

In the United States Court of Federal Claims

No. 14-1001C

(Filed: November 17, 2017)

DUKE ENERGY PROGRESS, INC. and
DUKE ENERGY FLORIDA, INC.,

Plaintiffs,

v.

THE UNITED STATES,

Defendant.

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Spent Nuclear Fuel Case; Nuclear Waste
Policy Act of 1982; Damages for Partial
Breach of DOE’s Standard Contract;
Plaintiff’s Burden to Prove Causation;
Government Claim for Reduction of
Damages.

Brad Fagg, with whom were *Paul M. Bessette* and *Jane T. Accomando*, Morgan, Lewis & Bockius LLP, Washington, D.C., and *Lara Nichols*, Duke Energy Corporation, Charlotte, North Carolina, Of Counsel, for Plaintiffs.

Jimmy S. McBirney, with whom were *Chad A. Readler*, Acting Assistant Attorney General, *Robert E. Kirschman, Jr.*, Director, *Allison Kidd-Miller*, Assistant Director, *Christopher L. Harlow* and *Kristin B. McGrory*, Trial Attorneys, Commercial Litigation Branch, Civil Division, U.S. Department of Justice, Washington, D.C., and *Jane K. Taylor*, U.S. Department of Energy, Of Counsel, for Defendant.

OPINION AND ORDER

WHEELER, Judge.

This round three spent nuclear fuel (“SNF”) case is before the Court following the partial breach by the Department of Energy (“DOE”) of the 1983 Standard Contract for Disposal of Spent Nuclear Fuel (“Standard Contract”).¹

¹ See *Indiana Michigan Power Co. v. United States*, 422 F.3d 1369, 1378 (Fed. Cir. 2005) (holding that utilities are required to file successive actions for damages related to the DOE’s breach of the Standard Contract within six years of incurring such damages).

Round one of this series of cases involved Plaintiffs' claims for damages incurred through 2005. See Carolina Power & Light Co. v. United States, 82 Fed. Cl. 23 (2008); Carolina Power & Light Co. v. United States, 573 F.3d 1271 (Fed. Cir. 2009) (addressing the government's appeal); Carolina Power & Light Co. v. United States, 98 Fed. Cl. 785 (2011). Round two dealt with Plaintiffs' claims for damages incurred through 2010. Carolina Power & Light Co. v. United States, 115 Fed. Cl. 57 (2014). This round three case involves the same nuclear plant sites in Florida, South Carolina, and North Carolina as rounds one and two: the Crystal River, Robinson, Brunswick, and Harris plants.²

In this proceeding, Duke Energy Progress, Inc. and Duke Energy Florida, Inc. (collectively "Duke") seek damages sustained for the period January 1, 2011 through December 31, 2013. The Court held trial during June 5-7, 2017. The parties completed post-trial briefing on August 11, 2017. The Court heard closing arguments on September 13, 2017.

Duke claims a total of \$71,587,534 in damages, of which only \$3,440,861 remain in dispute.³ The disputed items are as follows: (1) Crystal River dry storage system and contract termination costs (\$565,443); (2) Crystal River Auxiliary Building modifications (\$1,263,185); (3) Crystal River FHCR-3 crane modification costs (\$1,235,642); (4) costs to modify the transfer cask pedestal at Crystal River (\$64,837); (5) Robinson fuel assembly inspection and debris removal (\$22,905); (6) costs of Robinson spent fuel cavity lights (\$8,248); (7) Robinson electronic dosimeter costs (\$11,750); (8) Brunswick handheld radio costs (\$6,246); (9) Brunswick torque wrench costs (\$14,458); (10) Brunswick lead blanket costs (\$42,790); (11) Brunswick costs for spent fuel pool lamps and cameras (\$3,495); and (12) IF-300 equipment disposal and transshipment costs (\$201,862). The Government contends that these disputed costs would have been incurred by Duke regardless of DOE's partial breach and delay.

As explained below, the Court grants claims 5-12, but not claims 1-4. In total, the Court awards damages to Duke in the amount of \$68,458,425. In addition, the Government asserts a \$1,529,654 damages reduction claim due to the state ratemaking practices in North and South Carolina. Essentially, the Government claims that it paid for various Duke assets through prior damage awards, which North and South Carolina included in Duke's asset base in setting permissible utility prices. The Government argues that it should receive a credit for the revenues Duke realized on these Government-funded assets. This claim is denied.

² Plaintiff Duke is the successor of the nuclear plant sites at issue in this series of cases.

³ While the sum of disputed items equals \$3,440,861, the difference between the total damages claim (\$71,587,534) and uncontested amount (\$68,146,671) is \$3,440,863. The parties' briefs also list differing amounts for this disputed figure. There is no apparent explanation for this \$2.00 discrepancy.

Background⁴

Duke Energy Progress, LLC, formerly known as Carolina Power and Light Company, is the sole or majority owner of the Harris, Brunswick, and Robinson plants and qualifies as a purchaser of DOE disposal services under Standard Contract No. DE-CR01-83NE44481. Stip. ¶¶ 1, 2. In 2015, the original named Plaintiff, Duke Energy Progress, Inc., was converted into a North Carolina limited liability company and changed its name to Duke Energy Progress, LLC (“DEP”). Stip. ¶ 1. Duke Energy Florida, LLC, formerly known as Florida Power Corporation, is the majority owner of the Crystal River Unit 3 plant and qualifies as a purchaser of DOE disposal services under Standard Contract No. DE-CR01-83NE44382. Stip. ¶¶ 3, 4. In 2015, the original named Plaintiff, Duke Florida, Inc., was converted into a Florida limited liability company, and changed its name to Duke Energy Florida, LLC (“DEF”). Stip. ¶ 3.

On February 24, 2015, the Court directed the parties to perform a comprehensive pretrial accounting review process to determine the costs associated with Duke’s mitigation efforts resulting from the Government’s partial breach. Pretrial Order on Damages, Dkt. No. 11. From this accounting review, the Government acknowledges that Duke incurred \$71,587,534 in costs from January 1, 2011 through December 31, 2013 and concedes \$68,146,671 of this amount. The following facts are relevant to the disputed cost items in this case.

A. The Nuclear Waste Policy Act and the Standard Contract

In 1983, Congress enacted the Nuclear Waste Policy Act of 1982 (“NWPA”) in an attempt to address spent fuel disposal issues in the United States, recognizing the potential risks created by radioactive waste. 42 U.S.C. §§ 10101-10270 (1982). Congress determined that while the Federal Government is responsible for providing the permanent disposal of SNF in order to protect the environment, the costs of such disposal should be the responsibility of the generators and owners of such SNF. See § 10131(a)(4). The NWPA specified that the generators and owners of spent fuel would pay the cost of interim storage of such fuel until the waste and fuel were accepted by the DOE. See § 10131(a)(5). Under the NWPA, utilities would pay fees into the Nuclear Waste Fund in exchange for the Government’s performance of spent fuel disposal services. Id.

In February 1983, DOE published the proposed terms for the “Standard Contract for Disposal of Spent Nuclear Fuel and/or High Level Radioactive Waste” in the Federal Register. 48 Fed. Reg. 5458 (Feb. 4, 1983) (codified at 10 C.F.R. § 961.11). Nuclear plant owners and operators were required to enter into DOE’s Standard Contract as a condition

⁴ The Court refers to the trial transcript by witness and page as “Name, Tr. ___” and to trial exhibits as “PX ___” for the Plaintiffs’ exhibits and “DX ___” for Defendant’s exhibits. The parties’ stipulations of fact, filed on May 22, 2017, are referred to as “Stip. ¶ ___.”

to renewing their operating licenses. Indiana Michigan Power Co. v. United States, 422 F.3d 1369, 1372 (Fed. Cir. 2005) (citing 42 U.S.C. § 10222(a)(1)); see also Entergy Nuclear Indian Point 2, LLC v. United States, 128 Fed. Cl. 526, 531-32 (2016) (detailing the Standard Contract and the history of the DOE program). According to the Standard Contract, DOE was required to provide transportation for spent nuclear fuel and high level waste to the DOE facility; arrange for and provide casks and necessary transportation of the spent nuclear fuel and waste to the DOE facility; provide casks that meet regulatory requirements; and provide pertinent information regarding activities such as cask handling and loading in addition to technical information necessary for cask maintenance. 10 C.F.R. § 961.11 (Article IV.B). The Standard Contract assigned duties to the utility as well. The utility was required to arrange for and provide all preparation, packaging, necessary inspections, and loading activities required for the transportation of spent nuclear fuel and high level waste to the DOE facility. 10 C.F.R. § 961.11.

