United States Court of Federal Claims.
NORTHERNSTATESPOWER CO., Plaintiff,
v.
The UNITED STATES, Defendant.
No. 98-484C.

Sept. 26, 2007.

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Andrew P. Averbach, with whom were Assistant Attorney General Peter D. Keisler, Director Jeanne E. Davidson, and Assistant Director Harold D. Lester, Jr., Commercial Litigation Branch, Civil Division, Department of Justice, Washington, DC, for defendant. Jane K. Taylor, Department of Energy, and Alan J. Lo Re, Stephen P. Finn, Joshua E. Gardner, and Marian Sullivan, Commercial Litigation Branch, Civil Division, Department of Justice, of counsel.

WIESE, Senior Judge.
This case is before the court following a trial on contract damages. Plaintiff, NorthernStatesPower Company, seeks to recover $172,154,000 in costs allegedly incurred to mitigate the Department of Energy's ("DOE") partial breach of a contract requiring DOE to begin the pick-up and storage of plaintiff's spent nuclear fuel and other high-level radioactive waste no later than January 31, 1998.[FN1]For the reasons set forth below, we conclude that plaintiff is entitled to recover $116,485,000 in contract damages through December 31, 2004.[FN2]

FACTS

Plaintiff is a public utility that is engaged in the generation of electrical power from fissionable materials.[FN3]The utility operates three nuclear reactors in Minnesota, two of which are located at the Prairie Island nuclear power plant and the other at the Monticello nuclear power plant. The power generated from these reactors is distributed throughout the mid-west and western regions of the United States.

On June 20, 1983, plaintiff entered into a contract with DOE that required plaintiff's payment of an annual fee in return for DOE's acceptance, transfer, and permanent storage of the spent nuclear fuel and other hazardous waste produced by the utility's generation of electricity at Prairie Island.[FN4]The industry-wide contract, formally titled "Standard Contract for the Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste" ("Standard Contract"), was executed under the authority of the Nuclear Waste Policy Act of 1982 (the "Act"), Pub.L. No. 97-425, 96 Stat. 2201 (codified as amended at 42 U.S.C. §§ 10101-10270), which authorized the Secretary of DOE to "enter into contracts with any person who generates or holds title to high-level radioactive waste, or spent nuclear fuel, of domestic origin for the acceptance of title, subsequent transportation, and disposal of such waste or spent nuclear fuel."42 U.S.C. § 10222(a)(1).

Although both the Act and plaintiff's contract identified January 31, 1998, as the required starting date for DOE's pick-up of spent nuclear fuel (42 U.S.C. § 10222(a)(5)(B); 10 C.F.R. § 961.11), the contract contained no other schedule identifying the timing of DOE's performance. DOE recognized from the start, however, that fulfillment of the Act's purpose dictated a waste acceptance rate that would eliminate the need for any utility to provide its own at-reactor storage after January 31, 1998. Thus, in a December 20, 1983, draft of its statutorily required "Mission Plan," [FN5] DOE advised the nuclear energy industry of its contemplated waste acceptance strategy as follows:
[W]aste materials will be accepted in accordance with a Waste Acceptance Schedule designed to provide an acceptance rate in the first five years such that no utility will have to provide additional storage capacity after January 31, 1998. Subsequently, the acceptance rate will be equal to or greater than the actual discharge rate of spent fuel each year.

The draft Mission Plan went on to advise that even in the event of a delay in the opening of a permanent waste repository, DOE anticipated that timely performance would be achieved through the use of temporary alternative storage facilities, including a "Monitored Retrievable Storage" ("MRS") facility.[FN6]Specifically, the draft Mission Plan provided:[DOE] does not intend to delay or postpone the acceptance of civilian radioactive wastes even if a permanent geologic repository is not completed by 1998. The planning approach adopted by [DOE] has been designed to assure that an acceptable facility will be available when needed, as in the case of Federal Interim Storage, or within eight to eleven years after Congressional approval (1993 to 1996) in the case of Monitored Retrievable Storage.

DOE issued its finalized Mission Plan in June 1985. Thereafter, in March 1987, DOE submitted a report to

Congress identifying an MRS facility as the only means by which DOE could begin to take spent nuclear fuel from utilities in 1998 and proposing the construction and operation of an MRS facility on the Clinch River in Tennessee. In order to address concerns that an MRS facility would diminish the resolve to develop a permanent geologic repository, DOE additionally proposed, over utility industry objection, that Congress link the start-up of an MRS facility to the schedule of a permanent repository by requiring that radioactive waste not be accepted at the MRS facility until DOE received construction authorization for a permanent repository from the Nuclear Regulatory Commission ("NRC"). In addition, DOE recommended that the total storage capacity of the MRS facility be limited to 15,000 metric tons uranium ("MTU").

