FISCAL YEAR 2019 NUCLEAR REGULATORY COMMISSION BUDGET

JOINT HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY

AND THE

SUBCOMMITTEE ON ENVIRONMENT

OF THE

COMMITTEE ON ENERGY AND COMMERCE

HOUSE OF REPRESENTATIVES

ONE HUNDRED FIFTEENTH CONGRESS

SECOND SESSION

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C O N T E N T S

WITNESSES

[1] Ms. Svinicki submitted a written statement on behalf of the Nuclear Regulatory Commission. Mr. Baran and Mr. Burns did not submitted separate written statements.

[2] The Nuclear Regulatory Commission submitted one set of responses to questions for the record that were sent to Ms. Svinicki and Mr. Burns.

FISCAL YEAR 2019 NUCLEAR REGULATORY COMMISSION BUDGET

TUESDAY, MARCH 20, 2018

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ENERGY
JOINT WITH THE
SUBCOMMITTEE ON ENVIRONMENT,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittees met, pursuant to call, at 10:17 a.m., in room 2123, Rayburn House Office Building, Hon. John Shimkus (chairman of the Subcommittee on Environment) presiding.

Members present: Representatives Upton, McKinley, Olson, Barton, Blackburn, Latta, Kinzinger, Johnson, Long, Bucshon, Flores, Mullin, Hudson, Walberg, Carter, Duncan, Walden (ex officio), Tonko, Green, Doyle, Matsui, McNerney, Welch, Loebsack, Schrader, Kennedy, Cárdenas, Peters, and Pallone (ex officio).

Staff present: Samantha Bopp, Staff Assistant; Daniel Butler, Staff Assistant; Kelly Collins, Legislative Clerk, Energy/Environment; Wyatt Ellertson, Professional Staff Member, Energy/Environment; Jordan Haverly, Policy Coordinator, Environment; Ben Lieberman, Senior Counsel, Energy; Mary Martin, Chief Counsel, Energy/Environment; Brandon Mooney, Deputy Chief Counsel, Energy; Mark Ratner, Policy Coordinator; Annelise Rickert, Counsel, Energy; Dan Schneider, Press Secretary; Peter Spencer, Senior Professional Staff Member, Energy; Jason Stanek, Senior Counsel, Energy; Austin Stonebraker, Press Assistant; Madeline Vey, Policy Coordinator, Digital Commerce and Consumer Protection; Hamlin Wade, Special Advisor for External Affairs; Everett Winnick, Director of Information Technology; Andy Zach, Senior Professional Staff Member, Environment; Priscilla Barbour, Minority Energy Fellow; Jean Fruci, Minority Policy Advisor, Energy and Environment; Tiffany Guarascio, Minority Deputy Staff Director and Chief Health Advisor; Caitlin Haberman, Minority Professional Staff Member; Rick Kessler, Minority Senior Advisor and Staff Director, Energy and Environment; John Marshall, Minority Policy Coordinator; Alexander Ratner, Minority Policy Analyst; and C.J. Young, Minority Press Secretary.

Mr. SHIMKUS. Let's call this hearing to order, and I will recognize myself 5 minutes, when I find it. It's hidden in the back. Recognize myself 5 minutes for an opening statement.

OPENING STATEMENT OF HON. JOHN SHIMKUS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Welcome to our hearing this morning as we examine the Nuclear Regulatory Commission's fiscal year 2019 budget proposal. The NRC's essential role in licensing and regulating nuclear facilities is of great importance to my Illinois constituents.

Illinois produces the largest share of nuclear-generated electricity in the country. Throughout the State, the commercial nuclear energy industry supports thousands of high-paying jobs, funds local school districts, and provides reliable, clean, baseload electricity around the clock.

In fact, a little over 75 years ago, Illinois was the site, at a lab under the University of Chicago's football field, where physicists and engineers first generated a self-sustaining nuclear chain reaction. We are proud to be the birthplace of nuclear technology.

While I do not have any commercial nuclear power plants in my southern Illinois district, I do represent the Nation's only uranium conversion facility, located in Metropolis, Illinois.

In October, the plant's owner announced it was suspending operations at the site due to market conditions for uranium. We have a glut of uranium on the market and lingering low demand, in part due to the suspension of the Japanese fleet of nuclear power plants in the wake of the Fukushima earthquake, or tsunami, 7 years ago.

While there may not be an immediate fix to the uranium market, the most important policy to help my constituents return to work is a strong, positive outlook for our Nation's domestic nuclear industry.

To maintain a robust nuclear industry, Congress must consider the many different opportunities to provide a pathway to keep existing plants operational, while establishing the foundation for new nuclear energy deployment in the next decade.

While mining, converting, enriching, and manufacturing nuclear fuel is a necessity to support the front end of the fuel cycle, we are long past due to manage the back end of the fuel cycle.

As we do this, we have to recognize the uncertainty about our used fuel commitments will continue to be a political albatross around nuclear energy development until the Department of Energy starts sending clear signals and reconstitutes its nuclear waste management organization.

I very much appreciate that last year the Commission, for the first time since 2010, requested funding to resume its review of the pending Yucca Mountain license application, as required by law.

While it is still incumbent on Congress to provide the funding, it is refreshing to see an administration that is committed to following the law.

As I have noted on many occasions, the NRC's independent review of the license will answer the safety and environmental impact questions the State of Nevada has raised.

To gain the public's confidence in nuclear energy, we must have a functioning nuclear waste management program. The Commission's strong legacy of effective and efficient regulation is another key component of public confidence.

However, the many pressures on the nuclear industry provide an opportunity for the NRC to reassess its regulatory process and flexibility.

The Commission's fiscal year 2019 budget sets the parameters for how the organization will steward its resources in a changing environment.

Last month, we heard a clear message of urgency. As your former colleague, Bill Ostendorff, succinctly pointed out, our civilian nuclear energy industry infrastructure is the underpinning of our strategic nuclear defense capabilities.

In fact, I went down and visited with Admiral Caldwell just last week, and it was a great visit and I would encourage a lot of my colleagues to do that.

In turn, an agile regulatory regime that oversees the breadth of the nuclear supply capacity supports our national interests.

Mr. Ostendorff's testimony highlighted the critical need to advance a suite of nuclear policies to define our nuclear future and establish a durable program to sustain the industry for the next generation of nuclear leaders.

This morning we will seek some of those answers, and I look forward to working with my colleagues on both sides of the aisle to address this critical issue.

[The prepared statement of Mr. Shimkus follows:]

PREPARED STATEMENT OF HON. JOHN SHIMKUS

Welcome to our hearing this morning as we will examine the Nuclear Regulatory Commission's Fiscal Year 2019 budget proposal. The NRC's essential role in licensing and regulating nuclear facilities is of great importance to my Illinois constituents.

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This morning we will seek some of those answers, and I look forward to working with my colleagues on both sides of the aisle to address this critical issue.

Mr. SHIMKUS. And with that, I have a minute remaining. Does anyone seek time?

The Chair recognizes the gentlelady from Tennessee for a minute.

Mrs. BLACKBURN. Thank you, Mr. Chairman.

In my home State of Tennessee, TVA is leading the way with three nuclear plants and seven units capable of generating an average of 7,800 megawatts of electricity each day.

Watts Bar, and I know you all are familiar with Watts Bar—that's near the northern end of Chickamauga Reservoir in east Tennessee—is the first new nuclear reactor built in the 21st century and supplies enough electricity for about 1.2 million households in the Tennessee Valley.

Watts Bar experienced its fair share of challenges and setbacks in the process to becoming operational. Unfortunately, we are seeing those challenges across the country, and without a reasonable, modern, flexible regulatory system, the U.S. will continue to struggle to maintain existing plants, leaving little opportunity for new plants to come online.

So it is essential that the NRC develop a more agile and responsive regulatory model equipped for today's changing energy industry and security needs.

And I yield back.

Mr. SHIMKUS. Gentlelady yields back the time.

Chair now recognizes the ranking member of the subcommittee, Mr. Tonko, for 5 minutes.

OPENING STATEMENT OF HON. PAUL TONKO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. TONKO. Thank you, and good morning.

Thank you to both Chair Shimkus and Chair Upton for holding this hearing, and welcome back and thank you to our Chair Svinicki and Commissioner Burns for appearing before the subcommittees today.

And let me extend a special welcome back to Commissioner Baran, who served with distinction as a professional staff member of this committee for a great number of years.

So welcome to all of you.

The Nuclear Regulatory Commission's mission is to license and regulate the Nation's civilian use of radioactive materials to ensure adequate protection of public health and safety, to promote the common defense and security, and to protect the environment.

This deed is no easy task, and I want to put an additional emphasis on protecting health and safety.

Members on this committee have a range of views on existing and new nuclear power, but I believe there is unanimous agreement that we need high standards for nuclear safety.

So thank you to the Commission staff that have this awesome responsibility. We are here today to discuss the Nuclear Regulatory Commission's fiscal year 2019 budget request of $970.7 million.

This represents an increase of about $60 million compared to the fiscal year '18 annualized continuing resolution level.

Much of this increase is being driven by the $47.7 million for activities related to the disposal of spent nuclear fuel and high-level radioactive waste.

Licensing activities related to the proposed Yucca Mountain Repository, which I am sure my colleague, Mr. Shimkus, was happy to see, are included in the request.

I would also note the budget request represents a decrease of 149 FTEs compared to the fiscal year 2018 annualized continuing resolution, with 123 of those FTEs coming from the Nuclear Reactor Safety Program.

Over the past few years, Commissioners have appeared before this committee and provided updates on Project Aim, the Commission's effort to right size the agency in light of changes and trends occurring in the nuclear industry.

Without a doubt, the Commission has been streamlined. The budget has been reduced by about 13 percent and staff by over 500 FTEs since 2014. This has been a steady trend.

While I understand and appreciate the goals of making the Commission more efficient, continuing cuts at this pace is not a good way for such an important and technical agency to run.

At some point, you are no longer capable of doing more with less. You just end up doing less, and safety is one place where doing less is nonnegotiable.

So I would caution against continuing to push reduction targets if we are approaching a point where critical Commission functions such as safety inspection hours begin to suffer because, if the Commission is unable to maintain essential personnel or replenish its aging workforce or hire additional staff with expertise in new technologies, it could be the public that does suffer.

And the industry will certainly suffer too with delays in licensing and review processes. The Commission must be staffed and resourced at levels appropriate for carrying out its critical oversight and safety missions.

I also wanted to mention that we have spent quite a bit of time this past year discussing grid resilience, and Secretary Perry's notice of proposed rulemaking to FERC, which would have compensated power generators with 90 days of fuel on site, was rightly rejected, in my opinion.

I know there are many Members that believe the nuclear industry is at a competitive disadvantage and nuclear energy production should be fairly compensated for its positive attributes.

We may disagree which of those attributes are most important. But, in my view, the best way to ensure the existing nuclear fleet is on a level playing field is putting a national price on greenhouse gas pollution.

I would encourage the industry supporters in Congress to consider having that conversation.

Finally, I must mention that in just a few months, without Senate action the Commission will lack a quorum. I hope we can all urge our Senate colleagues to take up the nominations before then.

I look forward to hearing from our witnesses today about what is next for the Commission and, again, I thank you all for being here and I yield back, Mr. Chair, the balance of my time.

Mr. SHIMKUS. Gentleman yields back his time.

The Chair now recognizes the gentleman from Michigan, Mr. Upton, the chairman of the Energy Subcommittee, for 5 minutes.

OPENING STATEMENT OF HON. FRED UPTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. UPTON. Well, thank you, Mr. Chairman.

Good morning to everybody. My district, as you all know—many of you know—hosts three nuclear power reactors, and I certainly represent a very highly skilled, hardworking nuclear workforce that I visit often.

All the men and women at the Cook and Palisades sites, including engineers, electricians, professional security workforce, indeed help provide clean electricity for thousands, tens of thousands, hundreds of thousands of Michigan households and I appreciate their dedication, and I am proud of their positive impact on our community.

This Congress, the Energy Subcommittee has been examining the various economic pressures in our wholesale power markets. It has become clear that our Nation's fleet of commercial nuclear power plants is at a critical juncture due to the increased competition among generation resources.

Complex electricity pricing rules, abundant natural gas supplies, and relatively stable energy demand have created unprecedented market challenges for nuclear power generation and, consequently, some power plants are ceasing operation prior to the end of their licensed service period.

So as we consider the future of nuclear power generation, we should not forget the industry's invaluable benefits to our Nation's national security interest.

The technological infrastructure of our nuclear industry supports the nuclear security posture of our nuclear navy, nonproliferation programs, and nuclear leadership over the safe, secure operations of nuclear facilities around the globe.

And as we heard at a subcommittee hearing just last month, that position should not be taken for granted. A weakening domestic nuclear industry threatens our international credibility and our leadership.

The NRC plays a key role in shaping our nuclear future. The mission assures that our commercial industry operates safely. However, much of the NRC's regulatory framework was developed based on technologies and industry structures that were set up some 40 years ago.

In some cases, NRC's authority and process extends even further back to President Eisenhower's Atoms for Peace program, an enactment of the Atomic Energy Act of 1954.

Just as this subcommittee is examining how the Department of Energy's activities can be aligned with a 21st century energy outlook, so should the NRC consider how it can most effectively operate in a forward-looking manner.

Today's hearing offers the opportunity to hear how the NRC can adopt in changing industry dynamics and technologies in use. A more nimble energy agency can address these challenges and ensure its procedures do not become impediments to a robust industry and our national security interests.

I note that next week will mark the tenth anniversary of the service of Chairman Svinicki. She recently passed former NRC Chair Nils Diaz and now is the second longest-serving Commissioner in history, only trailing Commissioner McGaffigan's 14 years.

I should also note that nearly 40 years ago Commissioner Burns began his career at the NRC and rose through the ranks to become its general counsel prior to departing the nuclear energy agency. He returned to the U.S. when he was nominated and confirmed as Commissioner in 2014, so while he may not have the same tenure length, he certainly surpassed the Chairman in overall service with this organization. Thank you.

And thank you, Mr. Burns, for your dedication during your 2 years as Chair. Among other improvements in the regulatory process the NRC implemented its Project Aim initiative by prioritizing and rebaselining its activities.

This allows reduced organizational costs, which ultimately saves tons of money for Michigan ratepayers. Thank you again.

Also welcome back Commissioner Jeff Baran back to the committee. He was a counsel here, as mentioned earlier, and confirmed by the Commission.

Clean and safe and reliable nuclear energy has got to remain part of our Nation's electricity portfolio. I look forward to exploring the policies and, without objection, yield back the balance of my time.

[The prepared statement of Mr. Upton follows:]

PREPARED STATEMENT OF HON. FRED UPTON

Good morning and thank you for being with us today to discuss the Nuclear Regulatory Commission's Fiscal Year 2019 budget request.

My district hosts three nuclear power reactors and I represent a highly skilled, hard-working nuclear workforce. All the men and women at the Cook and Palisades sites, including engineers, electricians, and the professional security workforce, help provide clean electricity for thousands of Michigan households. I appreciate their dedication and am proud of their impact on those communities.

This Congress, the Energy Subcommittee has been examining the various economic pressures in our wholesale power markets. It has become clear our Nation's fleet of commercial nuclear power plants is at a critical juncture due to increased competition among generation resources.

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As we heard at a subcommittee hearing last month, that position should not be taken for granted; a weakening domestic nuclear industry threatens our international credibility and leadership.

The Nuclear Regulatory Commission plays a key role in shaping our nuclear future. The NRC's mission assures that our commercial industry operates safely.

However, much of the NRC's regulatory framework was developed based on technologies and industry structure set up 40 years ago. In some cases, NRC's authority and processes extend even further back to President Eisenhower's Atoms for Peace program and enactment of the Atomic Energy Act of 1954.

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Today's hearing offers the opportunity to hear how the NRC can adapt to changing industry dynamics and technologies in use. A more nimble agency can address these challenges and ensure its procedures do not become impediments to a robust industry, and our national security interests.

I'd note that next week will mark the tenth anniversary of service for Chairman Svinicki with the NRC. She recently passed former NRC Chairman Nils Diaz and now is the second longest-serving Commissioner in history, only trailing Commissioner McGaffigan's 14 years of service.

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Thank you, Mr. Burns, for your dedication to the NRC. During your 2 years as Chairman, among other improvements in the regulatory process, the NRC implemented its Project Aim initiative by prioritizing and re-baselining its activities. This allows reduced organizational costs, which ultimately saves money for my Michigan ratepayers.

I also welcome Commissioner Jeff Baran back to the committee. Commissioner Baran is in familiar territory as he was a counsel for this committee prior to his nomination and confirmation to the Commission.

Clean and reliable nuclear energy must remain a part of our Nation's electricity portfolio. I look forward to exploring what policies can be implemented to assure this is achieved.

Mr. SHIMKUS. Gentleman yields back his time. Sounds like purgatory.

But having said that, the Chair now recognizes the gentleman from New Jersey, the ranking member of the full committee, Mr. Pallone, for 5 minutes.

OPENING STATEMENT OF HON. FRANK PALLONE, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. PALLONE. Thank you, Mr. Chairman.

I want to thank you and our subcommittee ranker for holding this Nuclear Regulatory Commission oversight hearing on the President's budget proposal, and I welcome Chairman Svinicki and Commissioner Burns.

Mr. SHIMKUS. Svinicki.

Mr. PALLONE. And I got to watch it with you, huh? Svinicki. All right.

And Commissioner Burns, and I am particularly pleased to welcome back to the committee a distinguished former member of the Democratic staff, Commissioner Jeff Baran.

Last year, I opposed Secretary Perry's notice of proposed rulemaking to FERC that would have undermined functioning electricity markets by tipping it in favor of nuclear and coal, and despite that opposition I continue to believe that a safe, efficient, and modern nuclear fleet should be an important part of our Nation's effort to combat climate change.

However, nuclear power and technology still have challenges to overcome. For existing units, it's critical that they be able to meet the safety needs of a post-Fukushima world, the security challenges of a post-9/11 world, and the financial requirements of a market with some of the lowest natural gas and renewable prices in history.

These price pressures are contributing to the early closure of units across the country such as the accelerated shutdown of the Oyster Creek facility in New Jersey, and while Oyster Creek is very old and was due to close soon anyway, there are also newer plants capable of many more years of production that are threatened for closure because of these economic pressures.

And as a result, many States are taking action or formally considering action to preserve the operation of the nuclear plants.

The fate of these plants is up to the companies who own them, the Governors, and the legislatures of those States and others, and the courts, and those are the proper venues and players to make these decisions, not FERC.

Meanwhile, advancements in nuclear technology, particularly in the area of small modular reactors, hold the possibility of a newer, safer generation of nuclear power, and I support the work that companies like New Jersey's Holtec are doing in this area.

The test for the industry is to show that such units can be brought online in a timely and cost-effective manner, a question that continues to remain unanswered.

We also still need to address the storage and disposal of nuclear waste and the rapidly accelerating phenomenon of decommissioned units.

The legislation authored by Chairman Shimkus that was overwhelmingly reported out of this committee last year is an important step towards dealing with that issue, and I hope to see it on the House floor in the near future.

I believe there is an important role for nuclear energy to play in addressing global climate change, but I want to make perfectly clear that safety must come first.

This is a critical moment in time for the nuclear industry and its regulators, and I commend the Commission for its ongoing efforts to adopt the size and structure of the NRC to today's regulatory realities.

However, it's critical we ensure that the Commission has the staff and resources it needs not just to carry out its mission but to carry out it well.

The job of the Commission is to regulate nuclear power for the benefit of all Americans, not just one industry or sector. So we

must work together to find a way forward for nuclear energy without sacrificing safeguards.

So, again, I want to thank the Commissioners for coming. I look forward to the testimony, and I yield the balance of my time to Ms. Matsui.

[The prepared statement of Mr. Pallone follows:]

PREPARED STATEMENT OF HON. FRANK PALLONE, JR.

I want to thank the subcommittee chairmen and ranking members for holding this Nuclear Regulatory Commission oversight hearing on the President's budget proposal. I welcome Chairman Svinicki and Commissioner Burns, and I am particularly pleased to welcome back to the committee a distinguished former member of the Democratic staff, Commissioner Jeff Baran.

Last year, I opposed Secretary Perry's notice of proposed rulemaking to FERC that would have undermined functioning electricity markets by tipping them in favor of nuclear and coal. Despite that opposition, I continue to believe that a safe, efficient and modern nuclear fleet should be an important part of our Nation's effort to combat climate change.

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Meanwhile, advancements in nuclear technology, particularly in the area of small modular reactors, hold the possibility of a newer, safer generation of nuclear power, and I support the work that companies like New Jersey's Holtec are doing in this area. The test for the industry is to show that such units can be brought online in a timely and cost effective manner—a question that continues to remain unanswered.

We also still need to address the storage and disposal of nuclear waste and the rapidly accelerating phenomenon of decommissioned units. The legislation authored by Chairman Shimkus that was overwhelmingly reported out of this committee last year is an important step toward dealing with that issue. I hope to see it on the House floor in the near future.

I believe there is an important role for nuclear energy to play in addressing global climate change, but I want to make perfectly clear that safety must come first. This is a critical moment in time for the nuclear industry and its regulators. I commend the Commission for its ongoing efforts to adapt the size and structure of the NRC to today's regulatory realities. However, it is critical we ensure that the Commission has the staff and resources it needs, not just to carry out its mission, but to carry it out well. The job of the Commission is to regulate nuclear power for the benefit of all Americans, not just one industry or sector, so we must work together to find a way forward for nuclear energy without sacrificing safeguards.

Again, I want to thank the Commissioners for coming today, and I look forward to hearing the testimony. I yield the remainder of my time.

Ms. MATSUI. Thank you very much, Ranking Member Pallone, and I'd also like to welcome the Commissioners for being here today.

I'd like to echo the ranking member's support for efforts to license an interim storage facility for spent nuclear fuel.

As this committee is aware, it's absolutely critical that we allow communities to redevelop shut-down reactor sites by moving forward with a process to consolidate spent fuel.

The current storage reality is wasteful of taxpayer resources and detrimental to communities. We have all seen the efforts to build a permanent repository repeatedly stall.

But right now, we have a path forward to license a consolidated storage facility, meaning there is an opportunity to move the Nation's spent fuel to one location.

I am pleased that the NRC has docketed two applications for interim facilities and that the Commission is requesting the funding necessary to evaluate both concurrently.

I look forward to hearing more from my Commissioners about the NRC's work on the spent fuel storage licensing process.

Thank you, and I yield back.

Mr. SHIMKUS. The gentlelady and gentleman yield back their time? The answer is yes.

We now conclude with Members' opening statements. The Chair would like to remind Members, that pursuant to committee rules, all Members' opening statements will be made part of the record.

We want to thank all our witnesses for being here today and taking the time to testify before the subcommittee. Today's witnesses will have the opportunity to give opening statements followed by a round of questions from Members.

Our witness panel for today's hearing will include the Honorable Kristine Svinicki, Chairman of the United States Nuclear Regulatory Commission, the Honorable Jeff Baran, Commissioner, U.S. Nuclear Regulatory Commission, and the Honorable Stephen Burns, Commissioner with the U.S. Nuclear Regulatory Commission.

We appreciate you all being here today. We will begin the panel with the Honorable Kristine Svinicki, and you are now recognized for 5 minutes to give an opening statement.

Welcome to you all. We are glad to have you here.

STATEMENTS OF KRISTINE SVINICKI, CHAIRMAN, AND JEFF BARAN AND STEPHEN BURNS, COMMISSIONERS, NUCLEAR REGULATORY COMMISSION

STATEMENT OF KRISTINE SVINICKI

Ms. SVINICKI. Good morning, Chairmen Upton and Shimkus, Ranking Members Pallone and Tonko, and distinguished members of the subcommittees.

My colleagues and I appreciate the opportunity to appear before you today to discuss the U.S. NRC's fiscal year 2019 budget request and related matters.

The funding we are requesting for FY 2019 provides the resources necessary to accomplish our mission, which is to license and regulate the civilian use of radioactive materials to ensure adequate protection of public health and safety and to promote the common defense and security.

The NRC's fiscal year 2019 budget request, including resources for our Office of the Inspector General, is $970.7 million, which represents and overall increase of $59.8 million compared with the fiscal year 2018 as continuing resolution.

This requested increase in resources is largely tied to the proposed activities related to the licensed application authority at the

Yucca Mountain geologic repository for spent nuclear fuel and other high-level radioactive waste. Additional funding is also requested for further development of the regulatory infrastructure needed to review advanced reactor technologies and for additional work on accident-tolerant fuel.