Under the Standard Contract, DOE was required to begin accepting spent nuclear fuel no later than January 31, 1998. Id. Now, nearly twenty years later, DOE has yet to collect, accept, or dispose of any spent nuclear fuel from any Standard Contract signatory.

B. DOE's Partial Breach of the Standard Contract with Duke

Pursuant to the NWPA, in June 1983, Duke executed Standard Contracts with DOE, covering the Harris, Brunswick, Robinson, and Crystal River nuclear plants. See PX 3003, 3004. As required, Duke has paid all quarterly fees based on electricity production from nuclear fuel in accordance with the contracts. Stip. ¶ 5. Through December 2013, Duke paid approximately \$904 million in fees for the disposal of spent fuel under the contracts. Stip. ¶ 6. To date, DOE has not provided the transportation of SNF from Duke's sites to a DOE facility. Duke intends to hold DOE to its obligation to perform, thus making DOE's delay a partial breach of the contract. See, e.g., Indiana Michigan, 422 F.3d at 1374-75.

C. Crystal River Nuclear Plant

The Crystal River 3 Nuclear Power Plant ("Crystal River") is a single unit pressurized water reaction ("PWR") plant near Crystal River, Florida. Stip. ¶ 7. The plant began commercial operation in 1977 and was shut down for a scheduled maintenance and refueling outage in October 2009. Stip. ¶¶ 8, 9. Crystal River remained shut down after the discovery of delamination, or concrete separation, in the containment building surrounding the reactor vessel. Plaintiffs' Pre-Trial Memorandum of Contentions of Law and Fact, Dkt. No. 36 (Pl. Br.) at 9. In February 2013, Duke announced the retirement of the Crystal River plant. Stip. ¶ 10.

Crystal River has two interconnected spent fuel pools, A and B. Stip. ¶ 11. Duke increased the capacity of these spent fuel pools in 1978 and 1991 by replacing the existing storage racks with higher density racks. Stip. ¶ 12. After the 1991 re-rack project, Crystal

River's licensed capacity was 1,357 spent fuel assemblies. Duke performed another re-rack in 2001, increasing Crystal River's spent fuel pools to 1,474 spaces; this project also replaced the neutron absorbing material in the original racks, thereby resolving a spent fuel pool water chemistry issue. Stip. ¶ 13. Duke eventually decided to construct an Independent Spent Fuel Storage Installation ("ISFSI") pad at Crystal River. Stip. ¶ 14. Duke selected the AREVA-Transnuclear NUHOMS 32PTH1 dry storage cask system, which holds 32 PWR spent fuel assemblies. Stip. ¶ 15. Further, due to the small size of the Crystal River plant, the ISFSI plant was to be constructed in the center of the site, near the Auxiliary Building. See PX 3107; Edwards, Tr. 90-91.

Between 2011 and 2013, Duke purchased twelve horizontal storage modules ("HSMs") and ten dry storage canisters ("DSCs"). Duke also purchased fourteen steel containers in which to store the DSCs. Stip. ¶¶ 16, 18. In preparation of the ISFSI pad, Duke relocated temporary buildings and trailers; transferred underground utilities; installed a perimeter intrusion detection system post; and replaced the FHCR-5 cask-handling crane. See generally PX 3071 (summarizing project costs). Duke also modified the Crystal River Auxiliary Building to support the dry storage system. Edwards, Tr. 97.

D. Robinson Nuclear Plant

The H.B. Robinson Nuclear Plant ("Robinson") is a single unit site located near Hartsville, South Carolina; it is licensed to operate through 2030. Stip. ¶¶ 38, 39. In the past, to increase the Robinson spent fuel pool capacity and alleviate pool capacity constraints, Duke re-racked the Robinson pool, shipped Robinson fuel to Brunswick and Harris, and built an ISFSI. Stip. ¶ 46; Edwards, Tr. 158. As a result of DOE's partial breach, Duke continued to ship fuel from Robinson to Harris and built a second ISFSI. Stip. ¶ 46. Duke permanently suspended its transshipment program in 2008, but it recovered costs pertaining to those actions in rounds one and two. See Carolina Power, 82 Fed. Cl. at 35; Carolina Power, 98 Fed. Cl. at 792; Carolina Power, 115 Fed. Cl. at 60.

Between January 1, 2011 and December 31, 2013, Duke procured ten dry storage containers and ten horizontal storage modules, made initial payments for a total of twenty additional DSCs and HSMs, and loaded six 24PTH canisters onto the Robinson dry storage pad. Stip. ¶ 51. The Government does not dispute that the dry storage costs are a result of its breach; it does, however, contend that specific equipment used during dry storage cask loading would have been necessary to load DOE-supplied transportation casks, regardless of the breach. Maret, Tr. 441-46.

E. Brunswick Nuclear Plant

The Brunswick Nuclear Plant ("Brunswick") is a two-unit boiling water reaction ("BWR") plant near Southport, North Carolina. Stip. ¶ 57. The Brunswick units ("Brunswick 1" and "Brunswick 2") have separate spent fuel pools and are licensed to

operate through 2036 and 2034, respectively. Stip. ¶¶ 58, 59. To increase capacity at Brunswick, Duke re-racked, transshipped spent fuel assemblies from Brunswick to Harris, and built a dry cask storage facility. Stip. ¶¶ 60, 61, 62. In rounds one and two, Duke recovered costs for the transshipment program, the feasibility study for the Brunswick ISFSI, the Brunswick dry storage facility, and the initial dry cask loading campaign. See Carolina Power, 82 Fed. Cl. at 34; Carolina Power, 98 Fed. Cl. at 792; Carolina Power, 115 Fed. 59-60.

During the round three claim period, Duke procured sixteen DSCs and twenty HSMs. Stip. ¶ 64. Duke also loaded four DSCs in 2011 and eight DSCs in 2013. Stip. ¶ 64. The Government does not argue that the ISFSI would not have been necessary absent the Government's breach; it does, however, dispute whether specific equipment used during dry storage cask loading would have been necessary regardless of the breach.

F. Harris Nuclear Plant

The Shearon Harris Nuclear Power Plant ("Harris") is a single unit plant located near New Hill, North Carolina; it is currently licensed to operate through 2046. Stip. ¶¶ 28, 29. Harris was originally intended to accommodate four nuclear units (Units 1, 2, 3, and 4), with Units 1 and 4 sharing spent fuel pools A and B, and Units 2 and 3 sharing spent fuel pools C and D. Stip. ¶¶ 30, 31. During construction, plans changed, and pools A and B were completed for use by the single unit reactor, while pools C and D were partially completed. Stip. ¶ 32. When spent fuel from the Brunswick and Robinson plants were shipped to Harris, racks were added to the A and B pools. Stip. ¶¶ 33, 34. Duke eventually had to activate pools C and D as a result of DOE's breach. Stip. ¶ 35. Duke recovered costs for these actions in rounds one and two. See Carolina Power, 82 Fed. Cl. at 34-35 (covering the activation of pools C and D); Carolina Power, 115 Fed. Cl. at 60 (pertaining to the additional racks in the Harris C pool).

During the round three period, Duke continued to incur costs at the Harris site. Duke installed three additional racks to spent fuel pool C and ordered a study of long-term spent fuel storage options, as a result of the DOE breach. Stip. ¶ 37. The Government does not dispute any of the round three costs claimed regarding the Harris site. Couchman, Tr. 664.