In June 1987, DOE issued an amendment to its Mission Plan advising that it was unlikely that DOE would construct a permanent repository and begin pick-up of spent nuclear fuel by January 31, 1998. Specifically, the 1987 amendment included waste acceptance schedules that anticipated DOE's receipt of spent nuclear fuel at a permanent repository in 2003, five years later than originally expected. Additionally, the amendment projected an acceptance schedule for the proposed MRS facility that included a six-year ramp-up period beginning in 1998, followed in 2004 by a steady-state acceptance rate roughly equivalent to the nuclear energy industry's annual average waste output of 2650 MTU. The amendment provided, however, that the proposed schedule was "only an approximation of how the system may operate and is subject to considerable variation."The amendment further cautioned that "[i]f the Congress does not approve the MRS facility, the transfer of the waste to DOE facilities may not be able to begin in 1998."

Later that year, on December 22, 1987, Congress authorized the proposed MRS facility, but the same concerns that had thwarted the construction of a permanent repository-political opposition borne of environmental concerns-ultimately prevented the MRS facility from being built.[FN7]Indeed, by 1988, DOE recognized that linking the construction of a permanent repository to the construction of an MRS facility made it highly unlikely that DOE could begin any waste acceptance earlier than 2003. Thus, by 1987-88, DOE, although continuing to plan for contract performance, was also very much aware that the fulfillment of its contract obligations depended upon decisions yet to be made by Congress concerning possible modifications to the linkages between the permanent repository and the MRS facility.

It was against this background that plaintiff began to focus on its future spent fuel storage needs. Recognizing in 1987 that its existing at-reactor storage pool would be exhausted by approximately October 1994, and considering that DOE's performance was projected to begin no earlier than 2003-04, plaintiff identified two options for increasing its on-site storage so as to allow it to continue operations after 1994: increasing the capacity of its existing storage pool through a process called fuel rod consolidation [FN8] or constructing a new on-site facility using dry storage technology such as metal casks or concrete vaults. Plaintiff in turn investigated each of these options, the first through a hands-on demonstration project performed at Prairie Island over a several-month period by a team of outside engineers; and the second through site visits by plaintiff's personnel to other nuclear utilities then employing dry storage technology.

Although the demonstration project at Prairie Island revealed that rod consolidation would provide a 30 percent increase in existing storage capacity-an increase sufficient to meet plaintiff's storage needs through 2002-03-plaintiff concluded that this approach held out too large a risk of plant disruption and worker endangerment to be considered acceptable. Plaintiff was additionally concerned, notwithstanding DOE's projections to the contrary, that the utility might have to provide storage for its spent fuel through the end of the plant's operating license in 2013-a requirement that rod consolidation would not be able to meet. Dry storage, by contrast, although more costly, did not pose comparable risks and provided sufficient on-site storage for the utility's operating life. Plaintiff thus decided in late 1988 that it would pursue the licensing of an independent spent fuel storage facility to be located on the utility's property at Prairie Island-a process that at the time was recognized could take from one to four years to accomplish.

Plaintiff's attempt to secure authorization to construct and operate a dry storage facility at Prairie Island proved to be long and difficult. After administrative proceedings that spanned a period of almost two years-proceedings that included the utility's participation in hearings before the Minnesota Environmental Quality Board as well as before the Minnesota Office of Administrative Hearings-the Minnesota Public Utilities Commission ("the Commission") issued an order on August 10, 1992, granting plaintiff a "Limited Certificate of Need" to construct and operate an independent spent fuel storage facility restricted to no more than 17 casks-a storage capacity sufficient to sustain the utility's operations until 2001, the year that DOE was projecting it would begin

acceptance of spent fuel from Prairie Island.

Despite the limited nature of the authority granted plaintiff, the Commission's order was immediately challenged in court by individuals and organizations who feared that a default by DOE would, of necessity, transform the intended temporary storage facility into a permanent one. On June 8, 1993, the Court of Appeals of Minnesota ruled in their favor, concluding that the proposed dry storage facility required the authorization of the Minnesota legislature, thereby invalidating the Commission's order and forcing plaintiff to begin its authorization efforts anew. *Matter of Independent Spent Fuel Storage Installation,* 501 N.W.2d 638, 648 (Minn.Ct.App.1993).

Almost one year later, in May 1994, plaintiff received the necessary authorization to build its dry storage facility through the Minnesota legislature's enactment of a law allowing the construction and operation of an independent 17-cask facility for the temporary storage of spent nuclear fuel originating at Prairie Island (the "1994 legislation"). The 1994 legislation granted plaintiff the authority to store five casks immediately but conditioned placement of the remaining 12 casks on the utility's fulfillment of certain mandates. These mandates included provisions requiring plaintiff to: (i) engage in good-faith efforts to find an alternative site in Goodhue County, Minnesota (the same county in which Prairie Island is located) for the construction of a dry storage facility; (ii) increase its energy resources for power production through the addition of up to 125 megawatts of biomass energy capacity, with the first 50 megawatts of such capacity to be procured by December 31, 1998; (iii) establish and administer a "Renewable Development Fund" for the development of renewable energy sources through payments to such fund of $500,000 annually for each dry cask containing spent nuclear fuel located at the storage facility; and (iv) enter into a contract with the governor of Minnesota binding plaintiff to the performance of the legislative mandates and simultaneously granting the Prairie Island Mdewakanton Dakota Tribal Community (a federally recognized Indian tribe) third-party beneficiary status with standing to enforce the agreement.

