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A. INTRODUCTION

On March 11, 2011, the Fukushima Daiichi Nuclear Power Station in Japan suffered major damage as a result of the Tohoku-Taiheiyou-Oki earthquake and subsequent tsunami, including explosions at three of the plant's six reactors and a fire in a spent fuel pool at a fourth. Radiation levels fluctuated during the crisis, sparking alarm in Japan and the international community regarding the safety of nuclear power in the face of severe natural disasters. One month later, the International Atomic Energy Agency announced that it had increased its rating of the accident's severity from 5 to 7, the highest level on the International Nuclear and Radiologic Event Scale.¹

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1. Keith Bradsher et al., *Japanese Officials on Defensive as Nuclear Alert Level Rises*, N.Y. TIMES, Apr. 12, 2011, available at www.nytimes.com/2011/04/13/world/asia/13japan.html?pagewanted=print.

Written less than a month after the disaster, this report covers actions taken as of April 2011 by the U.S. nuclear energy industry and the Nuclear Regulatory Commission (NRC) to evaluate the events at Fukushima Daiichi and to ensure the safety of domestic nuclear operations. Not surprisingly, Congress is considering several bills on the issue, which are discussed below.

Elsewhere on the legislative front, bills were also introduced that addressed nuclear development, nuclear waste, and the development of small modular reactors. Among other things, proposed legislation would expedite the issuance of combined licenses for new nuclear reactors; require the federal government to issue a permit for a geologic repository for storage of nuclear waste, either at Yucca Mountain or elsewhere; and support technological innovations to make the nuclear industry more competitive.

The perennial problem of spent nuclear fuel (SNF) appeared on the agendas of several federal courts during the last year. This report reviews decisions by the U.S. Court of Federal Claims and the Federal Circuit on the Department of Energy's (DOE) breach of SNF provisions in the standard contract, as well as the Tenth Circuit's ruling on the disposal of low-level radioactive waste from Italy in a Utah repository.

This report also covers several new rulemakings completed and proposed by the NRC, including new mandatory hearing procedures for combined licenses, a revised decommissioning funding rule, a final rule on weapons in regulated facilities, and a final safety culture policy statement. Recent adjudicatory activity has focused on new reactors and license renewal for existing reactors. Finally, the licensing board in the Yucca Mountain repository proceeding denied DOE's request to withdraw its license application, and the NRC is involved in a variety of initiatives regarding long-term solutions for managing nuclear waste.

B. FUKUSHIMA DAIICHI NUCLEAR POWER STATION

In the immediate aftermath of the Fukushima Daiichi incident, stakeholders in the United States intensified their efforts to ensure the structural integrity and safety of domestic nuclear plants. On March 16, 2011, the nuclear industry announced that it was undertaking a review to verify each site's capability to mitigate (1) conditions that result from severe adverse events, (2) a total loss of electric power, and (3) flooding and its impact on systems inside and outside the plant. The industry's review will include walk downs and inspection of important equipment needed to respond to fires and floods.

The NRC sent a team of experts, including several familiar with boiling water nuclear reactors, to Fukushima in response to a request from the Japanese government. In a March 18, 2011, information notice to all domestic license holders, the NRC noted that "the damage to the Fukushima Daiichi nuclear power station appears to have been caused by initiating activities outside the design basis for the facilities."²

2. Tohoku-Taiheiyou-Oki Earthquake Effects on Japanese Nuclear Power Plants, Nuclear Regulatory Information Notice 2011-05, *available at* www.nrc.gov/reading-rm/doc-collections/gen-comm/info-notices/2011/ML110760432.pdf.

Licenses were expected to review the information notice for general applicability. On March 23, 2011, the NRC issued Temporary Instruction (TI) 2515/183, "Follow up to the Fukushima Daiichi Nuclear Damage Event."³ The TI was to be completed by April 29, 2011, and an inspection report issued by May 13, 2011. The TI is designed to facilitate a high-level look at the industry's preparedness.

The same day, the NRC also established a task force to conduct a "methodical and systematic review . . . to determine whether the agency should make additional improvements to our regulatory system and make recommendations to the Commission for its policy direction." The task force was charged with providing a near term report within thirty days, a status report at approximately sixty days, and a ninety-day report on near term efforts. The task force will undertake a long term review once it has sufficient technical information from the events in Japan.

Congress also has turned its attention to Fukushima. Between March 16 and May 3, NRC Chairman Gregory Jaczko appeared before Congress four times to testify on the safety and level of preparedness of the U.S. nuclear industry. Representative Edward Markey (D-MA) introduced a bill that seeks to ensure that American nuclear plants can withstand the impact of earthquakes, tsunamis, and strong storms. Representative Nita Lowey (D-NY) introduced a bill that addresses evaluation plans near nuclear plants and the requirements for license renewals. Details about both bills appear in the following section.

C. LEGISLATIVE DEVELOPMENTS

1. Nuclear Safety

On March 29, 2011, Representative Edward Markey (D-MA) introduced the Nuclear Power Plant Safety Act of 2011 (H.R. 1242), which seeks to ensure that nuclear power plants can withstand and adequately respond to natural disasters. The bill also states that the NRC should not issue an approval for any construction permit, operating license, license extension, design certification, combined license, design approval, or manufacturing license until these proposed regulations take effect.

