REPORT OF THE NUCLEAR REGULATION SUBCOMMITTEE

The following report discusses significant legal and regulatory events that occurred over the past year impacting the nuclear industry. The report provides an overview of: (I) court decisions; (II) regulatory actions; and (III) legislative developments on the federal and state level.*

I. COURT DECISIONS

A. New York v. U.S. Nuclear Regulatory Commission

The United States Nuclear Regulatory Commission's (NRC's) efforts to address the environmental impacts of continued storage of spent nuclear fuel have faced recent challenges. The "Continued Storage Rule" represents the latest effort to tackle this issue as a result of a 2012 D.C. Circuit decision vacating the NRC's earlier "Waste Confidence Decision."[1] The Waste Confidence decision was overturned by the D.C. Circuit because the decision relied on the presence of Yucca Mountain as a final site for the disposition of all spent nuclear fuel.[2] The D.C.

* The Nuclear Subcommittee sincerely thanks the following authors, in alphabetical order, for their contributions to this report: Stephanie Biggs, Sachin Desai, and Kathy Oprea. Sachin Desai is the Chair of the Nuclear Regulation Subcommittee, and Kathy Oprea is the Vice-Chair of the Energy Bar Association's Nuclear Regulation Subcommittee. This report summarizes recent events and is not meant to espouse any positions or opinions of any person or organization.

1. *See generally* Final Rulemaking, *Continued Storage of Spent Nuclear Fuel*, 79 Fed. Reg. 56,238 (2014) (to be codified at 10 C.F.R. pt. 51); *see also* New York v. Nuclear Reg. Comm'n, 681 F.3d 471 (D.C. Cir. 2012) [hereinafter New York I].

2. *Id.* at 474.

Circuit required the agency to go back to the drawing board and analyze the environmental impacts as if no Yucca Mountain option were available.[3] The NRC issued its new rule, the "Continued Storage Rule," in 2014, which was challenged shortly thereafter.[4] The D.C. Circuit this time, however, found in favor of the NRC.[5]

On June 3, 2016, the D.C. Circuit denied petitions for review of the rule and generic environmental impact statement (GEIS) promulgated by the NRC regarding the continued, and potentially indefinite, storage of spent nuclear fuel within the United States.[6] The petitions, filed by several states, a Native American community, and several environmental organizations, alleged that the NRC failed to comply with its obligations under the National Environmental Policy Act (NEPA) when it created its Rule and GEIS, because the Commission failed to consider alternatives and mitigation measures regarding the continued storage of spent fuel, miscalculated the impacts from continued storage, and relied on unreasonable assumptions in the GEIS.[7]

The D.C. Circuit held that the NRC's decision-making was not arbitrary or capricious, and so rejected the petitioners' arguments.[8] The Court provided a detailed explanation of the Continued Storage Rule, GEIS, and how they fit into the broader NEPA framework.[9]

First, the D.C. Circuit held that the Continued Storage Rule was a "major federal action" under NEPA, and that the NRC complied with its NEPA obligations by preparing the GEIS.[10] Analogizing to the Waste Confidence Decision and Temporary Storage Rule in its recent *New York I* case, the court noted that the NRC rule here also "ha[s] a preclusive effect in all future licensing decisions" and so was a major federal action requiring an environmental assessment or a finding of no significant impact.[11] The court noted that the NRC fulfilled this NEPA obligation with its GEIS, which addressed the general, continued effects of on-site storage of spent nuclear fuel.[12]

The D.C. Circuit further agreed with the NRC's characterization that the Continued Storage Rule, although a major federal action, was not a licensing action.[13] The Continued Storage Rule, according to the court, simply incorporated the GEIS into future licensing proceedings, and "does not itself impose regulatory requirements on reactors."[14] The NRC could therefore analyze the alternative to continued licensing during site-specific licensing proceedings, and did not need to

3. *Id*. at 481.
4. 79 Fed. Reg. at 56,238.
5. New York v. Nuclear Reg. Comm'n, 824 F.3d 1012, 1023 (D.C. Cir. 2016) [hereinafter New York II].
6. *See generally New York II*, 824 F.3d 1012.
7. *Id*. at 1016.
8. *Id*. at 1014.
9. *See generally id*.
10. *Id.* at 1017.
11. *New York II,* 824 F.3d at 1017 (quoting *New York I*, 681 F.3d at 476).
12. *Id.*
13. *Id.*
14. *Id*.

include it in this GEIS.[15] The court elaborated that "when the NRC does make a licensing decision in partial reliance on the GEIS, it must *at that time* ensure that it has fully complied with NEPA."[16] In contrast, the court found that at the stage concerning the Continued Storage Rule, the NRC need only have considered the alternative of incorporating the GEIS into future licensing proceedings, which it did in this proceeding.[17]

Second, the court held that the GEIS sufficiently analyzed the impacts of continued storage of spent nuclear fuel at reactor sites.[18] The court dismissed petitioners' various claims challenging the sufficiency of the NRC's review, including that the NRC did not properly address the probability of failure to site a repository, the cumulative impacts of continued storage of spent fuel, and the risk of short-term, high-volume leaks.[19] The court also held that the NRC properly analyzed essentially common risks to reactor sites, based off of data from two reactor sites, and that the NRC waiver process ensures there is proper consideration of site-specific impacts, because the waiver process allows petitioners to challenge the GEIS for specific sites and this process is reviewable by the courts.[20]

