeliness is a desired outcome.

ANSWER.

- a. The desired outcome is to meet our safety and security mission through an effective and efficient process that provides a thorough, transparent, and timely review or decision under the specific circumstances presented consistent with the NRC Principles of Good Regulation.
- b. Timeliness is an important aspect of achieving our desired outcome; but getting to the right safety decision takes precedence.

QUESTION 6. Please describe in detail how performance metrics, schedule milestones, and reporting requirements would limit the NRC's flexibility in conducting safety and security reviews.

ANSWER.

Schedule adherence can be affected by applicant or licensee performance or by the actions of the NRC. In addition, emerging safety or security issues, changes in licensee plans, and other unplanned events can affect schedules. S.2795 would reduce flexibility by requiring set performance metrics and milestone schedules and requiring reporting for certain delays, instead of allowing the metrics and schedules to be revised if there are emerging safety or security issues, changes in licensee plans, or other unplanned events that can affect schedule performance. Accounting for these various factors and unknowns, the NRC has in place the performance metrics that the agency believes support the desired outcomes.

S.2795 would also require the NRC to develop performance metrics and milestone schedules for any activity requested by a licensee or applicant. As explained in response to Question 4, this would potentially require the NRC to develop and manage performance metrics and milestone schedules for many activities beyond those for which such metrics and milestones are

currently prepared and may not be necessary. Establishing such metrics and milestones is of uncertain value, adds to management burden and workload without having a meaningful effect on transparency, and ultimately could affect flexibility to effectively and efficiently manage a dynamic process.

QUESTION 7. Please describe whether additional performance metrics, schedule milestones and reporting requirements would increase or decrease transparency at the NRC.

ANSWER.

The NRC does not believe that additional performance metrics, schedule milestones, and reporting requirements would have a meaningful effect on the transparency the agency currently seeks to achieve and the openness cross-cutting strategy on transparency in the NRC's strategic plan.

QUESTION 8. The NRC's Principles of Good Regulation state: "*The American taxpayer, the rate-paying consumer, and licensees are all entitled to the best possible management and administration of regulatory activities.... Regulatory decisions should be made without undue delay.*" Please describe whether additional performance metrics, schedule milestones and reporting requirements would help or hinder the agency's effort to abide by this principle.

ANSWER.

Schedule adherence can be affected by applicant or licensee performance or by the actions of the NRC. In addition, emerging safety or security issues, changes in licensee plans, and other

unplanned events can affect schedules. S.2795 would reduce flexibility by requiring set performance metrics and milestone schedules and requiring reporting for certain delays, instead of allowing the metrics and schedules to be revised if there are emerging safety or security issues, changes in licensee plans, or other unplanned events that can affect schedule performance.

QUESTION 9. Please explain why a need to reduce corporate support spending would jeopardize the NRC's ability to provide physical protection of its personnel and facilities, particularly in light of the NRC's plans to reduce the size of its housing footprint at NRC headquarters. Please describe in detail the justification for doing so rather than reducing other lower priority corporate support costs.

ANSWER.

The NRC believes that corporate support spending can continue to be reduced without jeopardizing the agency's ability to provide physical protection of its personnel and facilities. In light of the NRC's continuing work to reduce the size of its housing footprint at headquarters, the FY 2016 enacted budget reflects a reduction of \$370,000 in guard services for the NRC headquarters Three White Flint North building (3WFN), following the release of four floors in May 2015 to the Food and Drug Administration (FDA). As FDA became the majority tenant in 3WFN, the corresponding reduction in guard services had no impact on the NRC's ability to provide physical protection while still maintaining a security level 4 facility. Additionally, in order for the agency to adhere to the corporate support limits specified in the appropriations act for FY 2016, \$1.9 million was reduced from the FY 2016 enacted budget for guard services; however, this was a one-time reduction in the amount of forward funding on the contract, which had no adverse impact on the agency's overall security. Beyond the items mentioned above,

there were no additional reductions in the FY 2016 enacted budget in the areas of physical and personnel security. The NRC continues to look for efficiencies in corporate support that reduce costs without jeopardizing safety and security.