On March 30, 2011, Representative Nita Lowey (D-NY) introduced the Nuclear Power Licensing Reform Act of 2011 (H.R. 1268), which would amend the Atomic Energy Act (AEA) to require confirmation that a nuclear facility does not pose an unreasonable threat to people or to the environment because of safety or security vulnerabilities, and that there are evacuation plans approved by the appropriate state and federal agencies. The bill would also require an applicant for license renewal to meet the same criteria as an applicant filing for an initial construction license. In addition, the NRC would be required to confirm that any changes in the size of the surrounding population or the availability of new seismic or other scientific data have not changed the suitability of the facility location.

3. ADAMS Acc. No. ML110880327.

On September 29, 2010, Representative Christopher Smith (R-NJ) introduced H.R. 6386, which would amend the AEA to require a nuclear power facility licensee to notify the NRC and the state and county in which the nuclear facility is located within twenty-four hours of an unplanned release of radionuclides in excess of the allowable limits. Subject to the NRC's discretion, a violation of this reporting requirement could constitute grounds for license revocation. Representative Smith reintroduced this bill during the 112th Congress, and H.R. 1436 was referred to the House Committee on Energy and Commerce on April 7, 2011.

2. Nuclear Development

On June 24, 2010, Senator Richard Burr (R-NC) introduced the Next Generation Energy Security Act of 2010 (S. 3535), which requires the NRC to establish an expedited procedure for issuing combined licenses for new nuclear reactors. To qualify for the expedited procedure, the applicant must be an existing nuclear power plant owner or operator, have a substantial record of safe operation, and be in good standing with the NRC. In addition, the applicant must apply for the construction of a nuclear reactor based upon an NRC-approved design, construct the reactor on a site at which an operating nuclear power plant exists and where an early site permit (ESP) has been granted, submit a combined operating license (COL) application to the NRC, demonstrate sufficient financial commitment to the project and preparedness to proceed once the COL is issued, and establish the existence of broad local public support for the project.

The bill authorizes the Secretary of Energy to enter into contracts to provide regulatory risk insurance for up to twelve nuclear reactors rather than the current six. S. 3535 increases funding for the loan guarantee program, reduces the accelerated depreciation period for new nuclear power plants to five years, and provides a 10 percent investment tax credit for certain expenditures for the construction of nuclear power facilities. The bill amends the IRS Code to make nuclear power facilities eligible for the qualifying advanced energy project credit and allows the allocation of credit to private partnerships with public power.

S. 3535 directs the Secretary of Energy to begin construction of a spent fuel recycling research and development facility that would serve as the lead site for continuing research and development of advanced nuclear fuel cycles and separation technologies. The bill also provides tax credits on a percentage of wages for any employer that operates a commercial nuclear power plant and employs certain qualified workers. Finally, the bill authorizes the commitment of funds to expand workforce training to meet the high demand for skilled nuclear construction and operation workers.

On March 3, 2011, Representative Devin Nunes (R-CA) introduced similar legislation that specifically targets the advancement of nuclear energy. H.R. 909, A Roadmap for America's Future, calls on the NRC to issue 200 operating permits for new commercial nuclear reactors by 2040 and encourages the establishment and implementation of a streamlined process for issuing a COL. The bill would also require the federal government to issue a permit to at least one geologic

repository for the storage of nuclear waste. If the NRC deems Yucca Mountain to be unsuitable based on technical and scientific analysis, the federal government must locate an alternative location that provides at least 120,000 tons of storage capacity and submit an application within one year.

On July 20, 2010, Senator George Voinovich (R-OH) introduced the Enabling the Nuclear Renaissance Act (S. 3618), which seeks to improve energy security, reduce future pollution and greenhouse gas emissions, provide large reliable sources of electricity, and create high-level jobs. Under S. 3618, nuclear energy would be considered a form of clean energy for the purposes of federal law. The bill offers several incentives for the financing of new nuclear power facilities, including a five-year accelerated depreciation period for new nuclear power plants, construction tax credits, advanced energy project tax credits, and grants for qualified nuclear power facility expenditures in lieu of tax credits.

S. 3618 would eliminate mandatory hearings for uncontested nuclear licensing proceedings. In addition, any environmental impact statement (EIS) prepared by the NRC in a COL proceeding for a site for which an ESP has been issued would be prepared as a supplement to the EIS that was prepared for the ESP proceeding. The supplemental EIS would incorporate by reference the analyses, findings, and conclusions from the ESP EIS, and conclusions on matters resolved in the ESP proceeding would address only new and significant information that would materially change the prior findings or conclusions.

3. Nuclear Waste

On July 20, 2010, Representative Gary Peters (D-MI) introduced the Reduce and End our Deficits Using Commonsense Eliminations in the Energy Program Act of 2010 (H.R. 5780), which directs the Secretary of Energy to discontinue the application before the NRC for a license to construct a high-level nuclear waste geologic repository at Yucca Mountain.

On May 6, 2010, Senator Voinovich introduced the United States Nuclear Fuel Management Corporation Establishment Act of 2010 (S. 3322), and Representative Fred Upton (R-MI) introduced the companion bill (H.R. 5979) in the House. The bills establish the U.S. Nuclear Fuel Management Corporation to enter into contracts on behalf of the United States to provide SNF management and related products and services. This organization would implement integrated programs for the management of SNF and assume responsibility for the activities, obligations, and use of the resources of the federal government with respect to SNF management.