G. IF-300 Equipment Disposal Costs and Transshipments

Transshipment is the process of shipping spent fuel from one location to another. IF-300 casks are rail casks used for transshipments. Stip. ¶ 43. Prior to 2011, Duke owned two of these casks, the IF-303 and the IF-304. Edwards, Tr. 160-61. In 2001, Duke purchased two other IF-300 casks, designated as IF-301 and IF-302. PX 3020; Edwards, Tr. 160-61. When IF-301 and IF-302 were purchased, they were placed in storage in South Carolina, and the applicable equipment and spare parts were placed in Sealand containers and transported to Harris to be stored. Edwards, Tr. 163. Duke later decided to dispose of

the spare parts and equipment. The IF-303 and IF-304 equipment is stored in a warehouse and is still in Duke's possession. Edwards, Tr. 163-66. This case solely pertains to disposal costs of equipment related to the IF-301 and IF-302 casks.

H. Duke's Uncontested Damages Claims

Duke is claiming \$71,587,534 in damages. Stip. ¶ 71. The Government is not challenging \$68,146,671 of Duke's claimed damages. Defendant's Proposed Findings of Fact and Conclusions of Law, Dkt. No. 61 (Def. Post Trial Br.) at 7.

Discussion

The remedy for a partial breach of contract is "damages sufficient to place the injured party in as good a position as it would have been had the breaching party fully performed." Indiana Michigan, 422 F.3d at 1373 (citing San Carlos Irrigation & Drainage Dist. v. United States, 111 F.3d 1557, 1562 (Fed. Cir. 1997)). Available damages include the non-breaching party's mitigation expenses, specifically its costs of arranging alternatives to the breaching party's required performance. See Restatement (Second) of Contracts (1981) § 347, cmt. a, b; Hughes Commc'ns Galaxy, Inc. v. United States, 271 F.3d 1060, 1067-68 (Fed. Cir. 2001). "Mitigation is appropriate where a reasonable person, in light of the known facts and circumstances, would have taken steps to avoid damage." Indiana Michigan, 422 F.3d at 1375. Mitigation damages are to be awarded to "reimburse a non-breaching party to a contract for the expense it incurred in attempting to rectify the injury the breach caused it." Citizens Federal Bank v. United States, 474 F.3d 1314, 1320 (Fed. Cir. 2007) (citing Restatement (Second) of Contracts § 347 cmt. c (1981)). Upon receiving notice that one party to a contract does not intend to perform, the other party is required to mitigate damages, meaning that it must take reasonable efforts to avoid further losses from the breach. Indiana Michigan, 422 F.3d at 1375 (citing Restatement (Second) of Contracts §350 cmt. b (1981)).

A. Elements of Burden of Proof

In order to recover damages, Duke must show by a preponderance of the evidence that: (1) the damages were reasonably foreseeable by the breaching party at the time of contracting; (2) the breach is a substantial causal factor for the damages; and (3) the damages are shown with reasonable certainty. Indiana Michigan, 422 F.3d at 1373 (citing Energy Capital Corp. v. United States, 302 F.3d 1314, 1320 (Fed. Cir. 2002)). See also Entergy Nuclear Indian Point 2, 128 Fed. Cl. at 534.

1. Foreseeability

Damages must be foreseeable "as a probable result of the breach," meaning that the damages "follow[ed] from the breach (a) in the ordinary course of events, or (b) as a result

of special circumstances, beyond the ordinary course of events, that the party in breach had reason to know.” Restatement (Second) of Contracts § 351(2). This requirement “reflects the principle that a breaching party should not be liable for the damages that ‘it did not at the time of contracting have reason to foresee as a probable result of such a breach.’” Citizens Federal Bank, 474 F.3d at 1321 (quoting Restatement (Second) of Contracts § 351 cmt. a).

The non-breaching party must demonstrate that both the magnitude and type of damages or injury were foreseeable at the time of contract formation. See Landmark Land Co. v. FDIC, 256 F.3d 1365, 1378 (Fed. Cir. 2001). The loss must be more than a “merely remote or possible” consequence of the breach. Old Stone Corp. v. United States, 450 F.3d 1360, 1375 (Fed. Cir. 2006) (quoting National Controls Corp. v. National Semiconductor Corp., 833 F.2d 491, 496 (3d Cir. 1987)). It is foreseeable that DOE’s non-performance under the Standard Contract would result in nuclear power plants incurring storage expenses. See, e.g., Consolidated Edison Co. of N.Y. v. United States, 676 F.3d 1331 (Fed. Cir. 2012); System Fuels, Inc. v. United States, 79 Fed. Cl. 37, 59 (2007).

2. Causation

The breach of contract must also cause the damage. Causation is a question of fact. Bluebonnet Savings Bank, F.S.B. v. United States, 266 F.3d 1348, 1356 (Fed. Cir. 2001). Causation must be “definitely established,” but the breach need not be the sole cause of the damages. California Federal Bank v. United States, 395 F.3d 1263, 1267-68 (Fed. Cir. 2005). According to the Federal Circuit’s “but-for” test, the breaching party is liable for those damages that it directly and entirely caused. See Citizens Federal Bank, 474 F.3d at 1318; Yankee Atomic Electric Co. v. United States, 536 F.3d 1268, 1272 (Fed. Cir. 2008). The plaintiff bears the burden of showing that but for the breach, the purported damages would not have occurred by “submit[ting] a hypothetical model establishing what its costs would have been in the absence of breach.” Vermont Yankee Nuclear Power Corp. v. United States, 683 F.3d 1330, 1350 (Fed. Cir. 2012) (quoting Energy Northwest v. United States, 641 F.3d 1300, 1305 (Fed. Cir. 2011)).

3. Reasonable Certainty

Plaintiffs can only recover those damages that they can establish with reasonable certainty. Indiana Michigan, 422 F.3d at 1373; see also Restatement (Second) of Contracts § 352 cmt. a. “[W]here responsibility for damages is clear, it is not essential that the amount thereof be ascertainable with absolute exactness or mathematical precision” San Carlos Irrigation & Drainage Dist., 111 F.3d at 1563 (citing Electronic & Missile Facilities, Inc. v. United States, 189 Ct. Cl. 237, 416 F.2d 1345, 1358 (1969)). A fair and reasonable approximation of damages is sufficient. See, e.g., Energy Capital Corp., 302 F.3d at 1329; Hughes, 271 F.3d at 1067-68. Speculative damages, however, cannot be

recovered. San Carlos Irrigation & Drainage Dist., 111 F.3d at 1563; see also Indiana Michigan, 422 F.3d at 1373.

4. Government's Burden of Proof

After the plaintiff has met its three-part burden, if the Government seeks reductions in claimed damages, it “bears the burden of showing that [plaintiff’s] mitigation efforts were unreasonable.” Tennessee Valley Authority v. United States, 69 Fed. Cl. 515, 523 (2006). The breaching party thus bears the burden of establishing that plaintiff’s damages claims should be reduced or denied. See Home Savings of America, F.S.B. v. United States, 399 F.3d 1341, 1353 (Fed. Cir. 2005).

B. Legal Principles

In addition to determining if the parties have met their respective burdens, the Court must consider two principles that are integral to this case: (1) the definition and recovery of “loading costs;” and (2) the effect of a particular activity’s potential repetition upon DOE’s performance.

1. Loading Costs Related to Storage Casks

The Government vigorously contests certain costs for loading dry cask storage canisters. The Federal Circuit has held that loading costs pertaining to storage casks are fully recoverable, as the costs to load such casks would be non-existent in a non-breach world. System Fuels, Inc. v. United States, 818 F.3d 1302, 1306 (Fed. Cir. 2016). In System Fuels, the utility appealed the Court’s finding that it was not entitled to the costs incurred to load spent nuclear fuel into storage casks stored at two sites. System Fuels, 818 F.3d at 1305. The Federal Circuit explained that while the utility is responsible for the loading costs associated with DOE-supplied *transportation* casks, it is not responsible for the *storage* cask costs. Id. at 1306 (emphasis added).