The NRC proposes to recover $815.4 million of the requested budget from fees assessed to NRC's licensees. This would result in a net appropriation of $155.3 million, with $47.7 million to be derived from the nuclear waste fund.

The 2019 request for our largest single budget line, the nuclear reactor safety program, reflects an overall funding increase of $25.8 million but a decrease of 125 full-time equivalent employees when compared to the 2018 annualized CR budget.

The 2019 budget request for the agency's other principal budget line, nuclear materials and waste safety programs, is $183.7 million, and that reflects an increase of $46.8 million.

Again, this is principally attributed to the resources requested for the high-level waste program, as previously mentioned.

In summary, the NRC's budget request reflects our continuing efforts to achieve additional efficiencies while carrying out our core safety and security mission but also preparing for future responses to current realities.

On behalf of the Commission, I thank you for this opportunity to appear before you and for your continuing support of our important public health and safety mission.

We will be pleased to answer your questions at the appropriate time.

Thank you.

[The prepared statement of Ms. Svinicki follows:]

WRITTEN STATEMENT
BY KRISTINE L. SVINICKI, CHAIRMAN
UNITED STATES NUCLEAR REGULATORY COMMISSION
TO THE ENERGY AND COMMERCE COMMITTEE
SUBCOMMITTEE ON ENERGY AND SUBCOMMITTEE ON THE ENVIRONMENT
MARCH 20, 2018

Good morning Chairmen Upton and Shimkus, Ranking Members Rush and Tonko, and distinguished members of the Subcommittees. My colleagues and I appreciate the opportunity to appear before you today to discuss the U.S Nuclear Regulatory Commission's (NRC) Fiscal Year (FY) 2019 budget request.

The NRC is an independent Federal agency established to regulate commercial nuclear power plants; research, test, and training reactors; nuclear fuel cycle facilities; and radioactive materials used in medicine, academia, and for industrial purposes. The agency also regulates the transport, storage, and disposal of radioactive materials and waste and the export and import of radioactive materials.

The agency's statutory mission is to license and regulate the civilian use of radioactive materials in the United States, to ensure adequate protection of public health and safety, and to promote the common defense and security. The funding that we are requesting for FY 2019 provides the resources necessary to accomplish the NRC's mission while improving the agency's efficiency and effectiveness.

The NRC's FY 2019 budget request, including resources for the NRC's Office of Inspector General (OIG), is $970.7 million. The FY 2019 request represents an overall increase of $59.8 million, yet includes a decrease of 149 full-time equivalent employees (FTE) compared with the FY 2018 annualized continuing resolution (CR). This requested increase in resources is largely tied to the proposed activities related to the license application (construction permit) for the

Yucca Mountain deep geologic repository for spent nuclear fuel and other high-level radioactive waste and for further development of the regulatory infrastructure needed to review advanced nuclear reactor technologies. The FY 2019 budget reflects the agency's continued commitment to improving effectiveness, efficiency, and accountability, including increasing the use of risk information in regulatory decision-making.

In FY 2019, the NRC proposes to recover $815.4 million of the requested FY 2019 budget from fees assessed to NRC licensees. This will result in a net appropriation of $155.3 million, with $47.7 million to be derived from the Nuclear Waste Fund, which is an increase of $44.5 million in net appropriations when compared with the FY 2018 annualized CR. The increase in the net appropriation is primarily the result of the requested Yucca Mountain licensing resources – which are not fee-billable and require funds from the Nuclear Waste Fund – and the development of capabilities and tools for the review of advanced nuclear reactor technologies.

Before I discuss the specifics of the NRC's FY 2019 budget request, please allow me to address several key issues being addressed by the Commission.

Yucca Mountain

The NRC continues to provide monthly updates to the Congress on its activities in response to the decision issued by the U.S. Court of Appeals for the District of Columbia Circuit in *In re Aiken County*, focusing on our efforts to spend most effectively the limited remaining unobligated carryover funds appropriated from the Nuclear Waste Fund to continue with the licensing processes for Yucca Mountain. As part of those efforts the agency has completed the remaining four volumes of its safety evaluation report and a supplement to the Department of Energy's Environmental Impact Statement.

Last month, the Licensing Support Network (LSN) Advisory Review Panel conducted a public meeting with stakeholders, including the state of Nevada, in order to provide information and gather input from advisory panel members and the public regarding possible reconstitution of the LSN or a suitable replacement system.

Efficiency and Effectiveness

Several years ago, the NRC initiated a strategic initiative to "right size" the agency and its budget. This work has resulted in reductions to the NRC's budget and staff. From 2014 to the proposed FY 2019 request, excluding High Level Waste, we have reduced our budget by 13% from 1.1 billion to $970.7 million. The number of FTE has been reduced from around 3,800 to about 3,250. The NRC identified 150 agency-wide activities to discontinue or perform with fewer resources. Of these, 149 tasks have been completed and the remaining task is on schedule. The agency's current efforts to improve efficiency, effectiveness, and accountability go beyond previous efforts and the FY 2019 budget reflects additional opportunities to transform agency processes and increase the use of risk information in regulatory decision-making.

The NRC's ability to innovate will facilitate our long-term success in ensuring the safe and secure use of nuclear materials in the 21st century. In January of this year, the agency's Executive Director launched the NRC Transformation Team to identify potential transformative changes to the NRC's regulatory framework, culture, and infrastructure. This team has been engaging a variety of sources both internal and external to the NRC, including the nuclear industry, non-governmental organizations, public organizations, private companies, and federal agencies such as the Department of Transportation and the National Aeronautics and Space

Administration. Ultimately, the team will develop a Commission paper recommending specific area(s) to initiate transformative initiatives.

New Small Modular Reactors and Advanced Reactors

We received our first application for certification of a small modular reactor (SMR) from NuScale at the beginning of 2017. We accepted this application for review in March 2017 and we are now engaged in the full technical review. We are also reviewing an early site permit application from the Tennessee Valley Authority for two or more SMR modules at the Clinch River site. We anticipate starting additional SMR pre-application reviews in FY2019 and beginning one or more advanced reactor application reviews in the next two to four years.

Congressional Budget Justification Improvements

Improvements in the FY 2019 Congressional Budget Justification include increasing transparency by including a statement regarding how the budgeted resources impact fees in each programmatic business line chapter. In addition, the NRC's Congressional Budget Justification includes the Annual Performance Plan, which provides the performance goals and performance indicators and criteria associated with the goals and objectives established in the agency's strategic plan.

FY 2019 Budget Request

I would now like to highlight specific elements of the FY 2019 budget request.

Nuclear Reactor Safety

The NRC's Nuclear Reactor Safety Program encompasses licensing and oversight of civilian nuclear power, research and test reactors, and medical isotope production facilities in a manner

that adequately protects public health and safety. This program also provides reasonable assurance of the security of facilities and protection against radiological sabotage. This program contributes to the NRC's safety and security strategic goals through the activities of the Operating Reactors and New Reactors Business Lines that regulate existing and new nuclear reactors to ensure their safe and secure operation.

Overall resources requested in the FY 2019 budget for Nuclear Reactor Safety are $474.8 million, including 1,925 FTE. This represents an overall funding increase of $25.8 million, yet includes a decrease of 123 FTE, when compared with the FY 2018 Annualized Continuing Resolution. The increase in the Operating Reactors Business Line is largely a result of research activities funded with authorized prior year unobligated carryover in FY 2017 and reflects a change to the fund source. In addition, resources increase due to the increase in salaries and benefits in FY 2018. This budget also includes $10.3 million for the continued development of a regulatory infrastructure for advanced nuclear reactor technologies. The budget request reflects ongoing work on the agency plan to merge the Office of Nuclear Reactor Regulation and the Office of New Reactors no later than the year 2020.

Operating Reactors

The Operating Reactors Business Line portion of the Nuclear Reactor Safety Program encompasses the regulation of 99 operating civilian nuclear power reactors and 31 research, test, and training reactors. The NRC is requesting $375.6 million for operating reactors, including 1,531 FTE , which represents an overall funding increase of $21.8 million from the FY 2018 annualized CR. The increase in resources is largely a result of research activities funded using authorized prior year unobligated carryover in FY 2017. In addition, resources increase to support the following activities: (1) potassium iodide replenishment for nine States; (2) continued

development of accident-tolerant fuel (ATF) licensing framework; (3) review of one new subsequent license renewal (SLR) application (Surry) and the continuing review of two SLR applications (Peach Bottom and Turkey Point); (4) increased risk-informed licensing activities and license amendment requests, work related to the risk-informed steering committee, and knowledge management and training to support increasing the staff's capabilities to use risk information in decision-making; (5) research activities on safety and security of digital systems, materials degradation, cable aging, and concrete degradation; (6) increased workload to consolidate High-Performance Computing services and migration to the cloud; and (7) increased workload to enhance the Replacement Reactor Program System (R-RPS) to support New Reactor inspection/licensing and regulatory changes and functionality currently provided by various New Reactor systems.

These increases are partially offset by decreases resulting from (1) a reduction in Fukushima Near-Term Task Force Tier 1 work related to the Mitigating Strategies Order, reevaluations of flooding and seismic hazards, and the Hardened Vents Order, as well as the completion of Tier 2 and 3 work; (2) a reduction in license renewal inspections; (3) a reduction in force-on-force inspections due to additional plants entering decommissioning; (4) the closure of the Fort Calhoun Station; (5) the re-baselining of agency resources; and (6) a reduced workload to implement the R-RPS and maintain Legacy RPS (to be decommissioned in FY 2018). Although the NRC reduced its budget request as indicated, those reductions only partially offset the increase associated with the increase in salaries and benefits in FY 2018.

New Reactors

The New Reactors Business Line portion of the Nuclear Reactor Safety Program is responsible for licensing and overseeing the design, siting, and construction of new nuclear power reactors,

including SMRs and advanced reactors. The new reactors activities ensure that new civilian nuclear power reactor facilities are developed in a manner that protects the health, safety, and security of the public in an efficient manner.

The FY 2019 budget request for new reactors is $99.1 million, including 394 FTE, a funding increase of $3.9 million, yet includes a decrease of 61 FTE, when compared with the FY 2018 annualized CR.

The NRC continues to interact with vendors about prospective SMRs and advanced reactor applications. Additionally, we will continue to refine our regulatory processes as we prepare to review these potential applications.

During FY 2019, we will continue to review applications for the NuScale (SMR) and U.S. APWR (LLWR) reactor design certifications; conduct licensing reviews from Blue Castle Holdings, Inc. and Utah Associated Municipal Power Systems, and from the Tennessee Valley Authority for an early site permit for the Clinch River Nuclear Site. Additional resources will be allocated to support the potential application review and construction oversight for Bellefonte Nuclear Station, Units 1 and 2. We will continue our regulatory oversight activities, including conducting inspections at the two reactors under construction at Vogtle Electric Generating Plant, Units 3 and 4.

Nuclear Materials and Waste Safety

The Nuclear Materials and Waste Safety Program is responsible for licensing, regulating, and overseeing nuclear materials in a manner that adequately protects the public health and safety. Through this program, the NRC regulates uranium processing and fuel facilities, research and

pilot facilities, and other nuclear materials licensees such as medical, industrial, research, and academic uses. Additionally, through this program, the NRC regulates spent fuel storage, spent fuel and material transportation and packaging, decontamination and decommissioning of facilities, and low-level and high-level radioactive waste activities. The FY 2019 budget request for this program is $183.7 million, including 650 FTE. This funding level represents an overall funding increase of $46.8 million, including an increase of 82 FTE, when compared with the FY 2018 annualized CR budget. This increase is due to $47.7 million, including 124 FTE, for work on the license application (construction permit) for the proposed Yucca Mountain deep geologic repository for spent nuclear fuel and other high-level radioactive waste that was not included in the FY 2018 annualized CR.

Fuel Facilities

The Fuel Facilities Business Line portion of the Nuclear Materials and Waste Safety Program is responsible for ensuring that fuel cycle facilities are licensed and operated in a manner that adequately protects public health and safety and promotes the common defense and security. The FY 2019 budget request for fuel facilities is $25.2 million, including 107 FTE, which represents a funding increase of $0.5 million, and a decrease of 6 FTE, when compared with the FY 2018 annualized CR.

Nuclear Materials Users

The Nuclear Materials Users Business Line portion of the Nuclear Materials and Waste Safety Program supports the licensing and oversight necessary to ensure the safe and secure processing and handling of nuclear materials. The FY 2019 budget request for nuclear materials users is $60.6 million, including 215 FTE, a funding decrease of $2.9 million and 23 FTE compared with the FY 2018 annualized CR.

Spent Fuel Storage and Transportation

The Spent Fuel Storage and Transportation Business Line portion of the Nuclear Materials and Waste Safety Program supports the safe and secure storage of spent fuel and the safe and secure transport of radioactive materials. These activities include licensing, oversight, rulemaking, international activities, research, and generic homeland security.

The FY 2019 budget request for spent fuel and transportation is $24.8 million, including 100 FTE, a funding increase of $2.5 million and a decrease of 2.0 FTE when compared with the FY 2018 annualized CR. Resources increase primarily under the Licensing Product Line to support safety, security, emergency preparedness, and environmental reviews for two concurrent applications for a consolidated interim storage facility; the effort to update/consolidate the standard review plan; anticipated legal activities; and to support Independent Spent Fuel Storage Installation license renewals.

Earlier this month, the NRC formally docketed an application by Holtec, Inc. to construct and operate a consolidated interim storage facility for spent fuel from commercial nuclear power reactors in Lea County, New Mexico. Holtec seeks to store up to 8,680 metric tons of uranium in commercial spent fuel in the Holtec International Storage Module Underground "MAXimum" Capacity (HI-STORM UMAX) Storage System for a 40-year license term.

The other application for a consolidated interim storage facility was submitted by Waste Control Specialists to build and operate a facility near Andrews, Texas. That application had been accepted and docketed for review in January 2017, but the review was suspended in April 2017

at the applicant's request. Recently, WCS announced its intent to request that the NRC staff resume its review.

Decommissioning and Low-Level Waste

The Decommissioning and Low-Level Waste (LLW) Business Line portion of the Nuclear Materials and Waste Safety Program supports licensing and oversight associated with the safe and secure operation of uranium recovery facilities, decommissioning of nuclear facilities, and disposition of low-level radioactive waste from all civilian sources. The FY 2019 budget request for decommissioning and LLW is $25.4 million, including 104 FTE, an overall funding decrease of $1.0 million and 11.0 FTE when compared with the FY 2018 annualized CR.

The FY 2019 budget request provides funding for a number of major activities to include oversight of the national LLW management program and monitoring of the Department of Energy's Waste Incidental to Reprocessing determinations and related disposal actions at the Savannah River Site and the Idaho National Laboratory. Other noteworthy LLW activities include decommissioning activities for two research reactors and 20 power reactors.

Resources decrease in the Licensing Product Line to reflect the expected decline in workload resulting from Wyoming's anticipated transition to Agreement State status in late FY 2018. When this agreement is approved and implemented, the NRC will discontinue its regulatory authority over certain uranium and thorium milling activities and transfer regulatory authority and related licenses to the State of Wyoming. Currently, approximately 70 percent of NRC-licensed uranium recovery facilities are located in the State of Wyoming. Additionally, resources decrease to reflect the expected workload decline with the non-military radium program. These decreases are partially offset by increases to support various rulemaking activities, including the

Greater-Than-Class-C and Transuranic Waste rulemakings.

High-Level Waste

The High-Level Waste Business Line portion of the Nuclear Materials and Waste Safety Program supports the NRC's activities for the proposed Yucca Mountain deep geologic repository for the disposal of spent nuclear fuel and other high-level radioactive waste using appropriations from the Nuclear Waste Fund. The FY 2019 budget request for high-level waste is $47.7 million, including 124 FTE. FY 2019 resources would include support to the adjudicatory proceeding; infrastructure activities for facilities and information technology capabilities; rulemakings associated with the geologic repository operations area; and related support activities such as acquisitions, recruitment, and staffing.

Corporate Support

The NRC's corporate support involves centrally managed activities that are necessary for agency programs to operate and achieve goals more efficiently and effectively and includes acquisitions, administrative services, financial management, human resource management, information technology and information management, training, outreach, and policy support. The FY 2019 resources requested for corporate support constitute 31 percent of the agency's total budget and reflect an overall increase of $1.5 million, yet include a decrease of 108 FTE, when compared with the FY 2018 Annualized CR. The FY 2019 budget request supports the NRC's commitment to improve effectiveness, efficiency, and accountability, including continuing efforts to modernize IT to increase productivity and security, improve the efficiency and effectiveness of administrative services, develop a workforce for the 21st century, focus on the highest-value work, and improve customer service. Resources increase in FY 2019 primarily as a result of investments in IT and an increase in salaries and benefits in FY 2018.

Office of Inspector General

The NRC's Office of the Inspector General (OIG) is a statutory entity whose mission is to independently and objectively audit and investigate programs and operations to promote effectiveness and efficiency, and to prevent and detect fraud, waste, and abuse. The FY 2019 budget request for the NRC OIG is $12.6 million, which includes approximately $11 million in salaries and benefits to support 63 FTE, and $1.6 million in program support. These resources will support Inspector General auditing and investigation functions for both the NRC ($11.5 million) and the Defense Nuclear Facilities Safety Board ($1.1 million).

FY 2018 Proposed Fee Rule

I would like to turn to some key elements of the FY 2018 Proposed Fee Rule. The NRC adjusts its licensing, inspection, special project, and annual fees charged to its applicants and licensees each year. These adjustments are necessary to implement the requirements of the Omnibus Budget Reconciliation Act of 1990. The Act requires the NRC to recover approximately 90 percent of its annual budget through fees. Certain items like the Nuclear Waste Fund, generic homeland security activities, waste incidental to reprocessing, and Inspector General services to the Defense Nuclear Facilities Safety Board are excluded from the fee-recoverable portion of the budget.

The NRC is currently proposing to collect $826.7 million in fees for FY 2018, although the NRC anticipates that the total amount to be collected will change to reflect any enacted appropriations for FY 2018.

The fees are collected by two primary methods. Licensees are charged an annual fee or directly

billed for services including license amendments, license renewals, and inspections. In setting the fees each year, the NRC uses the most recent four quarters of licensee activity and additional information from licensees regarding plans to conduct significant work to project the expected amount work that will be directly billed during the Fiscal Year. The remaining portion of the fee-recoverable budget is collected through annual fees assessed to each licensee.

The public comment period for the FY 2018 Proposed Fee Rule ended on February 26, 2018. We have received input from a number of industry stakeholders expressing concerns with increasing fees, particularly in areas where the number of licensees are declining (e.g., uranium recovery, fuel facilities, and operating reactors). We are mindful of the impact on fees as the number of licensees declines within a fee category. Our goal is to ensure that our fees are equitable, fair, and transparent. We monitor such declines and seek to mitigate the impact on the remaining facilities, where possible. We are also committed to continuing to examine and adapt our fee structure within the bounds of our authority to do so in response to a changing industry.

CLOSING

In closing, safety and security have always been the main focus of the NRC. When Congress created the NRC as an independent regulator, the legislation underscored the mandate of a singular focus on safety. This budget request reflects our continuing efforts to achieve additional efficiencies while maintaining reasonable assurance of adequate protection of public health and safety and the security of our nation.

Chairmen Upton and Shimkus, Ranking Members Rush and Tonko and distinguished members of the Subcommittees, this concludes formal testimony on the NRC's FY 2019 budget request.

On behalf of the Commission, I thank you for the opportunity to appear before you. Our Commission is pleased to respond to your questions. Thank you.

Mr. SHIMKUS. Thank you very much.

The Chair now recognizes the Honorable Commission Baran for 5 minutes.

I am sorry. We are fighting over spelling back here so——

STATEMENT OF JEFF BARAN

Mr. BARAN. Chairman Upton, Chairman Shimkus, Ranking Member Tonko, members of the committee, thank you for the opportunity to testify today.

It's great to be back with my colleagues to discuss NRC's fiscal year 2019 budget request and the work of the Commission.

Chairman Svinicki provided an overview of NRC's budget request. I want to briefly highlight a few related efforts underway at NRC.

I will start with Project Aim, our multiyear effort to take a hard look at what work the agency is doing and how we are doing that work.

The goals have been to become more efficient and agile and to prepare for the future. The results of Project Aim in our very limited external hiring have been dramatic.

In just 2 years, NRC's workforce has declined by more than 12 percent. The agency started the current fiscal year with around 3,200 employees. That's about the same staffing level as in 2006, before NRC started to ramp up for the anticipated wave of new reactor applications.

When Project Aim got underway in 2015, the NRC staff envisioned that it would take until 2020 to match the agency's resources to its workload. But NRC was able to make progress much more quickly on getting to the right staffing level for our current and expected workload.

Going forward, we need to internalize an enduring focus on efficiency. For the agency's long-term health, we also need a stable pipeline of new talent through external hiring and an emphasis on maintaining the NRC staff's core technical capabilities and safety inspection activities.

As Chairman Svinicki noted, the NRC has launched a transformation initiative to identify any steps the agency should take to improve its approach to reviewing new and novel technologies such as advanced reactors, accident-tolerant fuel, and digital instrumentation and controls.

I think that's a good focus for the transformation team and appreciate that the team is doing a lot of outreach to stakeholders. I look forward to hearing their thoughts and recommendations.

There are many other important efforts underway at NRC including the implementation of post-Fukushima safety enhancements, the power reactor decommissioning rulemaking, the review of the first small modular reactor design application, and oversight of construction at the Vogtle site.

We are happy to discuss these and any other issues of interest. Thank you, and I look forward to your questions.

Mr. SHIMKUS. Thank you.

The Chair now recognizes Commissioner Burns for 5 minutes.

STATEMENT OF STEPHEN BURNS

Mr. BURNS. Thank you, Chairman Shimkus. I also appreciate being here, Chairman Upton, Ranking Members Pallone and Tonko, and distinguished members of the committee, appreciate the opportunity to testify before you today.

I also appreciate Chairman Upton's kind words. I can tell you, 40 years ago at this point in time, I had a big weight off my shoulders because I knew in my last semester of law school I had a job coming up in August. So that was saying——

I didn't actually expect I would stay in this field for 40 years, but it's been an interesting one. I've always enjoyed not only the legal issues but working with technical staff and others, both in our country and internationally.

I support the Chairman's testimony this morning and agree that the funding we are requesting provides the resources needed to accomplish our safety and security mission while continuing to improve our efficiency and effectiveness as an agency.

As a number of you have noted, the NRC has undertaken some significant efforts over the last few years to improve that efficiency and effectiveness.

Project Aim was a major part of those efforts. But additional improvements have included implementation of improvements to the NRC's rulemaking processes, to its budget formulation, to its fee calculations and billing, and also to agency staffing and workforce planning, although the vast majority of the specific tasks under Project Aim were completed and its spirit still endures and we are still working to continue to be an effective agency.

It's important not to lose sight, however, of the fundamental safety and security mission of the agency. We can always strive to perform better in that mission and to better risk inform our decisions, but that safety and security of the public must always be the central focus.

Having spent 37 years of my professional career with the NRC, I know there are times that when we have had to learn from our experience—learn to do better and to improve our performances irregular.

But on the whole, I can say that I think we hit the mark the vast majority of the time in achieving a high standard of performance, and if anything, over those nearly 40 years, I've come to the conclusion it's never good to say, "We've always done it that way, let's do it more that way."

There's always ways—and I can think of times across my career where we've had to reset, think about how we are doing things, think about how we can do them better, and I think that's what we are doing under the Chairman's leadership.

Over the past year, we've continued to hold the industry accountable through regulation and oversight, ensure the effective implementation of the lessons learned from the Fukushima Daiichi accident.

We focused on cybersecurity, worked effectively with our partners and the States to ensure the safety of our radioactive materials program and brought, and sought improved performance by fuel cycle facilities.

At the same time, we've undertaken reviews of the first small modular reactors submitted for design certification. We are implementing strategies to be better prepared for the review of advanced reactor, or Generation IV designs.

Credit belongs largely on a day-to-day basis to the work of our dedicated staff in achieving these accomplishments, and I appreciate their day-to-day focus on ensuring adequate protection of the public.

Thank you again for the opportunity to appear before you, and I look forward to answering any questions you may have.

Mr. SHIMKUS. We thank you.

I will now begin with questions, and I will start with recognizing myself for 5 minutes.

So the first one will go to Chairman Svinicki and Commissioner Burns. First, let me thank you for your vote last summer to take the next steps to determine what is necessary for the resumption of the Yucca Mountain licensing process.