On April 20, 2010, Senator John Barrasso (R-WY) introduced the Surplus Uranium Disposition Act of 2010 (S. 3233), and Representative Cynthia Lummis (R-WY) introduced the companion bill (H.R. 5068) in the House. The bills authorize the Secretary of Energy to barter, transfer, or sell uranium at fair market value to eligible entities on a first-come-first-served basis. To obtain uranium under the Act, an entity must obtain a COL for a reactor approved by the NRC and possess a license from the NRC.

4. Small Modular Reactors

On July 28, 2010, Representative Bart Gordon (D-TN) introduced the Nuclear Energy Research and Development Act of 2010 (H.R. 5866). The bill requires the Secretary of Energy to carry out initiatives to advance innovation in nuclear energy technologies in order to make nuclear energy systems more competitive and to increase the efficiency and safety of civilian nuclear power. H.R. 5866 encourages research and development that will examine advanced reactor designs and nuclear technologies that are economically competitive with other electric power generation plants, but will have higher efficiency, lower cost, and improved safety over the nuclear reactors currently in operation. The bill also creates a small modular reactor program to promote the commercial development of small modular reactors. In addition, the bill proposes the development of a facility where a prototype nuclear reactor and associated plant would be constructed through an open and transparent competitive selection process.

Representative Jason Altmire (D-PA) sponsored two bills during the 111th Congress that addressed nuclear power issues. On April 28, 2010, he introduced the Nuclear Energy Research Initiative Improvement Act of 2010 (H.R. 5163), which directs the Secretary of Energy to conduct research aimed at lowering the cost of nuclear reactor systems and to develop and publish a schedule on the DOE website that outlines a five-year strategy on how to effectively do so. The research would focus on modular and small-scale reactors, balance of plant issues, cost-efficient manufacturing and construction, licensing, and enhanced proliferation controls.

Representative Altmire also introduced the Nuclear Power 2021 Act (H.R. 5164) on April 30, 2010. The bill instructs the Secretary of Energy to establish cooperative agreements with private sector partners to develop a standard design for two small modular reactors, obtain a design certification from the NRC for each of the designs by January 1, 2018, and demonstrate the licensing of small modular reactors by developing applications for a combined license for each of the designs. On March 8, 2011, Senator Jeff Bingaman (D-NM) introduced the Nuclear Power 2021 Act (S. 512). S. 512 is the same bill as H.R. 5164.

5. Energy Independence

On January 18, 2011, Representative Randy Forbes (R-VA) introduced the New Manhattan Project for Energy Independence (H.R. 301). The goal of the bill is to ensure energy independence by promoting research, development, demonstration, and commercial application of technologies through a large scale system of grants and prizes. The bill addresses several types of renewable energy and proposes to develop a validated process for the remediation of radioactive waste so that it is no longer harmful to the health or welfare of the environment or individuals for a specified period of time. The bill seeks to develop a model accounting for all of the effects of nuclear waste in the process.

On March 10, 2011, Representative Mac Thornberry (R-TX) introduced the No More Excuses Energy Act of 2011 (H.R. 1023), which seeks to secure

unrestricted reliable energy for American consumption and transmission. H.R. 1023 would prevent the NRC from denying an application for a license, permit, or other authorization under the AEA on the grounds that sufficient capacity does not exist, or will not become available on a timely basis, for the disposal of spent nuclear fuel or high-level radioactive waste.

D. JUDICIAL DEVELOPMENTS

1. Spent Nuclear Fuel

Beginning in 1998, nuclear utilities began filing suits against DOE for its failure to remove SNF from reactor sites pursuant to the terms of the standard contract and the Nuclear Waste Policy Act. The following discussion summarizes the notable aspects of each SNF decision.

a. Claims Relating to Facilities After Sale

i. Consolidated Edison Co. of New York and Entergy Nuclear Indian Point 2, LLC v. United States⁴

On May 5, 2010, the U.S. Court of Federal Claims awarded damages to Consolidated Edison related to Indian Point Units 1 and 2. Con Edison sold the units to Entergy in a sale that closed in 2001. The court found that Con Edison had retained only claims that accrued prior to the sale closing date. It was awarded \$448,859 for SNF studies that were performed before the sale. Entergy was awarded \$106,123,527 for SNF storage costs. The court held that Entergy was not bound by Con Edison's previously submitted delivery commitment schedules, which requested that allocations based on the priorities of Unit 1 fuel be used to pick up fuel from Unit 2.

ii. Boston Edison Co. v. United States; Entergy Nuclear Generation Co. v. United States⁵

On May 6, 2010, the Court of Federal Claims awarded Entergy \$4,224,696 in damages for the DOE's partial breach of the standard contract. Entergy purchased Pilgrim Nuclear Power Station from Boston Edison in July 1999. The court denied Entergy's claim for cost of capital expenses because, even if the permissive *Wickham Contracting*⁶ standard was applied rather than the restrictive *England*⁷ standard, Entergy presented no evidence of specific borrowing directly related to its limitation of DOE's breach. The court also denied the government's claim for recoupment from Entergy of \$40.03 million that was contributed by Boston Edison to the decommissioning trust fund (above the fund's regulatory minimum) in order to cover the future post-shutdown SNF storage costs attributable to DOE's breach.