At about the same time the 1994 legislation was under consideration, plaintiff was approached by the Mescalero Apache Tribe (an Indian tribe located in New Mexico) to ascertain the utility's interest in continuing, as a private venture, the development and construction on tribal lands of a storage facility similar in concept to the MRS facility initially proposed by DOE. Plaintiff was attracted to this idea because it suggested a solution to what had by then become a growing concern for the utility: the continuing uncertainty regarding the start date of DOE's performance and the resulting uncertainty regarding the utility's future spent fuel storage needs. Moreover, the subsequent passage, a few months later, of the 1994 legislation authorizing dry storage at Prairie Island did little to abate this concern since, as noted above, the legislation provided plaintiff with only limited additional storage capacity-17 casks-a number insufficient to sustain the utility's spent fuel storage requirements through the end of the plant's operating license in 2013.

With these concerns in mind, plaintiff, in association with other nuclear utilities, began to investigate the concept of constructing a private fuel storage facility. Although negotiations with the Mescalero Apache Tribe ultimately failed, plaintiff and the other utilities concluded a lease agreement with another Indian tribe, the Skull Valley Band of Goshute Indians in Utah, to operate a 40,000 MTU dry cask storage facility on tribal lands. Plaintiff applied to the NRC to license such a facility in 1997 and received authorization in January 2006. Because of political opposition, however, construction of that facility has not yet been undertaken. Plaintiff identifies $24,720,000 as the cost it incurred through 2004 in its efforts to license the private fuel storage facility.

While plaintiff was pursuing an independent solution to its spent fuel storage needs, DOE continued to administer the contract, focusing on the questions of when, at what rate, and in what order of priority acceptance of spent nuclear fuel was likely to begin. Although the contract did not contain any schedule specifically addressing these matters, it established a mechanism by which the details of DOE's performance would be defined by the parties over the course of the contract's existence. This mechanism involved, as an initial matter, the issuance of two planning documents by DOE: an Annual Capacity Report ("ACR") announcing the annual amount of spent nuclear fuel DOE expected to accept, and an Acceptance Priority Ranking ("APR") identifying the order in which DOE anticipated accepting the spent nuclear fuel.[FN9] DOE's issuance of these documents was to be followed in turn by each utility's submission to DOE of a Delivery Commitment Schedule ("DCS") identifying all of the spent nuclear fuel and other high-level radioactive waste the utility wished to deliver to DOE. More particularly, the contract identified January 1, 1992, as the starting date for the utilities' submissions to DOE of their DCSs which were to identify all of the spent nuclear fuel and other high-level radioactive waste each utility wished to deliver to DOE beginning 63 months thereafter.

In December 1991, DOE published an ACR, appended to which was its first APR. In an instruction letter issued in March 1992, DOE's contracting officer explained that the annual acceptance rates noted in the ACR provided an approximation of the waste management system's acceptance capacity as projected by DOE and were intended for planning purposes only. The instruction went on to say that "[t]he process described herein assumes that the [waste management system] will be able to accept the [utility's spent nuclear fuel] beginning in 1998 according to the acceptance rate reflected in the 1991 ACR. In the event that such circumstances change, all DCSs previously approved by DOE may need to be reevaluated by DOE and the [utilities]."

The allocations projected in the 1991 ACR were based on the assumption that Congress would modify the requirement that construction of an MRS facility be dependent on the licensing and construction of a permanent repository, and in doing so would enable an MRS facility to begin waste acceptance by 1998. When Congress failed to remove that linkage, however, DOE issued an assessment of the waste management system in December 1994 in which it acknowledged that "[t]he development of [an MRS] facility to meet the objective of spent nuclear fuel acceptance into an operating Federal radioactive waste management system by 1998 appears doubtful ."

In May 1995, prompted by the same concerns that had given rise to its December 1994 assessment, DOE published in the Federal Register its "Final Interpretation of Nuclear Waste Acceptance Issues," concluding that it did "not have an unconditional statutory or contractual obligation to accept high-level waste and spent nuclear fuel beginning January 31, 1998, in the absence of a repository or interim storage facility constructed under the Nuclear Waste Policy Act of 1982."60 Fed.Reg. 21793, 21793-94 (May 3, 1995). Finally, in early 1997, the contracting officer informed many utilities, including plaintiff, that DOE "is not able at this time to approve your [delivery commitment schedule]. Consequently, [DOE] hereby waives until further notice the contract requirement that you provide a revised schedule [*i.e.*, any proposed revision to the contemplated acceptance quantity identified in the APR] within 30 days."