A few weeks ago, NRC staff had a public hearing to discuss what steps are needed to reconstitute the licensing support network, or LSN. The LSN is a database of licensing documents associated with the Yucca Mountain license application.

The NRC requested $30 million in fiscal year 2018 to continue its statutorily required review of the license application and $47.7 million for 2019.

Will you please describe what Commission-level decisions and guidance will be necessary when Congress appropriates funding to resume the NRC's adjudication of the license?

Chairman.

Ms. SVINICKI. Thank you, Chairman Shimkus.

In broad terms, if funding is provided, we need to begin to rapidly put in place the infrastructure to resume the adjudication that was suspended some years ago.

As you have mentioned, in preparation for that and under the court's remand to expend previously appropriated nuclear waste fund money—which we have at this point, I think, based on the monthly report we sent to you yesterday, a little bit under half a million left—we have looked at alternatives to reconstituting the document library that would support the evidentiary process in the licensing hearing, and also we are undertaking a high-level real estate survey of facilities that might be available in Nevada to support conducting the hearings near to the facility, which is our policy.

Mr. SHIMKUS. Commissioner Burns.

Mr. BURNS. I would agree with what the Chairman said. I think the point she makes is essentially where we are at this is that—at the point where the adjudicatory proceeding was suspended several years ago and that's the point where we would begin again, because the staff has done the safety evaluation reviews and the environmental reviews that they need to do up to date.

Mr. SHIMKUS. And let me go both to the same questionnaires. What are we doing to preserve the workforce expertise that may be necessary to adjudicate the license?

Chairman.

Ms. SVINICKI. That adjudication having been suspended so many years ago, candidly, the staff were, upon completion of the safety evaluation report and environmental work, reassigned to other duties, which was a way to keep them within the agency's span should funding be provided.

However, over the course of time, we have had some significant retirements, by my observation, of people that had long history on and knowledge of the project.

The good news is that, with the safety evaluation report being concluded, I have asked if an expert was assigned and was fresh to the project, if they had the relevant scientific expertise, could they just acquaint themselves with the record, with the conclusions of their predecessors, and I am told that some experts view that they could possibly become conversant in as little as 6 months.

Mr. SHIMKUS. Great.

Commissioner Burns.

Mr. BURNS. I would align myself with the Chairman's answer.

Mr. SHIMKUS. That's fine. Thank you.

Let me ask this question: Chairman, can you just state—because we have new members of this subcommittee, new members of Energy and Commerce—so what was the basic conclusion from the safety and evaluation report, which you issued a couple years ago?

Ms. SVINICKI. The NRC's expert staff documented their conclusion that there were no safety or environmental impediments to the issuance of a license.

However, they did note—and this is a construction permit license, because this is two-step licensing—they did note, however, that the applicant, the Department of Energy, lacks the water rights and they don't have clear ownership or title to the land, which is a requirement of our regulations. But those were the two impediments to issuing the license, and they were not safety or environmental.

Mr. SHIMKUS. And those were some of the things we tried to address in our legislation, just for some of my colleagues. There's also a—correct me if I am wrong—there was also a statement that, if constructed and the facility, long-term geological repository, was in place, based upon current information or current knowledge, that storage would be safe for a million years. Wasn't that a conclusion of the safety and evaluation report?

Ms. SVINICKI. That was the conclusion of the expert staff.

Mr. SHIMKUS. Anyone disagree with that—the rest of the panel? Thank you.

With that, I think I will just yield back my time and recognize the gentleman from New York, Mr. Tonko, for 5 minutes.

Mr. TONKO. Thank you, Mr. Chair, and again, thank you to our witnesses for being here.

The mission of the agency is very critical. So it is important that we understand your resource requirements.

Some Members may believe that the Commission has too heavy of a hand, that burdensome regulations on the industry are hurting its competitiveness.

So to our Chair Svinicki, can you give us a sense of the types of major new rules the Commission has approved in recent years?

Ms. SVINICKI. Well, to take "recent" fairly broadly, post-9/11 there was a suite of new security requirements that were imposed and after Fukushima, although the regulations were not significantly modified, new measures were required for what we call severe low probability hazards, very severe earthquakes and floods and other things that were additional protections that were mandated at nuclear power plants.

Also in response to the cybersecurity threat against the United States in recent years, the NRC has instituted new cybersecurity regulations. So those are the major areas that come to mind in the last 10 years.

Mr. TONKO. And as it relates to licensees, have there been many major rules for new requirements on those licensees?

Ms. SVINICKI. The areas I described did involve new rules. You know, major, minor—I would say that the post-9/11, that was a major impact in new requirements.

Fukushima I would not describe as being a major impact, and the cybersecurity regulations are sincerely new regulations.

Mr. TONKO. Commission Baran, what's your sense? Is the Commission imposing many new and burdensome requirements on industry?

Mr. BARAN. Well, I can give you a shorter-term perspective. Commissioner Burns and I have been on the Commission now about 3½ years.

In that time, I can think of only three final rules that went into effect that involve any kind of new regulatory requirements.

Only one of those three rules relates to power reactors. That was a rule that involved a requirement for a licensee of a power reactor to let us know—notify us in the event of a cyber event. That was a low-cost rule, and one that I think is pretty clearly needed.

The other two didn't involve reactors at all. One had to do with medical uses, and was something that, by and large, the medical community was very interested in having done, and then the final one affected only a handful of materials licensees in the Caribbean. It had to do with meeting treaty requirements.

So since late 2014, three rules—that's it. I would actually argue there are a couple of rules we should finalize that we haven't yet.

One relates to post-Fukushima safety enhancements. It's the rule on mitigating strategies that's been before the Commission for a while. That's a rule that's really the culmination of years of work to enhance safety after Fukushima.

There's another rule that would assist in better preparing the agency for accident-tolerant fuel applications by having technology-neutral performance-based standards in place as opposed to the standards we have now, which are actually technology-specific.

We have particular technologies that are established into regulations. If you want to do something new and innovative, you're looking at an exemption to do that.

So it's been very limited over the last 3½ years, and I think there are actually a couple we should do.

Mr. TONKO. Thank you. And it seems to me that Project Aim has achieved its goals. I fully understand the need for the Commission to right size but, as I mentioned earlier, I am concerned about the

consequences of continuing staffing reductions at this rate moving forward.

Could anyone explain the potential impacts of further significant FTE reductions?

Ms. SVINICKI. I would just respond, Mr. Tonko, that right now the budget we've submitted for FY '19 we are confident does not have or cause a diminishment of our ability to carry out our safety mission.

In my time on the Commission, we were once at a peak of slightly over 4,000 employees. Onboard strength—the number reported to me yesterday was just a few over 3,000.

So we have come down quite a bit since the days of the nuclear renaissance, and I think the one thing that we are looking at is high fidelity in terms of our workforce planning.

This is something we pay a lot of attention to, to make sure that as we have attrition we are not losing the core competencies that we need.

We are also very focused on training and development of staff so that they can fulfill future needs as staff retire.

Mr. TONKO. Right, and I appreciate that. That still seems like a huge cut.

I heard earlier, as Chair Shimkus talked about that expertise for Yucca Mountain, I know the Commission has an aging workforce and, similar to hiring the next generation of NRC staff, we are seeing new technologies including advanced reactors being developed and an increasing need for cybersecurity.

So within those disciplines we have, you know, a concern also. I am guessing these changes require new expertise among the Commission staff. If hiring freezes continue and the next generation of Commission staff cannot be recruited, what is the potential loss of institutional knowledge?

Ms. SVINICKI. We do not have—although we have strict hiring controls in place, we do not have a hiring freeze in place. What we do is we look very closely at the core competencies of retiring staff and work to make sure we either have redundancy and/or are training people for the future. So we do monitor that closely.

Mr. TONKO. Mr. Chair, I yield back.

Mr. SHIMKUS. Gentleman yields back his time.

Chair now recognizes the chairman of the full committee, Mr. Walden, for 5 minutes.

Mr. WALDEN. Thank you, Mr. Chairman. I want to welcome our panel today. I was upstairs, and we got an opioids investigative hearing going on. So I kind of have to bounce back and forth, as do some of my colleagues.

There's enormous potential with the development of small-scale modular reactors including from my home State of Oregon in NuScale, and I know NRC staff has met a significant milestone earlier this year when they determined that SMR design would not be required to meet certain offsite power requirements, which avoided unnecessary and unneeded regulatory planning.

So Chairman Svinicki, will you please provide an update on the status of NRC's review of the SMR design application, and to your knowledge is NRC staff on track to meet its targeted 42-month re-

view window, including meeting the various milestones within the overall review period?

Ms. SVINICKI. Thank you, Chairman Walden.

As you note, the NuScale design was docketed for review, and although we are in early days and early months of that review, the staff is proceeding on schedule with what we call interim milestones of the review.

I've also had an opportunity to engage the applicant, NuScale. They provided positive feedback that the NRC staff is proactive on the other item you mentioned, which is the resolution of the unique and novel elements of this design and resolving anything that arises in terms of aligning our regulatory framework and regulations with the new and enhanced features of this design. So my observation is that the review is proceeding according to schedule so far.

Mr. WALDEN. And are there outstanding policy issues that must be addressed to successfully complete this licensing process, that you're aware of?

Ms. SVINICKI. Yes, but I—so there are policy issues being resolved regarding both NuScale and small modular reactors, broadly.

But those have high visibility within the agency. I would assess that the NRC staff has scoped the universe of those issues and there are policy resolution plans for each of them.

Mr. WALDEN. All right. And what is the NRC's forecasted total cost to complete the NuScale design review, and are you aware if NRC is currently performing with respect to the forecasted budget?

Ms. SVINICKI. My previous answer had to do more with the schedule. I would need to take that question for the record. I am not sure of what our estimates are as far as cost or man-hours expended.

Mr. WALDEN. Recently, the NRC staff implemented a new procedure to manage what are known as requests for additional information, or RAIs.

Are you aware if NRC staff applied this new RAI process to NuScale's SMR application? If so, can you speak to the number of RAIs relative to any comparable licensing action?

Ms. SVINICKI. The new discipline around requests for additional information has been applied to the NuScale review and has been applied broadly throughout the agency.

A brief description would be that, prior to requesting additional information from an applicant, the NRC expert must identify the safety or environmental conclusion that is supported by that data, and what that does is it ties the request to the agency's underlying findings that we need to make.

NRC managers report that that discipline has really improved the efficiency and effectiveness of the request for additional information process and it is in place for NuScale, although I don't have a specific report on how it's affected the numbers of requests.

Mr. WALDEN. Yes?

Mr. BARAN. Mr. Chairman, I would just add I had a meeting last week with NuScale, and this issue came up and what they reported to me was that they had kind of going into this process an estimate of how many of these requests for additional information they

would likely have. But the numbers have been lower than what they anticipated. So it's going well now.

Mr. WALDEN. Oh. All right. Very good. Very good.

I had the opportunity to go to Idaho Falls with Chairman Mike Simpson and tour the INL lab there, too, and I know some of this may get built out there eventually. But the lab is doing amazing work in space nuclear fuel and their other missions. I was very, very impressed.

Chairman, one other question. It's more rhetorical than anything else, but not hard to answer. You have served on the Commission with a full complement of five Commissioners as well as four, and now three.

While the current setup allows the NRC to fulfill its mission, would you agree that a full slate of five Commissioners as established in law allows for a more robust organization and diverse viewpoint and decision making?

Ms. SVINICKI. Yes, and may I add my full-throated support for my optimism and hope that the Senate will act on the three qualified nominees, including my colleague for reappointment. I hope that that happens before June 30th.

Mr. WALDEN. That would be a hint-hint from this body to the other that we'd like to see these Commissions all fully—I will call it staffed, but fully filled with very competent people, and we've dealt with this out of this committee with other Commissions that are still waiting for nominees upstairs.

In fact, the DEA, it's an acting administrator. We don't even have anybody nominated to be the administrator of the Drug Enforcement Administration. And so it's something that I think we share—that robust, full-fledged Commissions are good things.

So with that, Mr. Chairman, thank you for your leadership on these nuclear issues and other energy environment issues, and I would yield back the balance of my time.

Mr. SHIMKUS. The gentleman yields back his time.

The Chair recognizes the gentleman from Texas, Mr. Green, for 5 minutes.

Mr. GREEN. Thank you, Mr. Chairman. I would like to thank the chairman and ranking member for holding today's hearing on the NRC budget.

The NRC does important work, and it's essential we have a body adequately funded for their mission. While the budget is the focus of today's hearing, there's a few other policy I would like to focus on as well.

It's been 33 years since Congress passed a nuclear waste policy act, and we still haven't a permanent or interim storage facility, cheating ratepayers out of billions of dollars in collecting fees and leaving utilities holding the bag for thousands of gallons of nuclear waste.

This Congress needs to pass—enact legislation authorizing the creation of more than one interim storage facility while we work with States and agencies toward opening a permanent geological repository.

My questions—Chairman Svinicki and Commissioners, thank you for being here today. Approximately 90 percent of your budget

comes from annual fees assessed to the NRC licenses. Is that correct?

Ms. SVINICKI. Yes, that's correct.

Mr. GREEN. As some of the older nuclear sites continue to shut down, do you expect a strain on the Commission's budget for the loss of revenues from these fees?

Ms. SVINICKI. Yes. As the mathematics work, as the number of operating reactors declines, the fixed costs of the regulatory program are spread amongst fewer licensees. Therefore, it does have an effect of increasing the burden on each remaining operating reactor.

At some point, mathematically that reaches a point that it would be very difficult to support.

Mr. GREEN. I know the Chair and the Commissioners are in a different issue, but—or concern. Do you support opening of an interim storage facility?

Ms. SVINICKI. Our Commission, because we are the safety and security regulator, would be policy neutral on whether or not the Nation should move forward with an interim storage facility.

We would be the independent arbiters of the safety of that facility through issuance of a license.

Mr. GREEN. OK. With the Yucca Mountain permanent storage issue being what it is, what would be the benefit of opening an interim storage?

Ms. SVINICKI. Well, again, not as a policy view of our Commission but as a practical matter, it would take sites that have permanently shut down and other locations that are storing a lot of spent nuclear fuel, and it would move it into one safe and secure location.

But that's not a policy view of our Commission. It's simply an observation.

Mr. GREEN. Do you believe the private industry could be capable of safely and responsibly operating an interim storage facility under supervision?

Ms. SVINICKI. Well, we will reach that determination if either of the two contemplated storage locations should move forward with the licensing again.

The Holtec site in New Mexico is under our review right now, and the Waste Control Specialists location in Texas has been suspended at the applicant's request. However, there is some signal that that may move forward under new ownership.

Mr. GREEN. Currently, those two applications you mentioned for consolidated member storage facilities have been submitted.

I have to admit both of those storage facilities geographically are fairly close to each other—I think maybe even share the same strata in west Texas and southern New Mexico.

NRC—one is in Andrews County and one is in Lee County in New Mexico. Where are these applications currently at process? I know you said the one in Texas temporarily suspended, although there's been a huge amount of investment, I think, in both of them.

Ms. SVINICKI. Yes. The Holtec facility in New Mexico has been submitted. We have docketed that application, which means that we've assessed that it is complete for purposes of review. So we've begun the review of that application.

We were at the stage of reviewing the WCS Texas location. However, the applicant asked us to suspend. There is an acquisition of that company now ongoing. The new owners have indicated that they will be giving us some communication in the near future about the potential resumption of that.

We don't know if that would be asking us to resume what we had in house or if they're going to modify or somehow have a revised approach.

Mr. GREEN. Thank you.

Mr. Chairman, I have no other questions, but I know you and I and a number of people share the frustration that decisions were made in the '80s that have been put off now until a new century and, hopefully, this Congress can actually move that ball down the road, so to speak, or either that, change the field. But Congress needs to do something, and thank you for holding this hearing.

Mr. SHIMKUS. Chairman thanks the gentleman.

The Chair now recognizes Chairman Upton from Michigan for 5 minutes.

Mr. UPTON. Thank you, Mr. Chairman, and I would start off by saying in Friday's New York Times on the front page there's a story that's headlined "U.S. Says Hacks Left Russia Able to Shut Utilities."

The first sentence of that story reads, "The Trump administration accused Russia on Thursday of engineering a series of cyberattacks that targeted American and nuclear power plants and water and electric systems, and could have sabotaged or shut power plants off at will."

So my question is, What can you tell us in a nonclassified answer that relates to the story specifically? Can you tell us if they were penetrated in a safety-significant consequence?

I would note that the story continues to say that Russian hackers had not leapt from the company's business networks into the nuclear plant controls. Is that still accurate? Can you give us that assurance?

And what role does the NRC have with these—in hearing about these situations? What technical expertise concerning power reactors is relevant that you might be able to share with us this morning?

Ms. SVINICKI. Thank you, Chairman Upton, and respecting the open setting, I would state that the NRC's role is that we are fully integrated with the FBI, the Justice Department, and the other agencies that made the announcement last week.

These were matters known to us prior to them being publicly released on Friday. Our role is not the security of the electricity grid as a whole. We leave that to our colleagues at the Federal Energy Regulatory Commission.

In terms of the penetrations, of course, as the committee is well aware through its work on cybersecurity, the cyberattacks against the United States are persistent and serious, and the U.S. Government Interagency, including the U.S. NRC, are involved in constant monitoring of the sophistication of these attacks—of the success, but even the attempts. There's a lot of monitoring of the unsuccessful attempts.

It is true that corporate networks at U.S. nuclear utilities were probed, as was described in the announcements. However, safety systems at operating nuclear power plants were not penetrated.

This is principally due to the fact that these systems are isolated from the corporate systems, and that provides a measure of, if you will, air gapping of that, and you'd have to leap over that, which is technologically, at least to date, not possible to do.

Mr. UPTON. Thank you.

The NRC sends the Senate Environment and Public Works Committee a monthly status on NRC's licensing activities, staffing, and related information. Would you be able to send that report to us as well?

Ms. SVINICKI. I see no reason why——

Mr. UPTON. Yes. That's an easy one.

Ms. SVINICKI [continuing]. We would not provide that. I am surprised that we are not. But yes.

Mr. UPTON. And in January, NRC's executive director of operations initiated a transformation effort with a focus on identifying transformative changes to NRC's regulatory framework, culture, and infrastructure.

And, as you know, Chairmen Walden, Shimkus, and I wrote recently to express our interest in this initiative, and we appreciated your timely response to the letter, which was received yesterday. This NRC effort appears centered on new and novel technologies, including in the areas of digital instrumentation and controls, accident-tolerant fuel, advanced reactors, big data, et cetera.

Yet, the benefits of these new technologies require a change in how NRC executes its mission and ultimately regulates the nuclear industry.

I understand that the NRC staff will be providing recommendations and strategies for implementation to the Commission in May.

Ms. SVINICKI. Yes, although I am aware that they've received in excess of, I think, 500 or 600 proposed transformation initiatives.

So if the staff were to need additional time to synthesize and prepare a set of recommendations for the Commission, just for myself I would be supportive of that. I think they've been kind of deluged with good ideas.

Mr. UPTON. Thank you. Thank you.

I yield back.

Mr. SHIMKUS. Gentleman yields back his time.

The Chair now recognizes the ranking member of the full committee, Congressman Pallone from New Jersey, for 5 minutes.

Mr. PALLONE. Thank you, Mr. Chairman.

My questions are of Mr. Baran. In her written testimony, the Chairman notes that, while the fiscal year 2019 budget request represents a proposed increase in funding for the Commission overall, most of that increase would go towards activities related to the Yucca Mountain project and reviewing advanced nuclear technologies.

While I am not looking to quarrel with the increased focus on these articular programs per se, I am concerned about what those choices mean for other activities that I believe must be priorities for the Commission.

So Commissioner Baran, I understand that NRC recovers the majority of its budget through fees, and I have some questions about the proposed fees and what it means for staffing at the NRC.

First, I am concerned by the sharp drop in full-time employees at the Commission and what this means for safety. Do you believe that the Commission has the amount of employees it needs to do its job well, not just adequately?

Mr. BARAN. I think most of the cost-cutting measures we've implemented to date over the last few years make sense.

But I would echo Mr. Tonko's point. I don't think any further steep reductions would be sustainable. Going forward, I would like to see our funding and FTE levels stabilize.

I think we need to be careful that we are not so focused on cutting costs that we do erode the technical capabilities of the agency or our inspection activities.

Mr. PALLONE. All right.

And a second question is, Is the current 90 percent fee structure putting undue pressure on the Commission's budget because of the shrinking number of nuclear plants and the economic pressure the industry is facing due to competition?

Mr. BARAN. Well, as Chairman Svinicki noted earlier, you know, in theory, if you have fewer operating plants, that that increases the amount each remaining operating plant would have to cover.

Mr. PALLONE. And she actually said that at some point it would be unsustainable.

Mr. BARAN. Yes. We haven't gotten to that point yet and, in large part because of Project Aim, we have seen our costs come down over the last few years. So fees have not gone up over the last few years for power plants. They've gone down, actually.

But at an extreme, if there were a large number of plants that shut down, you could have an effect there where it would be a challenge.

Mr. PALLONE. But you're saying, as she did, that that's, you know, something that could happen but you don't see it happening in the immediate future?

Mr. BARAN. It has not happened to date, and I don't see it as something that, you know, we are worried about right now.

Mr. PALLONE. All right. Thanks so much.

I yield back, Mr. Chairman.

Mr. SHIMKUS. Gentleman yields back his time.

The Chair now recognizes the chairman emeritus, Joe Barton from Texas.

Mr. BARTON. Well, thank you. More importantly, I am the current vice chairman, such as that is.

Mr. SHIMKUS. I stand corrected.

Mr. BARTON. Well, I will take both. I think they're both complimentary.

My question is a basic question. I am looking at the briefing book, and it says that you get $804 million in fees. What portion of that is supposedly going into the high-level waste fund to help dispose of high-level nuclear waste?

Ms. SVINICKI. None of that amount. Again, the Yucca Mountain-related activities are all funded from the appropriations from the nuclear waste fund, and we have to execute and keep that money

in budgetary purposes. It is executed and outlaid separately from the fee collection.

Mr. BARTON. So the $804 million are operating fees from the existing reactors. Is that correct?

Ms. SVINICKI. Yes. Those are invoiced directly from the NRC to the utilities, and then we receive the payments from them.

Mr. BARTON. And the fee that the utilities pay to help dispose of high-level waste, if we were ever to license one that's a separate fund and a separate amount of money in addition to these other fees?

Ms. SVINICKI. Yes. It was separately enacted in the Nuclear Waste Policy Act of 1982. The Department of Energy established one mil, which is a thousandth of a cent, I think, for per kilowatt hour charge that ratepayers paid in their utility bills, and I think that that was then collected by utilities provided to the U.S. Treasury.

Mr. BARTON. And how much of that, Madam Chairwoman, has been collected over the history of its collection? Do you know?

Ms. SVINICKI. Many tens of billions. But I would have to respond with a precise figure. Of course, the fee is in suspension now because the U.S. utilities went to court and said, in the absence of progress on the disposal site, they asked for relief, and the collection of that fee has been suspended for some years now.

Mr. BARTON. So it's accrued as a contingent liability, but it's not actually been collected from the utilities. Is that right?

Ms. SVINICKI. You know, I am not sure of the court's treatment of that in their decision. I know that they offered the relief of the suspension of the collection of the fee.

I don't know if the liability continues to accrue and upon resumption of activity on Yucca Mountain if that would be then reimposed on the utilities. I am not sure.

Mr. BARTON. Now, you're aware that we passed a bill that's languishing, I believe, in the Senate that would change the law and it would allow for licensing of a high-level waste permanent repository, but also it would allow temporary storage to also go forward?

Mr. SHIMKUS. If the gentleman would sustain, it's languishing in leadership, not the Senate.

Mr. BARTON. Oh, I thought we had passed it in the House.

Mr. SHIMKUS. Not on the floor.

Mr. BARTON. I stand corrected. I can't blame that on the Senate, then.

Mr. SHIMKUS. You can blame it on leadership.

[Laughter.]

Mr. BARTON. I will.

But Subcommittee Chairman Shimkus has been laboring, you know, very heroically to get some money appropriated so we could actually begin the review and hopefully the license of a permanent waste repository.

I believe that's about $130 million. John, is that right?

Mr. SHIMKUS. I am sorry?

Mr. BARTON. How much are we asking for to actually let high-level waste be reviewed: $150 million, $130 million?

Mr. SHIMKUS. Well, in the fiscal year '18 it was $120 million to DOE and $30 million to NRC, and then in fiscal year 2019 it's

$47.7 million for the NRC and another $120 million for DOE, I believe.