4. 92 Fed. Cl. 466 (2010).

5. 93 Fed. Cl. 105 (2010).

6. 12 F.3d 1574, 1582 (Fed. Cir. 1994).

7. *England v. Contel Advanced Sys., Inc.*, 384 F.3d 1372, 1379 (Fed. Cir. 2004).

b. Other Decisions by the U.S. Court of Federal Claims

i. *Yankee Atomic Power Co. v. United States*⁸

On September 7, 2010, in a decision on remand, the Court of Federal Claims applied the fuel acceptance rates of the DOE's 1987 ACR as required by the Federal Circuit decision in *Yankee Atomic Electric Power Co. v. United States*.⁹ The court reiterated its earlier finding that a market for the purchase and sale of allocations would have provided Yankee with additional acceptance allocations. The court referred to a "guiding principal" indicated in *Carolina II*¹⁰ that SNF cases are to be determined with a common template regardless of prior positions.

ii. *Arizona Public Service Co. v. United States*¹¹

On June 18, 2010, the Court of Federal Claims awarded Arizona Public Service Co. (APS) damages of \$30,222,146 for the larger-than-otherwise-necessary independent spent fuel storage installation that it had to construct at its Palo Verde site. The court rejected APS's claim for cost of capital, represented by allowance for funds used during construction (AFUDC), because they were not directly traceable to the government's breach. The court also declined to factor in Greater than Class C waste into the non-breach-world model.

iii. *Entergy Nuclear Fitzpatrick, LLC v. United States*¹²

On August 3, 2010, the Court of Federal Claims granted plaintiff Entergy's motion to strike the unavoidable delays defense that is based on the standard contract's unavoidable delays clause. The government argued that the writ of mandamus issued by the D.C. Circuit in *Northern States I*¹³ does not bar the unavoidable delays defense as it relates to both liability and damages, but only as it relates to liability. The court rejected the government's argument that a concurring opinion in *Nebraska Public Power District v. United States*¹⁴ provided it with authority to raise the unavoidable delays defense in order to limit Entergy's remedy. In *Nebraska Public Power*, the Federal Circuit confirmed that the D.C. Circuit had jurisdiction to issue the writ, and that the writ must be given res judicata effect in the Court of Federal Claims.

iv. *Southern California Edison Co. v. United States*¹⁵

On June 3, 2010, the Court of Federal Claims awarded Southern California Edison (SCE) \$142,394,294 for DOE's partial breach of the standard contract. Damages included compensation for fuel storage costs associated with SCE's two

8. 94 Fed. Cl. 678 (2010).

9. *Yankee Atomic Elec. Co. v. United States*, 536 F.3d 1268 (Fed. Cir. 2008) (*Yankee II*).

10. *Carolina Power & Light Co. v. United States*, 573 F.3d 1271 (Fed. Cir. 2009) (*Carolina II*).

11. 93 Fed. Cl. 384 (2010).

12. 93 Fed. Cl. 739 (2010).

13. *N. States Power Co. v. United States Dep't of Energy*, 128 F.3d 754 (D.C. Cir. 1997) (*Northern States I*).

14. 590 F.3d 1357 (Fed. Cir. 2010) (en banc).

15. 93 Fed. Cl. 337 (2010).

onsite independent spent fuel storage installations and storage at the GE Morris reprocessing facility. Damages also included overhead expenses but not AFUDC or costs associated with the storage of Greater than Class C waste.

v. *Kansas Gas & Electric Co. v. United States*¹⁶

On November 30, 2010, the Court of Federal Claims applied the 1987 ACR pickup rates, without considering the impact on the acceptance queue of Greater than Class C waste, in awarding damages to the owners of Wolf Creek Nuclear Operating Corp. for \$10,632,455. Both parties filed notices of appeal on January 31, 2011.

vi. *Entergy Nuclear Vermont Yankee, LLC v. United States*¹⁷

On September 24, 2010, the Court of Federal Claims awarded Entergy Nuclear Vermont Yankee (ENVY) \$46,645,454 in damages for DOE's partial breach of the standard contract, including \$9,608,189 that ENVY spent obtaining a certificate of public good from the Vermont Public Service Board. Following the *Wickham Contracting* line of cases, the court denied ENVY's claim of cost of capital as prohibited by law because there was no direct link between the breach-related projects and an incurred financing charge.

vii. *Niagara Mohawk Power Corp. v. United States*¹⁸

On April 7, 2011, the Court of Federal Claims dismissed for failure to state a claim plaintiffs' complaint alleging that the DOE's failure to dispose of plaintiffs' SNF was a violation of the Takings Clause of the Fifth Amendment. The court ruled that because all of the alleged takings depend upon DOE's obligations to dispose of plaintiffs' SNF under the standard contract, the proper remedies lie in breach of contract. The court dismissed plaintiffs' argument that the takings claims should be allowed because the execution of the standard contract was involuntary. The court found that plaintiffs' execution of the contract was voluntary, even though it was required for continued operation of the nuclear power plant.

c. *U.S. Court of Appeals for the Federal Circuit*

i. *Southern Nuclear Operating Co. v. United States*¹⁹

On March 11, 2011, the Federal Circuit affirmed in part and reversed in part the judgments against the United States in 2007 arising out of the government's breach of contract for failure to dispose of SNF. The court affirmed the award in favor of plant owner Alabama Power Co. for approximately \$17 million in damages for SNF storage costs at Plant Farley and remanded Georgia Power Co.'s judgment for approximately \$57 million in damages at Plants Hatch and Vogtle for reconsideration of damages in light of its 2008 holding in *Pacific Gas & Electric*

16. 95 Fed. Cl. 257 (2010).