Under the existing Standard Contracts, DOE will not accept the currently loaded storage casks; therefore, the utility must unload the spent nuclear fuel from the storage casks, and reload that fuel into DOE-supplied transportation casks whenever DOE performs. Id. The Federal Circuit held that the costs of loading transportation casks is irrelevant to the utility’s recovery for expenses incurred for loading storage casks, as loading costs are those expenses incurred “entirely for storage due to the Government’s breach.” Id.

2. Repetition of Mitigation Activity

Also relevant to this case, the Federal Circuit has held that if a trial court concludes a particular activity will have to be “re-done” upon eventual DOE performance, then the

costs associated with the utility's reasonable mitigation efforts are recoverable. Energy Northwest, 641 F.3d at 1307. In Energy Northwest, the utility argued that there was a "90% likelihood" that the utility would have to modify a specific plant when the DOE eventually performs, therefore entitling it to damages. Id. The Federal Circuit remanded the matter, stating that the trial court applied the wrong test regarding deferred versus avoided costs, but it did not dispute that the claimed costs may be recoverable if likely of repetition upon DOE's performance. Id.

C. Disputed Costs

1. Crystal River

a. Dry Storage Systems and Contract Termination Costs at Crystal River are Not Recoverable.

Duke claims \$565,443 for costs associated with dry storage systems and contract termination at Crystal River: Duke claims \$216,000 in horizontal storage module fees; \$131,611 in the purchase of dry storage canisters at Brunswick pending completion of the Crystal River ISFSI; and \$217,832 in contract termination costs related to the general contractor in the ISFSI project. Stip. ¶¶ 22, 23, 24.

The AREVA-Transnuclear NUHOMS 32PTH1 dry storage system, which Duke selected at Crystal River, holds 32 PWR assemblies and weighs over 100 tons when loaded. Stip. ¶ 15; Edwards, Tr. 65. Duke purchased twelve NUHOMS HSMs and ten NUHOMS DSCs between 2011 and 2013. Stip. ¶ 16. Since the ISFSI pad construction was not complete, Duke stored the HSMs at Bayshore Concrete Projects in Virginia and the DSCs at Brunswick. Stip. ¶¶ 17, 18; see also Edwards, Tr. 145-46. In addition to dry storage costs, Duke seeks recovery for contract termination costs related to the ISFSI project with general contractor Brasfield and Gorrie. Brasfield and Gorrie provided management and labor support for the ISFSI project, but Duke ultimately terminated its contract due to the suspension of the ISFSI project. Edwards, Tr. 148-50.

Further, in an effort to increase Crystal River's power production capability, Duke began a scheduled outage at the site in 2009. Stip. ¶ 9. Duke intended to refuel the reactor and replace steam generators during the outage. Edwards, Tr. 206. While it was customary for nuclear plants to retain professional consulting firms to manage similar upgrades, Duke did not do so. Edwards, Tr. 200-02. Rather, Duke self-managed the work, a feat no other utility had successfully attempted. Id. Although Duke chose to self-manage the outage project, Sargent & Lundy, an expert engineering firm recommended releasing the tension of approximately 95 steel tendons at Crystal River in order to relieve stress on the concrete structure and later suggested releasing 65 tendons. Maret, Tr. 413. Bechtel, a separate, independent engineering firm, also recommended the release of 65 tendons. Id. Duke decided to release only 27 tendons, causing an insufficient relief of stress in the concrete

which resulted in delamination in the containment building surrounding the reactor vessel. Maret, Tr. 414. Following the delamination problem, Duke decided to suspend work on its ISFSI project. Edwards, Tr. 204-06.

Duke argues that the dry storage system and contract termination costs are recoverable, claiming that in a non-breach world, it would not have pursued dry storage on an ISFSI and that there would have been no need for HSMs and DSCs. Edwards, Tr. 145-48. The Government does not accept responsibility for any of these costs, claiming its partial breach was not a cause of the damages. Rather, the Government contends that Duke's delamination problem at Crystal River, something for which Duke was solely responsible, caused these damages.

Duke has not met its threshold burden of showing that the cost incurred was foreseeable "as a probable result of the breach," meaning the damages resulted from action in the ordinary course of events or due to special circumstances that the breaching party had reason to know. Restatement (Second) of Contracts § 351(2). While it may be argued that additional spent fuel storage, *i.e.* the ISFSI pad, was required as a direct result of DOE's breach, this claim is not for the ISFSI pad. In fact, Duke recovered costs pertaining to the design and preliminary construction for an ISFSI in round two of this case. See Carolina Power, 115 Fed. Cl. at 65. Instead, the damages at issue involve dry storage systems and contract termination costs.

While DOE's breach undoubtedly caused Duke to incur considerable costs, Duke's decision to self-manage the steam generator replacement project and the eventual delamination were not foreseeable results of this breach. Based on prior, similar projects, if Duke had retained a professional firm to assist in the engineering aspects of the project, it is likely that delamination problems would not have happened. Edwards, Tr. 199-201.

Duke acknowledges that the delamination was specific to the steam generation replacement project and explicitly states that DOE's performance had nothing to do with this project or the resulting delamination. Edwards, Tr. 205-06 (stating "we had no discussions prior to [the delamination] of stopping the [ISFSI] project." If the delamination had not occurred, work on the Crystal River storage installation would not have been interrupted, negating the continued need for dry storage. Edwards, Tr. 206, 209. Suspending the dry storage project resulted in the storage and contract termination costs that Duke claims. As this suspension was a result of the delamination and DOE had no involvement in the events leading to the delamination, these expenses are solely attributable to Duke.

b. Costs for Auxiliary Building Modifications are not Recoverable.

Duke claims \$1,263,185 for modifications made to the Crystal River Auxiliary Building in order to support the NUHOMS 32PTH1 dry storage system. As stated, Duke

selected the NUHOMS 32PTH1 storage system due to its ability to accommodate the spent fuel at Crystal River. In choosing this system, Duke evaluated the Auxiliary Building's ability to process the NUHOMS 32PTH1 and identified necessary modifications to be made to the Auxiliary Building. Edwards, Tr. 97. Engineering Change ("EC") 73474 explains the changes to be made, such as pedestal installations, alterations to electrical power, and modification of the electrical, service air, and HVAC systems. See PX 3001. Duke argues that if the Government had not breached the Standard Contract, dry storage at Crystal River would not have been necessary. Stip. ¶ 73. Duke further contends that because all of the modifications outlined in EC 73474 support loading spent fuel into NUHOMS 32PTH1, these costs are fully recoverable under System Fuels. See System Fuels, 818 F.3d at 1302.

To recover these costs, Duke must meet its burden and show that the breach of contract caused the contested damages. Additionally, as acknowledged by the Federal Circuit, the plaintiff must provide a hypothetical model establishing what its costs would have been absent a breach. Vermont Yankee, 683 F.3d at 1350. The Government argues that Duke does not explain how these costs are related to the breach.

At trial, Duke's experts did not distinguish between the costs that were attributable to the delay and those that would have been incurred in a non-breach world. See Edwards, Tr. 186-87 (admitting that even if DOE had timely performed, some of the modifications would have been made). Further, Duke explained that some modifications at the Auxiliary Building, such as installation of a cask pedestal in the decontamination pit, were the type that may have been necessary for any cask, again failing to show a causal relationship between specific modifications and DOE's partial breach. See Westcott, Tr. 376-79. Similarly, costs related to a decontamination pit work platform, which was installed for safety purposes, were claimed as an Auxiliary Building modification but would have been necessary absent a breach. Westcott, Tr. 387-88. The Government's experts confirmed that many of the Auxiliary Building activities would have been required in a non-breach world. See, e.g., Maret, Tr. 433-35.