Mr. BARTON. It's fun to ask questions of the subcommittee while you guys are out there. Shows what a good subcommittee we have.

In any event, my question to you, Madam Chairwoman: Does the NRC support Chairman Shimkus in his effort to actually get some real money appropriated so we can proceed with the review of a high-level waste permanent repository?

Ms. SVINICKI. The NRC has requested funding in our budget for fiscal years 2018 and 2019 to resume these activities.

Mr. BARTON. So that's a yes.

Ms. SVINICKI. But as an independent safety regulator, we have not taken a policy position on the pending legislation.

Mr. BARTON. Well, I take that as a yes.

I am going to yield back, Mr. Chairman.

Mr. SHIMKUS. Gentleman yields back his time.

The Chair now recognizes his gentleman from Pennsylvania, Mr. Doyle, for 5 minutes.

Mr. DOYLE. Thank you, Mr. Chairman. I want to thank you and the ranking members of the committee for holding this hearing today.

As many on this committee know, I am a strong supporter of nuclear energy. I am greatly concerned by the dramatic increase in plant retirements or announced retirements in the last few years.

Prior to three plants retiring in 2013, no reactors had retired since 1998. We then faced another round of retirements and are now staring down eight more announced retirements starting in October 2018 and through the summer of 2025.

These retirements represent a loss of reliable and affordable electricity and family-supporting jobs, and it's not like the demand for thousands and thousands of megawatts these plants provide disappears.

As the Energy Information Administration explains, the vast majority of this lost generation has been replaced with either coal or natural gas, and it seems very likely that that trend will continue into the future.

As I said at our nuclear infrastructure hearing in February, it's imperative that we maintain or even bolster our nuclear fleet here to adequately address climate change, and I hope our committee pursues greater action on the issue in the future.

Madam Chairman, let me ask you, and I want to follow up on one of the responses that you provided on an important question from Representative Green regarding the NRC's fee structure.

There are bipartisan legislative proposals in both the House and Senate that provide a backstop for fees that NRC could collect from each plant.

I would think that with increased appropriations, if necessary, this would provide greater certainty to your agency as well.

Otherwise, I fear the NRC may face the situation where the dramatic drop in plants from which you can collect fees jeopardizes your agency's ability to generate a sufficient operating budget without being overly draconian.

I think many could see this as becoming a downward spiral. Chairman, let me ask you: Do you think our committee should pur-

sue or consider changing the NRC's fee structure to make it more sustainable both for the NRC and the individual plants?

Ms. SVINICKI. Our Commission hasn't established a position on this. But speaking as a 10-year member of the Commission and answering for myself, I would note that the potential wave of retirements is noticeable and appreciable, and although I don't know at what point the number of operating reactors has diminished so far that the 90 percent fee recovery is not sustainable, I think that the predicted number of potential shutdowns does make this a timely issue for the Commission and the Congress to engage on a dialogue on this matter.

Again, the 90 percent recovery is a provision of law. So, if it is something that looks like it is having an unintended consequence or an unsupportable effect, it would be, in my view, appropriate for the Commission and your committee to examine the question.

Mr. DOYLE. OK. Thank you.

Let me ask you some efficiency questions, too. Your testimony highlighted the NRC's recent announcement establishing of a transformation team that would, in your words, seek to identify potential transformative changes to the NRC's regulatory framework, culture, and infrastructure.

Do you have a time line as to when we could expect those proposals, and what type of changes can we anticipate?

Ms. SVINICKI. Transformation is meant to encompass not just a small, easily implementable change, which we are terming more an innovation than a transformation.

The team that's been chartered to look at the proposals I believe has in excess of 500 or 600 proposals now pending. Those come from both inside the agency, but they've also engaged broadly on transformative and innovative organizations.

So the Commission is scheduled to receive a set of recommendations in May. But I think that the amount of proposals that have been generated may make the staff want to have a little more time to evaluate those, and then we would take the proposals and recommendations they make to us out of that process and consider those after we receive them in May.

But, again, I am trying maybe to signal a little bit of opening for relief with the staff. I think it would be difficult for them to look at 500 or 600 ideas in the amount of time that they have.

Mr. DOYLE. Yes, I can appreciate that.

Mr. Chairman, thank you. I am going to yield back my time.

Mr. SHIMKUS. Would the gentleman yield his last 26 seconds?

Mr. DOYLE. Yes, sure.

Mr. SHIMKUS. When the payments are made to utilities based upon the nonperformance of the Government, where does that money come from? Do we know?

Ms. SVINICKI. This is perilous, because this is my memory of the court's decision. I thought they suspended the collection from the ratepayers——

Mr. SHIMKUS. They did.

Ms. SVINICKI [continuing]. So that the utilities are not receiving any revenues, because their request of the court was to be allowed to suspend the recovery of it from consumers.

Mr. SHIMKUS. Anyone else can answer that.

Mr. BARAN. You're talking about the litigation piece?
Ms. SVINICKI. Oh. Oh.
Mr. SHIMKUS. Right.
Mr. BARAN. That comes from the judgment fund.
Mr. SHIMKUS. And the judgment fund——
Mr. BARAN. Is taxpayer funds.
Mr. SHIMKUS. OK. Thank you. With that, I thank my colleague.
Chair now recognizes the gentleman from Texas, Mr. Olson, for 5 minutes.
Mr. OLSON. I thank the Chair, and welcome to our three witnesses.
This first question is for you, Chairman Svinicki, and you, Commissioner Burns.
Last August, the NRC issued a press release announcing it was going to conduct a review of, quote, "past administrative regulations," unquote, to find any that are outdated or duplicative.
That was supposed to start in the fall of 2017. However, I haven't heard anything about that since then. So my question is, Will either of you talk about, first, why reviewing these regulations is important for an industry that is struggling, and number two, is there an update on time we can inspect this report and move forward?
Chairman, you first, ma'am.
Ms. SVINICKI. I will begin. Thank you.
I think that the voting has moved along on that proposal, and I believe that mine may be the lagging vote to complete the Commission's deliberation on the matter.
It is still under review by the Commission in terms of the Federal Register notice and other underlying things that would kick off that review. So it is still contemplated, and I suspect it would move forward in the coming months.
Mr. OLSON. Mr. Burns, do you want to add something to that, too?
Mr. BURNS. Yes. What I would add, one of the things that—this was an issue that came to my attention when I was a Chairman, and how it came up is, you know, drop-in visits from utilities, interactions I had at conferences and things like that, and it's—the question of there may well be in terms of some of the administrative reporting requirements going of the structure of them, for example, that might be more efficient, and I think that's what we are intending to look at.
The example would be—and I can't pull, unfortunately, out of my head right now maybe a good example—but the idea was we are asking particular reporting requirements in an age—like, when I began at the agency, we didn't work through the internet.
We worked through—fax machines was the technology of the, you know, of the day. So some of those types of things—how you can report—you know, what you need to report.
It's not that reporting is bad or doesn't need to be done but can you do it more efficiently, you know, through electronic communication—are there duplications and things like that? That's the type of thing I think I would like to get at.
Mr. OLSON. Thank you.

The final question is for all three of you. There have been some situations where disagreements between headquarters and the NRC region have resulted in NRC being unable to make timely decisions to provide necessary certainty to licensees.

In one case, a licensee chose to shut down the reactor because headquarters in the regions were at an impasse. What's the process for resolving these disagreements between headquarters and the regions to ensure that timely decisions are made and the licensees are provided regulatory certainty?

Ms. SVINICKI. The NRC is obligated to provide clarity and give timely decisions. We are also obligated to implement a cohesive and coherent program across the United States so that a regulatory outcome in one region would be the same outcome in another region.

Like any large organization, this requires very effective and continuous communications between the agency's very senior executives, the Commission, and a faithful execution of our regulatory framework across the country.

Are we perfect? No, although I don't recognize the specific incident you allude to.

This is something that both our inspector general and the Government Accountability Office occasionally audit for us, and we do look at the consistency of the findings and regulatory outcomes across the country.

But there are a lot of inspectors and a lot of individuals in the loop. Again, the basic process is escalation through management, through executives and the agency, and then coming to one unified decision.

Mr. OLSON. Mr. Baran, very quickly, I have 48 seconds left to add something to the Chairwoman's comments.

Mr. BARAN. No, I think she covered it very well.

Mr. BURNS. I agree.

Mr. OLSON. OK. And one final point of observation.

Chairwoman, congratulations. Your Michigan beat my University of Houston Cougars in the NCAA finals—going to the Final Four. But they'll play another Texas team, and pretty quick you will hear from Mr. Flores about his Aggies. So I yield back.

Ms. SVINICKI. Thank you. I wondered if I might hear something while Chairman Upton was in the room but——

[Laughter.]

Mr. SHIMKUS. Oh, I hope the gentleman's yielding back his time.

Mr. OLSON. I yield back.

Mr. SHIMKUS. The Chair thanks the gentleman.

The Chair now recognizes the gentlelady from California I would like to personally thank for all her work on this issue, for 5 minutes.

Ms. MATSUI. Thank you very much, Mr. Chairman.

As I outlined earlier, I am extremely supportive of efforts to transfer our country's civilian-spent nuclear fuel to a consolidated storage facility. Communities across the country, including those near the former Rancho Seco Nuclear Generating Station in Sacramento County, have been waiting decades for a spent fuel storage solution.

And I have to also thank Chairman Shimkus' willingness to work together on these spent fuel issues. We were able to make real progress as his Nuclear Waste Policy Amendments Act moved through this committee, and I continue to support our compromise that was included in the bill.

Chairwoman Svinicki—is that right?—can you please tell us more about the consolidated interim storage facility licensing process generally? What do you look for in an application? How is it evaluated?

Ms. SVINICKI. Thank you for that question, Representative Matsui.

As you noted in your earlier remarks, the agency—the NRC—has one current and one suspended review in front of us for the development of consolidated interim storage facilities.

There is a facility contemplated in New Mexico, and the contractor is Holtec. We have docketed that application for review, and the review is ongoing.

In general, it's our estimate that it would take approximately 3 years to conduct this type of review. We have some experience. In the 1990s, there was a similar proposal of private fuel storage in Utah.

However, we issued the license as an agency, but the facility was never developed. But, again, to return to the two active contemplated facilities, the first is the Holtec facility in New Mexico.

The other is in Texas and it is Waste Control Specialists. That review was suspended at request of waste control specialists. Their company is undergoing a merger or acquisition.

I am not—so it may be an acquisition. The new owner, although that process is ongoing, has indicated that they will be making a communication to the NRC regarding that suspended review.

We don't know exactly what form that would take. They, of course, have the option of modifying or withdrawing that and submitting something different.

So, if they were to just ask us to reactivate the review that is suspended, that is something that could be more readily done.

If they want to modify or significantly alter the proposal, then we would just have to wait to see what our estimate of the time to review it would be.

Ms. MATSUI. OK. If you take the first step there, what are your next steps in the licensing process if you restart this?

Ms. SVINICKI. The general process involves both a comprehensive safety review, and a separate team of environmental experts will conduct a review of any environmental impacts of the facility or the proposed action.

Those proceed in parallel tracks and so there is some synergy and expertise between those two teams, and we develop a safety evaluation report and then an environmental review and those are the basic products that come out of our review.

We are looking for no negative impacts on public health and safety and in accordance with storage and transportation regulations that we have that are very well established.

Ms. MATSUI. Can you outline some of the differences between the facilities envisioned by the two applications?

Ms. SVINICKI. I think, in general, they are very similar, much more similar than they are different, and there may be some differences in the way that they've structured how they intend to operate or the fuel that they would take. But I would need to respond with those details, for the record.

Ms. MATSUI. OK. Certainly.

And as I said earlier, I am pleased to see that you requested adequate funding to be able to consider both the WCS and the Holtec license request in fiscal year 2019.

It's critical that we move forward with both licensing process at the same time in order to maximize our chances of really reaching a viable interim storage solution that reduces the burden on taxpayers.

What constraints on licensing are you facing at your current funding level?

Ms. SVINICKI. You're correct that we have requested funding in fiscal year 2019 for two reviews. I would also note that, although we do not have an enacted level for fiscal year 2018, yet we do have funding in there for two, as well.

Even though the one is suspended, we provided a budget flexibility so that, if it were resumed, we would be able to begin that in the current fiscal year.

So we are not aware that we have any shortfalls in those requested amounts.

Ms. MATSUI. OK. Fine, and thank you very much, and I appreciate—I yield back.

Mr. SHIMKUS. Gentlelady yields back her time.

The Chair now recognizes the gentleman from Ohio, Mr. Latta, for 5 minutes.

Mr. LATTA. Well, thank you very much, Mr. Chairman, and thanks to our Commissioners for being with us today.

The NRC's fiscal year 2019 budget request includes about $10 million to develop the regulatory framework for advanced nuclear technologies.

While the NRC is required to recover about 90 percent of its budget from fees charged to licensees, the Commission is allowed to request certain funding to be appropriated by Congress outside of the fee base.

Though I would note the Advanced Nuclear Technology Development Act, which I sponsored and was unanimously passed by the House in January of this year, provides—or last year, excuse me—provides for this funding to be exempt from the fee recovery base.

Similar to that provision, in my legislation, NRC's budget request for this funding in previous years provided for a direct congressional appropriation.

Would any of you like to address why the source of this funding from off the fee base that's subject to fee recovery has changed from the previous years?

Ms. SVINICKI. Thank you for that question, and I realize that Congress has indicated a willingness to provide direct appropriated funds instead of recovering this from the fee base.

I would observe, perhaps commensurate with the continued work that we are doing on advanced reactors, it is our projection that in

fiscal year 2019 we may have actual submittals of designs for review.

And so some of the thinking about having it be in the fee base is that we do try to allocate and recover costs from a company if the costs are directly attributable to that company.

So in fiscal year 2019 is the earliest date at which we think we may have a company come in with an actual design submittals.

Mr. LATTA. OK. Just to clarify—just to make sure of that—so that you would support my legislation which would amend the underlying statute to clarify the source of the funding to develop a regulatory framework for that advanced nuclear technology?

Ms. SVINICKI. Our Commission has no policy view, but as a member of the Commission, not as Chairman, I would indicate that the funding that is provided off fee base has been, I think, advantageous because developers will come in and engage the NRC if they know that they're not going to receive an invoice every time they want to come in and learn more about the regulatory framework or perhaps float a concept of a design attribute that they're worried that we would never license.

And so Congress' support of money off the fee base, I think, is generating a regulatory efficiency because the technology developers are more likely to come in and get early regulatory engagement, and I think it's also helping us that, when we get a design, we'll know a lot more about it.

Mr. LATTA. Thank you.

Use of the digital instrumentation and control, or digital I&C technology, is of growing importance for the current nuclear fleet and the next generation of reactors.

This technology can enhance safety, reliability, and efficiency while replacing obsolete analog components. Many licensees are not pursuing modifications that implement digital technology due to uncertain regulatory approaches and associated challenges.

For new plants, the uncertainty risks the promise of advanced digital I&C systems will not be accomplished.

To address these issues, industry has formed a digital I&C working group to engage industry experts with the NRC staff to resolve high-priority technical issues, improve the regulatory infrastructure, and facilitate efficient implementation of DI&C projects.

Madam Chairman, in reality, as a number of our nuclear reactor facilities have passed 4 years of operations, much of the technology still being used in these facilities can be dated back to World War II.

Do you believe that updating these systems and components to digital technology is important to sustaining these facilities?

Ms. SVINICKI. Yes. The obsolescence issues in the supply chain are very real, and it is not only important, I think it will be essential for the NRC to develop a working framework for the adoption of digital I&C technologies.

Mr. LATTA. Thank you.

Commissioner Burns, do you believe there is an obligation to acknowledge potential safety benefits with increased usage of digital controls, and how do you view these benefits can be represented in NRC's regulatory regime?

Mr. BURNS. Yes, I would agree that the newer digital controls have benefits. I've seen that from when I've gone to power plants, in terms of areas where they have been able to implement it.

What we have to do, which I think—what our Chairman was alluding to is, we need to keep on our staff in terms of working with the industry in terms of getting over some of the humps, if you will, that become some barriers toward better integration on some of these systems.

I think we are seeing it in the new technologies. It's been a lot in terms of, as you noted, the retrofitting onto what were originally analog systems and getting more digital systems in there.

But it's something I am certainly in favor of us continuing to work on.

Mr. LATTA. Thank you very much.

Mr. Chairman, my time has expired, and I yield back.

Mr. SHIMKUS. Gentleman yields back the time.

Chair now recognizes the gentleman from California, Mr. McNerney, for 5 minutes.

Mr. MCNERNEY. I thank the chairman, and I thank the Commissioners for your work.

Last year, Secretary Perry issued a proposed rule that power plants that have long-term fuel storage have a financial advantage over those that don't. That was overturned by the FERC.

Do you think that was a good idea, each one of you, given the financial crunch that nuclear plants are facing? Starting with the Chairman.

Ms. SVINICKI. Our Commission was not involved in that, and we are not economic regulators like our colleagues at the Federal Energy Regulatory Commission.

Candidly, even as a personal matter, this is outside my realm of expertise.

Mr. MCNERNEY. Secretary?

Mr. BARAN. This is pretty far outside NRC's mission here. We leave this to FERC.

Mr. BURNS. Right.

Mr. MCNERNEY. OK. Well, the next question was, Do you think the traditional nuclear power plant is viable, moving into the future, you know, in terms of economics? Do you think they're going to be viable?

Ms. SVINICKI. My understanding, again—and I don't have access to any proprietary business information, I read the same reporting as others do—but some of the units in the regions where they operate are operating at kind of breathtaking losses and are not economic.

Others operate in other markets in the country and have other regulatory rate recovery mechanisms—that they are profitable. So it appears to be a very geographic situation.

Mr. MCNERNEY. OK. That's interesting.

Do you think the new technology is going to be more economic than the older technology like the small modular reactors? Any——

Ms. SVINICKI. It's difficult to say by their design attributes. They appear to preliminarily offer certain efficiencies, but I think the competitiveness of this technology in the market is dependent on

natural gas prices and other things into the future that I am not really even expert on.

Mr. MCNERNEY. All right. I will change the subject.

You know, local buy-in is critical, in my opinion, for a nuclear waste repository.

How much chance is there for a local buy-in in Yucca Mountain? Whoever wants to answer that.

Mr. SHIMKUS. The gentleman needs to define "local."

Mr. MCNERNEY. Well, I would say the State of Nevada. Is that State of Nevada going to tolerate moving forward with the Yucca Mountain storage facility?

Ms. SVINICKI. Well, again, we are the independent licensing body that would make the ultimate determinations on issuance of a license.

So the State of Nevada, many Nevada counties and also California counties are parties to that licensing proceeding, and we are the quasi-judicial body over that. So I think it's perilous for us to opine on that.

Mr. MCNERNEY. OK. Well, in my opinion, again, complete transparency is absolutely necessary for a long-term storage repository to be accepted.

What is the NRC doing to make sure that there's transparency in these sorts of deliberations?

Ms. SVINICKI. Well, I would note that the adjudicatory proceeding has, gosh, I think maybe two dozen admitted parties—that those proceedings are all conducted publicly. There are over 300 specific challenges issued that will be adjudicated if that is funded and that adjudication occurs.

So, again, that is a public licensing proceeding where all of these matters in contention or challenged would be litigated in a very public forum.

Mr. BARAN. I would just add, if the adjudication resumes, I think it's essential for NRC to hold the hearings in Nevada close to where many interested stakeholders are located.

That's been NRC's longstanding policy, that if you have a contested adjudication that it be held, you know, as close as to the vicinity of the proposed facility.

There's, obviously, very high public interest in this proceeding if it were to resume. So my view is it's very important that those hearings be held in Nevada.

Mr. MCNERNEY. Are there any other sites around the country that are being considered, and if there are, are you reaching out, you know, in advance to get local interest and buy-in?

Mr. BURNS. No, because the law requires us to consider the Yucca Mountain application. That was the consequence of the 1987 Amendments Act, which focuses on Yucca. So we are not authorized to go look at other sites, at this point.

Mr. MCNERNEY. But wasn't the Nevada site also held up—I mean, if you're not allowed to do it by law elsewhere and you're not allowed to do it in Nevada, what choices are there?

Mr. BURNS. No, the Waste Policy Amendments Act 1987 directed the NRC and I think also DOE to focus on the Yucca Mountain site.

So that's why the efforts that have gone on that eventually led to an application in the mid-2000s focused on Yucca.

Mr. MCNERNEY. I yield my time, Mr. Chairman.

Mr. SHIMKUS. They are correct. The gentleman yields back his time.

The Chair now recognizes the gentleman from Illinois, Mr. Kinzinger for 5 minutes.

Mr. KINZINGER. Thank you, Mr. Chairman, and I want to thank all of you for being here. Thanks for being at our hearing.

You know, I think it's unbelievable that we are still talking about Yucca Mountain years and years later, and people's opposition to it is based on witch science, you know, and concerns and it's the law and it's the right thing to do and anyway—but my district is home to four nuclear power plants, in Byron, Braidwood, Dresden, and LaSalle. It's the most of any district in the country.

Meaning that the work you all do is vital not only to the safety of these communities but also to my constituents who work in these plants, pay their utility bills, and especially in Illinois rely on nuclear power to power their homes and businesses no matter the weather. Fifty percent of power is, in fact, nuclear in Illinois.

H.R. 1320, which I sponsored with Representative Doyle, includes language to control corporate overhead costs and keep them in line with other Federal agencies.

I am concerned about a lack of transparency and accountability in the corporate support budget proposal, because these costs are passed along to ratepayers, including my constituents, through charges that the NRC charges to the NRC licensees.

Specifically, the fiscal year 2019 budget requests an increase of $1.5 million for corporate support, even though staff is decreasing by 108.

The justification states the increase is a result of salary and benefit growth, increases for ITS at management, operations, maintenance, and security of core IT systems, and targeted investment and development and modernization efforts.

However, there's no details or support in the budget. To the Chairman, can you explain in more detail why there's an increase in corporate support costs?

Ms. SVINICKI. Thank you, Representative Kinzinger.

In general, you have described the areas that are causing the increase, and if we have not provided a detail, perhaps we can work with your staff after the hearing to provide some fuller supplementing detail on this.

I would note that the cost of living—the percentage increases that have been funded in general agencies have been asked to find those within existing budgets.

Also, as our workforce gets smaller, it tends to be older employees do stay with the agency and they received certain higher levels of seniority.

Also, the benefits part of salary and benefits for every Federal employee with increases in healthcare costs, there is some escalation in that figure year to year due to rising healthcare costs.

Also, the NRC does have, as part of Governmentwide IT modernization, we have some unsupported platforms for various agency IT systems.

I know we report to other committees of the House regarding our overall IT modernization and also the securing of those systems against cyber threats, and there are increasing costs throughout the Government related to those matters.

I think in general those are the nature of the expenses that caused the increase in the fiscal year 2019 budget.

Mr. KINZINGER. I see. I just think—you know, the important point I want to make is, obviously, continue to take tangible steps to maintain discipline on that, as you know.

It's Congress' responsibility to regularly review statutory authority and, when appropriate, to make updates reflecting our changing world.

For example, the outlook for global nuclear power is fundamentally different from when Congress first allowed the use of peaceful atomic energy in 1954 or established the NRC in 1974. Congress hasn't completed a comprehensive reauthorization of the NRC in over 30 years.

To the Chairman, are there legacy provisions, including the foreign ownership control or domination restrictions or the required advisory committee or reactor safeguards, that warrant revisiting by Congress?

Ms. SVINICKI. As a general matter, it is useful to revisit a statute, although I would note that I continue to be impressed with the wisdom that is enshrined in the Atomic Energy Act.

I think, for a statute as old as it is, there was a lot of foresight on having, you know, technology, flexibility, and things like that.

But there are the many intervening decades of experience in the United State nuclear power program in general. The technology is understood at a vastly deeper level now, and there are also many, many operating reactor years and decades worth of experience.

So I think that relooking at what the smart individuals in the 1950s thought is probably a worthwhile endeavor.

Mr. KINZINGER. Thank you.

I think it's important to note, you know, I think the United States is losing or has lost its edge in nuclear power and we've given it to other countries, and that's a big problem and something that I think we need to address wholeheartedly.

And lastly, to Commissioner Burns: Are there other areas Congress should examine, given the state of nuclear energy today, in your mind?

Mr. BURNS. Going back to your question on the Atomic Energy Act, I appreciate in your bill you noted a couple areas where I thought were worth looking at, in terms of foreign ownership in a mandatory hearing.