The court also held that the assumptions used by the NRC in the GEIS were not arbitrary or capricious.[21] The court noted that arbitrary and capricious review is deferential to agency decision-making, and moreover that any differences of opinion regarding nuclear policy would be better addressed through the legislature, rather than the judicial branch.[22]

B. Natural Resources Defense Council v. Nuclear Regulatory Commission

In this case, the Natural Resources Defense Council (NRDC) sought to intervene in the license renewal proceedings for Exelon's Limerick nuclear power plant, and challenge the conclusions of the nuclear plant operator and NRC.[23] During the license renewal process for a nuclear plant, environmental issues are marked as either Category 1 (issues that are addressed in bulk in the General Environmental Impact Statement (GEIS)), or Category 2 (those environmental issues that would need to be addressed by each nuclear plant specifically).[24] Category 2 issues may be challenged directly during license renewal proceedings, as Category 2 challenges implicate site-specific issues.[25] Category 1 issues, on the other hand, must be challenged via submission of comments during a public comment period for the site-specific proceedings.[26] The NRC has various avenues to respond to Category 1 comments, after which dissatisfied parties can either petition for a

15. *Id*. at 1017-18.
16. *New York II,* 824 F.3d at 1018 (emphasis in original).
17. *Id.*
18. *Id.* at 1019.
19. *Id.* at 1019-22.
20. *Id.* at 1019, 1021-22.
21. *New York II,* 824 F.3d at 1022-23.
22. *Id.* at 1023.
23. NRDC v. Nuclear Reg. Comm'n, 823 F.3d 641, 642 (D.C. Cir. 2016).
24. *Id.* at 646.
25. *Id*.
26. *Id.*

waiver of the NRC regulation or petition the NRC for a rulemaking to amend the GEIS.[27]

Here, the NRDC attempted to present information regarding severe accident mitigation alternatives (SAMAs) relevant to the Limerick nuclear generating facility.[28] Pursuant to 10 C.F.R. § 51.53(c)(3)(ii)(L) (Rule (L)), the NRC allows plants that have previously conducted SAMA reviews at initial licensing to use those analyses in the relicensing.[29] The Limerick plant had done such a SAMA review during its initial licensing.[30] The NRC uses site-specific information, like the SAMAs housed in Rule (L), as well as information in the GEIS, in its NEPA analysis.[31] The NRC categorizes Rule (L) as Category 1 for those plants that have already had their SAMA reviews completed, even though Rule (L) contains both general and site specific issues.[32]

NRDC alleged that the NRC violated NEPA by relying on an outdated and incomplete SAMA.[33] The Atomic Safety and Licensing Board allowed the contention that Exelon's Environmental Report (ER) "'erroneously conclude[d] that new information related to its [SAMA] analysis [was] not significant'" for the purposes of NEPA.[34] NRC staff and Exelon countered that NRDC was impermissibly challenging Rule (L) in an individual adjudication, as if it were a Category 2 issue.[35] Therefore, they argued that the NRDC should have only been able to challenge Limerick's SAMA analysis by petitioning for a waiver of the NRC regulation or petitioning for a rulemaking to amend the GEIS.[36] The NRC agreed and reversed the Board's ruling, holding that the NRDC was essentially challenging Rule (L), but noted that because this particular scenario had never arisen before, the "NRDC could potentially challenge the adequacy of Exelon's ER by seeking a waiver of Rule (L)."[37]

The Commission and Board subsequently agreed that Rule (L) could not be waived, with the Commission explaining that "a petitioner seeking [a] waiver must show that there is something extraordinary about the subject matter of the proceeding such that the rule should not apply."[38] Qualification for a waiver occurs only when the four factors found in *Millstone* are met.[39] Here, the Commission found that the NRDC failed to meet this burden because it was challenging issues generally applicable to Rule (L), rather than issues unique to Limerick's proceeding; thus, NRDC's argument failed to meet the "uniqueness" factor.[40]

27. *Id.* at 647.
28. *NRDC*, 823 F.3d at 647.
29. *Id.* at 646-47.
30. *Id*. at 646.
31. *Id*.
32. *Id.*
33. *NRDC*, 823 F.3d at 647.
34. *Id.* (internal citations omitted).
35. *Id.*
36. *Id*. at 647-48.
37. *Id.* at 648.
38. *NRDC*, 823 F.3d at 648.
39. *Id*.; *see In the Matter of Dominion Nuclear Conn., Inc. (Millstone),* 62 N.R.C. 551, 559-60 (2005).
40. *NRDC*, 823 F.3d at 648.