17. 95 Fed. Cl. 160 (2010).

18. Nos. 04-125C, 04-124C, 2011 WL 1335807 (Fed. Cl., Apr. 7, 2011).

19. No. 2008-5020, 2011 WL 832912 (Fed. Cir., Mar. 11, 2011).

Co. v. United States.²⁰ In *PG&E*, the court had found that DOE was obligated to remove spent nuclear fuel at 1987 ACR rates.

ii. *Energy Northwest v. United States*²¹

On April 7, 2011, the Federal Circuit vacated the trial court's award of damages associated with plant modifications because Energy Northwest (EN) did not fulfill its burden of proof as to the "but for" world. The court affirmed the award of indirect overhead expenses. It reversed the award of the interest that EN paid on a bond issue and on a credit agreement with Citibank used to fund EN's efforts to mitigate against the government's breach, after concluding that the award was barred by the government's unwaived sovereign immunity. The court held that *Wickham Contracting*²² does not stand for the proposition that interest may be recovered without a waiver if the interest is traceable to the breach, but is rather limited to situations in which the government has waived its immunity against the recovery of interest. The court noted that while *Wickham Contracting* did not expressly describe a Changes Clause that waived the government's immunity, the opinion's discussion of the *Eichleay* formula and change orders necessarily means that the contract in *Wickham Contracting* did contain such a Changes Clause. Thus, the trial court erred as a matter of law in awarding interest costs to EN.

2. Enforcement

In *United States v. Siemaszko*,²³ the Sixth Circuit found on July 15, 2010, found that there was sufficient evidence to support Andrew Siemaszko's convictions on three counts of concealing material facts and making false statements to the NRC in violation of 18 U.S.C. §§ 1001 and 1002. The prosecution alleged that Siemaszko's statements in draft documents that were prepared for Davis-Besse and submitted to the NRC incorrectly portrayed the results of inspections performed at the plant. Reviewing the evidence presented, the court found that a jury could convict Siemaszko on all three counts, specifically rejecting the argument that his conviction was multiplicitous.

3. Project Financing

On August 9, 2010, the South Carolina Supreme Court held that South Carolina Electric & Gas Co. (SCEG) cannot charge its ratepayers to fund unexpected increases in the cost of constructing two nuclear reactors.²⁴ The court ruled that the state public service commission abused its discretion when it approved a rate increase that would be used to establish a \$438 million contingency fund to help SCEG recoup some of the project's financing costs.

20. 536 F.3d 1282, 1292 (Fed. Cir. 2008).

21. No. 2010-5112, 2011 WL 1312306 (Fed. Cir. Apr. 7, 2011).

22. *Wickham Contracting Co. v. Fischer*, 12 F.3d 1574, 1582 (Fed. Cir. 1994).

23. 612 F.3d 450 (6th Cir. 2010).

24. *S.C. Energy Users Comm. v. S.C. Pub. Serv. Comm'n*, 697 S.E.2d 587 (S.C. 2010).

4. Low-Level Radioactive Waste

On November 9, 2010, the Tenth Circuit reversed the decision by the federal district court in Utah that the Northwest Interstate Compact on Low-Level Radioactive Waste does not have the authority to regulate the disposal of waste at EnergySolutions' disposal facility in Clive, Utah.²⁵ The dispute arose when EnergySolutions unsuccessfully sought the Compact's permission to dispose of LLRW from Italy at its Clive facility. EnergySolutions sued the Compact, alleging that it does not have statutory authority over the facility, that federal law preempted the denial of permission, and that the denial of permission violated the dormant Commerce Clause of the U.S. Constitution. The district court did not address the second and third allegations because it found in EnergySolutions' favor on the statutory authority issue, but the Tenth Circuit reversed, holding that the Compact itself, as approved by Congress, is federal law and a contract that explicitly gives the Compact authority to deny permission for LLRW disposal sites to take LLRW from areas outside the Compact's region. The Tenth Circuit explained that the LLRW Policy Amendments Act of 1985 does not limit the Compact, except for those provisions of the Compact that directly contradict the 1985 Act itself.

5. Price-Anderson Act Jurisdiction

On March 16, 2011, the Eastern District of Tennessee ruled that it did not have jurisdiction under the Price-Anderson Act over a civil action brought by plaintiff Irwin against his former employer, defendant railroad company CSX, for damages resulting from alleged job-related radiation exposure.²⁶ The court noted that the Act applies only to entities that are NRC licensees or DOE contractors and that CSX is neither.