I agree with Chairman Svinicki. One of the, I think, the beauties of the Atomic Energy Act is the flexibility that allows the Commission to adapt over time.

So there's some of these that are legacy provisions—mandatory hearing provisions, for example just because I was doing some research earlier this year on it. It was really actually a punishment of the Atomic Energy Commission for a lack of transparency.

It actually imposed it both at the construction permit and operating license level, and it was because the AEC wasn't transparent

about its licensing. I think we've come a long way since 1957 and then 1962 on that.

Mr. KINZINGER. Thank you, and I yield back, Chairman.

Mr. SHIMKUS. Gentleman yields back his time.

Chair now recognizes the gentleman from Vermont, Mr. Welch, for 5 minutes.

Mr. WELCH. Thank you very much, and I thank the Commissioners.

My concern that I want to address is decommissioning. In Vermont, Vermont Yankee, located in southern Vermont right on the Massachusetts and New Hampshire border, was one of the first—I think the first merchant plant to be decommissioned.

So we are sort of at the tip of this spear addressing the combination of issues between the industry that has to shut that down and the local and State communities that want to have a say in the process.

And over the course of the last couple of years, Senator Sanders and Senator Leahy and I, on behalf of Vermonters, have been raising some questions that we want included in rulemaking:

One, the lack of State and local stakeholder involvement in the decommissioning process is a concern.

Two, the questionable uses of the decommissioning trust fund, such as for spent fuel management, is a recurring issue at the Vernon plant.

Three, the reality that the use of safe stored decommissioning procedure will effectively delay the cleanup in the redevelopment of the nuclear site for decades is a big issue for us. We'd like to put that place back into operation, sooner rather than later.

And then four, the reduction of emergency planning functions during periods when spent fuel remains are in spent fuel pools. That's an ongoing concern.

That's an issue for us in Vermont. But as more and more plants are going offline, that's going to be an issue for them, as well.

And the questions that I wanted to start asking about were on the rulemaking process, and in the initial phases of this it appeared that the NRC in fact was paying attention to many of those concerns that I just cited, but there's been a tug of war in the process, and the industry concerns appear to me, and I think to Senator Leahy and Senator Sanders, to be paramount.

They want flexibility on some of the safety issues, but they really are resistant to the four issues that I mentioned.

So that's of real concern to us, and not just to us, because this, as I mentioned, is going to be relevant for all these other plants that are going to get decommissioned.

So I will start, Madam Chair, with you, if you would. Do you believe that State and local stakeholder concerns should be considered on equal footing with those of the industry and believe that a final decommissioning rule that codifies regulatory and safety exemptions that industry has requested but don't address concerns over the use of the decommissioning trust fund, the local input in the postshutdown rules, would be problematic? We'd like both included.

Ms. SVINICKI. Congressman, thank you for this question, and you and the people you represent have been very, very active in the rulemaking process.

The stage we are at right now is that the NRC staff has developed a regulatory basis, and they will begin the process of developing a proposed rule to come before our Commission.

My approach as a member of the Commission is to look at the totality of the public comment record, and I don't look at who sent the comment.

I look at the underlying matter that the comment is raising, and I look to make sure that the agency is responsive to that comment.

So I don't want to prejudge where I would be on a proposed rule that hasn't come before me yet. But as part of my review, I will certainly look at that.

Mr. WELCH. No, I understand you can't prejudge it. But we'd really want some assurance that the local concerns have a seat at the table. That's really the bottom line of what we want, and there's a tug of war because the industry concerns are sometimes different.

They want to get out sooner rather than later, and the local community wants that property back in service and, obviously, concerned about the decommissioning fund.

Mr. Baran, can you tell me what opportunity State and local stakeholders will have over the coming year to weigh in on the decommissioning rulemaking?

Mr. BARAN. Sure. Well, the main opportunity—there have been two periods of public comment to date, and as the Chairman mentioned, we got a couple hundred comments.

I looked at them all, and you're right—States and local governments are very engaged on this issue. They want to be heard. The next big opportunity will be when the proposed rule is prepared.

The Commission will vote on a proposed rule and that'll go out for public comment, and that'll be the first time that stakeholders will have an opportunity to look at what is it that the agency is proposing to do and what is their reaction to that.

Mr. WELCH. All right. Thank you.

Mr. Burns, thanks for your work over the years. This basic request that our communities have to be at the table as a full and equal partner?

Mr. BURNS. I would agree with what my colleagues have said. I think, as the proposed rulemaking comes before us, one of the things I am going to look at is some of those process issues as well as the substantive issues about, you know, what does safety demand, and assuring that we have clarity on things like the decommissioning trust funds.

You know, it's interesting. We had a good meeting I think about a year or two ago. We had—one of the representatives from the Citizens Advisory Committee from Vermont was there, and heard her there.

Some of these things, I think, will be regulatory solutions. Some of them are going to be the interactions within the States themselves. But I do think it's important that the voices are all heard.

Mr. FLORES [presiding]. Gentleman's time has expired.

Mr. Johnson, you're recognized for 5 minutes.

Mr. JOHNSON. Thank you, Mr. Chairman. I thank the Commissioners for being with us today.

The last time that you were here before this committee 2 years ago, I expressed concern then about the regulatory creep associated with what is known as application of the back-fit rule.

This authority is one of the most powerful regulatory tools at NRC's disposal, which is why it is critically important, in my view, that the Commission is vigilant about the staff's use of the back-fit rule.

So in regards to the committee to review generic requirements, since your last appearance here, NRC was in the process of providing new guidance to what is known as the CRGR—the Committee to Review Generic Requirements.

This committee, composed of senior NRC staff, is intended to review these back-fit requirements, which are regulatory requirements imposed on all nuclear power reactors.

So Commissioner Burns, under your leadership as Chairman, CRGR was directed to update its charter and revise its review procedures. Has CRGR issued its revised charter and, if so, what are the principal updates to the document?

Mr. BURNS. Yes. I believe that they have. I am not familiar with all the details of it but, clearly, at the time one of the things that I was looking for—and I had the support of my Commission colleagues at the time—was to reinfuse some vigor in the CRGR process, also to provide some more consistency across the agency, particularly in the staff, because on a day-to-day basis that's where things are going to happen about consistency in the back-fitting process.

Mr. JOHNSON. And you are still——

Mr. BURNS. But we can probably provide for the record, you know, the specific things that would help answer you.

Mr. JOHNSON. OK. Yes, please do. You are still the leader—I mean, the chairman of the CRGR, right?

Mr. BURNS. No, no. I am not the—actually never been the chair. The head of the CRGR is a senior staff executive.

Mr. JOHNSON. How often do they meet?

Mr. BURNS. I don't know how often. Ed Hackett, who is deputy director for research, is the current chair of the CRGR.

Mr. JOHNSON. How do they report to you guys on what their status is, as the Commissioners?

Ms. SVINICKI. They report to the executive director for operations, but they also provide routine reporting on a number of their activities.

They may meet as needed to review a proposed regulatory measure. But, again, we can provide greater clarity for the record.

Mr. JOHNSON. OK. Thank you.

Chairman Svinicki, what are the next steps for CRGR to enhance its role to review and approve, or disapprove, staff's proposed back-fits?

Ms. SVINICKI. Since the Commission last appeared before you, Congressman, and engaged on this issue, the agency's return to greater adherence and fidelity on back-fit moved far beyond the CRGR.

Although we have undertaken the measures that you described, it became apparent in the reviews ordered by the executive director for operations that comprehensive retraining was needed of agency staff.

That has been conducted and, again, we are not changing the back-fit rule. We realized that with the amount of staff growth and staff turnover we had had that we needed regular training on adherence to the back-fit rule, and there will even be, I believe, a wave of follow-on training that is going to occur.

So there certainly has been a higher spotlight on adherence to back-fits since we last appeared before you.

Mr. JOHNSON. OK. All right.

Recent guidance from Office of General Counsel which has been endorsed by the Commission states that, when the NRC staff identifies back-fitting, it should first consider whether one of the adequate protection exemptions apply to the back-fit in question.

So, Chairman Svinicki and Commissioner Burns, given the maturity of the NRC's regulatory framework, would you agree that situations requiring imposition of back-fits should be relatively rare and would typically require significant new information indicating that a safety issue is not adequately addressed by the Commission's current regulations?

Ms. SVINICKI. As a member of the Commission, I am in agreement with that statement. That would be, I think, a reasonable description of the maturity of adequate protection determinations that have been previously made.

However, there can't always be new knowledge, as you note, and so I would say, as a member of the Commission, any time the staff is contemplating an adequate protection exemption to the back-fit rule, that gets my attention very closely for the reasons you state.

Mr. JOHNSON. OK. All right.

Mr. Chairman, I yield back.

Mr. FLORES. The gentleman yields back.

Mr. Cárdenas, you're recognized for 5 minutes.

Mr. CÁRDENAS. Thank you very much. Appreciate the opportunity to have this discourse, Commissioners.

My question is to whichever Commissioner wants to answer the question regarding the potential elimination of 149 full-time equivalent employee positions.

If that were to take place by the design of the Commission, if that's a fact, would there be more or less scientists involved, going forward, than are today, overall?

Are we talking about positions that are in the science arena or the technical folk? Are we talking about tertiary positions?

Where would the crux of those 149 or so positions come from?

Ms. SVINICKI. Let me begin by stating there is no contemplated involuntary separation or reduction of employees that we contemplate now.

The figures may have to do with—if they arise from the fiscal 2019 budget. We have areas of work that are completing this year, and so it really isn't individual employees that are on board right now.

The figures vary up and down, depending on the licensing work that we project to have before us in the 2019 budget. So it is not that we've identified positions for elimination.

Mr. CÁRDENAS. OK. So we are talking about positions that are basically having to do with the work structure in the past and present and going forward, and a better structure for the department?

Ms. SVINICKI. Yes, that's correct.

Mr. CÁRDENAS. OK. Thank you.

Aside from that, how is the department doing when it comes to recruiting today's technical folks that the department needs to fill the positions that would be ongoing? How is that environment today?

Ms. SVINICKI. Well, I will say that you identify, I think, one of the greatest challenges for Federal agencies, and that is making certain that we are preparing ourselves for the future by bringing in the promising new entrants, recent college graduates.

Again, under a declining workload for our agency, we are not as active out with colleges and universities and recruitment. We do that only on a very, very targeted basis as we have attrition of people from positions.

So we are, over time, becoming an organization that has more senior people at higher pay grades, and we do pay attention to making sure that we are at least bringing some newer employees into the pipeline.

But, again, our work in general has been declining, and the opportunity to do that has been less.

Mr. BARAN. I would just add, you know, in a 2-year period the number of employees we had at the agency dropped by around 12 percent, which is a really dramatic decline——

Mr. CÁRDENAS. That is.

Mr. BARAN [continuing]. For just a couple years. That was largely the result of attrition. So we have a certain number of people who are retiring each year, moving on, and pairing that with very, very limited external hiring during those years.

Going forward, for the health of the agency we are going to have to have some extra hiring.

Mr. CÁRDENAS. OK.

Mr. BARAN. We are going to need to bring new talent to the agency. That's true for any organization. It's fine to have a period of a couple years where we just through attrition shrink pretty significantly. But for our long-term health, we are going to have to make sure we bring in new talent so that we have the capabilities we need 5, 10, 15, 20 years in the future.

Mr. CÁRDENAS. There is no question that there's probably not an industry in America that isn't affected by the baby boomer retirement bubble that we are going through right now.

But at the same time, when I was in college, I was an engineering student. By the time I got my degree, I had done some internships with various great, great organizations that actually went out there and recruited students like myself.

Are you able to focus on that kind of recruitment or, unfortunately, is it kind of like a hodgepodge of trying to pull together a

little bit of resources to do so? Or is it a concerted effort to recruit some of that great talent out there, that new talent?

Ms. SVINICKI. I will note that we do continue to have a summer intern program. We get engineers and scientists and I believe maybe even have some legal interns or law clerks opportunities to prepare for the future.

Again, it is commensurate with the projections that we will continue to have a declining workload. But I think, as Commissioner Baran notes, we continue to recognize the importance of having younger employees come into the pipeline.

Mr. CÁRDENAS. OK. Well, to the benefit of all of us who represent literally different parts of the country with different makeups, Mrs. Chairman, if we could get a report from the Commission on the program and how local communities can enlist and making sure that young people—young talented folks—can actually apply to these kinds of programs or, for example, the campuses that you are already involved in or the campuses that you'd like to be involved in—if there's some kind of blueprint or something that the—again, every single Member here represents a different part of America, and I am sure that we would like to make sure that the young talent from our communities certainly have an opportunity to enlist their talent with your organization.

Ms. SVINICKI. I think we can certainly provide more specifics for the record.

Mr. CÁRDENAS. Thank you, Mr. Chairman.

I yield back.

Mr. FLORES. The gentleman yields back. I will recognize myself for 5 minutes.

I thank the panel for joining us today and, to follow up on Mr. Olson's initial comments regarding the men's and women's Sweet Sixteens, I am proud to report my district has more teams than the others, with four.

Anyway, let's get down to business. New technologies provide great promise to increase safety and performance from nuclear reactors while also affording increased efficiency and improving economic competitiveness.

One of the critical path resources to get from here to there, though, is the NRC's qualification of advanced fuels, and I am concerned that our advanced nuclear community will be stifled at the outset if there's not clarity and predictability with respect to time lines for innovators and investors to have certainty that the NRC will allow new fuel compensation and design.

So, Chairman Svinicki, what is the NRC doing to consider fundamental issues associated with qualifying advanced fuels?

Ms. SVINICKI. Thank you for the question, and this is a growing area of work for the industry and for our agency as a result.

To begin with, in order to qualify a new fuel type, developers have to be able to have access to performance data, meaning if you have got new materials, new alloys, and new configurations, you need to be able to put what are called lead test assemblies in nuclear power reactors so that you can then harvest those as kind of samples and you can take performance data.

We do have a number of utilities right now that either have inserted lead test assemblies for new fuel types or are in the process

of documenting the safety of doing so. So that exploration of these lead test assemblies and development of the underlying data for new fuels is currently underway.

Mr. FLORES. OK. Thank you.

Commissioner Burns, given your long experience with NRC and your having had a front-row seat for seeing technological advances, would you please describe your expectations with respect to having a predictable path for advanced fuel development?

Mr. BURNS. I would echo much of what the Chairman said.

I think part of it for us, too, is assuring that the regulatory process is in a state that allows that to go forward.

I will give a recent example. I think the staff, with respect to the ability of utilities to start testing advance or accident-tolerant fuels in terms of just the process of getting some lead test assemblies in there, has clarified its guidance and that's gelled, and those are the types of things. And in addition to the technology aspect, which is extraordinarily important, of course, that will help the process along.

Mr. FLORES. So you have talked about the real-world testing and existing reactors. What sort of advanced modeling and simulation and computational tools do you have to predict the behavior of these advanced fuels?

Mr. BURNS. I would have to defer to the staff and maybe forward the thing, unless the Chairman wanted to add.

Ms. SVINICKI. The NRC does not have as many tools as the U.S. Department of Energy. So, as a result, our experts in these areas have begun discussion with the Department of Energy regarding what tools they have and to what extent they could be made available for us to use in making safety determinations going forward.

Now, as an independent safety regulator, we will want to have some measure of independent or confirmatory analysis that we will do. But it may be that the tools can be utilized by us to do that confirmatory work.

I would say that those discussions are somewhat at the beginning stage.

Mr. FLORES. OK. Thank you.

My district includes College Station, which is the home of Texas A&M University. The Aggies have an outstanding nuclear engineering program, and it partners with both the NRC and the Department of Energy to help train the next generation of nuclear engineers through congressionally funded education programs, principally through the Integrated University Program, or IUP.

Unfortunately, once again, the NRC budget zeroes out this critical program. If that's the budget that ultimately comes to fruition—I don't think it will be, but if it does—where do we train the workforce of the future without the IUP?

Chairman Svinicki.

Ms. SVINICKI. I will respond by stating that the Commission's failure to include that in the budget is so that our budget will adhere to administration policies regarding programs such as this.

Having said that, I will state that we have derived great value from when Congress has provided funding. We have executed that program I think with a lot of energy behind it and made good use of the funding that Congress has provided previously.

So it is not any indication on the value of it by this Commission.

Mr. FLORES. OK. That's helpful.

My expectation is that Congress will continue to fund that program because, as you have stated, we've had good results in terms of an advanced nuclear workforce.

I yield back the balance of my time.

Mr. Duncan, you're recognized for—oh, I am sorry. OK.

Mr. Hudson, you're recognized for 5 minutes.

Mr. HUDSON. I thank the chairman and thank the witnesses for being here today. Thank you for the good work you do.

I represent Fort Bragg, the largest military installation in the world. I understand the importance of making sure that our troops have the necessary resources they need for the battlefield.

A 2016 report from the Department of Defense's Defense Science Board concluded that, quote, "There is an opportunity for expiration of the use of nuclear energy applications at forward and remote operating bases and expeditionary forces," end quote.

These applications would result in first-of-a-kind deployment opportunities similar to how the Navy's deployment of nuclear reactors helped drive the construction and commercialization of existing fleet of nuclear power plants.

However, for these advanced technologies to be successfully deployed, the NRC's regulatory regime and approved processes must be predictable and disciplined.

One example of how the NRC manages what are known as requests for additional information, or RAIs: NRC staff uses RAIs frequently during its regulatory review, and GAO has noted the process can be time-consuming and costly.

GAO reported the NRC staff and licensees identified two weaknesses in the RAI process: first, a gap between NRC's expectations and licensees' understanding of license application content, and second, staff departure from RAI guidance, which may result in redundant or unrelated questions and lead to additional time and resources required for licensees to address RAIs.

Following GAO's review, NRC has updated its guidance, including increased management review and, as with the Office of Nuclear Regulatory Regulation efforts, to conduct onsite audits or a public meeting to reduce the number of RAIs.

Chairwoman, I would like to ask you a few questions with respect to RAIs. How is NRC ensuring that staff are following the guidance? For example, is NRC tracking data on RAIs and, if so, has the new guidance reduced the number of RAIs?

Ms. SVINICKI. Thank you for the question, Congressman.

There has been a focus on the discipline of the RAI process. In addition to the measure you noted, which is perhaps meeting with an applicant and getting greater clarity so that we could just completely reduce the need for certain questions to be asked, we also have instituted what are called job aids, and they are kind of checklists that are used by reviewers.

And when it come to RAIs, that job aid mandates that they have to identify the regulatory determination that is supported by the request for additional information, meaning, if you're going to ask this question, what of the necessary findings does it feed into?

And in some ways, there is enhanced management review. But a job aid such as that basically forces someone to take that into consideration. So it builds the discipline into the process, and the staff has thought of these measures which, again, I think are really helpful to both the analysts that are adhering to the new discipline on RAIs and they kind of keep the system in check.

So it's those. But there is, as you said, enhanced management review, as well.

Mr. HUDSON. Makes a lot of sense.

Can you provide updated RAI tracking information to the committee?

Ms. SVINICKI. I know we have been working to begin to collect that, and I am not sure how many months of data we have now. Could I provide to the record either data or a status update on getting those tracking systems in place?

Mr. HUDSON. That would be much appreciated.

Do managers in the Offices of the Nuclear Reactor Regulation and New Reactors review additional rounds of RAIs, as GAO reported was the agency's intent?

Ms. SVINICKI. I believe that that is still occurring. I don't know to what extent. As we get the job aids and other measures in place, it may be that there isn't as much need for the direct review because, again, the checklists and process are basically forcing the new accountability and discipline. But we can provide that for the record.

In early stages, there was management review of all subsequent rounds.

Mr. HUDSON. I appreciate that, and I would be very interested in knowing what you found during these reviews in both offices.

So thank you very much for that.

Mr. Chairman, unless any other witnesses would like to chime in—great. Well, thank you very much, Mr. Chairman. With that, I yield back.

Mr. FLORES. The gentleman yields back.

Mr. Duncan, you're recognized for 5 minutes.

Mr. DUNCAN. Thank you, Mr. Chairman, and I thank the panelists for being here as long as you have.

One thing about being a junior on this, you get to go last. All the groovy questions have been asked already, so we are going to reach into our tool chest here.

First off, I want to encourage my friends over in the United States Senate to confirm a great South Carolinian to the NRC, and that's David Wright, and would be a great addition to the NRC.

I want to lend my voice to—Mr. Shimkus and others have talked about Yucca Mountain and a need for a long-term, stable storage facility for nuclear waste.

They have 40 years' worth of nuclear waste sitting at the Oconee nuclear station on the beautiful shores of Lake Kilwee, and that's just one nuclear reactor or nuclear power plant in the country that has nuclear waste stored onsite either in dry cask or wet cask storage.

And we could throw in Savannah River site, Hanford, Idaho Flats, Oak Ridge, and all these things where we have waste coming out of the environmental management efforts there.

They need to go somewhere, too. Vitrify it, put it somewhere for long-term, stable storage.

I want to talk about V.C. Summer a little bit. One-half of all the new reactors under construction in the United States happen to be happening in South Carolina at V.C. Summer, and 7, 8 years into the project, the rug gets pulled out from under and the construction stops.

And, you know, I wonder how we as a nation will be able to go forward with nuclear power generation and new nuclear reactor construction after V.C. Summer.

How are you going to incentivize investors to put that kind of money up and the tens of years that takes and the tens of billions of dollars in investment just for the permitting and licensing before you even get into the construction?

How are you going to encourage investors to go that length, knowing that 7, 8 years into the investment, the rug could get pulled out from under them and they lose that investment?

Now, they couldn't foresee the bankruptcy of Westinghouse and, you know, there were a lot of unforeseen things that kind of led into it, I guess.

But I am concerned about the future of nuclear energy, and I will assume since you're all in NRC, you all support nuclear power production. Would that be a safe assumption?

It's a yes-or-no question. Do you support nuclear power generation?

Ms. SVINICKI. Well, we have to maintain objectivity in our independent safety and security licensing determinations. But I would note, as a degreed nuclear engineer, I didn't choose to go into the field because I thought poorly of the technology.

But that's not as a member of the Commission where, again, I have to step back from a view on advancing the nuclear power program or not. We have to be policy neutral on that.

Mr. DUNCAN. So, Madam Chair, last year at V.C. Summer you all had a number of NRC staff assigned to that project. Do you remember how many were assigned?

Ms. SVINICKI. Well, the onsite presence was five inspectors who were at V.C. Summer full time. They were supported by both in our Atlanta Region 2 office by supplemental inspections.

Our theory or our approach to having Georgia and South Carolina where the two projects were located is that out of our Atlanta base we could surge the deployment of the inspectors for the different expertise.

So they kind of supported out of a common pool. I am told, though, that the resourcing overall was 40 full-time equivalent positions.

Mr. DUNCAN. Right.

Ms. SVINICKI. So that would be kind of people on a fractional basis out of Atlanta and headquarters and the five at the site.

Mr. DUNCAN. Right.

So you have asked for an increase in the budget and the New Reactors office has significantly reduced workload, claims a 13 percent reduction in staffing, and yet you ask for an increase of $4 million in funding.

How do you explain that contradiction?

Ms. SVINICKI. Well, we could provide, I think, additional details for the record. But it would do with—as you note, there is a decline, such as the termination of the Summer project. But we do forecast that we will have increasing work on advanced reactors.

We are very engaged with that community, and in FY '19 we may have first submittals for designs to review of advanced reactor concepts.

Mr. DUNCAN. I guess for my constituents they look at half the reactors that were under construction in this country, the V.C. Summer and that project shut down. You had 40 people there, and they've got to be reassigned somewhere, maybe with NRC. I get that. But you're asking for an increase, going forward.

I understand what you're saying about looking at future technologies. That leads into my next question.

I am a strong advocate for small modular reactors. I've done a lot of research into molten salt reactors, and I hope those are the technologies that you're looking at because there's energy poverty in the world.

U.S. could be a leader in this. Right now, we are getting our butts kicked by Russia in the construction of nuclear reactors around the globe.

So I hope that new technologies do come online and you guys expedite the approval process of that, and we can get more nuclear production online.

Ms. SVINICKI. What I will just mention on molten salt technology is recognizing that we don't have a lot of experts conversant with some of these different reactor types.

We recently worked with Oak Ridge to develop a training course that we brought in house at NRC. We sent 90 of our folks through that training on molten salt reactor technology, and I was pleased that the staff included not just scientists and engineers but also lawyers and others that will have to have some kind of conversant knowledge of these new technologies. So we are working very much on the capability.