The utilities immediately challenged DOE's "final interpretation" of its duties under the Standard Contract. In an action filed in the United States Court of Appeals for the D.C. Circuit, Indiana Michigan Power Company (a party to the Standard Contract), joined by plaintiff, other utilities, and various state commissions, sought review and reversal of DOE's contract interpretation. *Indiana Michigan Power Co. v. Department of Energy*, 88 F.3d 1272 (D.C.Cir.1996). The utilities prevailed. The court of appeals held that under the terms of the Nuclear Waste Policy Act of 1982, DOE's obligation to dispose of nuclear waste was essentially unconditional, subject only to a utility's payment of fees to DOE and to the statutory starting date of January 1, 1998. *Id.* at 1276.DOE's contract interpretation, identified as contrary to statute, was therefore vacated.

Despite the court's ruling, however, DOE failed to begin contract performance and instead informed the utilities that it would not be able to begin acceptance of spent nuclear fuel for disposal at a permanent repository or interim storage facility by January 31, 1998. Litigation again ensued. On January 31, 1997, plaintiff, joined by other utilities and state commissions, petitioned the Court of Appeals for the D.C. Circuit for a writ of mandamus seeking to compel DOE to comply with the *Indiana Michigan* decision and begin disposal of spent nuclear fuel by January 31, 1998. *NorthernStatesPower Co. v. Department of Energy*, 128 F.3d 754 (D.C.Cir.1997).

The requested relief was not granted, at least not in full. The court of appeals ruled that the broad relief the utilities sought was not warranted because the Standard Contract afforded a sufficient remedy to address the additional costs the utilities expected to incur as a result of the anticipated delay in DOE's performance. The court did, however, issue a writ of mandamus to preclude DOE from seeking to excuse its future failure to perform on grounds of unavoidable delay. *Id.* at 760.The court explained that its ruling "necessarily means ... that DOE not implement any interpretation of the Standard Contract that excuses its failure to perform on the grounds of 'acts of Government in either its sovereign or contractual capacity.' " *Id.* Armed with this decision, plaintiff filed suit in this court on June 8, 1998, seeking damages for a partial breach of contract.[FN10]

The possibility of recovering its mitigation damages, however, did not resolve plaintiff's immediate concern-the need to have in place a dry cask storage facility at Prairie Island sufficient to sustain the utility's spent fuel storage requirements through the end of the plant's operating license in 2013. Thus, plaintiff turned once again to the Minnesota legislature to seek a longer-term solution to its spent fuel storage needs than the restricted 17-cask limitation provided by the 1994 legislation.

Among the difficulties facing plaintiff in its efforts to secure legislative approval of an enlarged dry storage

facility at Prairie Island was the fact that the 1994 legislation had vested the Mdewakanton Dakota Tribal Council with what essentially amounted to a veto power of any later legislation proposing to increase the dry cask storage capacity at Prairie Island beyond the initially authorized 17-cask limitation. With this potential impediment to legislative change in mind, plaintiff determined to seek out the Tribal Council's approval of an increase in Prairie Island's dry cask storage capacity before approaching the state legislature for relief. After several months of negotiations, the Tribal Council agreed to waive its rights under the 1994 legislation and to support new legislation allowing an increase in the dry storage capacity at Prairie Island in exchange for plaintiff's initial payment to the tribe of $100,000 followed by annual payments of $2,250,000 for each year thereafter that the Prairie Island nuclear generating plant remained in operation (contingent on the passage of favorable legislation).

Plaintiff ultimately succeeded in securing authorization to increase its spent fuel storage capacity at Prairie Island. In a special session in 2003, the Minnesota legislature amended the 1994 legislation to provide plaintiff with the authority to load up to 48 dry storage casks through the end of the licensed operation period granted the utility by the NRC. Additionally, the amended legislation (the "2003 legislation") granted authority to the Public Utilities Commission to make final determinations regarding future expansions of the Prairie Island facility and the establishment of any new facility. The 2003 law also changed plaintiff's mandated payments to the Renewable Development Fund from $500,000 per cask per year to a flat $16 million per year starting in 2004.[FN11]The 2003 legislation additionally reduced the amount of biomass-generated energy plaintiff was required to produce from 125 megawatts to 110 megawatts. Finally, the 2003 legislation codified the agreement that had been reached between plaintiff and the Mdewakanton Dakota Tribal Council, specifically the utility's obligation to pay $2,250,000 per year to the tribe until the end of the plant's licensed life in 2013 in exchange for the Tribal Council's support of an increase in the dry storage capacity at Prairie Island.