E. ADMINISTRATIVE ACTIVITY

1. NRC Policy, Practices, and Procedures

a. Mandatory Hearing Procedures for New Reactors

The NRC has approved procedures for mandatory hearings on applications to build and operate new nuclear power reactors. The mandatory hearing process will begin after issuance of the final Safety Evaluation Report (SER) and EIS for a COL application (COLA). Using information gathered during the hearing process, the NRC will decide the findings necessary for it to determine whether to issue a license. The NRC intends to reach a decision on the uncontested issues within four months of the issuance of those reports, unless the reactor design is the subject of an ongoing design certification rulemaking. In that case, the NRC would issue its hearing decision if and when it affirms the related design certification rule.

25. EnergySolutions, LLC v. Utah, 625 F.3d 1261 (10th Cir. 2010).

26. Irwin v. CSX Transp., Inc., No. 3:10-CF-300, 2011 WL 976376 (E.D. Tenn. Mar. 16, 2011).

b. Design Certification Developments

The NRC published a proposed rule on January 20, 2011, to amend 10 C.F.R. Part 52, Appendix A, Design Certification Rule for the U.S. Advanced Boiling Water Reactor (ABWR), to comply with 10 C.F.R. § 50.150, Aircraft Impact Assessment (AIA). This action will allow applicants or licensees intending to construct and operate a U.S. ABWR to comply with the AIA regulations by referencing the amended design certification rule (DCR). The current applicant for certification of the amendment is STP Nuclear Operating Company (STPNOC). STPNOC submitted its application for amendment to comply with the AIA rule on June 30, 2009, in accordance with 10 C.F.R. § 52.63, Finality of Standard Design Certifications. On November 2, 2010, Toshiba Corp. submitted an application to renew its ABWR design certification for a fifteen-year term in accordance with 10 C.F.R. Part 52.²⁷ The current ABWR design certification expires on June 12, 2012. Toshiba's submittal also addresses the requirements of the AIA rule and the STPNOC application.

The NRC published a proposed rule on February 24, 2011, that seeks to certify an amendment to the AP1000 standard design. The amendment would address a request by Westinghouse Electric Co. LLC to: (1) replace COL information items and design acceptance criteria with specific design information; (2) address compliance with the AIA rule; and (3) incorporate design improvements resulting from detailed design efforts.

After a five-year review, the NRC issued its final safety evaluation report and final design approval (FDA) for GE-Hitachi's Economic Simplified Boiling Water Reactor (ESBWR). The duration of this FDA is fifteen years. The FDA does not represent a full certification of the design. The NRC is considering GE-Hitachi's request to certify the design through the rulemaking process and NRC staff request to publish an associated proposed rule. The final design certification is expected in fall 2011.

c. Proposed Rule—Maintenance of ITAAC

On February 4, 2011, the Commission approved for publication a proposed rule to amend 10 C.F.R. § 52.99, Inspection During Construction.²⁸ The proposed amendments relate to verification of nuclear power plant construction activities through inspections, tests, analyses, and acceptance criteria (ITAAC) under a COL. The NRC staff proposes the following new notifications after ITAAC closure: (1) notification of new information on ITAAC closure; (2) supplemental ITAAC closure notification; and (3) all ITAAC complete notification. These changes are designed to ensure that the NRC has sufficient information to make

27. GE Nuclear Energy (predecessor of GE Hitachi (GEH)) was the original applicant for the ABWR design certification. On December 7, 2010, GEH filed an application with the NRC to retain the original ABWR certified design as a separate appendix in Part 52.

28. Proposed Rule: Requirements for Maintenance of Inspections, Tests, Analyses, and Acceptance Criteria (RIN 3150-AI77), SRM-SECY-10-0117, ADAMS Acc. No. ML110350185.

a finding on ITAAC, and to ensure that interested persons have access to information on ITAAC at a level of detail sufficient to address the AEA threshold for requesting a hearing.

d. Small Modular Reactor Activities

The Tennessee Valley Authority (TVA) notified the NRC of its intent to evaluate the feasibility of small modular reactor (SMR) modules utilizing the Babcock & Wilcox mPower design in late 2010. The project would involve submittal of construction permit applications for up to six mPower 125 megawatt SMR modules at the Clinch River site. The TVA solicited the NRC's input on six key licensing assumptions. The NRC staff has developed a risk-informed and integrated review framework for pre-application and application review activities pertaining to the integral pressurized water reactor design. This framework would retain the current processes to determine both safety class and risk-significance. It provides a graded approach for the review of structures, systems, and components (SSCs), applying the most detailed and in-depth review to SSCs determined to be both safety-related and risk-significant, and a progressively less detailed review to SSCs determined to be non-safety-related or not risk-significant.

e. Status of License Renewal Applications

The NRC issued renewed operating licenses (OLs) for Duane Arnold and Keewaunee on December 16, 2010, and February 24, 2011, respectively. With the issuance of the renewed OL for Vermont Yankee in March 2011, the NRC has relicensed sixty-three nuclear power plants to date.

The NRC's review of the Vermont Yankee application spanned over five years, making it the longest complete review in agency history. The Pilgrim application (submitted in 2006) and the Indian Point application (submitted in 2007) are still pending. The length of these reviews has resulted in congressional concerns that the NRC has instituted a dual timeliness review standard in which controversial applications are subjected to "unmanaged delays." The NRC disagreed, pointing to the number of novel and highly complex technical and legal issues that the respective ALSBs and the Commission have had to resolve during these hearings.