Mr. DUNCAN. OK. I thank you, Mr. Chairman. I yield back.

Mr. FLORES. Gentleman's time is expired.

Mr. Carter, you're recognized for 5 minutes.

Mr. CARTER. Thank you, Mr. Chairman. I apologize, bouncing back and forth. We had another subcommittee meeting at the same time.

Madam Chair, if you don't mind, instead of butchering your name, can I just call you Madam Chair? Is that OK?

Ms. SVINICKI. That's fine, but I do have a mnemonic. I happen to be a vegetarian, and I did live in Idaho and my Idaho friends are OK with it. But if you think of the terms finicky, like a finicky eater——

Mr. CARTER. Finicky.

Ms. SVINICKI [continuing]. If you say Svinicki, and so that's kind of——

Mr. CARTER. Swinicki.

Ms. SVINICKI [continuing]. That's the best mnemonic I can think of.

Mr. CARTER. Swinicki?

Ms. SVINICKI. Svinicki, with——

Mr. CARTER. Finiski. I am from south Georgia. We talk in Geechee, so I'm—you know, I am just sorry. I——

Ms. SVINICKI. I don't think I am making it any better.

Mr. CARTER. I don't think so.

Madam Chair, I want to talk about accident-tolerant nuclear reactor fuels. From what I understand, this is a game changer. Potentially, it could be, and it's something that I guess came out of the accident in Japan and through research they've come up with this.

You know, I represent southeast Georgia near Plant Vogtle, where we are currently building the two reactors, and I am glad that they're following up on that and they've decided to complete that project instead of abandoning it.

But at the same time, Southern Company just recently announced that at Plant Hatch, another nuclear facility near there, that they are actually going to be loading the lead test assemblies for what is known as the accident-tolerant fuels, or ATF, if you will, and that this was a first for the industry.

So my question is, What do you think about them? Is this a potential game changer, the ATFs?

Ms. SVINICKI. Well, as you know, the loading of the lead test assemblies at Hatch is among the first in the Nation.

We have some other proposals that we know utilities will be inserting assemblies, and accident-tolerant fuel is a generic term. There are various fuel vendors that are developing potential new fuels that fall under that heading. And this is the first step, is to collect the performance data from the lead test assemblies at Plant Hatch and other locations.

If the concepts prove out and the materials perform as predicted, which, again, needs to be demonstrated, these fuels will have the ability to retain what we call source term and behave better in certain severe accident conditions.

So you would have the potential for a diminished consequence off the reactor site should a low-probability accident occur. So that's the——

Mr. CARTER. So, potentially, it could be a game changer, potentially?

Ms. SVINICKI. It can be safety improvement.

Mr. CARTER. So let me ask you, is the NRC changing any of their licensing approach to be ready for this—for the use of this—for these fuels?

Ms. SVINICKI. Well, again, our regulations accommodate things such as lead test assemblies. Fuels have been developed and qualified in the past.

So I think that we expect that that same framework can be utilized for the qualification of accident-tolerant fuels. It'll just be something that, if new issues emerge or there are materials that have unexpected behavior, we'll have to work closely with the applicants to understand their plans for resolving that.

Mr. CARTER. So you believe you could use existing DOE codes? You wouldn't have to come up with new codes?

Ms. SVINICKI. We are engaged with discussion in DOE to learn the codes and tools that they have and to see if those could be utilized for our confirmatory analysis.

Mr. CARTER. OK.

Mr. Burns, Mr. Baran, thank you for having pronounceable names. But I wanted to ask you about Plant Vogtle.

As you know, there's been a lot of problems down there, particularly in the permitting. And it's been such a drawn-out process that, you know, we've actually had—Toshiba and Westinghouse, you know, went bankrupt, went out of business as a result of this.

And I just want to know what the NRC can do to speed up the permitting process. I mean, obviously, we all want safety, but at the same time, not all of the blame goes on NRC for the permitting process. But some of what they were concerned about was the permitting process and all the hoops that they had to jump through in order to get things permitted.

Mr. BURNS. Thank you, Congressman, for the question.

The interesting thing is to reflect back on the licensing process used, which is essentially adopted as a reform proposal in the late 1980s, the Part 52 process.

The advantages were enhanced standardization, so greater certainty. But the issue was in terms of some design changes and things as you went on, I think that's a lesson learned from it.

I think one of the things we are working through with Southern now is on the conformatory items called ITAAC. These are those last, in effect, a checklist when you're getting ready for—toward operation, and in terms of how they can be consolidated.

So, if anything, I think there are lessons learned there. I think we are trying to take those to heart. One of the things I would say too is going back, as you look at—you had a design that wasn't fully certified. While the applicant was coming in with the application for the license, they had to wait for Westinghouse to get through it.

That's a little bit different than, I think, the expectation of how the process would work. But, again, where I think we have some learning on some of these things in terms of changed processes once the license is issued, and I think we are seeing some of that applied, particularly as we go into the advanced reactor technology because I would say——

Mr. CARTER. Well, I hope they're—as you say, I hope there were lessons that were learned because we don't want this happening again. We need nuclear energy.

I am a proponent. I am an all-of-the-above and I believe this is clean fuel that we need, and we just need to learn our lessons from what was, obviously, you know, some serious mistakes that were made along the way.

Thank you, Mr. Chairman. I yield back.

Mr. FLORES. Gentleman's time has expired.

Seeing that there are no further Members wishing to ask questions of the first panel, I wish to thank all of our witnesses for being here today.

Before we conclude, I would like to ask unanimous consent to submit the following documents for the record. There are none.

Pursuant to committee rules, I remind Members that they have 10 business days to submit additional questions for the record, and I ask the witnesses to submit their response within 10 business days following the receipt of the questions.

Without objection, the subcommittee is adjourned.
[Whereupon, at 12:27 p.m., the committee was adjourned.]
[Material submitted for inclusion in the record follows:]

PREPARED STATEMENT OF HON. GREG WALDEN

Good morning and welcome to our hearing as we receive testimony from the three current NRC Commissioners. I thank you for taking the time to appear before the committee to discuss critical issues facing our Nation's nuclear industry.

Located on the Columbia River upstream from my Oregon district sits the Columbia Nuclear Generating Station. In 2017, the Columbia power plant's exceptional high-performance was recognized with a prestigious "Top Plant" award from a leading industry publication.

Recently, the plant performed continuously for nearly 2 years from one refueling outage to the next and set a new monthly generation record in December by operating at a 104 percent capacity factor—this means the plant generated more electricity than its expected output, because of how precise and efficient the system performed.

In addition to the Columbia nuclear station, six nuclear technology startups are in the Pacific Northwest. This includes Oregon-based NuScale Power, which is leading the way in Small Modular Reactor technology, and Terrapower, a Bill Gates-owned nuclear technology company. Both of those companies are partnering with the Department of Energy's Idaho National Laboratory, which I toured last week.

My visit to INL illustrated the vision and opportunity for America's nuclear innovators. The laboratory's nuclear scientists, in coordination with industry and academic partners, are developing new, safer nuclear fuels and the site is expected to host NuScale's first-of-a-kind SMR project.

To fully capture the potential benefits of nuclear innovation, the NRC must be prepared to review, license and regulate these new technologies in a timely and efficient manner. The NRC plays a vital role in assuring our Nation's fleet of commercial nuclear power plants operate safely, overseeing the civilian use of nuclear materials in medicine and industrial applications, and managing the safe storage and ultimate disposal of nuclear waste.

Technology is constantly changing in the world around us and we in Congress should facilitate and recognize how technology can improve the lives of our constituents. For example, this committee, led by my colleagues on both sides of the aisle, support the application of game-changing innovative technologies for automated vehicles. I am optimistic that a similar technology-focused approach for advanced nuclear energy will provide immense consumer and environmental benefits.

However, to enable this innovation, the NRC must identify barriers that would inhibit our nuclear innovators. This is why I'm pleased with NRC's recent "Innovation and Transformation" initiative. As I noted in a recent letter with Subcommittee Chairmen Upton and Shimkus to Chairman Svinicki, this initiative is a great opportunity to rethink how the NRC approaches its mission and performs daily functions.

I hope this initiative provides a fundamental examination of how new regulatory approaches can capture the benefits of new technologies, while preserving the same level of safety assurances. I look forward to hearing more about this initiative and what the Commission's vision is to further a culture change throughout the organization.

For example, the development of advanced nuclear fuels and certifying the use of those fuels through advanced modeling and simulation would significantly increase safety margins at nuclear power plants.

NuScale is an example of one of those innovative nuclear companies. NuScale's small modular reactor proposed design recently received approval for a significant milestone when the Nuclear Regulatory Commission signed off on the design's passive cooling system. This decision is a gamechanger for the regulatory framework and I applaud both NRC and NuScale on this breakthrough.

I appreciate the Commission's leadership and interest in this licensing process. I am keenly interested in hearing more about the status of the staff's review, the Commission's resolution of outstanding policy issues process, and expectations for the completion of this process.

The existing market and economic challenges for nuclear power are well known. But with a new generation of nuclear innovators enthusiastically tackling the big challenges, our nuclear future remains bright.

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FIFTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

2125 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–6115
Majority (202) 225-2927
Minority (202) 225-3641

April 10, 2018

The Honorable Kristine L. Svinicki
Chairman
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Dear Chairman Svinicki:

Thank you for appearing before the Subcommittee on Energy and the Subcommittee on Environment on March 20, 2018, to testify at the joint hearing entitled "Fiscal Year 2019 Nuclear Regulatory Commission Budget."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. Also attached are Member requests made during the hearing.

To facilitate the printing of the hearing record, please respond to these questions and requests with a transmittal letter by the close of business on Tuesday, April 24, 2018. Your responses should be mailed to Kelly Collins, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed in Word format to kelly.collins@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittees.

Sincerely,

Fred Upton
Chairman
Subcommittee on Energy

John Shimkus
Chairman
Subcommittee on Environment

cc: The Honorable Bobby L. Rush, Ranking Member, Subcommittee on Energy
The Honorable Paul Tonko, Ranking Member, Subcommittee on Environment

Attachments

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FIFTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

2125 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–6115

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Minority (202) 225–3641

April 10, 2018

The Honorable Stephen G. Burns
Commissioner
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Dear Commissioner Burns:

Thank you for appearing before the Subcommittee on Energy and the Subcommittee on Environment on March 20, 2018, to testify at the joint hearing entitled "Fiscal Year 2019 Nuclear Regulatory Commission Budget."

During the hearing, Members asked you to provide additional information for the record, and you indicated that you would provide that information.

To facilitate the printing of the hearing record, please respond to these requests with a transmittal letter by the close of business on Tuesday, March 24, 2018. Your responses should be mailed to Kelly Collins, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed in Word format to kelly.collins@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittees.

Sincerely,

Fred Upton
Chairman
Subcommittee on Energy

John Shimkus
Chairman
Subcommittee on Environment

cc: The Honorable Bobby L. Rush, Ranking Member, Subcommittee on Energy
The Honorable Paul Tonko, Ranking Member, Subcommittee on Environment

Attachment

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 11, 2018

The Honorable Fred Upton
Chairman, Subcommittee on Energy
Committee on Energy and Commerce
United States House of Representatives
Washington, DC 20515

Dear Chairman Upton:

The U.S. Nuclear Regulatory Commission appeared before the Committee on Energy and Commerce on March 20, 2018, at the hearing entitled, "Fiscal Year 2019 Nuclear Regulatory Commission Budget." From that hearing, you forwarded questions for the hearing record. The responses to those questions are enclosed.

If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

[redacted]

Eugene Dacus, Director
Office of Congressional Affairs

Enclosure:
As stated

cc: The Honorable Bobby L. Rush, Ranking Member
Subcommittee on Energy

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 11, 2018

The Honorable John Shimkus
Chairman, Subcommittee on Environment
Committee on Energy and Commerce
United States House of Representatives
Washington, DC 20515

Dear Chairman Shimkus:

The U.S. Nuclear Regulatory Commission appeared before the Committee on Energy and Commerce on March 20, 2018, at the hearing entitled, "Fiscal Year 2019 Nuclear Regulatory Commission Budget." From that hearing, you forwarded questions for the hearing record. The responses to those questions are enclosed.

If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

[redacted]

Eugene Dacus, Director
Office of Congressional Affairs

Enclosure:
As stated

cc: The Honorable Paul Tonko, Ranking Member
Subcommittee on Environment

U.S. House of Representatives
Committee on Energy and Commerce Joint Hearing
"Fiscal Year 2019 Nuclear Regulatory Commission Budget"
March 20, 2018
Questions for the Record

The Honorable John Shimkus

1. **In an October 8th, 2017 letter regarding the Design Basis Assurance EQ program, the Nuclear Utility Group on Equipment Qualification expressed concern that the ongoing NRC inspections of nuclear power plant licensee Environmental Qualifications (EQ) programs "are simply inquiries into and challenges related to licensees' EQ program licensing bases. These are questions which present perspectives and challenges by NRC inspectors related to fundamental, generic methodologies which have long been accepted as appropriate qualification methodologies throughout the industry.**

   Thus the areas of concern addressed in the comments primarily related to the use of the inspections to "re-evaluate" a plant's EQ licensing basis and its implementation with respect to several technical topics. These re-evaluations appear distinct from the intent of the inspections to assess the maintenance of the EQ program in accordance with a plant's EQ licensing basis. In short, those challenges and questions are inappropriate for this inspection process."

   a) **What evidence is there that calls into question the sufficiency of the NRC-approved EQ licensing basis for each plant?**

ANSWER.

There is no evidence that calls into question the sufficiency of the NRC-approved EQ licensing basis for each plant. The inspections verify that each licensee has adequately continued to implement the electrical equipment EQ program in accordance with 10 CFR 50.49.

EQ components are important for ensuring plant safety, and must be able to perform their function at radiation, temperature, and moisture levels associated with accident conditions. The NRC has not performed systematic EQ inspections of this detailed nature since the 1980s when licensees documented their approach to meet the 10 CFR 50.49 EQ requirements. Therefore, in 2015 the NRC staff selected EQ as a focused review area as part of a revised engineering inspection program intended to focus the NRC's efforts on important, risk- and safety-significant areas.

b) Have any licensees performed any testing or analyses in response to NRC inquiries as part of these EQ inspections?

ANSWER

The NRC staff is not aware of any testing that was performed by licensees as part of EQ inspections. However, licensees have performed analyses to address operability of the equipment that is considered degraded or non-conforming and to address corrective actions for non-compliance with 10 CFR 50.49 requirements.

Inspections to date found that most licensees are implementing their EQ program adequately. To date, no findings identified as a result of the current EQ-focused engineering inspections have been contested by the industry. The NRC staff has identified several unresolved items, which are being evaluated by a panel of staff with regional, technical, procedural, and legal expertise, to ensure that backfits are not imposed through the inspection process. The safety significance of these unresolved items will be determined as part of the staff's evaluation.

c) Were any of these tests or analyses performed at the suggestion of NRC staff or management?

ANSWER

To our knowledge, no testing or analysis was performed by licensees at the request of the NRC inspectors, staff, or management.

d) Please provide the NRC resources, by fiscal year, that have been applied to the EQ inspection effort since its inception.

ANSWER

2016	Plant	Total Hours	Total Cost
Region 1	FitzPatrick	272	72963
Region 2	Browns Ferry	384	102845
	Saint Lucie	539	144318
Region 3	D.C. Cook	403	107937
	Dresden	377	100902
Region 4	Columbia Generating Station	1116	298954
	South Texas	248	66464

2017	Plant	Total Hours	Total Cost
Region 1	Ginna	577	152879
	Hope Creek	555	147141
	Millstone	595	157726
Region 2	Hatch	652	172586
	McGuire	737	195239
	Watts Bar	784	207628
Region 3	Fermi 2	680	180068
	LaSalle	572	151646
Region 4	Arkansas Nuclear	520	137728
	Cooper	404	107070
	Wolf Creek	352	93346

2018	Plant	Total Hours	Total Cost
Region 1	Limerick	459	120651
	Oyster Creek	383	100795
	Seabrook	431	113353
	Susquehanna	531	139653
Region 2	Robinson	571	150042
	Sequoyah	692	181996
	Summer	641	168583
	Vogtle	625	164441
Region 3	Braidwood	397	104543
	Monticello	519	136497
Region 4	Comanche	496	130448

(1) The inspection hours reported herein account for direct inspection hours, travel, inspection preparation, inspection documentation, and inspection-related communications with the licensee(s).

(2) The Inspection Procedure, 71111.21N Design Basis Assurance Inspection (Programs), was piloted at certain sites in 2016. The pilot concluded and in the following year the inspection went into effect for all operating reactor licensee sites. The EQ program inspections will be completed in 2019.

(3) Time spent on public meetings including preparation and summaries, inspection program development, and inspection program activities related specifically to these inspections is not tracked.

e) Please list all the findings that have resulted from the EQ inspection effort.

ANSWER

Plant Name	Finding
Hope Creek*	Green. The NRC identified a non-cited violation (NCV) of Technical Specification 3.6.5.1, for failure to maintain secondary containment integrity.
Millstone	Green. The NRC identified an NCV of Technical Specification 6.8.1.a, "Procedures," because Dominion did not implement procedures as required by Regulatory Guide (RG) 1.33, Revision 2, Appendix A.9, "Procedures for Performing Maintenance," to properly maintain the environmental qualification of safety-related auxiliary feedwater solenoid valves 2-FW-43AS and 2-FW-43BS.
Pilgrim**	Green. The NRC identified an NCV of Technical Specification 5.4.1, Procedures, because Entergy did not establish an appropriate preventative maintenance (PM) schedule for the safety relief valve solenoid three-way operated valve (solenoid).
Pilgrim**	Green. The NRC identified an NCV of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, because Entergy did not correct a condition adverse to quality.
Pilgrim**	Green: The NRC identified an NCV of 10 CFR 50, Appendix B, Criterion III, Design Control, because Entergy did not verify, justify, and document the activation energy used to determine the thermal lifespan for main steam isolation valve (MSIV) position indicator switch assembly components.
Limerick	Green. The NRC identified an NCV of 10 CFR 50, Appendix B, Criterion III, Design Control, because Exelon's design control measures did not provide for verifying or checking the adequacy of design of the inboard high pressure coolant injection steam supply primary containment isolation valve from environmental effects.

Plant Name	Finding
Browns Ferry	Green. The NRC identified an NCV of 10CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to include vendor requirements for maintaining the environmental qualification of the MSIV limit switches in maintenance procedures.
St. Lucie*	Green. The NRC identified an NCV of Technical Specification 3.3.3.1 for failing to take the required actions after identifying a condition adverse to quality that affected the operability of the containment high range radiation monitors (RD-26-40 and RD-26-41).
St. Lucie	Green. The NRC identified three examples of an NCV of 10 CFR 50.49.e.(5), "Aging", for the licensee's failure to assure conformance with the qualification procedures and methods specified in IEEE 323-1974 "IEEE Standard for Qualifying Class 1E Equipment for Nuclear Power Generating Stations" as amended by Regulatory Guide (RG) 1.89 "Environmental Qualification of Certain Electric Equipment Important to Safety for Nuclear Power Plants."
St. Lucie	Green. The NRC identified an NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to verify, justify, and document an activation energy used to determine the thermal lifespan of safety related cable insulation.
McGuire	Green. The NRC identified an NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to translate requirements necessary for maintaining the environmental qualification of the pressurizer power-operated relief valve (PORV) NAMCO EA-180 limit switches into maintenance procedures.
Watts Bar	Green. The NRC identified an NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to implement instructions to replace Namco limit switch gaskets as required to maintain environmental qualification.
Watts Bar	Green. The NRC identified an NCV of 10 CFR 50.49(j), for the licensee's failure to maintain a complete record of qualification for Brand-Rex cables under environmental qualification binder WBNEQ-CABL-050.
Summer*	Green. The NRC identified a Green finding and associated NCV of 10 CFR 50.49 (e)(5) when the licensee failed to justify the basis for the activation energy used for Valcor solenoid operated valve XVX06050A in accordance with RG 1.89 Section C.5.c.
Summer	Green. The NRC identified a Green finding and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," when the licensee failed to verify the adequacy of design for the seismic qualification of valve XVX06050A in accordance with IEEE 344-1971. The violation resulted from corrective actions for EQ related deficiencies.
Summer	Green. The NRC identified a Green finding and associated NCV of 10 CFR 50.49 (e)(4) when the licensee failed to verify that reactor building spray pump A could perform its function under the radiation conditions expected during an accident in accordance with Section 2.1(3)(a) of NUREG 588.

Plant Name	Finding
Robinson	Green. The NRC identified an NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to establish a qualified life for the motors covered by Environmental Qualification Documentation Package (EQDP)-0803 in accordance with their administrative procedure AD-EG-ALL-1612, "Environmental Qualification (EQ) Program".
Robinson	Green. The NRC identified an NCV of 10 CFR 50.49, "Environmental qualification of electric equipment important to safety for nuclear power plants," for the licensee's failure to correctly identify the maintenance required to maintain the core exit thermocouple reference junction box in a qualified state.
Robinson	Green. The NRC identified an NCV of 10 CFR 50.49, "Environmental qualification of electric equipment important to safety for nuclear power plants," for the licensee's failure to correctly determine the most severe composition of chemicals for containment spray for the purposes of environmental qualification of equipment in containment.
Sequoyah	Green The NRC identified an NCV of10 CFR 50.49(e)(5), "Aging," when the licensee failed to replace, refurbish, or demonstrate additional life for components that exceeded their qualified life.
Sequoyah	Green The NRC identified an NCV of 10 CFR 50.49(f), "Electrical Equipment Qualification," when the licensee failed to perform an adequate similarity analysis for the environmental qualification of their Reliance 75 horsepower reactor lower compartment cooling fan motors.
Vogtle	Green. The NRC identified an NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for licensee's failure to verify drain holes were installed as assigned, following the licensee's evaluation of Information Notice 89-63, "Possible Submergence of Electrical Circuits Located Above the Flood Level Because of Water Intrusion and Lack of Drainage."
Fermi	Green. The NRC identified a Green finding and an associated NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to ensure that the protective devices installed in Motor Control Centers would not spuriously trip during design basis events.
Fermi	Green. The NRC identified a Green finding and an associated NCV of 10 CFR 50.49 (e) (1), "Environmental Qualification of Electrical Equipment Important to Safety for Nuclear Power Plants," for the licensee's failure to include the correct time-dependent temperature for EQ components in their EQ Program.
Fermi	Green. The NRC identified a Green finding and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failure to translate Environmental Qualification Requirements into Maintenance Procedures.
LaSalle	Green. The NRC identified a Green finding and an associated NCV of 10 CFR 50.49, Paragraph (f)(4), for the licensee's failure to provide adequate analysis in combination with partial type test data to qualify an Environmental Qualification (EQ) component.

Plant Name	Finding
La Salle	Green. The NRC identified a Green finding and an associated NCV of 10 CFR 50.49, Paragraph (j), "Environmental Qualification of Electrical Equipment Important to Safety for Nuclear Power Plants," for the licensee's failure to have adequate justification for extending the service-life for grease used in the bearing for EQ motors installed in a harsh environment.
Wolf Creek*	Green. The NRC identified an NCV of 10 CFR 50.54(q)(2) for the licensee's failure to maintain the effectiveness of the emergency action level schemes by providing adequate preplanned methods and compensatory measures for the loss of the containment high range radiation monitors.
ANO	Green. The NRC identified an NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," for the licensee's failure to properly resolve the environmental conditions in Room 38 following a high energy line break.
Comanche Peak	Green. The NRC identified an NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to verify that normal operating room temperatures were at or below the temperature used in the qualified life calculations for the environmental qualification of components.
Comanche Peak	Green. The NRC identified an NCV with two examples of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to control activities affecting quality prescribed by documented procedures for components important to safety.
Comanche Peak	Green. The NRC identified an NCV of Technical Specification 5.4.1, "Procedures," for the licensee's failure to specify a schedule for the replacement of items related to the environmental qualification of components important to safety.
*These findings were identified during EQ inspections, but are not performance deficiencies associated with a licensee's failure to implement requirements of their approved EQ program. **These findings were identified as a result of the EQ inspections. However, they were documented in a non-EQ inspection report.	

The following unresolved items (URI) are being evaluated by the staff to determine whether they should be addressed through inspection or other NRC processes.

