Chairman Stephen G. Burns Remarks
Morgan, Lewis, and Brockius Forum on Decommissioning
December 1, 2016

Decommissioning, as you know, is an activity on which the NRC and the industry has increased its focus in the past few years. Between February 2013 and December 2014, 5 reactor units permanently ceased operations – in such disparate locations and markets as Florida and California. Additional licensees have communicated to the NRC their intention to permanently close – including Fort Calhoun, which shut down two months ago.

A recent article titled "Nukes in the Crosshairs," published by the Rhodium Group, a research consultancy and advisory company, predicted an additional 24 gigawatts of existing nuclear capacity could be shuttered between now and 2030. The article suggests roughly half of the nation's nuclear plants located in competitive markets are at risk for early retirement.

Perhaps one blip in the trend is FitzPatrick, which announced its impending closure only to later announce it might stay open under new ownership, pending New York state passage of a "clean energy standard" and the NRC review of the license transfer. FitzPatrick notwithstanding, NRC efforts are turning toward decommissioning work in a way not anticipated a few years ago.

As you probably well know, the NRC's regulations currently allow three options to site owners when it comes to decommissioning: DECON, SAFESTOR and the heretofore unused ENTOMB. Licensees have pursued the more immediate DECON option or the deferred SAFESTOR option. No matter which option is taken, decommissioning must be completed within 60 years of cessation of operations under current regulations.

Before those initial plants signaled permanent shutdown beginning in 2013, it had been some 15 years since any reactor had entered decommissioning. In a decommissioning lessons learned report, the staff noted that this posed steep learning curves for both the NRC and the industry. In response to these challenges, NRC management consolidated staff from throughout the Office of Nuclear Reactor Regulation into a single branch within the office, which brings efficiencies in conducting reviews.

The agency also formed an interoffice decommissioning transition working group, which includes staff from the Office of Nuclear Materials Safety and Safeguards, to identify, prioritize and resolve challenges, and foster communications to both internal and external stakeholders.

Hours expended by the staff for the most recent five decommissioning plants show a downward trend in work hours needed for review based on experiences gained from prior reviews.

One thing to note – we've identified the importance of early licensee engagement with the NRC. And we have noted as a good practice, although not mandatory, the licensee establishing a local community advisory panel. Public concerns related to the NRC historically have included decommissioning funding adequacy, timeliness of decommissioning, and spent fuel remaining on site. Some concerns outside of the NRC purview include economic losses to the community related to the plant closure.

As pointed out in a recent report on lessons learned from the closure of the Vermont Yankee plant, which was written by a team of local government planners, public concerns – even opposition to a plant – do not go away with the plant's closure. We have seen a similar

response to the closure of San Onofre, where some continue to voice concerns or objections to licensee – and sometimes NRC – activities there. For these reasons and more, advisory councils can be used as part of community engagement during the decommissioning process.

Estimated decommissioning costs range from $280 to $812 million. Many factors may affect that, including type of reactor or facility, location and plans for spent fuel storage. The NRC requires plants to report to the agency the status of the decommissioning funds at least once every two years, and then annually within five years of the planned shutdown and once the plant ceases operation. We also require the comprehensive post-shutdown decommissioning activities report –PSDAR – be submitted within two years after submitting their certification of permanent closure.

The PSDAR is designed to provide the NRC and the public with a general overview of the company's proposed decommissioning activities. The report includes estimated costs for decommissioning and an affirmation that the decommissioning can be completed with impacts that are, in the words of our regulation, "bounded by appropriate previously issued environmental impact statements," such as the Generic Environmental Impact Statement for Decommissioning.

Because the PSDAR only provides information, its implementation does not require NRC approval. However, the agency does review such submittals to confirm that the described activities meet regulatory requirements, and are within the licensing basis. We make the report public for review and comment, and a public meeting near the plant is also held.

We recognize one of the sticking points, as far as some members of the public and even some licensees are concerned, has to do with our current position of using exemptions from requirements that apply to operating reactors during the plant's decommissioning status. The current regulatory framework for decommissioning uses exemptions and relaxation of pre-existing orders when the reduced risk of a facility without fuel in the core, and with spent fuel being stored in pools, is realized. Typical exemption requests address emergency preparedness, security and the use of the decommissioning trust fund for spent fuel management.