On October 25, 2010, STPNOC submitted a license renewal application (LRA) for South Texas Units 1 and 2. The LRA was subsequently accepted, and a January 13, 2011, *Federal Register* notice provided an opportunity for the public to request a hearing. FirstEnergy submitted an LRA for Davis-Besse on August 30, 2010. The Commission accepted the LRA, and a joint petition to intervene was submitted by Beyond Nuclear, Citizens Environmental Alliance of Southwestern Ontario, Don't Waste Michigan, and the Green Party of Ohio.

f. Commission Votes Against Rulemaking on Construction Site Access Authorization and Physical Protection

In October 2010, the NRC staff requested Commission approval to publish a proposed rule that would add requirements for access authorization and physical protection programs during construction. The Commission had previously supported

such a rule based on the assumption that new requirements were necessary for safety. However, on March 30, 2011, the Commission directed the NRC staff to terminate the rulemaking effort and instructed the staff to communicate the agency's support for the industry's voluntary implementation of the access authorization controls and physical protection measures during construction as described in NEI-09-01, "Security Measures During New Reactor Construction."²⁹

g. Decommissioning Funding Issues

On June 25, 2010, the NRC staff issued an explanation of the changes contained in draft final Regulatory Guide 1.159, Revision 2, "Assuring the Availability of Funds for Decommissioning Nuclear Reactors."³⁰ The NRC staff revised its proposal so that merchant plant licensees would be required to adjust the actual amount of financial assurance annually but utility licensees must only make a "good faith effort to obtain rate relief by asking their rate regulator to address the issue within the year, and to obtain rate relief as necessary within five years." In October 2010, the Commission modified and approved Regulatory Guide 1.159. The Commission disapproved the proposed change directing merchant licensees to adjust decommissioning funds annually and directed the NRC staff to retain the current directive, which requires adjustment of funding amounts by merchant licensees "at least once every two years, in conjunction with the biennial report." In November 2010, the Commission approved a final rule on licensees' decommissioning planning activities during active facility operations.³¹ The rule imposes additional requirements related to site characterization and cleanup, and includes a new minimum tangible net worth requirement for the parent guarantee method of funding. The rule is subject to additional review by the Office of Management and Budget.

h. Proposed Rule: Amendments to Adjudicatory Process Rules and Related Requirements—10 C.F.R. Parts 2, 51, and 54

The NRC is proposing to amend its adjudicatory rules of practice to eliminate formal discovery and cross-examination for most proceedings.³² The proposed rule would require early disclosure of documents, information, and witnesses and mandates that the NRC staff prepare a hearing file to give participants access to relevant information. The proposed rule allows for alternative dispute resolution and a fast track proceeding, under which the presiding officer would have the authority to make an oral decision from the bench or after conclusion of the oral

29. Proposed Rule: Requirements for Access Authorization and Physical Protection During Nuclear Power Plant Construction (RIN 3150-A165), SRM-SECY-10-0137, ADAMS Acc. No. ML110890821.

30. Explanation of Changes to Revision 2 to Regulatory Guide 1.159, Assuring the Availability of Funds for Decommissioning Nuclear Reactors, SECY-10-0084, ADAMS Acc. No. ML101540500.

31. Final Rule: Decommissioning Planning (Nov. 30, 2010), SRM-M101130A, Affirmation: SECY-09-0042, ADAMS Acc. No. ML103340317.

32. Amendments to Adjudicatory Process Rules and Related Requirements, 76 Fed. Reg. 10,781 (Feb. 28, 2011).

phase of the hearing. The fast track procedures would be available for all NRC adjudications where all parties agree and the hearing is expected to last less than two days, except for proceedings on uranium enrichment facilities, initial authorization to construct a high-level waste (HLW) repository, or issuance of a license to possess and receive HLW at a geologic repository.

i. Commission Approves Final Safety Culture Policy Statement

On March 7, 2011, the Commission approved publication of a proposed final policy statement on safety culture.³³ The NRC defines nuclear safety culture as the “core values and behaviors resulting from a collective commitment by leaders and individuals to emphasize safety over competing goals to ensure protection of people and the environment.” The policy delineates traits that the NRC concludes contribute to a positive safety culture: (1) leadership safety values and actions; (2) problem identification and resolution; (3) personal accountability; (4) work processes; (5) continuous learning; and (6) environment for raising concerns.

j. Waste Confidence Decision and Court Challenges; Denial of Proposed Rulemaking

On September 15, 2010, the NRC approved revisions to the Waste Confidence Decision, expressing confidence that SNF can be safely stored for at least sixty years beyond the licensed life of any reactor and that sufficient repository capacity will be available when necessary.³⁴ The Commission directed the NRC staff to initiate a long-term rulemaking to address impacts of storage at on-site storage facilities, off-site storage facilities, or both for extended periods of time. Several states and activist groups filed suit in the D.C. Circuit, requesting that the Waste Confidence Decision be vacated and remanded back to NRC. The Nuclear Energy Institute (NEI) has moved to intervene in the consolidated proceedings. In February 2011, the NRC denied a petition for rulemaking requesting that NRC rescind the Waste Confidence Rule, suspend all ongoing reactor licensing proceedings, and phase out operations at all operating nuclear power plants. The petition was denied because the Waste Confidence Decision considers the political uncertainty associated with Yucca Mountain and does not depend on the availability of a Yucca Repository.

k. Introduction of Final Rule Regarding Unauthorized Weapons

On October 14, 2009, the NRC published a final rule that authorizes federal criminal penalties for the introduction of weapons or explosives into certain facilities and installations regulated by the NRC.³⁵ The rule requires the installation of specified signage warning individuals against unauthorized introduction of weapons or explosives. The purpose of the rule is to broaden federal prosecutorial

33. Proposed Final Safety Culture Statement, SRM-SECY-11-0005, ADAMS Acc. No. ML110660547.

34. Final Update of the Commission’s Waste Confidence Decision, SRM-M100915, Affirmation Session: 1. SECY-09-0090, ADAMS Acc. No. ML102580372.