Since 2012, the NRC has been reducing its office space and corresponding costs at its headquarters location in Rockville, MD. The NRC has identified additional reductions of approximately 48,122 square feet of usable office space in 3WFN, including a space that previously housed a cafeteria, and two full floors. These planned reductions will begin in FY 2017 and continue through FY 2019. The NRC will continue to work with the U.S. General Services Administration to review requirements and identify opportunities for space and cost savings based on staffing levels.

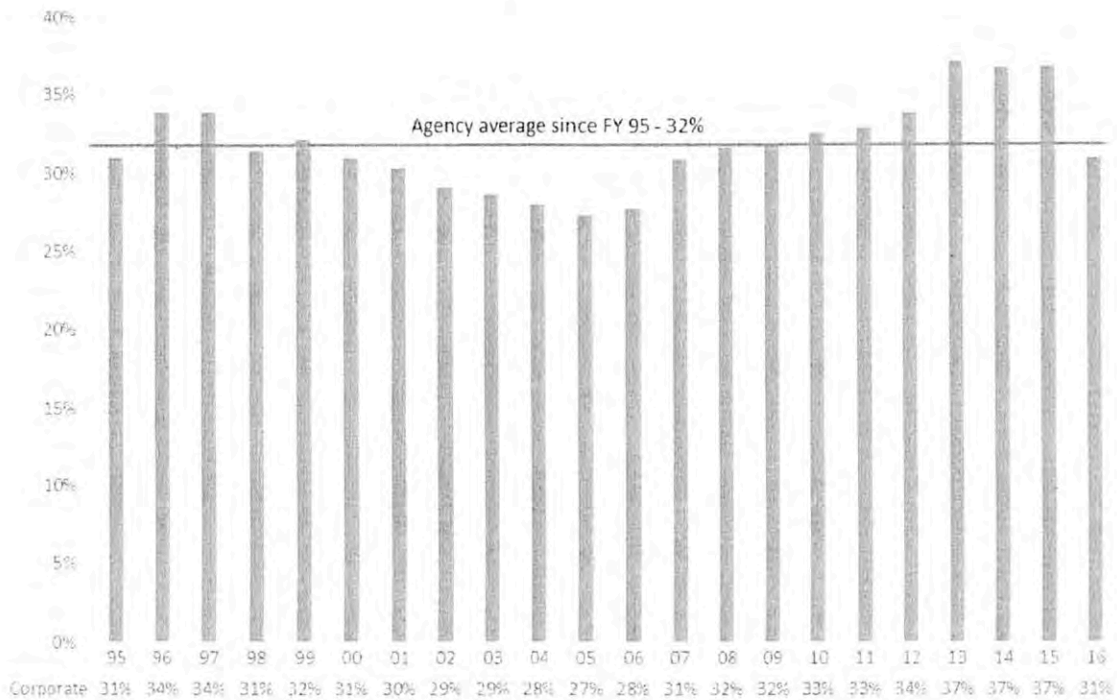
As the NRC continues to identify efficiencies and reduce spending within the Corporate Support budget, lower priority corporate costs would be considered before corporate costs related to the NRC's ability to provide physical protection of its personnel and facilities. It should be noted that the agency's fixed costs have continued to increase over the years (including a substantial increase in rent associated with 3WFN). Additionally, there are rising costs associated with personnel security mandates. The recently revised Federal Investigative Standards, now require the agency to conduct reinvestigations for all employees and contractors every 5 years ("L"-cleared personnel were previously reinvestigated every 10 years, and there was no requirement to reinvestigate contractors who did not hold security clearances), increasing annual costs and efforts to ensure compliance with the requirement.

QUESTION 10.

Given the NRC's corporate support spending rate of 28% of total budget authority in 2006, please describe in detail why that same corporate support spending rate of 28% would not be achievable in 2023.