While EC 73474 explains the changes necessary to accommodate the selected dry storage system at Crystal River, it does not adequately isolate the costs and explain how the partial breach led to each modification. Duke's simply stating its need for recovery is not enough. Duke also does not provide a hypothetical model confirming whether any modifications would have been necessary absent DOE's breach, thereby failing to meet an important component of its three-part burden. While the Court acknowledges that some of the costs may indeed be attributable to DOE's partial breach, the Court is not responsible for separating these costs. Duke has failed to demonstrate which costs are attributable to DOE's breach, and therefore the argument claiming these Auxiliary Building modifications cannot succeed.

c. FHCR-3 Crane Modification Costs are not Recoverable.

Duke claims recovery of \$1,235,642 for costs related to the Crystal River FHCR-3 crane modification. Stip. ¶ 25. The original grapple mechanism at Crystal River used fingers to engage a fuel assembly's upper end fitting from the outside, and once the fuel assembly was loaded into the dry shielded canister, sufficient clearance to unlatch the fuel and raise the grapple would be necessary. Edwards, Tr. 125. This is similar to "picking up a drinking glass from the top with your hand" and once loaded, "[you] remove your fingers from the glass to release it." Plaintiffs' Proposed Findings of Fact and Conclusions of Law, Dkt. 60 (Pl. Post Trial Br.) at 35. This method differs from the new design, which operates from the inside-out. In the new system, the fuel assembly is fully inserted into the dry shielded canister fuel cell, allowing the grapple to unlatch the fuel while fully inside the cell. See PX 3002 (Figure 4); Edwards, Tr. 129-31.

Duke claims crane modification costs, arguing that the modification was needed to (1) access peripheral locations of the spent fuel pool in order to gain additional fuel storage space, and (2) load fuel into the NUHOMS 32PTH1 system due to its height and the inability of the pre-existing crane to release fuel within the new system. See PX 3002. Duke alleges that both these reasons are directly related to DOE's partial breach. The Government contests these claims, stating that even absent a breach, Duke would have been required to upgrade the FHCR-3 crane. Maret, Tr. 428.

The casks that DOE considered for use at Crystal River and other plants were high capacity casks that would not have been compatible with the original grapple system. Maret, Tr. 426. This would be the case in a non-breach world as well. Also, during the claim period, there were no licensed PWR canisters or casks that would have been compatible with the original grapple mechanism, and no such canister exists today. Maret, Tr. 424-25. As a result, the crane modification would have been necessary to load any type of cask, not just the NUHOMS cask at Crystal River.

Duke also argues that the original FHCR-3 grapple would have been sufficient without modification if the Government had provided Crystal River with a suitable transport cask like that at the Brunswick site. Edwards, Tr. 140-41. The Government explains that the Brunswick system, a BWR cask system with a removable top grid, is not comparable to the system at hand, as the Crystal River system is a PWR system, and no such system exists for PWR casks. Maret, Tr. 424-25. The Court agrees; based on the evidence presented, the crane modification costs at Crystal River were not attributable to the Government's breach, and these costs would have been incurred even in the event of DOE performance. Accordingly, these costs are not recoverable.

d. Costs to Modify the Transfer Cask Pedestal are not Recoverable.

Duke claims \$64,837 in costs related to redesigning the transfer cask pedestal at Crystal River. Stip. ¶ 26. Duke installed a pedestal in an effort to lift the transfer cask, making it more accessible. Edwards, Tr. 152-53. The parties agree that Duke initially decided to design the pedestal in a square shape but later improved the design by making it round. Edwards, Tr. 154-55. This redesign reduced a tripping hazard, as there could have been corners sticking out from the square pedestal. Edwards, Tr. 154. Duke attributes this redesign cost to the Government because the need for a cask pedestal depends on the cask design and there is a possibility that a DOE-supplied transportation cask would not have needed a pedestal. Edwards, Tr. 153-54. Duke also claims that whenever the Government performs, Duke may need a different pedestal, arguing it may have to “re-do” these activities upon DOE performance. Edwards, Tr. 156-57.

However, in the Court’s assessment, Duke offers insufficient proof of its claims. Duke’s decision to redesign a circular pedestal that it initially chose to be square is not related to the Government’s breach. Duke’s safety concerns are certainly reasonable, but they are not unique to the specific NUHOMS cask. Lastly, Duke’s stating that when DOE performs Duke may need a different pedestal is not adequate under the Energy Northwest standard; a mere possibility does not prove repetition of mitigation efforts. Therefore, the pedestal redesign costs are not attributable to the Government’s delay, and Duke may not recover these costs.

2. Robinson

a. The Costs Associated with Fuel Assembly Inspection and Debris Removal at Robinson are Recoverable.

Duke claims \$22,905 for costs associated with fuel assembly inspection and debris removal at Robinson; \$15,000 relate to labor costs, and \$7,905 are associated with the purchase of underwater cameras and masts used for fuel inspection and debris removal. Stip. ¶¶ 52, 53, 54; Smith, Tr. 274. Fuel is inspected for debris prior to being loaded, because Transnuclear NUHOMS Technical Specifications require that only fuel, with no excess materials, be inserted into dry shielded canisters. Smith, Tr. 272- 73.

Duke purchased underwater cameras and masts for the purposes of fuel inspection and debris removal. Stip. ¶53. These purchases and compliance with the technical specifications are mandatory under storage cask loading specifications. Smith, Tr. 272-73. Duke claims that this equipment has a finite life span, requiring future repurchase and preventing repeat usage many years from now. Smith, Tr. 274.

The Government argues that fuel inspection expenses would have been incurred absent a breach, because the Standard Contract requires inspection of fuel assemblies.

Maret, Tr. 443-44. The Government also asserts that there is no evidence that the same type of inspections and debris removal will need to be repeated at a future date, arguing that future inspections would be narrower. Maret, Tr. 446; DX 3065 at 17. As a result, the Government claims these costs are unrecoverable, as they are not attributed to DOE's delay.

Similar to System Fuels and Entergy Nuclear Indian Point 2, in which the Court held that the plaintiffs were allowed costs of loading spent fuel to storage casks, Duke may recover these costs as well. See System Fuels, 818 F.3d at 1305-06; see also Entergy Nuclear Indian Point 2, 128 Fed. Cl. at 543. In Entergy Nuclear Indian Point 2, the plaintiff incurred costs caused by DOE's breach when it was required to inspect and characterize fuel in order to load spent fuel to storage casks, activities that would have to be repeated upon DOE performance. Entergy Nuclear Indian Point 2 at 543. Using System Fuels as a standard, the Court explained that because fuel could not be transported to DOE in its current canisters, and because of the uncertainty about specific requirements for transportation casks when DOE finally performs, the plaintiff was entitled to recover. Id.

The fuel inspection and debris removal activities at hand were incurred as part of storage cask loading, not transportation cask loading. As such, Duke will be required to fulfill transportation cask loading obligations once DOE performs. Further, as the inspection and debris removal equipment may only be used for a finite period of time, it will likely need to be replaced for future activities. The Government's argument that future inspections would be more narrow is purely speculation. What is certain, however, is that Duke will need to perform these activities again whenever DOE finally performs. Therefore, the inspection and debris removal costs at Robinson are directly attributable to the Government, entitling Duke to recover damages of \$22,905.

b. Costs of Spent Fuel Cavity Lights at Robinson are Recoverable.

Duke claims \$8,248 for the purchase and installation of spent fuel cavity lights at Robinson. Stip. ¶ 55. The lights are permanent fixtures used for dry cask loading and are necessary to illuminate the pool area and provide increased visibility during inspections. Smith, Tr. 276.

Duke explains that new lights were necessary because the general areas of the pool that were already lit were also full of fuel, making inspections difficult without additional lighting. Smith, Tr. 277.

The Government argues that the need for lighting was not caused by DOE's partial breach, explaining lighting is required in order to maintain a safe working environment, which is a necessity regardless of DOE performance. Maret, Tr. 442; see also DX 3065 at 15. The Government also contends that fuel inspections are performed in an area of the pool largely devoid of fuel, so existing fuel in the pool does not affect the need for

additional lighting. Maret, Tr. 443. The Government admits, however, that these types of light fixtures have a finite life, making future repurchase inevitable. Maret, Tr. 502.