35. 74 Fed. Reg. 52,667 (2009).

authority, not to change licensee security practices. Under the final rule, whoever willfully introduces without authorization weapons or explosives into any protected facility or installation that is enclosed by a fence, wall, floor, roof, or other barrier would be guilty of a misdemeanor.

2. Important NRC Adjudication Developments

a. *Vermont Yankee License Renewal*

Entergy submitted its LRA on January 25, 2006. On September 22, 2006, the Atomic Safety and Licensing Board (ASLB) granted the intervention petitions of New England Coalition (NEC) and the State of Vermont and admitted five contentions for hearing. A long hiatus followed during which the board and the parties waited for the NRC staff to review and analyze the LRA. In July 2008, the NRC staff completed its safety and environmental review. On November 24, 2008, the ASLB issued a partial initial decision dismissing the contentions with the exception of the one involving metal fatigue analyses for the core spray and reactor recirculation outlet nozzles. Entergy submitted its revised metal fatigue analyses in March 2009. On July 8, 2009, the ASLB issued its full initial decision, which was appealed.

On July 8, 2010, the Commission issued a ruling concluding that the ASLB should have decided this issue in Entergy's favor. It remanded this issue back to the ASLB to give NEC the opportunity to submit a revised contention and to give the parties an opportunity to reopen the record on genuinely new issues. NEC moved to reopen the record on August 20, 2010, requesting the admission of new contentions regarding the adequacy of aging management for buried cables. The ASLB denied NEC's motion in October 2010, and NEC filed a petition for review. On March 10, 2011, the Commission denied the appeal and terminated the proceeding.³⁶

b. *Commission Affirms Board Decision in Geisen Enforcement Proceeding*

In August 2010, the Commission affirmed the ASLB decision setting aside the NRC staff's enforcement order against David Geisen.³⁷ Geisen is a former employee at the Davis-Besse Nuclear Power Plant. The Commission determined that the ASLB used the correct standard for "knowledge" or "state of mind" to reach its decision; the ASLB's weighing of the evidence on various factual determinations, including Geisen's credibility, was not clearly erroneous; and the ASLB did not err by declining to apply collateral estoppel based on the related criminal case. The Commission was highly deferential to the ASLB's findings of fact. The Commission made clear that the ASLB's failure to adopt the NRC staff's view of the facts does not suggest that it failed (as the staff appeal suggested) to consider

36. Entergy Nuclear Vt. Yankee, L.L.C. & Entergy Nuclear Operations, Inc. (Vt. Yankee Nuclear Power Station), Memorandum and Order, CLI-11-02, 72 NRC ____ (2010), available at www.nrc.gov/reading-rm/doc-collections/commission/orders/2011/2011-02cli.pdf.

37. *In re David Geisen*, Memorandum and Order, CLI-10-23 (Aug. 27, 2010).

properly the evidence on record, or that it created a new legal standard. Chairman Jaczko stated his belief that the Geisen proceeding highlights ambiguity in the Commission's "knowledge standard." Accordingly, the Commission intends to request NRC staff review of the standard.

3. High-Level Waste Storage Developments

On March 3, 2010, DOE filed a motion seeking consent to withdrawal of its application, with prejudice, for a license to authorize construction of the Yucca Mountain geologic repository. The ASLB denied the motion.³⁸ One day later, the Commission issued an order inviting all parties to file briefs regarding whether it should review and reverse or uphold the ASLB decision. The commission has not yet issued a decision. In December 2010, the D.C. Circuit lifted its stay on lawsuits challenging DOE's authority to withdraw its license application for Yucca Mountain.³⁹ The lawsuits had been stayed pending a decision as to whether DOE has the authority to withdraw the license application.

On December 8, 2010, the ASLB in the Yucca Mountain proceeding directed NRC staff to explain why—on the penultimate day of the NRC staff's schedule for issuing Volume 3 of the SER—NRC staff notified the ASLB that it would not meet its deadline.⁴⁰ The NRC staff attributed the delay in issuing the draft SER to DOE's motion to withdraw its application and related pending adjudications, as well as the lack of an NRC budget for fiscal year 2011 and the NRC staff's closure of Yucca Mountain-related activities in accordance with NRC budgetary decisions.

38. U.S. Dep't of Energy (High-Level Waste Repository), Memorandum and Order (Granting Intervention to Petitioners and Denying Withdrawal Motion), LBP-10-11 (June 29, 2010).

39. *In re* Aiken County, Order (D.C. Cir. Dec. 10, 2010).

40. U.S. Dep't of Energy (High-Level Waste Repository), Order (Directing NRC Staff's Show Cause) (Feb. 25, 2011) (unpublished).