In addition to the spent fuel storage needs confronting plaintiff at Prairie Island, similar concerns-again resulting from DOE's delay in performance-emerged at the utility's facility at Monticello. At the time plaintiff entered the Standard Contract, the Monticello facility had sufficient spent fuel storage capacity to assure its operation through the year 2010, the end of its then-current operating license period. In 2003, however, plaintiff filed a license-renewal application with the NRC to extend the Monticello plant's operation until 2030. This license-renewal application (which has since been granted) prompted plaintiff once again to examine spent fuel storage options and, as before, to conclude that an on-site dry storage facility sufficient to meet the needs of the nuclear operating plant through the end of its licensed life was essential given the ever-receding expectation of contract performance at a DOE-operated, off-site storage facility.

As of December 31, 2004, plaintiff had incurred $2,012,000 in costs to increase the storage capacity at the Monticello plant. These costs include labor costs for both full-time employees and contractors hired to study the Monticello fuel storage pool and the costs of preparing the "Certificate of Need" application for the licensing and construction of a dry storage facility at Monticello. Plaintiff has also included in its claim $280,000 in security upgrades required at an off-site storage facility in Morris, Illinois, to which plaintiff had shipped some of the Monticello spent fuel in the 1980s.

Taken together, the various efforts undertaken by plaintiff in its quest to satisfy its spent fuel storage needs involve a claimed expenditure of $172,154,000.

The components of this expenditure, stated in terms of major categories, are as follows:

Category	Dollar Amount
Development and construction of on-site storage facilities at Prairie Island and Monticello:	$44,190,000

Development of an alternative storage facility in Goodhue County:	27,587,000
Biomass generation mandates:	23,142,000
Mandated payments to the Renewable Development Fund and to the Mdewakanton Dakota Tribal Community:	22,738,000
Cost of capital:	54,497,000
Total:	$172,154,000

Plaintiff seeks judgment for the total amount stated.

DISCUSSION

I.

The claim that plaintiff presents here is a claim for mitigation damages, *i.e.*, for the recovery of the costs plaintiff incurred in its efforts to lessen the harm associated with DOE's partial breach. The recoverability of such costs follows from the general principle of contract law which recognizes that "[o]nce a party has reason to know that performance by the other party will not be forthcoming, ... he is expected to take such affirmative steps as are appropriate in the circumstances to avoid loss by making substitute arrangements or otherwise."Restatement (Second) of Contracts § 350 cmt. b (1981).

This principle, often referred to as the "duty to mitigate," was recognized in *Indiana Michigan Power Co. v. United States*, 422 F.3d 1369 (Fed.Cir.2005), a spent nuclear fuel case similar to the instant litigation, as being applicable not only to cases involving a total breach (the more typical context for its application) but also to cases like this one involving a partial breach. *Id.* at 1375 (concluding that there was "no reason why efforts to avoid damages in contemplation of a partial breach should not also be recoverable.") In "extending" the duty to mitigate to cases involving a partial breach, however, the Federal Circuit was careful to point out that "[t]he presence of a duty to mitigate does not perforce make the pre-breach costs ... to store [spent nuclear fuel] recompensable; [rather] appellant must prove foreseeability, causation, and reasonableness."*Id.* at 1376.It is this language that shapes much of the debate now before us: defendant's case essentially amounts to the assertion that plaintiff has not met the requirements of proving causation and foreseeability. We address these challenges in turn below.

A. *Causation*

1. *Prairie Island*

As noted above, plaintiff seeks to recover the costs of constructing the dry storage facility at Prairie Island. The costs of this undertaking, roughly $42 million, are claimed as damages under the theory that construction of the facility was necessary to meet a projected need for long-term storage capacity (*i.e.*, a capacity beyond that necessary to meet plaintiff's own immediate needs)

because of the likelihood that timely future performance by DOE would not occur. Plaintiff, in other words, identifies the anticipated future breach of contract by DOE as the causein-fact of its decision to build the dry storage facility at Prairie Island.

Defendant challenges this position as being neither factually accurate nor legally correct. As an initial matter, defendant observes that it is difficult to understand how the prospect of a breach that DOE did not announce until 1994 can logically be identified as the "cause" of a decision made by plaintiff in 1988, some six years earlier. Indeed, defendant notes that the court in *Indiana Michigan* specifically linked the utilities' obligation to mitigate to DOE's 1994 announcement: "[B]ecause the government unequivocally announced in 1994 that it would not meet its contractual obligations beginning in 1998, the utilities were in fact obligated to take mitigatory steps."*Id.* at 1375.Defendant interprets this language to mean that a duty to mitigate, and thus a right to the recovery of mitigation damages, could not arise before DOE had formally acknowledged that its timely performance was not likely to occur. The dry storage costs plaintiff incurred prior to 1994, defendant concludes, are therefore unrecoverable.