The D.C. Circuit reviewed the Commission's decision under the Administrative Procedure Act's arbitrary and capricious standard, noting that courts "must . . . be at [our] most deferential" with regards to the NRC's technical judgments.[41] The court did not find the NRC's actions to be arbitrary and capricious, stating that the NRC and nuclear plants themselves are "constantly evaluating new mitigation alternatives through channels other than the relicensing process," and that the relicensing process itself "also includes means for NRC to consider 'new and significant' information related to Category 1 issues."[42]

The court viewed the main issue to be whether NRDC was attempting to individually adjudicate an issue without a waiver that should instead have been generically resolved through a rulemaking; ultimately it concluded this was the case.[43] The court found that the NRC reasonably concluded that Rule (L) SAMAs can be treated generically as Category 1 issues for plants like Limerick which have already completed a SAMA analysis.[44] The court further found that the NRDC cannot maneuver away from this deference by arguing that its right to a hearing is derived from separate NEPA and Atomic Energy Act (AEA) hearing requirements, finding that neither statute gave "an absolute right to a hearing" or commanded the Commission to allocate hearings in a specific manner.[45] Absent a waiver, the NRDC could not challenge the agency's rulemaking via collateral attack, and needed to instead obtain a waiver or go through rulemaking.[46]

As to the waiver request, the court found that factors such as new technology and demographic changes near the location of the plant are applicable to many plants seeking license renewals, and are therefore not unique.[47] The court ended its opinion by noting that the NRDC could pursue its objectives through rulemaking, rather than attempting to circumnavigate that avenue with a collateral attack.[48]

C. In re State of Texas

On March 14, 2017, the state of Texas filed a petition in the Fifth Circuit Court of Appeals seeking a writ of mandamus against the Department of Energy (DOE), the NRC, and the Department of the Treasury, among others, alleging that the agencies failed to comply with the Nuclear Waste Policy Act (NWPA) in terms of developing the Yucca Mountain nuclear waste repository.[49] They are seeking the Fifth Circuit to: enjoin any efforts to conduct consent-based siting for a repository; require resumption of the Yucca Mountain proceeding as well as DOE's participation in the proceedings; require the Treasury to release money from the Nuclear Waste Fund to DOE and the NRC to complete the licensing proceeding;

41. *Id.* at 649 (quoting Balt. Gas & Elec. Co., 462 U.S. 87, 103 (1983)).
42. *Id.* at 650-51 (emphasis omitted).
43. *NRDC*, 823 F.3d at 651.
44. *Id.* at 654.
45. *Id.* at 652.
46. *Id.* at 654.
47. *Id.*
48. *NRDC*, 823 F.3d at 655.
49. Petition, *In re State of Texas,* No. 17-60191, at v (5th Cir. Mar. 20, 2017).

and issue an "order disgorging the Nuclear Waste Fund" as a backup in case the above does not occur.[50]

Texas's petition argues that the Executive Branch is ignoring "Congress's clear mandate" and emphasizes the government's clear requirement to develop Yucca Mountain.[51] It also argues that there are real impacts every day the government does not act: "Most importantly, Respondents' dereliction jeopardizes the health and safety of Texans[] and Americans."[52]

The Nuclear Energy Institute (NEI) recently moved to intervene in the case.[53] NEI maintains that Texas's action is at odds with the preservation of the Nuclear Waste Fund's statutorily-designated purpose of creating and funding a repository for permanent disposal of nuclear utilities' spent nuclear fuel, and therefore opposes Texas's prayer for relief.[54]

NEI first argues that Texas' prayer for relief "could undermine the Government's statutory and contractual obligation to dispose of the utilities' spent nuclear fuel and high-level radioactive waste."[55] NEI states that a court ordered restitution or disgorgement could be interpreted as signaling a total breach of contract on part of the government, which could then affect all Standard Contracts signed between utilities and the DOE, thereby altering those ongoing obligations.[56] As it stands, the Government has paid utilities for a partial breach of contract for the government's failure to begin disposing of nuclear waste at the contractual and statutory deadline.[57] This partial breach, however, is still understood to hold the Government responsible for its obligation to dispose of the waste, and utilities are moreover prevented from seeking alternative waste disposal plans under the Nuclear Waste Policy Act (NWPA).[58] NEI argues that Texas's claim would conflict with the mandates of the NWPA and the current state of the partial breach of contract arrangements between the federal government and the relevant utilities.[59]

NEI also argues that a finding for Texas could jeopardize the operating licenses currently held by nuclear power reactors.[60] The NWPA § 302(b)(1) "prohibits the NRC from issuing or renewing a license to operate a nuclear power reactor absent a disposal contract with the Federal government."[61] NEI argues that finding a total breach of contract with Texas could implicate all other contract statuses between utilities and the Government, thereby affecting the ability of reactors to obtain or maintain operating licenses.[62]

50. *Id.* at 25-28.

51. *Id.* at 3.

52. *Id.* at 17.

53. NEI Intervention Motion, *In re State of Texas,* No. 17-60191, at 5 (5th Cir. Apr. 5, 2017) [hereinafter NEI Intervention Motion].

54. *Id.*

55. *Id*. at 10.

56. *Id.* at 10-11.

57. *Id.* at 11-12.

58. NEI Intervention Motion, *supra* note 53, at 15-16.

59. *Id.* at 12-13.

60. *Id.* at 13.

61. *Id*.

62. *See generally* NEI Intervention Motion, *supra* note 53.