The parties agree that these lights are necessary. Similar to the aforementioned fuel inspection costs, the additional fuel cavity lights were purchased for storage cask loading because the prior lit areas of the pool were already full. Smith, Tr. 276-77. If the Government had performed in a timely fashion, the storage casks would not have been necessary and the pools would not have been as full—potentially extinguishing the need for additional lights at Robinson. Further, since it is unknown when DOE will perform, it is likely that the lights will need to be replaced at that time. Therefore, the Government is liable for these costs, and Duke is entitled to recover \$8,248 for this expense.

c. Electronic Dosimeter Costs at Robinson are Recoverable.

Duke claims \$11,750 for electronic dosimeters, devices that measure neutron radiation, at Robinson. Stip. ¶ 56; Smith, Tr. 286. Radiation exposure is always a concern in the nuclear industry, and utilities aim to ensure the lowest possible exposure to employees. Smith, Tr. 296. During dry cask loading, workers are exposed to a neutron dose when the cask is removed from the water. Smith, Tr. 286; Edwards, Tr. 167.

Duke purchased electronic dosimeters to protect employees while loading dry storage casks. Smith, Tr. 296, 298. Dosimeters were necessary at Robinson due to the amount of time personnel spent on top of the storage canisters during cask closure operations. Edwards, Tr. 169-70. Also, experts state that the dosimeters have a finite life. Edwards, Tr. 170; Smith, Tr. 287. Additionally, dosimetry technology is constantly improving, and there is no guarantee that the purchased dosimeters will remain adequate when DOE finally performs. Smith, Tr. 287-88. As a necessity, they would need to be replaced during DOE's performance.

The Government does not dispute the necessity of electronic dosimeters. Maret, Tr. 441. In fact, it states that Duke's decision to purchase the dosimeters was reasonable. Maret, Tr. 441-42. The Government instead argues that Duke would have purchased the same dosimeters even in a non-breach world. Maret, Tr. 442; DX 3065 at 18-19.

As the parties agree, Duke reasonably purchased electronic dosimeters for employee safety during storage cask loading, an activity that would not have been necessary absent DOE's partial breach. Duke notes that a transportation cask, unlike a storage cask, would have been bolted shut, limiting the amount of time personnel spent on top of the canister and eliminating the need for an electronic dosimeter. See Edwards, Tr. 168-70. As Duke needed these dosimeters for storage cask loading, they are directly attributable to the Government's breach. Due to their nature, the electronic dosimeters will likely be replaced when DOE performs in the future. As a result, Duke is entitled to the full costs related to the electronic dosimeters at Robinson.

3. Brunswick

a. Handheld Radio Costs at Brunswick are Recoverable.

Duke claims \$6,246 for handheld radios used for the cask loading process, and inserting the DSC into the horizontal module at Brunswick. Stip. ¶ 65; Smith, Tr. 290; see also Edwards, Tr. 179-80. Personnel at Brunswick use these devices to communicate during the loading process and to ensure that all personnel are aware of the cask position. Smith, Tr. 290; Edwards, Tr. 179. The handheld radios, which have a finite life, consist of headsets worn under hard hats, microphones, and battery packs worn on belts. Smith, Tr. 290; see also Maret, Tr. 502.

Duke purchased and used these handheld radios for the expected purposes. Duke asserts that the equipment was dedicated to Brunswick dry storage and was not available for use on the general site. Smith, Tr. 291.

The Government argues that Duke's use of radios would be necessary to safely load any cask at Brunswick. Maret, Tr. 448-49. It asserts that although Duke used the handheld radios while loading the dry storage casks, there is nothing unique about the NUHOMS storage casks that requires use of these radios compared to any other cask loading. Id. Due to this fact, the Government disputes whether the radios were purchased as a result of its partial breach.

Duke used the claimed handheld radios solely for the purpose of dry storage loading. Smith, Tr. 291. The Government does not dispute this fact. Maret, Tr. 495. Duke used the radios for a loading purpose directly related to DOE's breach, which allows them to recover these costs under System Fuels. Additionally, the radios, which have a finite life, will need to be replaced whenever DOE performs in the future, entitling Duke to recover.

b. Torque Wrench Costs at Brunswick are Recoverable.

Duke claims \$14,458 for the purchase of a manual torque wrench and a battery-operated torque wrench. Stip. ¶ 66; see PX 3045 and 3043, respectively. Torque wrenches are used for tightening the cask restraint once the cask is loaded with fuel and removed from the spent fuel pool. Edwards, Tr. 176; Smith, Tr. 280. The restraint keeps the cask from tipping over in the event of a seismic event, by ensuring the cask has a larger footprint at the bottom. Smith, Tr. 281. The cask system at Brunswick, NUHOMS 61BTH, requires the use of the seismic restraint. Smith, Tr. 283.

In compliance with the NUHOMS Technical Specifications, Duke first purchased a manual torque wrench. Smith, Tr. 281. The battery operated wrench was later purchased due to the increased amount of time workers spent using the manual wrench to tighten the

bolts on the dry cask system. Id. Duke explains that both wrenches are still used and are earmarked and kept for dry fuel storage. Smith, Tr. 281-82, 285.

The Government claims that the torque wrench purchases are not attributable to its partial breach, because torque wrenches are standard plant equipment. Maret, Tr. 452-53. The Government also asserts that even though Duke labeled the wrenches for dry fuel storage purposes, they are standard equipment used to tighten any bolts. Maret, Tr. 452. The Government further argues that absent a breach, Duke would still need to comply with the seismic requirements—leading to the purchase of torque wrenches.

While torque wrenches may have been necessary despite a breach, the Government does not offer evidence or meet its burden of showing the purchase was unreasonable. Further, the Government claims that the same or similar wrenches would have to be purchased in a non-breach world, but there is no support to suggest this is the case. At trial, the Government expressed uncertainty about whether the same wrenches could indeed be used for a DOE-supplied transportation cask. Maret, Tr. 501-02. In fact, the IF-300 transportation cask at Brunswick did not require a seismic restraint, although the dry cask storage resulting from the DOE breach did. Smith, Tr. 283; Edwards, Tr. 177. Lastly, similar to the handheld radios, the fact that the wrenches could have been used for transportation does not negate the reality that they were purchased and used for dry cask loading—an activity directly attributable to DOE’s breach. For these reasons, Duke may recover \$14,458 for the torque wrench costs at Brunswick.

c. Lead Blanket Costs at Brunswick are Recoverable.

Duke claims \$42,790 for lead blankets purchased to provide shielding during dry storage cask closure activities at Brunswick. Stip. ¶ 67. Similar to the electronic dosimeters at Robinson, lead blankets at Brunswick are used for radiation protection. The blankets are hung over the cask platform while the cask sits on the refueling floor, and they shield workers close to the cask. Smith, Tr. 288-89. The parties agree that these blankets are vulnerable to wear and tear. Smith, Tr. 289; see also Maret, Tr. 455. Duke purchased lead blankets which were dedicated to the dry storage project, labeled as such, and stored with dry fuel storage equipment. Smith, Tr. 289.

The Government does not dispute the necessity or reasonableness of the purchase, but again claims that Duke would have purchased the same blankets in a non-breach world. Maret, Tr. 454-55. The Government even states that Duke likely would have incurred more significant costs absent the breach, because a greater quantity of smaller DOE casks would increase the wear and tear on its lead blanket supply compared to larger NUHOMS storage casks. Maret, Tr. 455-56.

The Court rejects the Government’s argument. As the Government acknowledges, the lead blankets in question were purchased specifically for the dry storage cask. Maret,

Tr. 454. Since Duke needed and purchased these blankets for storage cask loading, they are directly attributable to the Government's delay. Duke is entitled to the full costs related to the lead blankets at Brunswick.

d. Costs for Spent Fuel Pool Lamps and Cameras at Brunswick are Recoverable.