More fundamentally, however, defendant challenges the recoverability of these costs on the ground that plaintiff has misperceived its burden of proof. In defendant's view, proof of proximate cause-what the law refers to as causation-in-fact-cannot be satisfied simply by showing, as plaintiff has attempted to do, that the decision plaintiff made in 1988 to proceed with the construction of a dry storage facility was based on an expectation that turned out to be correct. Rather, defendant argues, plaintiff must show that but for the expected delay, the dry storage facility would not have been built. Satisfaction of this requirement, declares defendant, is what the law demands. As recognized by the Restatement (Third) of Torts § 26 (Tentative Draft No. 2, 2007), "[c]onduct is a factual cause of harm when the harm would not have occured absent the conduct."According to defendant, then, plaintiff must prove that the dry storage facility would not have been built had DOE been expected to perform in a timely fashion.

Defendant argues that plaintiff has not met such a standard of proof. What actually dictated the decision to proceed with a dry storage facility, defendant maintains, is that plaintiff had no other viable option. In substantiation of this position, defendant argues that of the options available to plaintiff to increase its storage capacity-construction of a dry storage facility, rod consolidation, or reracking of its stored spent fuel assemblies (a reconfiguration of the structural gridwork that holds the spent fuel assemblies in their storage pool)-only construction of the dry storage facility ensured that plaintiff would have adequate storage up to the time of contract performance. Rod consolidation, defendant contends, would have been rejected in the "but for" world for the same reasons it was found unacceptable in the "real" world: it posed a risk to the health and safety of employees.

As to reracking, defendant notes that plaintiff considered but ultimately rejected reracking as insufficient to meet its storage needs because under the technology available at the time, reracking was seen to offer plaintiff no more than a 20 percent increase in existing pool storage capacity-an increase that would not have been sufficient to enable the utility to continue operations beyond 1998. Plaintiff, in other words, would have needed additional space beginning sometime in 1999 in order to avoid plant shutdown. Given, however, that it was not known in 1988 at what rate and in what specific order of contractor priority DOE's acceptance of spent fuel would begin in 1998, defendant argues that it would have been foolhardy for plaintiff to have embraced a storage solution that might not in fact carry it through to the time when DOE's pick-up of spent fuel would actually begin.

Thus, even with an expectation of timely performance by DOE, reracking, in defendant's view, posed too large a risk of plant shutdown to provide a responsible answer to plaintiff's storage needs. Simply stated, reracking offered no margin of safety. What was left then as a solution to plaintiff's storage needs, defendant maintains, was dry storage-the option that plaintiff chose because it in fact had no other. Defendant argues that it is therefore clear that the injury plaintiff attributes to DOE-the necessity of constructing a dry storage facility at Prairie Island-was caused not by DOE's partial breach of contract but by the utility's own independent operational needs. The decision to build a dry storage facility, in other words, would have been the same even if DOE could have been expected to perform on time.

Plaintiff disputes these contentions. In plaintiff's view, the *Indiana Michigan* court did not, as defendant now asserts, establish DOE's 1994 announcement as the triggering event for recompensable mitigation efforts in all spent nuclear fuel cases and, therefore, does not preclude recovery for mitigation damages incurred prior to that time. Rather, plaintiff maintains that the *Indiana Michigan* court was addressing only the specific facts before it (as found by the trial court), namely, DOE's 1994

announcement that it would not meet the contract requirement that it begin collecting spent fuel in 1998. Plaintiff contends that it was this finding that prompted the court of appeals to declare that "the utilities were in fact obligated to take mitigatory steps."*Id.* at 1375.Plaintiff thus characterizes the ruling in *Indiana Michigan* as simply an application of the Restatement principle (expressly noted in *Indiana Michigan*) that the duty to mitigate arises "[o]nce a party has reason to know that performance by the other party will not be forthcoming."*Id.* (quoting Restatement (Second) of Contracts § 350 cmt. b).

We agree with plaintiff. The court in *Indiana Michigan* identified only the time when efforts directed to mitigation would be regarded as mandatory and not, as defendant would have it, the time when such efforts might be justified in the first instance. To adopt defendant's understanding of the court's words-that the duty to mitigate in all spent nuclear fuel cases is triggered only by DOE's 1994 announcement-would submerge the very principle on which the *Indiana Michigan* ruling was founded: that a party's duty to mitigate arises when there is "reason to know" that performance by the other party will not be forthcoming.

In the instant case, the evidence demonstrates that plaintiff had "reason to know" in 1988 that performance by DOE beginning in 1998 would not be forthcoming. Indeed, when plaintiff began to focus on its future spent fuel storage needs in 1988, DOE's own expectation of a delay was a principal element in plaintiff's planning. Plaintiff refers, for example, to an in-house document, titled "Spent Nuclear Fuel Strategic Plan-June 1988 Update," which shows unequivocally that the expectation of a delay in performance-as forecast by DOE itself-was a driving force in the utility's decision to proceed with a long-term storage solution. The document reads in part as follows:

As explained in Section 1.2 [setting forth DOE's own estimates of expected delay in the start-up of performance], the DOE could begin accepting utility spent fuel in 2004. This date is based on the assumption that the NRC will issue construction authorization for the first repository in 1998, thus clearing the way for MRS construction to begin in 1998, and using the DOE estimate of six years to construct the MRS. However, given the uncertainties and opportunities for delay, [Northern States] should anticipate having to store all spent fuel out to at least 2006-2007. Furthermore, the interim storage technologies implemented should be compatible with the likelihood that [Northern States] will have to provide storage for its spent fuel out to end-of-life of the plants.