Finally, NEI argues that any restitution and disgorgement payments to Texas out of the Nuclear Waste Fund could increase the fees needed to be paid by other Fund members.[63] Here, the NEI notes that in *Alabama Power Co. v. Department of Energy,* the 11th Circuit refused to approve an agreement between a nuclear power plant owner and DOE which would have allowed the plant owner an offset against future Nuclear Waste Fund payments, finding the resulting potentially increased payments by third party utilities to be unacceptable.[64]

II. REGULATORY DEVELOPMENTS

A. Decommissioning

On March 15, 2017, the NRC published in the Federal Register a Draft Regulatory Basis document on *Regulatory Improvements for Power Reactors Transitioning to Decommissioning*.[65] A number of stakeholders within the nuclear industry had petitioned the NRC to undertake a rulemaking on this issue, as the number of proposed shutdowns of nuclear plants increases.[66]

This rulemaking "would amend [the] NRC's regulations for the decommissioning of nuclear power reactors."[67] As stated in the preamble to the Federal Register notice, "[t]he NRC's goals in amending these regulations would be to provide for an efficient decommissioning process; reduce the need for exemptions from existing regulations [in order to carry out decommissioning activities]; [and] address other [relevant] decommissioning issues."[68]

The NRC currently issues exemptions from its regulations for nuclear plants as they move into decommissioning because the agency believes non-operating facilities pose fewer dangers than operating ones.[69] These exemptions have drawn concerns from some local communities, particularly in Vermont, where state officials unsuccessfully petitioned the NRC to reverse the decision to allow exemptions at the Vermont Yankee Nuclear Power Plant to facilitate decommissioning.[70] This exemption process is also burdensome to licensees.

Comments on the Draft Regulatory Basis document were due June 13, 2017.[71] The NRC had not published a response to comments or held a public meeting on this topic as of June 30, 2017.

B. Next-Generation Reactors

The NRC has taken significant steps towards developing a regulatory framework for the licensing of next-generation nuclear reactors. These reactors, which

63. *Id*. at 13.

64. *Id.* (citing Ala. Power Co. v. Dep't of Energy, 307 F.3d 1300 (11th Cir. 2002)).

65. *Regulatory Improvements for Power Reactors Transitioning to Decommissioning*, 82 Fed. Reg. 13,778 (Mar. 15, 2017) (to be codified at 10 C.F.R. pts. 26, 50, 52, 73, 140).

66. *Id*.

67. *Id*. at 13,778.

68. *Id*.

69. *Id*. at 13,779.

70. NUCLEAR REG. COMM'N: VT. YANKEE DECOMMISSIONING TOPICS, https://www.nrc.gov/info-finder/decommissioning/power-reactor/vermont-yankee/decomm-topics.html (last visited Oct. 17, 2017).

71. 82 Fed. Reg. at 13,778.

include small modular reactors and non-light water (advanced) reactors, have many common traits, including passive safety features, the potential for lower construction costs (in part because many operate at atmospheric pressure, and many can be built at a factory), and smaller reactor sizes that reduce per-reactor costs.[72] Of the many steps taken by the NRC, a few are discussed below.

On February 3, 2017, the NRC issued Draft Guidance for Developing Principal Design Criteria for Non-Light Water Reactors (non-LWR).[73] The general design criteria for light-water nuclear power plants are found at Appendix A to 10 C.F.R. Part 50.[74] These design criteria, which form the core of the NRC's regulatory framework for reactor licensing, are geared towards large light-water reactors.[75] In this Draft Guidance the NRC staff explains how licensees can adapt the general design criteria to advanced reactor designs.[76] It also presents in the three appendices: (A) technology-neutral design criteria for advanced reactors generally; (B) technology-specific design criteria for sodium-cooled fast reactors (SFRs); and (C) technology-specific design criteria for modular high temperature gas-cooled reactors (mHTGRs).[77] The Draft Guidance was developed in close conjunction with DOE.[78]

In December 2016, the NRC staff issued its final "Vision and Strategy" Statement for regulating advanced reactors, setting forth expected next steps and a path towards "having at least two non-LWR designs reviewed by the NRC and ready for construction by the early 2030s."[79] Recently, the agency issued Near, Mid, and Long-Term Advanced Reactor Implementation Action Plans in support of its strategy.[80] In June 2017, the NRC issued Preliminary Draft Guidance on testing needs and prototype plants for advanced reactor designs.[81] And on April 13, 2017, the NRC issued a draft regulatory basis document for emergency preparedness for small modular reactors and other next-generation reactor technologies.[82]

Some potential advanced reactor applicants have been critical of the NRC's timeline for regulating advanced reactors, asking the NRC to be ready to look at

72. NUCLEAR REG. COMM'N: ADVANCED REACTORS (NON-LWR DESIGNS), https://www.nrc.gov/reactors/new-reactors/advanced.html (last visited Oct. 17, 2017).

73. *Guidance for Developing Principal Design Criteria for Non-Light Water Reactors*, 82 Fed. Reg. 9,246 (Feb. 3, 2017).

74. 10 C.F.R. pt. 50, App'x A (2007).