Plant Name	Unresolved Item (URI)
Hatch	Potential Failure to Adequately Justify the Activation Energies by Licensee
Hatch	Potential Failure to Adequately Justify the Activation Energies Determined by 10 CFR 50 Appendix B Vendors
Robinson	Crouse-Hinds Electric Penetration Assembly Qualification and Life Extension

Plant Name	Unresolved Item (URI)
Robinson	Questions Regarding EQDP-0401 Method Used to Determine Activation Energy and Responsibility for Verification
Robinson	Penetration F01 Submergence
Robinson	Justification of Activation Energy of ASCO Solenoid Coil Assemblies
Watts Bar	Potential Failure to Address Environmental Qualification of Brand-Rex Cables
Watts Bar	Potential Failure to Justify Qualification of O-Rings by Commercial Grade Dedication
Watts Bar	Potential Failure to Address Environmental Qualification of Barton Transmitters
Summer	Potential Unjustified Qualified Life for ASCO Valves.
Summer	Failure to Perform Radiation Dose Analysis required for Exposed Components
Summer	Unjustified Activation Energy for Barton Transmitters

2. **Over the last decade, licensee's annual fees for NRC fuel facilities have increased dramatically. In some cases, licensee fees have more than tripled and NRC's budget to manage these facilities continues to rise, while the number of fuel cycle licensees continues to decline. NRC staff's lack of transparency increases the challenges for licensees to determine what they are paying for.**

    a) **What steps is the NRC planning on taking to bring NRC fuel facility annual fees back in line with historic norms?**

    b) **What can the NRC do to provide all of its licensees a clearer picture of how the commission is calculating annual licensees' fees and how those fees are being used? For example, would NRC consider sharing its budget execution data for the purposes of comparing those planned activities with what was budgeted?**

ANSWER:

a. There has been a downward trend in the NRC's budget for fuel facilities in recent years, which is consistent with the decline in the number of fuel facility licensees. However, there are a number of factors that have caused the annual fee per licensee to increase, even if the fee class budget decreased. These factors include a decline in collections of fees for services, a decrease in the number of licensees in the fee class, and increased cost of salaries and benefits for staff, comprised of a more experienced workforce following rapid downsizing and limited new hires. Additionally, salaries and benefits increases reflect year-over-year growth in the agency's share of employee benefit costs.

In fiscal year (FY) 2014, the fuel facilities fee class budget was $47.2 million. In FY 2018, by contrast, the proposed fee rule was based on a fuel facilities fee class budget of $35.1 million (a 25.6 percent change from FY 2014, but a slight increase from FY 2017). The final FY 2018 fee class budget is currently being developed based on the recently enacted appropriation.

The NRC remains mindful of the impact of its budget on the fees for licensees and continues to examine improvements and efficiencies that would allow additional reduction of the budget. In the fiscal year 2019 Congressional Budget Justification (CBJ), the requested budget for fuel facilities would continue the downward trend with a total budget of $38.3 million.

b. The NRC is committed to providing a fair, equitable, and transparent process for all of its decisions, including how fees are calculated each year. In an effort to

improve transparency, the NRC conducts public meetings on the fee rule and publishes work papers for both the proposed rule and final rule that show how the NRC calculated the annual fees for each fee category. The NRC has also provided additional information in the work papers in recent years and continues to explore ways to do so in the future. For example, the NRC plans to provide information in the FY 2018 final fee work papers that will show the estimated Part 170 collections to Part 171 collections as compared with the actual Part 170 collections to Part 171 collections completed for FY 2017.

As part of the CBJ, the NRC identifies the types of activities that are primarily recovered through annual fees. These activities include the fee class's share of corporate support, event response activities, rulemaking, research, mission support and supervisors, training, and travel. Additionally, the FY 2019 CBJ includes the FY 2017 budget execution data in all budget tables.

3. **One area where NRC plays an important role is in licensing facilities developing or providing advanced nuclear medicine innovations. For example, there is work underway by several companies to create a domestic supply for a certain medical isotope known as molybdenum-99 or Moly-99, which is critical for diagnostic imaging for 50,000 patients every day. As NRC is pursuing its reviews of isotope facilities, the international supply chain of Moly-99 we rely upon continues to be subject to disruption – which creates an urgent need to develop a domestic supply. So, unnecessary burdens and delays in regulatory approvals may impact not only the innovative companies but also the access to timely diagnostics in emergencies.**

a) Is the Commission aware of this tension between timely licensing and patient needs?

ANSWER.

The Commission is aware of the critical diagnostic role of molybdenum-99 (Mo-99) in U.S. medical procedures and the impact supply disruptions of this isotope may have on patient needs and the corresponding importance of timely licensing actions on these facilities. The Commission is committed to leveraging experience and efficiencies to support the timely review of requested Mo-99 licensing actions, including outreach and communication through public meetings and guidance development.

b) How is the NRC working to streamline and make more efficient review and approvals for medical isotope and related nuclear medicine facilities, as well as the regulatory approach for NRC materials licensees?

ANSWER:

The NRC is working to streamline and make more efficient its review and licensing of utilization facilities; production facilities; and special nuclear, byproduct, and source material.

In 2016, the NRC issued a 10 CFR Part 50 construction permit to SHINE Medical Technologies, Inc. (SHINE) for the production of molybdenum-99 using 8 accelerator-driven subcritical operating assemblies and 1 production facility. Using the Interim Staff Guidance developed for aqueous homogeneous reactors and radioisotope production facilities, the NRC staff completed its review of SHINE's construction permit application in 22 months from the time of docketing — two months ahead of its 24-month goal. This review demonstrated the NRC staff's ability to effectively and efficiently review an application for a novel technology.

Additionally, the NRC recently issued a second medical isotope construction permit to Northwest Medical Isotopes, LLC (NWMI), allowing NWMI to build a production facility for the processing of low enriched uranium (LEU) targets irradiated at existing research reactors. The review of the NWMI construction permit application was achieved by applying lessons learned from the SHINE review. The NRC staff completed its safety evaluation report within 23 months from the docketing of the application.

Looking ahead, the NRC staff anticipates receiving operating license applications from SHINE and NWMI within the next year, coinciding with the beginning of construction of these facilities. While uncertainty in the timing of these actions creates potential budget and resource challenges, the NRC staff continues to prepare for upcoming applications and oversight activities to support licensee schedules. For example, in December 2015, the NRC staff published Inspection Manual Chapter 2550, establishing a construction inspection program for non-power production and utilization facilities designed to produce medical isotopes. One of the

primary objectives of this construction inspection program is to verify the effective implementation of a licensee's quality assurance program with respect to the design, procurement, and construction of the facility. Inspections will be commensurate with the risk of the facility, focusing on the most safety-significant structures, systems, and components.

The reviews of medical isotope facilities often require collaboration across offices within the NRC. Therefore, the staff has established a Molybdenum-99 working group to ensure that the necessary expertise is available to respond to incoming license requests and emergent technical questions. In addition to the medical isotope reviews conducted under 10 CFR Part 50, this inter-office engagement has allowed the NRC to issue medical isotope-related materials licenses out of our Region III office in Lisle, IL, and develop guidance for medical use applicants and licensees in the Office of Nuclear Material Safety and Safeguards. For example, the NRC has issued materials licenses to Niowave, Inc. in support of the production of small amounts of Mo-99 through the fission of LEU targets using superconducting linear accelerators. Additionally, NorthStar Medical Radioisotopes, LLC has developed a new Technetium-99m generator system specifically designed for use with low-specific activity Mo-99. In support of this new technology, in February 2018, the NRC staff issued 10 CFR Part 35 licensing guidance for medical use applicants and licensees that will use this new system.

Public meetings continue to serve as valuable forums for the NRC staff to engage with the public and applicants to promote efficient and effective licensing reviews. Public meetings have provided an opportunity for the NRC staff to clarify expectations, licensing processes, applicable regulations and guidance, and review timelines. Further, the NRC staff has reduced the expenditure of resources by arranging public meetings, when appropriate, to clarify requests for additional information, engage in technical discussions, and discuss future licensing actions. So far in 2018, the NRC staff has held two public meetings with medical isotope applicants.

Additional public meetings are expected later this year to discuss licensee preparations for construction and operating license application submittals.

Based on its experience with the initial licensing of medical isotope facilities, the NRC staff is also working to create a more responsive and efficient technology-inclusive regulatory framework to better accommodate current and future licensees. For example, the NRC staff has developed a proposed rule to streamline the license renewal process for certain non-power production and utilization facilities (NPUF), including medical isotope facilities, thereby reducing the burden on both licensees and the NRC staff. The proposed rule would (1) eliminate license terms; (2) require licensees to submit an updated final safety analysis report to the NRC every 5 years; and (3) provide an accident dose criterion of 1 rem total effective dose equivalent for NPUF licenses other than testing facilities. The final rule is expected to be published and fully implemented by 2020.

4. **Government Accountability Office (GAO) report GAO-18-318 titled "Additional Action Needed to Improve Process for Billing Licensees" identifies actions to improve NRC's billing processes and also identifies several challenges that NRC's licensees have experienced.**

    a) The GAO report explains that NRC is planning to implement a new validation process for its billing process by October 2018. What is the agency's progress on meeting the deadline?

ANSWER:

All work involving the development of processes and procedures, as well as defining roles and responsibilities, will be completed by October 2018. Staff training is expected to be completed by December 2018.

b.) When is the NRC planning to implement electronic billing and what is the agency doing to meet the deadline?

ANSWER:

The NRC will begin phased implementation of electronic billing (eBilling) in October 2019.

The eBilling Project Manager has developed an initial project plan that includes major milestones up to the point of selecting the e-billing tool/platform targeted for award by October 2018. A final schedule and budget for the project will be determined and incorporated into the project plan after the selection of the e-billing tool. The Office of the Chief Financial Officer senior management will provide oversight to ensure all business process changes are communicated top-down throughout the agency and incorporated into NRC's standard license fee billing processes.

The NRC has recently completed outreach to a sampling of licensees via the Nuclear Energy Institute (NEI) to understand the system functional requirements for an e-billing tool. Furthermore, the NRC held a public meeting on March 15, 2018 to discuss the new invoice structure and talk about the agency plans for e-billing. Due to the wide range of licensees that pay fees to the NRC (e.g. large corporations, small entities), the agency needs to design a solution that is flexible for the licensee population.

The NRC is considering piloting the e-billing solution with a select group of licensees to gather feedback and improve the design prior to the production roll-out of the final product. Additionally, the NRC is considering a phased e-billing implementation based on licensee readiness. The selection of the licensee population for the pilot and phased approach will take place later in project development. The NRC recognizes that frequent communication with the licensees on the progress of this effort is critical to the success of the project. Therefore, the

NRC will provide periodic project status updates using a variety of methods, such as periodic written communications and/or additional meetings.

5. **The last time the Commission testified before the Committee, the NRC was still in the process of updating Management Directive 4.8 relating to budget execution. This directive, issued in August 2016, has now been in place for a full budget development cycle and seeks to (among other items), establish a process for "managing changes to the use of resources during budget execution that are made to meet current year program objectives and achieve optimal performance."**
    a) **Please describe any changes to NRC's recent budget management formulation and execution process that were the specific result of the revised directive.**
    b) **What additional steps could be undertaken to further refine and improve this budget development process?**

ANSWER:

a) With regard to budget formulation, there is now increased emphasis on using historical execution data during the budget formulation process. To support this, the Office of the Chief Financial Officer produces an end-of-year analysis that compares the budget as formulated with the budget as executed. In addition, prior year actuals are included in the budget tables in the CBJ.

With regard to budget execution, there is now increased emphasis on monitoring and timely reporting of significant resource reallocations to the Commission. Significant resource reallocations are deltas of greater than $500,000 or 4 full-time equivalents (FTE) at the product level.

b) As part of the agency's commitment to continuous improvement, adjustments are made to the budget process (within the policy guidance and direction in Management Directive (MD) 4.7 "Budget Formulation") as needed to improve effectiveness, efficiency, and accountability. For example, to increase transparency for our external stakeholders, additional information has been added to the CBJ regarding how budgeted resources impact fees in each programmatic business line. Improving the transparency of the linkage between budget and fees will help external stakeholders better understand how the workload estimates and timelines they provide impact the budget and fees.

6. **Government Accountability Office (GAO) report GAO-17-232 "Regulatory Fee-Setting Calculations Need Greater Transparency" identified a number of issues associated with NRC's process by which it conducts the statutorily-required fee recovery rulemaking. However, NRC staff considered options to improve portions of this process, including establishing a pilot program for flat fee structure for fuel facilities.**

    a. **Please provide an update on the status of the flat fee pilot project and any lessons learned since the implementation of the flat fee pilot project.**

    b. **Rate payers pay the bulk of NRC's costs. This includes an hourly rate that exceeds $260 per hour and an average annual cost over $180,000 per NRC staffer. Beyond the flat fee project, what other steps must NRC consider to bring additional discipline into the fee-setting process.**

ANSWER:

a. The NRC is currently in the process of developing a pilot program for a flat fee structure for uranium recovery licensees. As part of that process, the NRC developed a new data reporting structure because the data recorded using the previous structure had insufficient granularity for purposes of this effort and may have resulted in flat fees that were too high or too low for the work delivered. The NRC trained staff on use of the new data reporting structure and in October 2017 deployed the new structure. Additionally, the NRC has conducted meetings with the Agreement States that have uranium recovery licensees to gather additional information on the fee structures implemented in the Agreement States and their development processes.

b. By November 2018, the NRC expects to have collected sufficient data using the new reporting structure to complete an analysis of the uranium recovery license work that would allow the development of recommendations to the Commission regarding a potential flat fee program. The NRC remains mindful of anticipated changes to the uranium recovery fee class that would follow if Wyoming becomes an Agreement State and would examine its potential impact as part of any recommendations regarding a flat fee structure.

The NRC identified 37 activities to enhance the fee-setting process, including improvements to the NRC's license-fee website, the NRC's outreach to licensees concerning regulatory activities, information provided with invoices, and information in the CBJ. The NRC also convened a steering committee comprised of NRC senior executives to provide leadership for implementing these improvements over several fiscal years. At this time, 100% of planned FY 2017 activities and 70% of FY 2018 activities have been completed. The remaining FY 2018 activities are on track to be completed by October 2018.

Completed activities include publicly communicating generic estimates or ranges of fees for various licensing actions, adding information to the CBJ to clarify how the budget impacts fees, adding additional billing detail on the invoice, and developing a new internal report to streamline the development of the fee schedule. The NRC also enhanced its website to make more information available to the public regarding the proposed fee rule, including providing the supporting work papers that the agency used to develop the proposed fee rule amounts.

The NRC continues to look for improvements in its fee-setting process that would increase the transparency and predictability of licensee fees. Improvements under evaluation include examining fee categories to ensure that licensees are grouped into the correct fee classes, improving visibility on contract costs associated with licensing actions, improving billing to reduce potential errors that might affect the determination of annual fees in future years, and examining small entity size standards.

The agency is currently reviewing future planned activities in an effort to support enhanced equitability and further acceleration of planned fee transformation activities.

7. **In GAO's 2017 report on NRC's planned changes to its budget structure and justification (GAO-17-294), GAO reported that NRC completed making changes to its budget structure in fiscal year 2017, which involved eliminating the Office Support business lines and returning mission support activities back to the mission programs. To what extent have these changes improved transparency or lowered overhead costs?**

ANSWER:

After the elimination of the Office Support business lines in FY 2017, the NRC added a new product line of Mission Support and Supervisors within each business line chapter starting with the FY 2018 CBJ. This allows the CBJ to provide a transparent view of mission support activities attributed to each business line. The addition of this product line was not intended to lower overhead costs, but rather was implemented to assign the associated resources to the specific programmatic business lines they support. Additionally, the change improved transparency by enhancing consistency between the NRC budget and annual fee rule.

8. **The NRC's statutory mandate is to provide "reasonable assurance" of adequate protection of public health and safety. Commissioner Burns has described the concept as follows:**
   "[Reasonable assurance] is not absolute assurance of protection or an expectation of 100% risk free. Why is this important when it comes to understanding how to be a regulator? Well, every decision that the regulator makes must be viewed through this lens. An essential function of the NRC is to determine how much risk is acceptable when establishing its regulatory requirements."

   a. How does the NRC ensure that its statutory mandate to protect with "reasonable assurance" is interpreted appropriately and consistently throughout NRC Headquarters and the Regions?

ANSWER:

The NRC ensures that its statutory mandate to protect with "reasonable assurance" is achieved through risk-informed decisionmaking, in which risk insights are used to establish requirements that better focus attention on issues commensurate with their importance to health and safety. By evaluating risk and using risk information together with other factors, such as defense-in-

depth, the NRC establishes regulatory requirements that are sufficiently protective of health and safety notwithstanding some amount of risk that has been deemed acceptable. Generally, a licensee's compliance with NRC regulations and the provisions of its license is considered sufficient to demonstrate reasonable assurance of adequate protection.

Importantly, the NRC's internal process for developing regulations ensures that our licensees and other external stakeholders also have sufficient opportunity to provide input on proposed NRC regulations interpreting the NRC's statutory mandate. In addition to the standard public comment period on the text of a proposed rule, the NRC frequently holds public meetings and, for its significant proposed rules, publishes draft regulatory bases for public comment. Through these opportunities our licensees and other external stakeholders can provide feedback for the NRC's consideration as to whether standards being proposed by the agency are reasonable and sufficiently risk-informed before they go into effect. The NRC as a matter of practice also provides opportunities for external stakeholder input on non-binding interpretations of NRC regulations, such as guidance documents or generic communications, beyond what is required by law, by routinely publishing drafts of such documents for public comment and/or holding public meetings on these guidance documents. The NRC's public website on risk-informed activities includes a number of specific examples of ongoing licensing initiatives, projects, and activities being undertaken by the NRC staff, with an emphasis on a greater use of risk information in the areas of reactor safety, materials safety, and waste management: https://www.nrc.gov/about-nrc/regulatory/risk-informed/rpp.html.

The NRC staff ensures that its statutory mandate is interpreted consistently across the agency through its internal framework for the development of regulations and licensee guidance, as well as its internal policies and procedures (e.g., Inspection Manuals, Standard Review Plans, Management Directives, Enforcement Policy) that implement NRC regulations and inform its

oversight responsibilities, such as licensing, inspection, enforcement, and events assessment. NRC staff, both at headquarters and in the regions, use these policies and procedures in the daily course of performing the NRC's mission. This guidance must be consistent with NRC regulations and Commission policy. NRC management ensures that these internal procedures, as well as individual decisions guided by the application of these procedures, undergo sufficient review prior to issuance. However, the ultimate responsibility for determining whether reasonable assurance is achieved in the NRC's policy, rulemaking, and licensing decisions rests with the Commission.

b. How does NRC management ensure that the NRC is not regulating to an "absolute assurance" standard?

ANSWER:

NRC management is involved in the development and issuance of regulations with an emphasis on risk-informed decisionmaking, as described in the answer above, as well as in the agency's day-to-day regulatory activities implementing these regulations. The NRC's decisionmaking process is open and transparent, allowing both agency management and the Commission to consider licensee and other stakeholder input on whether a given agency decision is sufficiently risk-informed or provides reasonable assurance before the decision goes into effect.

However, since ultimate responsibility for determining whether reasonable assurance is achieved in the NRC's policy, rulemaking, and licensing decisions rests with the Commission, it is incumbent upon NRC management to identify new or novel circumstances that must be raised with the Commission and to maintain sufficient oversight of licensing actions to be able to identify when staff may be inappropriately redefining adequate protection or attempting to achieve absolute assurance.

The Commission has clearly articulated to NRC management its interest in the agency's capabilities and progress in risk-informed decisionmaking and recently directed the NRC staff to provide periodic updates on its efforts in this area. Most recently, in November 2017, the Executive Director for Operations provided an information paper to the Commission identifying challenges and proposing strategies for increasing the agency's capabilities to use risk information in its decisionmaking (SECY-17-0112, available at https://www.nrc.gov/docs/ML1727/ML17270A192.pdf). These efforts will continue to ensure the NRC is providing reasonable assurance of adequate protection of public health and safety rather than attempting to regulate to an "absolute assurance" standard.

c. Are you aware of any situations in which the NRC staff was potentially regulating to an "absolute assurance" standard? If so, what corrective actions were taken?

ANSWER.

Although there have been no attempts to regulate to an "absolute assurance" standard, on occasion, the staff makes policy proposals for Commission consideration that the Commission ultimately decides are beyond what is needed to provide reasonable assurance of adequate protection. For example, in 2017, the Commission disapproved the staff's request to establish an Interim Enforcement Policy for the purpose of exercising enforcement discretion for purported noncompliance with NRC requirements and nonconformance with design criteria during the pendency of licensee implementation of actions to address an open phase condition (OPC). Instead, the Commission directed the staff to verify that licensees have appropriately implemented the voluntary industry initiative on potential open phase conditions.

9. **In the Government Accountability Office (GAO) report GAO-17-294, "Changes Planned to Budget Structure and Justification," GAO noted NRC developed a system to alert responsible offices to update their guidance as guidance expiration dates approach. What is the current status of NRC's process to regularly update its directives to ensure that guidance does not become out of date?**

ANSWER:

On October 1, 2017, the NRC implemented changes to improve the effectiveness of the agency's MD process. The process changes include creating an 8-year maximum lifecycle for MDs. A centralized group within NRC oversees this process and provides a listing of MDs, along with revision status information, on the NRC internal Web site and tracks the currency of the MD catalogue through an agency-wide performance indicator. Finally, the group initiates the kickoff meeting for each MD approaching expiration to ensure that the revision is initiated on schedule.

10. **Compared to the FY 2018 annualized continuing resolution, the NRC's FY 2019 budget request increased by nearly $60M, even though it reflects a decrease of 149 FTE. The increase has been attributed to several factors, including an additional $47.7M for Yucca Mountain and $10M for advanced reactors. Even taking into consideration the additional $47.7M for Yucca Mountain and $10M for advanced reactors, this still leaves the FY 2019 approximately $30M over the FY 2018 budget considering the decrease of 149 FTE. Please explain what constitutes this $30M increase.**

a. Does the Commission believe this budget request is consistent with the spirit of Project Aim, which sought to "right-size" the agency and make it more efficient and agile?

ANSWER:

Although workload and FTE levels are decreasing, the decreases in workload and staffing are offset by the increasing cost of salaries and benefits (S&B). The S&B rate increase includes a government-wide increase in FY 2018 as well as a locality adjustment. Additional increases include the rise in the cost of health and retirement benefits. The implementation of Project Aim resulted in improvements in efficiency, effectiveness, and agility included in the FY 2019 budget request. We continue to refine our processes to make them more efficient, in the spirit of Project Aim, so that we keep increases to a minimum.

b. To what extent does the NRC review its budget request against its actual expenditures to ensure that its subsequent year budget request is as realistic and accurate as possible?

ANSWER:

The NRC's Office of the Chief Financial Officer produces an end-of-year analysis that compares the budget as formulated with the budget as executed. Historical execution data are provided to decision-makers for both FTE utilization and contract obligations in order to inform budget requests for future years. Beginning in the NRC's FY 2018 Congressional Budget Justification, the NRC has included a column displaying prior year actual obligations for each business line. In addition, during the year of execution, the NRC conducts quarterly performance discussions with all senior managers where workload and financial performance are discussed and assessed.

c. Similarly, does the NRC staff routinely review the fees charged for inspections against the estimated charges set forth in the inspection

procedures? If not, wouldn't doing so help identify any trends that would assist the NRC in budgeting with the most fidelity and transparency?

ANSWER:

The NRC reviews fees charged for inspections against the estimates set forth in the inspection procedures biennially, analyzes for trends, and determines whether the estimates or resources need to be adjusted. This information aids the NRC in developing the appropriate budget to meet its requirements and provides licensees improved transparency regarding projected costs for an inspection.

11. **The NRC budget includes $47.7 million and 124 FTE to restart the Yucca Mountain licensing proceeding. If Congress does not fund the Yucca Mountain proceeding, will NRC's FY 2019 budget request be adjusted downward to reflect the decreased planned workload.**

ANSWER:

If the enacted FY 2019 appropriation does not include funding for Yucca Mountain, the NRC will adjust accordingly.

12. **NRC's budget proposal for Fiscal Year 2019 lists a staffing goal of 3,184 FTE, excluding the Office of Inspector General. According to NRC's documentation, this is a reduction of 149 staff from FY 2018 levels of 3,333. The Commission's recent monthly report to Senate Environment and Public Works Chairman Barrasso reported a total staff of 3,240 in FY 2017 and staffing projections of 3,090 for the end of FY 2018.**

The numbers reported in the Senate EPW committee are starkly divergent from what is in the budget proposal. During the hearing, Commissioner Baran said the NRC ended the last fiscal year with 3200 FTE and Chairman Svinicki said current staffing is slightly over 3,000.

a. What is the agency's current staffing level?

b. Please describe the specific process that resulted in the FY 2018 FTE level in the Congressional Budget Justification to be listed as 3,333.

c. When did the agency last have 3,333 FTE in the organization?