Given that DOE's projected performance was to begin at the earliest by 2004, plaintiff had no choice but to exercise caution in planning for its future storage needs. In reality, then, mitigation was no less appropriate in 1988 than it was in 1994 when DOE formally acknowledged that it would not begin performance in 1998.

We turn now to one of the chief issues in dispute in this litigation: whether, as defendant contends, plaintiff would have elected to proceed with the dry storage facility even if DOE's timely performance had been assured since the alternative-reracking of plaintiff's stored spent fuel assemblies-would only have provided sufficient storage capacity up to, but not beyond, early 1999. Thus, as noted above, reracking would, in defendant's view, have afforded the utility no margin of safety: exhaustion of the storage pool capacity coupled with *any* delay in DOE's performance (regardless of length or fault) would have compelled a shutdown of operations at Prairie Island, a risk defendant deems untenable.

Plaintiff points out, however, that had its planning for future storage needs taken place in a world in which DOE was expected to perform on time (the but for world), plaintiff's anticipated storage requirements would have been drastically reduced and it therefore would not have rejected reracking outright, as it in fact did. Rather, plaintiff maintains that the advantages reracking offered over dry storage, both in terms of requiring a less demanding regulatory approval process as well as imposing substantially lower installation costs, would have prompted plaintiff to pursue as its first option an in-depth evaluation of reracking-a study similar in scope to its rod consolidation study. And such an evaluation, plaintiff contends, would have revealed that a 30 percent increase in storage pool capacity could have been achieved through reracking, an increase sufficient to sustain the utility's storage needs until 2002-03. Plaintiff thus insists that in the but for world, it would have reracked its Prairie Island storage pool.

In addition to the increased storage capacity obtained through reracking, plaintiff also points out that it could have conserved the use of that capacity (*i.e.*, extended its duration) by reducing the rate of spent fuel discharge through an increase in the uranium enrichment of the fuel assemblies (a measure the utility did in fact adopt incrementally in the 1990s) and by reducing power output during non-peak periods of customer demand. Plaintiff explains that these measures would have lengthened the time between refueling cycles and thus extended the

availability of the reracked storage space beyond the ending period of 2002-03 projected by normal operations.

In support of these contentions, plaintiff relies primarily on the testimony of Mr. Jon Kapitz, a nuclear engineer and the current manager of plaintiff's nuclear security department at Prairie Island. In his testimony, Mr. Kapitz referred to an engineering study performed by NUTECH Engineers (a structural engineering group based in Minneapolis) as part of plaintiff's rod consolidation project. The NUTECH study concluded that the storage pool at Prairie Island could accommodate a 30 percent increase in spent fuel capacity while continuing to meet all prescribed structural/safety requirements. Based on this conclusion regarding rod consolidation, Mr. Kapitz extrapolated that a similar result could have been achieved through reracking, *i.e.*, that reracking would have permitted a 30 percent increase in storage pool capacity consistent with all pool structural/safety requirements.

In addition to the NUTECH study, Mr. Kapitz also relied upon an engineering study by Holtec International (a firm involved in the engineering, design, and fabrication of spent fuel storage racks) performed as part of an updated analysis of reracking that plaintiff was required to provide to the Minnesota legislature in connection with the 1994 legislation authorizing a dry storage facility. Aided by computer modeling technology that was not available at the time of the NUTECH study, the Holtech study calculated that the Prairie Island spent fuel storage pool could accommodate a 50 percent increase in storage capacity while continuing to satisfy all structural/safety requirements. In Mr. Kaptiz's view, the Holtech study, although not published until 1995, lends support to the position that had plaintiff undertaken an in-depth engineering evaluation of reracking in 1988 (as plaintiff claimed it would have done in the but for world), the evaluation would have confirmed the feasibility of attaining a 30 percent increase in storage capacity. Mr. Kaptiz thus concluded that plaintiff would have pursued reracking to meet its spent fuel storage needs in the but for world.