75. 82 Fed. Reg. at 9,247.

76. *Id*.

77. *Id*.

78. *Id*.

79. NUCLEAR REG. COMM'N, NRC VISION AND STRATEGY: SAFELY ACHIEVING EFFECTIVE AND EFFICIENT NON-LIGHT WATER REACTOR MISSION READINESS 27 (2016).

80. NUCLEAR REG. COMM'N, NON-LIGHT WATER REACTOR MID-TERM AND LONG-TERM IMPLEMENTATION ACTION PLANS (2017).

81. NUCLEAR REG. COMM'N: PRELIMINARY DRAFT, NUCLEAR POWER REACTOR TESTING NEEDS AND PROTOTYPE PLANTS FOR ADVANCED REACTOR DESIGNS (2017).

82. *Emergency Preparedness for Small Modular Reactors and Other New Technologies*, 82 Fed. Reg. 17,768 (Apr. 13, 2017) (to be codified at 10 C.F.R. pts. 50, 52).

advanced reactor applications as early as the late 2010s and early 2020s.[83] Stakeholders have also asked the NRC to set forth a regulatory path forward for the fuel cycle for advanced reactors.[84] These reactor designs usually require new types of fuel compared with fuel currently used in large-scale light-water reactors in the United States.[85] This includes the use of high-assay low-enriched uranium fuel, which has a higher concentration of the fissile isotope of uranium than those used in current reactors, the use of depleted uranium, or another fuel source altogether, such as thorium.[86]

C. DOE Part 810 Export Controls

In early 2015, DOE completed a multi-year effort to revise its export controls regulations, which govern the export of nuclear technology and assistance outside the United States, and to foreigners within the United States.[87] Since then, DOE has issued an updated guidance document and a Frequently-Asked-Questions document to further clarify the amended Part 810 regulations.[88]

The Part 810 regulations cover a range of nuclear technology, including nuclear reactors, fuel fabrication, and uranium enrichment technology.[89] Part 810 regulates foreign access to that technology in the U.S., as well as U.S. individuals providing assistance with these types of technologies abroad.[90] The amended regulations make a number of changes to the DOE export control framework.[91]

First, the amended regulations replace a previous list of "restricted countries," i.e., countries that required express specific authorization from the Secretary of Energy to authorize the export, with a list of "generally authorized" destinations, i.e., an affirmative list of countries where the export of certain nuclear technology or assistance is permitted under the Part 810 regulations without the need for an application for a specific authorization from the Secretary of Energy.[92] In some cases the general authorizations are limited to certain projects (such as Mexico) or certain areas of the country (such as with Ukraine).[93]

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83. Amy Roma & Sachin Desai, *Comments Received on the NRC's Vision Statement for Advanced Reactors*, HOGAN LOVELLS NEW NUCLEAR (Oct. 6, 2016), http://www.hlnewnuclear.com/2016/10/comments-received-on-the-nrcs-vision-statement-for-advanced-reactors.

84. *Id.*

85. WORLD NUCLEAR ASS'N: URANIUM ENRICHMENT, http://www.world-nuclear.org/information-library/nuclear-fuel-cycle/conversion-enrichment-and-fabrication/uranium-enrichment.aspx (last visited Oct. 17, 2017).

86. *Id.*

87. Final Rulemaking, *Assistance to Foreign Atomic Energy Activities,* 80 Fed. Reg. 9,359 (Feb. 23, 2015) (to be codified at 10 C.F.R. pt. 810).

88. DEP'T OF ENERGY, GUIDANCE TO THE REVISED PART 810 REGULATION: ASSISTANCE TO FOREIGN ATOMIC ENERGY ACTIVITIES (2016) [hereinafter Part 810 Guidance]; PART 810 FREQUENTLY ASKED QUESTIONS, https://nnsa.energy.gov/sites/default/files/nnsa/inlinefiles/nei_faqs_final_9-12-16_final_gc-53_adh.pdf (last visited Oct. 18, 2017).

89. Part 810 Guidance, *supra* note 88, at 4-5.

90. *Id.* at 4.

91. *Id.*

92. *Id.* at 4, 9.

93. *Id.* at 9, 15-16.

The list of generally authorized destinations largely tracks the list of countries with which the U.S. has entered into a bilateral agreement for civilian nuclear cooperation, a so-called "Section 123 Agreement," which is named after the provision in the Atomic Energy Act governing these agreements.[94] There are some exceptions, however, including China, Russia, and India.[95] While the U.S. has Section 123 Agreements in place with these countries, they remain non-generally authorized countries due largely to policy-related matters.[96] Exports of Part 810-covered technology or assistance to these countries requires specific authorization from the Secretary of Energy.[97] In addition to these changes, the amended regulations also expanded the scope of generally authorized activities to include certain emergency and operational safety activities at safeguarded or NRC-licensed facilities.[98]