ANSWER.

Corporate as Percentage of NRC Budget: FY 1995 - FY 2016



As the chart above indicates, the percent percentage for corporate in FY 2006 was lower than the historical level required to adequately support the agency and was an artifact of unequal growth in corporate and program resources during a period of budget increases in the early part of the decade. Over this period, information technology has become even more important to all aspects of the NRC's work, driving increased costs. In FY 1995, corporate costs were equal to

approximately 31 percent of the agency's budget. Five years later, in FY 2000, the agency's total budget had decreased by 10 percent, but the corporate percentage was the same (31 percent). Beginning in FY 2001 and continuing through FY 2006, as the agency's overall budget began to increase, program resources grew at twice the rate of corporate. As a result, corporate dropped as a percentage of the budget, reaching a low of 27 percent in FY 2005.

This was followed by two years of large corporate budget increases to provide the organizational infrastructure required to hire an additional 500 full-time equivalents through FY 2009. The added resources allowed the agency to acquire and configure additional office space; manage increased personnel, facility, and cybersecurity requirements; cover growing telecommunication and IT seat management costs; and replace obsolete equipment and software. The corporate percentage rose to 28 percent in FY 2006, the first year that corporate growth outpaced program, and rebounded to 31 percent in FY 2007, close to the agency's historical average of 32 percent over the past twenty years.

The period from FY 2008 to FY 2010 saw the funding trend reverse, as corporate increases outpaced program budget growth by 10 percent. By FY 2010, corporate was 33 percent of the overall agency budget, with the increase still largely driven by increased infrastructure costs related to rapid growth in agency staffing levels. Over the next 3 years, FY 2010 through FY 2013, the corporate percentage spiked to 37 percent as the agency expanded the definition of corporate support to encompass a range of costs previously included in program budgets. The "expanded" definition of corporate support included \$15.0 million for the Integrated University Program, first added to the agency's budget in FY 2008, as well as resources for International Activities and the Regulatory Information Conference, both of which had previously been included in program budgets. The percentage held at 37 percent until FY 2016, when the corporate portion of the budget returned to the historical norm of 32 percent. This was achieved

in part by acting on EY's recommendations to realign resources in accordance with the more standard definition of corporate support used before FY 2011 and by instituting corporate budget cuts to reflect declining program staffing levels. The FY 2016 figure is in line with the 32 percent identified for Peer Agency C in the EY report, as well as the historical norm for the NRC.

Historically, corporate resources equal to approximately 31 percent to 32 percent of the budget have been adequate to cover the agency's fixed infrastructure costs, fund normal service levels, and make strategic investments (e.g., increasing work space density and modernizing IT systems) necessary to achieve future corporate efficiencies. When the agency briefly operated with lower levels of corporate resources for a few years in the mid-2000s, service gaps, outmoded systems and facilities placed noticeable burdens on the programs, prompting a reinvestment in corporate support.

QUESTION 11. **During [the] course of various types of licensing reviews, the NRC often issues Requests for Additional Information (RAI) to individual licensees or applicants for information that is needed for decision-making purposes. These requests can often be resource-intensive for licensees and applicants. Reports to Congress may be as important for the purposes of decision making as RAI's are for the NRC's decision-making. Hence the agency's concerns about the resource burden of reporting to Congress suggest a double-standard. Please clarify whether the NRC is prepared to be responsive to Congress in its request or whether the agency considers reporting to congress to be an excessive burden.**

ANSWER.

The NRC is prepared to be fully responsive to Congress. The NRC always strives to provide timely and competent reports to congressional committees, when requested, and has managed the competing needs and priorities. The agency will continue this practice.

QUESTION 12. The NRC's Independence Principle of Good Regulation states:

"Nothing but the highest possible standards of ethical performance and professionalism should influence regulation. However, independence does not imply isolation. All available facts and opinions must be sought openly from licensees and other interested members of the public. The many and possibly conflicting public interests involved must be considered. Final decisions must be based on objective, unbiased assessments of all information, and must be documented with reasons explicitly stated."