Duke claims \$3,495 for the purchase of underwater spent fuel lamps and cameras at Brunswick, \$1,085 and \$2,410, respectively. Stip. ¶¶ 68, 69. Both the lamps and cameras facilitate the cask loading process by providing better underwater visibility and they have a finite life. Smith, Tr. 278, 302; see also Maret, Tr. 502. Duke purchased this equipment for storage cask loading purposes, but the Government again argues that these items would have been necessary to load a DOE-supplied transportation cask absent DOE's delay.

It is clear that Duke purchased and used the spent fuel lamps and cameras to transfer the casks to dry storage, an activity caused by DOE's delay. Duke is entitled to recover these costs.

4. Costs Associated with IF-300 Equipment Disposal and Transshipments are Recoverable.

Duke claims \$201,862 in disposal costs related to the IF-301 and IF-302 casks. Stip. ¶ 70. These casks were purchased in 2001 for transshipment, due to DOE's delay. Edwards, Tr. 161-64. When the IF-301 and IF-302 were purchased, they were in storage in South Carolina; the parts and handling equipment were placed in Sealand containers and transported to the Harris plant in North Carolina. Edwards, Tr. 163. Duke ultimately disposed of the parts.

In his deposition, Mr. Edwards, Manager of Spent Fuel Management at Duke Energy, inadvertently testified that the disposal costs at issue were associated with the IF-303 and IF-304 casks. Edwards, Tr. 162. Mr. Edwards corrected this statement at trial, explaining that the current dispute actually involves the IF-301 and IF-302 casks. Edwards, Tr. 163.

The Government makes alternative arguments regarding the disposal of two of the IF-300 casks. First, the Government claims that the deposition testimony, which states the relevant equipment as the IF-303 and IF-304 casks, should be binding. Def. Post Trial Br. at 48 (citing Dairyland Power Coop. vs. United States, 79 Fed. Cl. 709, 714 (2007)). The Government asserts that these admissions, which were not corrected until trial, should stand. As a result, Duke should be barred from recovery because the IF-303 and IF-304 have not incurred disposal costs and were purchased prior to the Government's breach.

In the alternative, the Government argues that even if the deposition testimony is not binding, it should be considered more seriously than the trial testimony. The Government contends that Mr. Edwards' deposition testimony was more credible, mainly because, at the time of the deposition, he did not understand that the IF-303 and IF-304 transfer casks had been used prior to the Government's partial breach, unlike Mr. Edwards' state of mind at the time of trial. Def. Post Trial Br. at 49. Therefore, he did not have an incentive to avoid associating the disposal costs with those casks. Id. The Government also claims that Mr. Edwards' changed testimony at trial was not supported by any documentation to resolve the difference.

The Government's final argument concerning the IF-301 and the IF-302 cask disposal is that the DOE did not cause the cost in question, because Duke did not provide evidence that the utility needed this equipment due to the delay. It therefore argues that Duke did not meet its burden of showing this purchase was a reasonable mitigation effort. Def. Post Trial Br. at 50-51.

The Government's first two arguments focus on the inadvertent error that Mr. Edwards made in his deposition. The fact that an error was made is irrelevant, as it does not speak to Duke's burden. Further, an error that was later corrected should not bar recovery when the fact in dispute was adequately proven with testimony and documentation. See PX 3047 (referring to the IF-301 and IF-302 equipment, which was stored in the aforementioned containers); see also Edwards, Tr. 163-66. While Duke initially erred by confusing the canisters at issue, this error should not ultimately bar recovery.

Further, in round one of this spent nuclear fuel case, the Court found that in a non-breach world, Duke would not have needed to transship fuel from Brunswick and Robinson to Harris. Carolina Power, 98 Fed. Cl. at 792. Absent a breach, Duke would not have had to purchase the IF-301 and IF-302 casks. Edwards, Tr. 161. The Government does not dispute its responsibility for these casks. Instead, it focuses on a minor issue that the Court deems immaterial. Duke met its three-part burden and has proven that the Government's breach led to the contested equipment disposal costs, thereby allowing them recovery for the IF-300 transshipment and disposal costs.

D. The Government's Damages Reduction Claim for State Ratemaking Practices is Denied.

The Government seeks a damages reduction of \$1,529,654, claiming that Duke received a financial benefit as a result of DOE's breach. The Government's offset claim stems from regulatory ratemaking procedures in North Carolina and South Carolina. Government counsel deserves some credit for creativity, but this claim is too far removed from DOE's breach to result in an offset recovery. Indeed, no existing case law supports the Government's claim.

Duke is in the business of selling the electricity that it generates. Unlike other products and services, electricity cannot be sold to retail customers in North and South Carolina at whatever price the utility wants, or whatever price the market will bear. In these states, the Public Utility Commissions set the prices that can be charged for electricity. The regulatory process is called “ratemaking.” The Government contends that it is entitled to a reduction in Duke’s damages because some of the assets the Government paid for in the past as breach damages are included in Duke’s base. The Government says that it should receive a pro rata portion of Duke’s revenue, as if the Government was some sort of business partner with Duke. In making this novel argument, the Government twists its prior payment of damages to Duke as a kind of investment in the company, where it could sit back and share in Duke’s revenue.⁵

The factual evidence at trial on the ratemaking issue consisted of relevant documents and the testimony of one fact witness, Ms. Carol Shrum. Ms. Shrum has worked for Duke for 36 years, the last eleven as Managing Director of Rates and Regulatory Strategy for the Carolinas. Shrum, Tr. 315. Ms. Shrum reports directly to the President of the North Carolina utility. Shrum, Tr. 316. The Court found her to be a highly credible and knowledgeable witness, whose testimony was not effectively rebutted by the Government.

“Ratemaking” is the process a utility goes through to determine the prices that the utility can “charge the customers to recover the revenue it needs.” Shrum, Tr. 320. The process involves an application by a utility, and is “usually initiated by the company.” Shrum, Tr. 322. A company typically initiates a rate case when, based upon its assessment of earnings, it determines that “the revenues [the company is] currently collecting do not appear sufficient to cover the costs it is incurring.” Shrum, Tr. 322-23. The goal of the company in a rate case is to “adjust the prices of electricity that [the company] charges to its customers in order to increase revenues to cover costs.” Shrum, Tr. 323. A proceeding, called a “rate case,” is held before the state utility commission, here, the North Carolina Utilities Commission, or the South Carolina Public Service Commission. Shrum, Tr. 320. Such proceedings typically involve a “lot of testimony of company and expert witnesses as well as a lot of financial information that explains the need to adjust those rates.” Shrum, Tr. 323. Companies can go for many years between rate cases. For Duke, there was no rate case in North Carolina between 1988 and 2013, and none in South Carolina between 1988 and 2016. Shrum, Tr. 322. For those entire periods, “the base rates did not change.” Id.

An important component of a rate case is the company’s “rate base.” The rate base is composed of the “investments that the company has made over time to provide or construct assets that will help with the delivery of electricity or assist in delivering

⁵ In all of the SNF cases previously brought, the Court is not aware of any other case where the Government has asserted this type of damages reduction argument.

electricity.” Shrum, Tr. 323. Capital costs are accumulated and, at the time the asset is determined to be used and useful, the costs, reflecting the value of the asset, are placed into the rate base. Shrum, Tr. 325-26. At the “snapshot point in time” of a rate case, the rate base is a “key component of what we call our revenue requirements in a rate case.” Shrum, Tr. 326. The rate base is used to calculate the allowed price of electricity: “[I]n that rate case, the company is entitled to earn a fair return on the rate base . . . at that point in time, and so that becomes part of the price we charge to customers.” Shrum, Tr. 327. Thereafter, the rate base is “literally changing on a daily basis.” Shrum, Tr. 327-28.