Second, the amended regulations significantly clarified the scope of the Part 810 requirements, explaining which nuclear reactor and related technologies fall within the scope of the Part 810 regulations.[99] DOE, in amending its regulations, helped align its regulations to the NRC's export licensing regime set forth in 10 C.F.R. Part 110 (while DOE regulates the export of covered technology and assistance, the NRC regulates the export of physical equipment and materials).[100] For example, unlike Part 110, Part 810 did not set forth lists of covered equipment.[101] Under the amended rule, DOE now provides some description of the covered equipment, and also instructs users to refer to the NRC's illustrative list of covered equipment set forth in Part 110 for more information.[102]

Third, the amended regulations try to align the DOE regulatory scheme with those of other agencies.[103] In addition to amending the scope of Part 810 to better align with the NRC's nuclear export licensing provisions, DOE also explains in its guidance that exports authorized by the Commerce Department (which has oversight over the "balance of plant" portion of a nuclear reactor, as well as certain "dual use" equipment and technology — that is, items that can be used in both nuclear and non-nuclear applications — and exports authorized by the State Department generally do not need DOE authorization.[104] This helps exporters limit the need for repetitive authorizations from multiple agencies.[105]

94. 42 U.S.C. § 2153 (2008).

95. NAT'L NUCLEAR SECURITY ADMIN.: 123 AGREEMENTS FOR PEACEFUL COOPERATION, https://nnsa.energy.gov/aboutus/ourprograms/nonproliferation/treatiesagreements/123agreementsforpeacefulcooperation (last visited Oct. 17, 2017).

96. *Id*.

97. 42 U.S.C. 2153 § (a)(9).

98. Part 810 Guidance, *supra* note 88, at 4-5.

99. *Id*.

100. *Id*. at 5.

101. *See generally* Part 810 Guidance, *supra* note 88.

102. *Id*. at 5.

103. *Id*. at 3.

104. *Id*.

105. *See generally id*.

In addition, DOE has now established an online "e810" filing system to expedite the process of notifying or applying for authorizations from DOE for nuclear technology exports.[106] This represents a step by DOE to improve user friendliness and expedite the export authorization process.[107]

D. NRC Foreign Ownership, Control, or Domination Regulations

On April 27, 2016, the NRC published a Federal Register Notice solicitation for public comment on the Draft Standard Review Plan (SRP) on Foreign Ownership, Control, or Domination (FOCD), Revision 1.[108] The SRP "provides guidance . . . for [the] NRC staff [as to] whether an applicant for a nuclear facility license [issued under sections 103 or 104 of the Atomic Energy Act (AEA)] is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government."[109] This SRP has not been updated since 1999, and there has been criticism of the NRC Staff's inconsistency in FOCD determinations, which has worked to prevent or delay the issuance or transfer of operating licenses in recent cases.[110]

This draft revision of the SRP sets out the primary areas of revision: "establish[ing] guidance on graded negation action plan (NAP) criteria" to allow applicants to mitigate FOCD concerns; "allow[ing] for the use of license conditions to incorporate NAPs" and other controls to address FOCD concerns under "the staff's 'totality of facts' review approach;" and "incorporat[ing] provisions for analyzing [the FOCD implications of] foreign financing."[111]

The draft SRP also includes guidance regarding applications for approval of licenses where there are co-applicants, stating that the

> reviewer should consider each applicant to determine whether it is owned, controlled, or dominated by a foreign entity. If a co-licensee of an existing facility owns a partial interest in the facility and is transferring that interest, the acquirer should also be considered to determine whether it is owned, controlled, or dominated by foreign entity.[112]

106. DEP'T OF ENERGY: E810 PORTAL, https://e810.energy.gov (last visited Sept. 13, 2017).

107. *See generally id*.

108. *Draft Standard Review Plan on Foreign Ownership, Control, or Domination, Revision 1,* 81 Fed. Reg. 24,893 (Apr. 27, 2016).

109. *Id*. at 24,893.

110. *Id*. at 24,894; Letter from Ellen C. Ginsberg, Vice President, Nuclear Energy Institute, to Cindy Bladey, Nuclear Reg. Comm'n (July 25, 2016).

111. 81 Fed. Reg. at 24,894.

112. *Id*.

E. Recent Commission Decisions on COL Proceedings

From July 2016 to date, the NRC has issued six new Combined Licenses (COLs) for three different proposed facilities.[113] Two COLs were issued on October 20, 2016 for the Levy Nuclear plant, Units 1 and 2.[114] Two COLs were issued on December 21, 2016 to Duke Energy for two units at the proposed William States Lee nuclear power plant project.[115] And two COLs were issued on June 2, 2017 for two units at the Dominion North Anna nuclear power plant project.[116]

III. LEGISLATIVE DEVELOPMENTS

A. Yucca Mountain & Interim Storage

Multiple pieces of legislation directly affecting the nuclear industry have recently been introduced. With respect to the proposed Yucca Mountain repository front, H.R. 3053 was introduced by Representative Shimkus on June 26, 2017, in the Committee on Energy and Commerce.[117] The Nuclear Waste Policy Amendments Act of 2017 was presented to move forward the stalled Yucca Mountain project.[118] H.R. 3053 expedites the construction and licensing of the Yucca Mountain repository in several ways, including providing DOE with the ability to withdraw land permanently from all forms of entry, appropriation, and disposal under the public land laws.[119] Furthermore, the proposed bill includes increasing benefits payments to Nevada, and makes Nuclear Waste Fund money available to DOE without Congressional appropriation based on milestones.[120]