The NRC has raised concerns that a cap on a portion of its fee collection might compromise the NRC's ability to demonstrate its independence. However, the NRC lacks concern over how failing to budget for the statutorily-mandated review of the Yucca Mountain license application has raised questions about the NRC's independence. Please explain the apparent discrepancy between those two positions.

ANSWER.

The NRC has always strongly and successfully maintained its position as an independent regulator, regardless of the perceptions that may exist in some quarters on this matter. The implementation of a cap on annual fees per operating reactor licensee has the potential to limit the amount of funding the NRC may request to meet its independent statutory mission. Linking the NRC's budgets to the availability of fees it is able to collect could limit the resources available to carry out regulatory responsibilities. Furthermore, the NRC's ability to demonstrate its independence as a regulator could be compromised if there was a perception that a capped annual fee was driving the agency's safety and security activities for a given year.

The NRC budget request is the product of a Commission deliberation and vote. There has not been majority support for requesting funds for continuing and completing the Yucca Mountain licensing process. Thus, the NRC's FY17 budget request did not include funding for the Yucca Mountain review.

QUESTION 13.

The cap on annual fees in S. 2795 sets the ceiling near the all-time-highest rate to account for the costs of the NRC's post-Fukushima workload and is indexed for inflation. Given the NRC's efforts to right-size the agency through Project Aim 2020, the declining number of operating reactors, the workforce and office space reductions, and the conclusion of post-Fukushima work, please indicate whether there are specific years between now and 2020 when the agency anticipates exceeding the level of FY 2015 budget authority.

ANSWER.

The NRC FY 2016 enacted budget and FY 2017 budget request are smaller than the FY 2015 enacted budget. As referenced in SECY-15-015, "Project Aim 2020 Report and Recommendations, Appendix D, NRC Financial Environment", the NRC expects its budget to continue to be smaller than the FY 2015 enacted budget, and there are no years between now and 2020 when the agency anticipates exceeding the level of FY 2015 budget authority.

QUESTION 14. If the NRC's concerns about a cap on annual reactor fees is driven by the need for resources to respond to a severe accident, please describe why NRC budgeting decisions would be driven by events that exceed the NRC's safety goal and which the NRC legally requires licensees to protect against. Is it accurate to say that much of the cost of responding to a severe accident is fee recoverable under 10 CFR Part 170 (hourly fee for service)? Beginning with 2011 and for each following year, please provide a breakdown for Fukushima-related costs recovered under 10 CFR Part 170 versus those recovered under 10 CFR Part 171.

ANSWER.

The NRC's budgeting decisions are driven by its mission to license and regulate the Nation's civilian use of radioactive material to protect public health and safety, the common defense and security, and the environment.

The cost of responding to a severe accident would be fee recoverable under 10 CFR Part 170 (fees for services) to the extent that the response to the event is specific to an NRC-licensed

facility or results in modifications specific to an NRC-licensed facility. There may also be fees recovered under 10 CFR Part 171 (annual fees) for activities as a result of severe accidents. These annual fees would be for activities that are not specific to an NRC-licensed facility that stemmed from the event response, including guidance development, development of new or modified requirements, generic communications, or new research.

The following is a breakdown for Fukushima-related costs recovered under 10 CFR Part 170 versus those recovered under 10 CFR Part 171. The majority of the activities from the Fukushima lessons learned project were associated with improving the safety of the reactor fleet; therefore, the budgeted costs were recovered under annual fees.

Fukushima-Related Resources (dollars in thousands)					
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Budgeted Resources*:	-	15,260	37,558	48,650	54,410
Recovered through:					
10 CFR Part 170 fees	-	113	13,553	18,786	22,302
10 CFR Part 171 fees	-	15,147	24,005	29,864	32,108

*Budgeted resources were calculated using a full costed rate for fee recovery purposes per the fee rule.