Another aspect of a rate case is the “authorized rate of return,” which is the cost of capital that is set in a rate case. “It is determined by the state commission, and it is what they deem to be an appropriate rate of return for the utility to include in its rates.” Shrum, Tr. 328. A synonymous term for “authorized rate of return” is “weighted average cost of capital.” Shrum, Tr. 328. The weighted average cost of capital is a “component that’s used in determining the revenue requirements that the company is seeking to base rates on in the rate case.” Shrum, Tr. 329. It is part of the formula used by the public utility commission to set the allowed price for electricity, in a rate case proceeding. Id.

Duke does not automatically receive the authorized rate of return. Shrum, Tr. 330. During the years in question in this case (2011-2013), Duke never received the authorized rate of return or weighted average cost of capital. See PX 3041 at 10; PX 3048 at 10; PX 3056 at 10; Shrum, Tr. 330-31. Rather, “the company earns what it earns between rate cases.” Shrum, Tr. 330. Duke is not guaranteed to earn the regulatory weighted average cost of capital or authorized rate of return. Shrum, Tr. 330-31. “Actual rate of return is varying month by month, year by year.” Shrum, Tr. 331. What a utility actually earns can depend upon a variety of uncontrollable factors, including “extreme weather,” or “unusual O&M costs or if you have outage costs in one period and not another.” Shrum, Tr. 331. “[A]ny change in revenue or expenses or your rate bases is affecting your actual rate of return.” Shrum, Tr. 331. In any given year, if the authorized rate of return is higher than the actual rate of return, “nothing happens,” although if it became a pattern, it could lead to the initiation of a rate case. Shrum, Tr. 332. Conversely, if the company actually earns more than the authorized rate of return, nothing automatically happens in North Carolina, although it could lead to action by the commission if it became a pattern. Shrum, Tr. 332-33. South Carolina would impose a refund or credit in such circumstances. Shrum, Tr. 334.

For its offset defense, the Government bears the burden of establishing the damages reduction that it seeks. Entergy Nuclear Indian Point 2, 128 Fed. Cl. at 534 (“The breaching party thus bears the burden of establishing that plaintiff’s damages claims should be reduced or denied.”) citing Home Savings of America, 399 F.3d at 1353. The Government mainly relies upon the principle that “the non-breaching party should not be placed in a better position through the award of damages than if there had been no breach.” Bluebonnet Savings Bank, F.S.B. v. United States, 339 F.3d 1341, 1345 (Fed. Cir. 2003).

The general Bluebonnet principle has its limits, and cannot be applied to support the Government's argument here. For example, cases and authorities applying the "no benefit" rule in "cover" situations, where the non-breaching party procures substitute performance upon terms as favorable, or more favorable, than the original contract are inapplicable here. This case does not involve any substitute performance, as no "cover" is available for the acceptance and disposal of spent nuclear fuel. See Indiana Michigan, 422 F.3d at 1374 ("the NWSA provided that DOE was exclusively responsible for SNF collection and disposal in the United States, thereby prohibiting [plaintiff] or any other nuclear utility from seeking alternate disposal means.") Similarly, damage projections where the courts attempt to ascertain competing investment or other impacts in the "would have been" world (such as many Winstar cases, including Bluebonnet) are quite different from this partial breach, actual-expenditure damages case.

In this case, the Court must focus upon the proximity or remoteness of the damages in relation to the breach. See Hughes Commc'ns Galaxy, Inc. v. United State, 38 Fed. Cl. 578, 582 (1997); see also Wisconsin Electric Power Co. v. United States, 90 Fed. Cl. 714, 794 (2009) (explaining that an injured party's recovery from third parties does not decrease the breaching party's liability). Whatever prices Duke charges for the electricity that it sells, or whatever prices it was allowed to charge by the state public utility commissions, are legally irrelevant to the recovery of the mitigation damages claimed in this case.

In Hughes, the plaintiff sought relief for damages allegedly incurred as a result of the Government's breach of a satellite launch agreement. As a result of the breach, the plaintiff entered into alternate agreements to launch its satellites. 38 Fed. Cl. at 580. The Government attempted to reduce the damages claimed by the amounts secured in these alternate transactions. Id. The Court rejected the Government's argument and held that such alternate transactions are "not relevant to limit damages" and that "there are certain damages that, as a matter of law, the courts will find too remote." Id. at 582. Downstream effects, or those that go beyond the first step of the breach, are too distant to allow an offset type of recovery. Id.

The Court in Hughes properly noted the applicability of the Supreme Court's admonition in Southern Pacific Co. v. Darnell Taenzer Lumber Co., 245 U.S. 531, 533-34 (1918): "The general tendency in the law, in regard to damages at least, is not to go beyond the first step. As it does not attribute remote consequences to a defendant so it holds him liable if the plaintiff has suffered a loss." Similarly, the applicability of intervening causes that preclude courts from inquiring into subsidiary transactions in the antitrust context was observed by the Court to be applicable to breach of contract claims. Hughes, 38 Fed. Cl. at 582 (citing Hanover Shoe, Inc. v. United Shoe Machinery Corp., 392 U.S. 481, 493 (1968)). On a motion in limine, the court precluded the Government from attempting to adduce evidence in support of its argued damages reduction.

In Hughes, the Federal Circuit affirmed. 271 F.3d at 1072. In addition to ratifying this Court’s analysis and reliance on Southern Pacific and Hanover Shoe, the Federal Circuit held that allowing the Government’s argued damages reduction “would destroy symmetry between reduction and escalation of damages.”

The Government invokes a Winstar case, LaSalle Talman Bank, F.S.B. v. United States, 317 F.3d 1363 (Fed. Cir. 2003), and urges that the damage reductions approved in that case are more on point here than the reductions disallowed in Hughes. Properly read, however, LaSalle Talman Bank requires rejection of the Government’s position here. LaSalle Talman Bank actually cited and reaffirmed Hughes, as well as the general rule “not to go beyond the first step” stated by Justice Holmes in Southern Pacific, upon which these issues turn. LaSalle Talman Bank, 317 F.3d at 1373. Alleged benefits arising from transactions and investments not “directly related” to efforts to mitigate the Government’s breach in that Winstar case were held *not* to be properly considered in connection with damages calculations. Id. As the Federal Circuit noted, “precedent distinguishes between remote consequences of contract breach, whether favorable or unfavorable to the non-breaching party, and those that are directly related to or direct consequences of the breach.” Id. The reductions allowed in LaSalle Talman Bank were specifically limited to those arising from a “substitute transaction.” As the Federal Circuit has held, no “substitute transaction” is, or would have been, possible here. Indiana Michigan, 422 F.3d at 1374.

The Government’s offset argument here depends upon the result of “lengthy,” “challenging,” and contested state agency proceedings, involving “a lot of testimony of company and expert witnesses as well as a lot of financial information.” McCullough, Tr. 566; Shrum, Tr. 323. The argument, for these purposes, is like the collateral undertakings in Hughes and the remote commercial activities in LaSalle Talman Bank, that the Federal Circuit has held do not properly provide legal bases for damages reductions.

For these reasons, the Court denies the Government’s damages reduction claim of \$1,529,654.

Conclusion

Of the \$3,440,861 contested by the Government, the Court awards Duke the following damages:

(1) Robinson Fuel Assembly Inspection and Debris Removal	\$22,905
(2) Robinson Spent Fuel Cavity Lights	\$8,248
(3) Robinson Electronic Dosimeter Costs	\$11,750
(4) Brunswick Handheld Radio Costs	\$6,246

(5) Brunswick Torque Wrench Costs	\$14,458
(6) Brunswick Lead Blanket Costs	\$42,790
(7) Brunswick Spent Fuel Pool Lamps and Cameras	\$3,495
(8) IF-300 Equipment Disposal and Transshipment Costs	\$201,862
Total	\$311,754

The Court also awards Duke its uncontested damages of \$68,146,671. In total, the Court awards Duke damages of \$68,458,425. The Clerk is directed to enter final judgment against the Government in this amount. No costs.

IT IS SO ORDERED.

s/Thomas C. Wheeler
THOMAS C. WHEELER
Judge