H.R. 3053 also includes provisions for federal and private storage initiatives to provide near-term options until Yucca Mountain is fully licensed.[121] These include requesting that the Secretary of Energy publish a request for information to evaluate options for monitored retrievable storage (MRS) agreements and MRS facilities.[122] MRS facilities are small temporary interim storage facilities to help stage shipments to a final repository.[123] The conditions on MRS agreements are

113. *See generally* NUCLEAR REG. COMM'N: COMBINED LICENSE APPLICATIONS FOR NEW REACTORS, https://www.nrc.gov/reactors/new-reactors/col.html (last visited Oct. 18, 2017) [hereinafter Combined License Applications].

114. NUCLEAR REG. COMM'N: ISSUED COMBINED LICENSES FOR LEVY NUCLEAR PLANT, UNITS 1 AND 2, https://www.nrc.gov/reactors/new-reactors/col/levy.html (last visited Oct. 18, 2017).

115. NUCLEAR REG. COMM'N: ISSUED COMBINED LICENSES FOR WILLIAM STATES LEE III NUCLEAR STATION, UNITS 1 AND 2, https://www.nrc.gov/reactors/new-reactors/col/lee.html (last visited Oct. 18, 2017) [hereinafter Combined License Applications].

116. For a complete listing of nuclear reactor COL applications and their status, *see* Combined License Applications, *supra* note 115.

117. H.R. 3053, 115th Cong., 1st Sess. (2017).

118. *Id*. § 201(e)(2)(B).

119. *Id*. §§ 201(c)(1), (e)(2)(B).

120. *Id*. §§ 402(a), 504.

121. *Id*. § 501.

122. *Id*. § 101(a)(4).

123. DEP'T OF ENERGY: MONITORED RETRIEVABLE STORAGE BACKGROUND, https://energy.gov/downloads/monitored-retrievable-storage-background (last visited Sept. 13, 2017).

tied to progress on the Yucca Mountain repository, including the NRC having issued a final decision approving or disapproving the issuance of a construction authorization for a repository, as well as the consent of state and local governmental entities.[124]

H.R. 3053 also proposes to exempt land to be used for the Yucca Mountain repository from other public lands laws and places those lands under jurisdiction of the Secretary of Energy.[125] It states that the Secretary "need not consider alternative actions or a no-action alternative" for any NEPA analysis to be undertaken with respect to an infrastructure activity for this section.[126] The benefits to the state of Nevada are spelled out in section 402 of the legislation, which clarifies that acceptance of these benefits are not to be construed as consent to siting of a repository.[127]

B. Proposed Legislation on Advanced Reactors

A few pieces of legislation have been introduced this year that could boost the development and licensing of next-generation nuclear reactors.

First, Senate Bill 97 (and companion House Bill H.R. 431), the Nuclear Energy Innovation Capabilities Act of 2017, is designed to "enable civilian research and development of advanced nuclear energy technologies by private and public institutions."[128] This bill is directed primarily at DOE and its research facilities.[129] The proposed bill authorizes a program to promote testing and demonstration of reactor concepts, and improves sharing of technical data between the private sector and government.[130] It also aims to improve "high-performance computation modeling and simulation techniques" for nuclear reactors.[131]

Second, Senate Bill 512, the Nuclear Energy Innovation and Modernization Act, is designed to lower regulatory hurdles to licensing of advanced reactors.[132] The bill directs the NRC to create a technology-inclusive, risk-informed, phased advanced reactor licensing framework, with the NRC's work in this regard to be done outside of the industry fee base.[133] It also requires the NRC to evaluate "strategies for the qualification of advanced nuclear reactor fuel."[134]

Third, House bill H.R. 5879 (tax bills start in the House) seeks to extend the Nuclear Production Tax Credit by essentially eliminating the deadline on when a

124. *Id.*

125. *See generally* H.R. 3053, *supra* note 117.

126. *Id.* § 203 (a)(4)(3)(B).

127. For a further description of the proposed legislation, *see* Memorandum from Committee Majority Staff to Committee on Energy and Commerce Members (June 26, 2017).

128. Press Release, U.S. Committee on Natural Resources, Energy and Natural Resources Committee Advances 65 Bills (Mar. 30, 2017); S.B. 97, 115th Cong., 1st Sess. (2017).

129. S.B. 97 § 951 (a)(1).

130. *Id.* § 958 (a).

131. *Id.* § 957 (a).

132. *See Senate Panel Passes Bill to License Advanced Nuclear Plants*, REUTERS (Mar. 22, 2017), http://af.reuters.com/article/africaTech/idAFL2N1GZ0ZP; S.B. 512, 115th Cong., 1st Sess. (2017).