The Commission has a rulemaking underway to address, at least in part, the use of exemptions for decommissioned sites. To recap – the Commission directed staff to proceed with a decommissioning rulemaking. The Commission also directed staff to continue processing current and pending applications for decommissioning amendments and exemptions until that rule is complete.

The Commission provided the staff with an initial scope for the rulemaking, including the graded approach to emergency preparedness, the appropriateness of retaining the three existing options for decommissioning, the advisability of NRC approval of a licensee's post-shutdown decommissioning activities report, and the appropriate role of state and local governments and other stakeholders. The Commission left the door open for staff to consider other issues within scope as they deemed relevant.

The staff published an Advance Notice of Proposed Rulemaking to obtain stakeholder feedback, and held a public meeting in December last year. We received some 162 comment submissions from a variety of sources with a range of views. For example, NEI recommended a focused rulemaking, i.e. one of limited scope to focus on efficiencies needed to reduce exemptions. Others, including several members of Congress, opposed the narrow scope of a proposed rule.

The next milestone is the publication of a draft regulatory basis (justification for rulemaking) in mid-December 2016. A final regulatory basis is targeted for June 2017, followed by a proposed rule and draft regulatory guidance by April 2018. The final rule is currently on track to be before the Commission in late 2019. However, that time frame could slip, if additional, unexpected plants permanently shut down during the rulemaking development period and this necessitates the diversion of expert staff resources.

While our regulations derive from our statutory authority to independently license and regulate, other countries may divide responsibilities among different parts of government. In any event, the NRC as a regulator and the U.S. industry can both play important and complementary roles as plants in other countries move toward the end of their operating lives.

One of the challenges inherent in decommissioning plants in the U.S. is the issue of the spent fuel. Waste Control Specialists filed an application in April seeking a 40-year license for a consolidated interim storage facility. The facility would receive spent fuel from nuclear reactors for storage, pending final disposal.

The NRC will conduct an environmental review of the application to identify potential impacts, as well as a safety review to determine whether the WCS application meets the NRC's regulatory requirements.

The agency has not yet accepted and docketed the WCS application. If the NRC does docket the application, there will be a subsequent *Federal Register* notice announcing an opportunity to ask for a public hearing, and an end date for comments on the scope of the environmental review. There is more to come with this application.

It's important to recognize that decommissioning is not just a domestic activity. I've visited the Zion and Fermi sites undergoing decommissioning, and I've seen the extensive work being done at the Fukushima Dai'ichi site, in Japan. I've been asked to speak about decommissioning in Korea and Sweden, as well as to representatives of the French parliament. The world is increasingly looking to the U.S. as a model for decommissioning.

I want to end today by coming back to the beginning. While some plants march toward closure, at least one, FitzPatrick has reversed course, away from closure. This raises the question of reversing the trend. Can a closed plant actually start back up again?

We have experience with plants that have been shut down for extended periods due to management or operational concerns and then restarted, such as Browns Ferry Unit 1 (shut down for about 22 years), Unit 2 (shut down for about 6 years) and Unit 3 (shut down for about 8 years). Others were shut down for shorter periods, such as Davis-Besse (shut down for about 2 years) and Salem (shut down for about 3 years). In none of those instances, however, were the reactors defueled or in a status of terminated operations.

Our current framework, outlined in Section 50.82, states that once the licensee certifies to us the fuel has been removed from the reactor, the plant is no longer authorized to operate. Although our guidance acknowledges the situation where a licensee decides it wants to operate the facility again, it does not provide details on how that could be done. The guidance simply states that the licensee would have to notify the NRC and any approval to return the plant to operation would be handled on a case-by-case basis. The NRC would need to engage industry on what they envision from a licensing and technical standpoint.

While I believe there is no legal prohibition to amending the process to allow restarting a “mothballed” site, there are lots of questions. For example, how would we address emergency planning, and security requirements as done currently under SAFSTOR? What kinds of maintenance and surveillance would be necessary to ensure that mothballed equipment could be safely used again in the future?

At this point the proposed decommissioning rulemaking does not envision a "mothballed state.”

Thank you for your attention this morning. I hope I addressed some of your areas of interest. You, no doubt, have questions, and I am more than happy to address them.