ANSWER;

a. The NRC has 3,001.4 FTE on board as of 3/31/2018, not including the Office of the Inspector General. FTE on board is calculated by dividing the total scheduled hours for all staff for the pay period by 80 hours.

b. The FY 2018 Annualized CR FTE amount of 3,333 is equal to the FY 2017 enacted amount of FTE, excluding the Office of the Inspector General.

c. The NRC had 3,353.9 FTE on board as of 9/17/2016, not including the Office of Inspector General.

The Honorable Tim Walberg

QUESTION 1: **I have a question regarding interactions between FEMA and NRC in the regulatory process. Chairman Svinicki, NRC staff is analyzing the requirements for both decommissioned plant sites as well as advanced nuclear technologies. These requirements are based on the risk profile of those respective plants conducted by your staff. I have heard concerns that recently FEMA's REPP program has sought to expand its role and reflect qualitative concerns, which goes beyond the more disciplined and predictable, quantitative approach reflected in NRC's approach.**

a) Chairman Svinicki, will you please describe NRC's regulatory jurisdiction and process for offsite emergency preparedness?

b) Would you request a meeting with FEMA to resolve any potential jurisdictional issues that have recently been raised between the REPP program and NRC staff?

c) Lastly, would you please keep the Committee staff and my office informed of ongoing discussions on the issue?

ANSWER.

a) The Atomic Energy Act of 1954, as amended[1], and Title II of the Energy Reorganization Act of 1974, as amended[2], establish the NRC's regulatory authorities. Both of these laws provide broad regulatory powers to the Commission, and grant the Commission singular authority for making licensing decisions regarding the overall adequacy of emergency preparedness for a nuclear power plant site. This authority includes making

[1] 42 U.S.C. §§ 2011-2297h (2012)
[2] 42 U.S.C. §§ 5801-5891 (2012)

a final determination whether an emergency planning zone that extends beyond the site boundary is necessary and, if necessary, the appropriate size of the emergency planning zone to adequately protect public health and safety.

Respective agency authorities regarding nuclear power plant emergency plans are cited in 10 CFR §50.47(a)(2), which states:

> The NRC will base its finding [that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency] on a review of the Federal Emergency Management Agency (FEMA) findings and determinations as to whether State and local emergency plans are adequate and whether there is reasonable assurance that they can be implemented, and on the NRC assessment as to whether the applicant's onsite emergency plans are adequate and whether there is reasonable assurance that they can be implemented. A FEMA finding will primarily be based on a review of the plans. Any other information already available to FEMA may be considered in assessing whether there is reasonable assurance that the plans can be implemented. In any NRC licensing proceeding, a FEMA finding will constitute a rebuttable presumption on questions of adequacy and implementation capability.

In addition, the "Memorandum of Understanding [MOU] Between the Department of Homeland Security/Federal Emergency Management Agency and Nuclear Regulatory Commission Regarding Radiological Response, Planning and Preparedness" establishes the framework in which the NRC and FEMA cooperate on all aspects of radiological emergency response, planning, and preparedness. These aspects include: findings and determinations on the continued adequacy of offsite plans and

preparedness for an operating nuclear power plant site or a nuclear power plant site undergoing decommissioning; determinations whether there is a significant impediment to the development of offsite emergency plans by State and local authorities for proposed emergency preparedness licensing actions for new power reactor early site permit and combined license applications; and the development of radiological preparedness-focused information and education programs.

The process for NRC evaluation of a major deficiency identified by FEMA in offsite plans and preparedness, in which the NRC finds that the state of emergency preparedness does not provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency, is addressed in 10 CFR 50.54(s)(2). While the NRC will continue to base its finding of reasonable assurance on a review of FEMA findings and determinations, 10 CFR 50.54(s)(3) specifically states that "Nothing in this paragraph shall be construed as limiting the authority of the Commission to take action under any other regulation or authority of the Commission or at any time other than that specified in this paragraph."

b) A meeting between NRC Chairman Svinicki and FEMA Administrator Long is scheduled to occur next month. Additionally, the NRC staff and FEMA staff have held numerous meetings to discuss the issues that have been raised regarding the REPP program. In addition, NRC senior managers have met with FEMA senior managers to discuss these issues.

c) The NRC will ensure the Committee and your office are kept informed of ongoing discussions on this issue.

The Honorable G. K. Butterfield

QUESTION 1. **Chairman Svinicki, the NRC plays an underappreciated though very important role in overseeing the use of nuclear materials in medical products. I understand that the commission recently announced it would be proposing a rule updating the export licensing provisions pertaining to a compound called deuterium, which is essentially heavy water. Several biopharmaceutical manufacturers have incorporated very low levels of this compound into products they are testing in clinical trials due to its favorable impact on metabolism. Can you commit that you will take the unique aspects of clinical trials and the pharmaceutical supply chain into consideration during the development and implementation of this rulemaking as it relates to medical products?**

ANSWER.

Under current NRC regulations in 10 CFR § 110, the NRC licenses exports of deuterium both for nuclear end use, including as a moderator/coolant in certain nuclear reactors, and for non-nuclear end uses in a variety of medical, pharmaceutical, biomedical research activities and fiber optic technologies.

Recently, the number of applications for specific licenses to export deuterium for non-nuclear end uses has increased, prompting the NRC staff to consider a rulemaking to amend 10 CFR Part 110 regulations governing such exports. In particular, the NRC staff is currently working with the Executive Branch to assess revisions to the regulatory controls for exports of deuterium for non-nuclear end uses to make them more efficient and effective. As the NRC works through this process, we will consider input from all stakeholders, including input that may address the

unique aspects of regulating these medical products, and ensure that our regulations continue to protect public health and safety and the U.S. common defense and security.

Attachment 2 – Member Requests for the Record

The Honorable Greg Walden

1. **What is the NRC's forecasted total cost to complete the NuScale design review, and are you aware if NRC's currently performing with respect to the forecasted budget?**

ANSWER:

The NRC does not provide forecasted total costs for completing its reviews. However, the NRC does budget based on how many staff FTE it expects it will take to complete each review by fiscal year. For the NuScale design certification application review, there were 23.8 FTE included in the FY 2017 enacted budget, 33.0 FTE included in FY 2018 enacted budget, and 36.2 FTE proposed in the FY 2019 budget request. For FY 2017, the NRC expended 27.4 FTE and for FY 2018 Quarters 1 and 2, we have expended 24.7 FTE. As of January 2018, the NRC had billed a total of $16,643,723 to NuScale for its review since the application was submitted.

The NRC staff is on schedule to complete its technical review of the NuScale application in 42 months, with issuance of the final safety evaluation report planned for September 2020. In April 2018, the staff achieved its first major milestone, the completion of Phase 1 of the review, on schedule. Phase 1 represented a focused, dedicated, and high level of staff effort, which helped to identify several key technical issues early in the review. The NRC staff will continue working to resolve these issues in a timely manner during Phase 2 of the review. The Phase 2 milestone is scheduled to be completed in FY 2019.

The Honorable Tony Cardenas

1. **How is the department doing when it comes to recruiting today's technical folks that the department needs to fill the positions that would be ongoing?**

ANSWER:

Through its Strategic Workforce Planning efforts, the NRC is working to better identify our current and future workforce needs to ensure that we are hiring the right number of people with the right skills to support the mission in both the short- and long-term. Although the NRC's recruiting efforts have been limited due to declining workload, we continue to be successful in attracting highly skilled expertise for gaps in critical skills necessary to support the mission. Additionally, we are focused on maintaining a pipeline of individuals to fill our future workforce needs through summer internships and entry-level hiring and we continue to attend a small number of campus recruiting events, with a focus on very strong engineering programs, including Minority Serving Institutions (MSIs).

The NRC's proposed outreach schedule and planned participation in recruitment events for calendar year 2018 reflects a mix of schools and technical organizations, with a focus on engineering/science programs and diversity. These schools and organizations have a history of providing the NRC with a highly qualified and diverse applicant pool, which includes under-represented minorities, women, veterans, and disabled individuals. The schools are a mix of MSI's and recipients of grants under the NRC's Integrated University Program (IUP). Through the IUP, the NRC provides grants to academic institutions to support education in nuclear science and engineering, in part to develop a workforce capable of supporting the design, construction, operation, and regulation of nuclear facilities and the safe handling of nuclear materials. Individuals who received support through the IUP may be hired non-competitively by the NRC.

2. **Chairman if we could get a report from the commission on how local communities can enlist in making sure that young, talented folks can apply these kinds of programs. For example, the campuses that you are already involved in or the campuses that you would like to be involved in.**

ANSWER.

Our current recruitment efforts for internships and entry level positions are focused on individuals with the technical expertise needed to sustain the mission of the agency. To support our hiring goals, the NRC utilizes its established University Champions (UC) Program, in addition to focusing outreach efforts on MSIs, schools that have received funding under the NRC's IUP, and professional organizations that focus on helping veterans and individuals with disabilities find jobs. Through the UC program, NRC managers and senior staff volunteer to serve as emissaries of the NRC and act as liaisons with faculty and other university staff to promote awareness of the student and employment opportunities available at the NRC. Currently we have 56 UC's affiliated with 37 schools and one professional organization.

For calendar year 2018, the proposed list of outreach and recruitment events is as follows:

School/Professional Organization	Justification for participation
Alcorn State University	IUP recipient; MSI; Health Physics & Radiological Health Science
Drexel University	Civil, Chemical, Electrical, Materials Science & Mechanical Engineering
Texas Southern University	IUP; MSI; Health & Radiation Physics
Oregon State University	IUP; Nuclear Engineering & Radiation Health Physics
Texas A&M University	IUP; Nuclear, Mechanical, Chemical, Materials and Radiological Health Engineering, Health Physics and Geosciences; University Champion.
Purdue University Industrial Roundtable & Nuclear Engineering Opportunity Night (NEON) fairs	IUP; Nuclear, Materials, Civil, and Computer Engineering, Construction Engineering & Management, Geology, Geophysics, Radiological Health and Health Physics; University Champion
South Carolina State University	IUP; MSI; Nuclear Engineering; University Champion
University of Puerto Rico-Mayaguez	IUP; High Hispanic Enrollment; Chemical, Mechanical, Civil and Electrical Engineering; University Champion.
University of Michigan's Nuclear Engineering & Radiological Sciences (NERS) fair	IUP; Nuclear, Mechanical, Civil, Chemical, Environmental, Electrical, Computer and Materials Engineering, Radiological Sciences and Engineering Physics; University Champion
Society of Women Engineers (SWE)	Women Engineers - Encompasses Student and Professional components
EOP Careers & the disABLED STEM	People with disabilities - Encompasses Student and Professional components
Service Academy Career Conference (SACC) -2 fairs	Veterans and University Champion

The Honorable Richard Hudson

1. **Can you provide updated request for additional information (RAI) tracking information to the committee?**

Yes. Please see the enclosed table and the reports now being provided to the Committee each month.

Office of Nuclear Reactor Regulation

(a) Month/Year	(b) Number of RAIs Issued	(c) Number of RAIs Issued Prior to the Preparation of a Draft Safety Evaluation with Open Items	(d) Number of RAIs Issued in an Additional Round, Subsequent to Previous RAIs in Specific Technical Area or by a Technical Branch	(f) The Percentage of RAI Responses Provided by Licensees within 30 Days or the Date Mutually Agreed Upon	(g) The Number of RAIs prepared by NRC staff	(h) The Number of RAI Responses Reviewed by NRC Staff	(i) 12 Month Rolling Average, Number of RAIs Issued by Each Office
Nov 2017	217	Note 1	1	99%	217 Note 2	152	Note 3
Dec 2017	154	Note 1	4	100%	154 Note 2	162	Note 3
Jan 2018	205	Note 1	1	83%	205 Note 2	168	Note 3
Feb 2018	60	Note 1	2	94%	60 Note 2	138	Note 3
March 2018	81	Note 1	21	98%	81 Note 2	65	Note 3

Note 1: The database systems do not have readily available information that distinguishes between item (b) and (c). Accurately compiling the number of RAI questions issued prior to preparation of a draft safety evaluation with open items would require extensive manual document searches and analysis to cover the significant volume of project reviews. The count of RAIs is presented collectively under Item (b).

Note 2: The NRC employs contractors to supplement the staff in selected critical skill areas; however, all RAIs identified by contractors are evaluated by NRC staff to verify that they are necessary to support a regulatory finding. If the RAIs are necessary, they are formally prepared and issued by NRC staff. The NRC does not track the number of draft RAIs prepared by contractors. In addition, the NRC staff is responsible for making the final determination on the acceptability of all RAI responses.

Note 3: A 12-month rolling average will not be available until November 2018.

Office of New Reactors

Project Name	Number of RAIs Issued in November 2017	Number of RAIs Issued Prior to Preparation of a Draft SER with Open Items in November 2017	Number of RAIs Issued in an Additional Round, Subsequent to Previous RAIs, in Specific Technical Area or by Technical Branch in November 2017 (Note 1)	Percentage of RAIs Responses Provided by the Applicant/Licensee within 30 Days or the Date Mutually Agreed Upon in November 2017	Number of RAIs Prepared or Responses Reviewed by Contractors in November 2017 (Note 2)	Number of RAIs Prepared or Responses Reviewed by NRC Staff in November 2017 (Note 2)	12-Month Rolling Average (Note 3)
APR1400 Design Certification (DC)	0	0	N/A	N/A	0	0	N/A
Advanced Boiling Water Reactor (ABWR) DC Renewal (General Electric Hitachi (GEH))	0	0	N/A	N/A	0	0	N/A
Clinch River Early Site Permit (ESP)	5	0	N/A	N/A	0	5	N/A
NuScale Small Modular Reactor (SMR) DC	37	37	N/A	72%	0	37	N/A
NuScale Topical Reports	5	0	N/A	100%	0	5	N/A
Vogtle LARs	6	4	N/A	100%	0	6	N/A

Project Name	Number of RAIs Issued in December 2017	Number of RAIs Issued Prior to Preparation of a Draft SER with Open Items in December 2017	Number of RAIs Issued in an Additional Round, Subsequent to Previous RAIs, in Specific Technical Area or by Technical Branch in December 2017 (Note 1)	Percentage of RAIs Responses Provided by the Applicant/Licensee within 30 Days or the Date Mutually Agreed Upon in December 2017	Number of RAIs Prepared or Responses Reviewed by Contractors in December 2017 (Note 2)	Number of RAIs Prepared or Responses Reviewed by NRC Staff in December 2017 (Note 2)	12-Month Rolling Average (Note 3)
APR1400 Design Certification (DC)	1	0	N/A	100%	0	8	N/A
Advanced Boiling Water Reactor (ABWR) DC Renewal (General Electric Hitachi (GEH))	0	0	N/A	N/A	0	0	N/A
Clinch River Early Site Permit (ESP)	3	0	N/A	N/A	0	3	N/A
NuScale Small Modular Reactor (SMR) DC	62	62	N/A	83%	0	62	N/A
NuScale Topical Reports	7	0	N/A	100%	0	7	N/A
Vogtle LARs	3	3	N/A	0	0	3	N/A

Project Name	Number of RAIs Issued in January 2018	Number of RAIs Issued Prior to Preparation of a Draft SER with Open Items in January 2018	Number of RAIs Issued in an Additional Round, Subsequent to Previous RAIs, in Specific Technical Area or by Technical Branch in January 2018 (Note 1)	Percentage of RAIs Responses Provided by the Applicant/Licensee within 30 Days or the Date Mutually Agreed Upon in January 2018	Number of RAIs Prepared or Responses Reviewed by Contractors in January 2018 (Note 2)	Number of RAIs Prepared or Responses Reviewed by NRC Staff in January 2018 (Note 2)	12-Month Rolling Average (Note 3)
APR1400 Design Certification (DC)	0	0	N/A	0%	0	0	N/A
U.S. Advanced Pressurized Water Reactor (US-APWR) DC	1	0	N/A	N/A	0	1	N/A
Advanced Boiling Water Reactor (ABWR) DC Renewal (General Electric Hitachi (GEH))	0	0	N/A	N/A	0	0	N/A
Clinch River Early Site Permit (ESP)	0	0	N/A	N/A	0	0	N/A
NuScale Small Modular Reactor (SMR) DC	76	76	N/A	39%	0	76	N/A
NuScale Topical Reports	2	2	N/A	46%	0	2	N/A
Vogtle LARs	11	11	N/A	100%	0	11	N/A

Project Name	Number of RAIs Issued in February 2018	Number of RAIs Issued Prior to Preparation of a Draft SER with Open Items in February 2018	Number of RAIs Issued in an Additional Round, Subsequent to Previous RAIs, in Specific Technical Area or by Technical Branch in February 2018 (Note 1)	Percentage of RAIs Responses Provided by the Applicant/Licensee within 30 Days or the Date Mutually Agreed Upon in February 2018	Number of RAIs Prepared or Responses Reviewed by Contractors in February 2018 (Note 2)	Number of RAIs Prepared or Responses Reviewed by NRC Staff in February 2018 (Note 2)	12-Month Rolling Average (Note 3)
APR1400 Design Certification (DC)	0	0	N/A	0%	0	9	N/A
U.S. Advanced Pressurized Water Reactor (US-APWR) DC	0	0	N/A	100%	0	1	N/A
Advanced Boiling Water Reactor (ABWR) DC Renewal (General Electric Hitachi (GEH))	0	0	N/A	N/A	0	0	N/A
Clinch River Early Site Permit (ESP)	0	0	N/A	100%	0	3	N/A
NuScale Small Modular Reactor (SMR) DC	28	28	N/A	62%	0	28	N/A
NuScale Topical Reports	4	4	N/A	50%	0	4	N/A
Vogtle LARs	4	4	N/A	100%	0	4	N/A

	Number of RAIs Issued in March 2018	Number of RAIs Issued Prior to Preparation of a Draft SER with Open Items in March 2018	Number of RAIs Issued in an Additional Round, Subsequent to Previous RAIs, in Specific Technical Area or by Technical Branch in March 2018 (Note 1)	Percentage of RAIs Responses Provided by the Applicant/Licensee within 30 Days or the Date Mutually Agreed Upon in March 2018	Number of RAIs Prepared or Responses Reviewed by Contractors in March 2018 (Note 2)	Number of RAIs Prepared or Responses Reviewed by NRC Staff in March 2018 (Note 2)	12-Month Rolling Average (Note 3)
APR1400 Design Certification (DC)	1	0	N/A	0%	0	7	N/A
U.S. Advanced Pressurized Water Reactor (US-APWR) DC	1	0	N/A	N/A	0	1	N/A
Advanced Boiling Water Reactor (ABWR) DC Renewal (General Electric Hitachi (GEH))	0	0	N/A	N/A	0	0	N/A
Clinch River Early Site Permit (ESP)	8	8	N/A	80%	0	13	N/A
NuScale Small Modular Reactor (SMR) DC	73	73	N/A	91%	0	110	N/A
NuScale Topical Reports	4	4	N/A	100%	0	8	N/A
Vogtle LARs	2	2	N/A	100%	0	7	N/A

Note 1: NRO does not currently have an electronic system to track how many RAIs are issued in an additional round as a subsequent RAI to a previous RAI issued. To develop this capability within the current electronic system used to track RAIs would be labor and resource intensive.

Note 2: The NRC employs contractors to supplement the staff in selected critical skill areas; however, all RAIs identified by contractors are evaluated by NRC staff to verify that they are necessary to support a regulatory finding. If the RAIs are necessary, they are formally prepared and issued by NRC staff. The NRC does not track the number of draft RAIs prepared by contractors. In addition, the NRC staff is responsible for making the final determination on the acceptability of all RAI responses.

Note 3: A 12-month rolling average will not be available until November 2018.

2. **Do managers in the Offices of Nuclear Reactor Regulation [NRR] and New Reactors [NRO] review additional rounds of RAIs, as GAO reported was the agency's intent?**

ANSWER.

Yes. Prior to sending a second (and any subsequent) round of RAIs in a specific technical area, senior management (e.g., Division Director) approval is required. The NRC does not explicitly track Division Director reviews, however, oversight is expected to be captured through their concurrence when transmitting the RAIs. Further, Office Directors are notified of high-priority issues identified in reviews that would require additional rounds of RAIs.

To ensure that the staff continues to apply discipline and management oversight to the RAI process, mandatory RAI refresher training for applicable NRR, NRO, and Office of Nuclear Security and Incident Response staff and branch chiefs has recently been completed, with about 300 staff and supervisors attending the training. Additionally, periodic quality reviews are conducted to assess progress on recommendations and adherence to the guidance.

The Honorable Jeff Duncan

1. **You have asked for an increase in the budget and the new reactors office has significantly reduced workload, claims a 13 percent reduction in staffing, and you ask for an increase of $4 million in funding. How do you explain that contradiction?**

ANSWER:

The FY 2019 budget request for the New Reactors Business Line shows an increase of approximately $4 million over the FY 2018 Annualized CR amount. Although workload and FTE levels are decreasing, the decreases in workload and staffing are offset by the increasing cost of salaries and benefits (S&B) and additional resources requested for advanced reactor regulatory infrastructure activities. The S&B rate increase includes an across-the-board increase in FY 2018 as well as a locality adjustment. Additional increases include health and retirement benefits. The FY 2019 budget request also includes an increase in resources of $5 million to support activities related to the development of the regulatory infrastructure for advanced nuclear reactor technologies.

The Honorable Bill Johnson: Question for Commissioner Burns

1. **Under your leadership as Chairman, CRGR was directed to update its charter and revise its review procedures. Has CRGR issued its revised charter and if so what are the principal updates to the document?**

ANSWER:

The CRGR charter is currently under revision to clarify the responsibilities and functions of the Committee. The revised charter is scheduled for completion by June 29, 2018. Based on recent Commission and Executive Director for Operations tasking, the CRGR charter is being expanded to include plant-specific reviews in addition to generic backfitting reviews. Additionally, the revised charter will reflect the CRGR expanded involvement in reviewing rulemakings for the agency. To this effect, the revised CRGR charter will include an appendix that provides guidance to the staff on when to engage the CRGR on rulemakings. Consistent with recent legal evaluation of the agency's backfitting framework by the Office of the General Counsel, the revised CRGR charter will also reflect enhanced rigor in the execution of the compliance exception to the requirement to perform a backfit analysis for backfitting actions. The revised charter will also reflect enhanced openness in CRGR operations through inclusion of an option for external stakeholder participation to inform CRGR deliberations via public meetings.

The Honorable Adam Kinzinger

1. **Can you explain in more detail where there's an increase in corporate support costs? Chairman Svinicki also said there would be more information provided on Corporate Support costs.**

ANSWER:

When compared to the FY 2018 Enacted budget, the FY 2019 Corporate Support Business Line budget provides an increase of $3.2 million, but with a decrease of 8.0 FTE. While the FY 2019 President's Budget includes a decrease in FTE, savings from those reductions are offset by rising costs for salaries and benefits of the existing staff, comprised of a more experienced workforce following downsizing and limited new hires. Additionally, salaries and benefits increases reflect year-over-year growth in the agency's share of employee benefit costs for the remaining 609 FTE.

The Honorable Doris O. Matsui

1. **Can you outline some of the differences between the facilities, Holtec in New Mexico and Waste Control Specialists in Texas, envisioned by the two applications?**

ANSWER

Both applications request authorization to construct and operate a Consolidated Interim Storage Facility for spent nuclear fuel and both applications propose to incrementally expand the capacity of the facilities in phases through later license amendments. Some of the differences between the facilities, among others, include the size of the facilities and the types of storage systems. In the initial submittals, the Holtec application seeks authorization to store 8,680 Metric Tons of Uranium (MTUs), whereas the WCS application requests authorization to store 5,000 MTUs. The Holtec application plans for a maximum capacity of 100,000 MTUs whereas the WCS application references a maximum of 40,000 MTU. In these initial applications, Holtec seeks to store the material in its HI-STORM UMAX Canister Storage System and place them largely below-grade in a vertical orientation. The WCS application utilizes storage systems from two different vendors, NAC International and Orano (formerly Areva), and plans to use both horizontal and vertical configurations. Storage systems employed by Holtec, NAC, and Orano have all previously received licenses from the NRC. Both applications have been accepted for review by the NRC, however, a review of the WCS application is currently suspended at the applicant's request.

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