133. S.B. 512, § 4 (14).

134. *Id.* § 103 (b)(4)(A)(ii).

reactor has to come into service (currently January 1, 2021).[135] Although the credit is limited to 6,000 megawatts, of which most was planned to be used by Georgia and South Carolina nuclear power plant expansions, with the decision to stop the construction of the two AP1000 reactors at the Virgil C. Summer Nuclear Generating Station in South Carolina, a significant amount of tax credit could end up being left over for other qualified advanced reactors.[136]

C. Administration Fiscal Year 2018 Budget Proposal

In May 2017, President Trump released his fiscal year 2018 budget.[137] The President's budget includes $120 million to "resume the NRC licensing process for Yucca Mountain and initiate a robust interim storage program."[138] In addition, the budget request includes $30 million for the NRC for the continuation of the licensing proceeding for the potential construction authorization of a repository.[139] The President's budget also requests $703 million for other nuclear energy programs, including reactor concepts research and development, fuel cycle research and development, and radiological facilities management.[140] This was a decrease of 28.7 percent from fiscal year 2016 funding.[141]

D. State Incentive Programs for Nuclear Power

Apart from the federal government, some states, in particular New York and Illinois, have taken steps to preserve at-risk nuclear plants, focusing on carbon-reduction benefits.[142] For example, in August 2016, the New York State Public Service Commission (NYSPSC) introduced its Clean Energy Standard (CES), under which qualifying nuclear power plants would be paid Zero-Emissions Credits (ZECs) for up to twelve years based on meeting certain requirements.[143] In December 2016, Illinois passed into law the Future Energy Jobs Act, which, among other things, established a program similar to ZECs.[144]

These efforts have been challenged in court as undermining competitive regional energy markets under the jurisdiction of the U.S. Federal Energy Regulatory Commission (FERC). Two preemption lawsuits were filed in New York and

135. The bill is entitled "An Act to amend the Internal Revenue Code of 1986 to modify the credit for production from advanced nuclear power facilities." *See* H.R. 5879, 114th Cong., 2d Sess. (2016).

136. John Siciliano, *Utility Stops Construction of New South Carolina Nuclear Plant in 'Disappointing' Decision*, WASH. EXAMINER (July 31, 2017, 3:49 PM), http://www.washingtonexaminer.com/utility-stops-construction-of-new-south-carolina-nuclear-plant-in-disappointing-decision/article/2630217.

137. DEP'T OF ENERGY: FY 2018 BUDGET JUSTIFICATION, https://energy.gov/cfo/downloads/fy-2018-budget-justification (last visited Oct. 19, 2017).

138. *Id*.

139. NUCLEAR REG. COMM'N: CONGRESSIONAL BUDGET JUSTIFICATION FISCAL YEAR 2018, https://energy.gov/cfo/downloads/fy-2018-budget-justification (last visited Oct. 19, 2017).

140. DEP'T OF ENERGY, FY 2018 BUDGET REQUEST FACT SHEET 3 (2017).

141. *Id*.

142. *See Efforts to Preserve Nuclear Plants Intensify as TMI Faces Closure*, NUCLEAR ENERGY INST. (June 1, 2017), https://www.nei.org/News-Media/News/News-Archives/2017/Efforts-to-Preserve-Nuclear-Plants-Intensify-as-TM.

143. CLEAN ENERGY STANDARD, https://www.nyserda.ny.gov/All-Programs/Programs/Clean-Energy-Standard (last visited Oct. 17, 2017).

144. *See* FUTURE ENERGY JOBS ACT, http://www.futureenergyjobsact.com (last visited Oct. 17, 2017).

Illinois, and the suits also raised dormant commerce clause arguments, essentially alleging that the plans discriminated against out of state clean energy generators.[145] These lawsuits were both dismissed at the district court level, but appeals are expected.[146]

Another possible development in this area would involve FERC taking a lead role in addressing both nuclear power and climate change. At a FERC technical conference in May 2017, acting FERC Chairman Cheryl LaFleur and Commissioner Colette Honorable focused on possible short and long term solutions to incorporate state incentive programs with FERC markets.[147] In the longer-term path states would themselves "value the attributes (e.g., resilience) or externalities (e.g., carbon emissions) . . . in a manner that can be readily integrated into the wholesale markets in a resource-neutral way."[148] This approach would allow regional wholesale markets to essentially price carbon reductions or even fuel security within the market pricing framework.

145. Opinion & Order, Coal. for Competitive Elec. v. Zibelman, No. 16-CV-8164 (S.D.N.Y. 2017); Opinion & Order, Vill. of Old Mill Creek v. Star, No. 17-CV-1163 (N.D. Ill. 2017).

146. *See generally Zibelman*, No. 16-CV-8164; *Vill. of Old Mill Creek*, No. 17-CV-1163.

147. FERC TECHNICAL CONFERENCE, STATE POLICIES AND WHOLESALE MARKETS OPERATED BY ISO NEW ENGLAND INC., NEW YORK INDEPENDENT SYSTEM OPERATOR, INC., AND PJM INTERCONNECTION, L.L.C., DOCKET NO. AD17-11-000, https://www.ferc.gov/EventCalendar/EventDetails.aspx?ID=8663&CalType=%20&CalendarID=116&Date=&View=Listview (last visited Oct. 17, 2017).

148. George Lobsenz, *FERC Members: Support Seen for Two "Paths" to Accommodate State Policies*, ENERGY DAILY (May 31, 2017).

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