Defendant takes issue with plaintiff's assertions. Specifically, defendant claims that plaintiff's proof falls short of demonstrating the technical or operational feasibility of a third reracking (the company had reracked twice before). Defendant notes that the data upon which plaintiff relies (the NUTECH and Holtech studies) are preliminary findings whose results were not subjected to review by the NRC. Defendant thus maintains that the conclusions reached in these studies cannot be accepted as fact. Indeed, defendant argues that plaintiff essentially acknowledged the preliminary nature of the studies in its various submissions to state regulatory authorities, in which, as part of the dry storage application process, plaintiff consistently estimated the maximum increase in storage capacity achievable from reracking at 20 percent. The absence of any prior mention of a 30 percent increase in storage capacity through reracking, defendant maintains, is sufficient proof that plaintiff never regarded such an increase as realistic. Defendant therefore urges the court to give this figure no more credit now than plaintiff gave it in the past.

Although we recognize the force of defendant's argument, we conclude that plaintiff's proof is indeed sufficient to support its claim. Plaintiff did not focus on reracking in the real world (as distinguished from the but for world) because reracking would not have satisfied the utility's need for a long-term storage solution. Thus, plaintiff had no need to perform an in-depth assessment of the increase in storage capacity achievable through reracking. For purposes of the regulatory issues facing plaintiff at the time, it was enough that plaintiff expressed the potential for reracking in terms of what competent engineering judgment could honestly support as opposed to what a detailed evaluation of analytical studies might otherwise have revealed. In the but for world of litigation, on the other hand, where plaintiff is required to establish by a preponderance of the evidence what it would have done had DOE's conduct offered assurance of timely future performance, a much closer look at reracking certainly would have been a logical course to pursue. And, in the court's assessment of the facts, that closer look would have yielded the answer that Mr. Kapitz's testimony offered.[FN12]

We therefore conclude that in the but for world plaintiff would have pursued reracking, which would have enlarged its storage pool capacity by 30 percent. Such an increase in storage space, we should also point out, would have allowed plaintiff to operate with a high margin of safety (*i.e.*, with adequate on-site storage capacity), even given the timing and rate of acceptance of spent nuclear fuel that defendant maintains would have occurred in the but for world.[FN13] Given this finding, it follows that DOE's partial breach was the cause-in-fact of plaintiff's decision to build a dry storage facility at Prairie Island and that the costs of these damages are therefore recoverable.

2. *Monticello*

We have limited our discussion thus far to the need for

construction of a dry storage facility at Prairie Island. As the facts demonstrate, however, plaintiff faced a similar concern at Monticello-the exhaustion of space in its storage pool because of the likelihood of DOE's continuing failure to perform-and in 2003, decided to address that concern by seeking approval for construction of another on-site dry storage facility. Unlike with Prairie Island, however, defendant does not contest that DOE's anticipated future delay in performance is the cause-in-fact of plaintiff's decision to proceed with the construction of a dry storage facility at Monticello. Accordingly, the costs of these activities ($2,292,000) are included among the individual damage elements for on-site storage costs.

We have included below a breakdown of the total costs plaintiff claims for the construction of on-site storage facilities at Prairie Island and Monticello through 2004. Among the listed costs for Prairie Island is a credit of $12,532,000, representing an offset against the amount of plaintiff's on-site storage claim for the costs that plaintiff would have incurred (at its own expense) even if DOE's performance had been timely-essentially the cost of a third rerack.[FN14] Plaintiff's on-site storage claim thus comes to $43,298,000.[FN15] Of that amount, we allow all except the amount claimed for "other dry storage costs" ($280,000), the disallowance of which is explained later in this opinion.

Category	Prairie Island	Monticello	Dollar Amount
Licensing, engineering, and construction:	$11,220,000	$2,012,000	$13,232,000
Dry casks:	33,770,000	-	33,770,000
Other dry storage costs:	1,657,000	280,000	1,937,000
Dry cask loading and facility operation and maintenance:	6,891,000	-	6,891,000
Subtotal:	53,538,000	$2,292,000	55,830,000
Third Rerack:	($12,532,000)	-	(12,532,000)
Total:			$43,298,000

B. *Foreseeability*

The second element of proof plaintiff must demonstrate in order to establish its entitlement to mitigation damages is the foreseeability of the losses being claimed. The Restatement (Second) of Contracts § 351 (1981) states the rule of foreseeability as follows:

(1) Damages are not recoverable for loss that the party in breach did not have reason to foresee as a probable result of the breach when the contract was made.

(2) Loss may be foreseeable as a probable result of a breach because it follows 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.

Foreseeability, then, refers to probability, *i.e.*, the likelihood of the occurrence of a given event or circumstance as assessed in terms of common experience or specific knowledge. *See United States v. Atwater*, 272 F.3d 511, 513 (7th Cir.2001) (describing probability as the "operational meaning of foreseeability" and quoting *Reardon v. Peoria & Pekin Union Ry. Co.*, 26 F.3d 52, 53 (7th Cir.1994), for the proposition that to say that "an injury is not 'foreseeable' is simply to say that the probability of loss is low").

1. *Legislative Mandates*

As an initial matter, defendant concedes that if plaintiff's decision to build a dry storage facility is found to have resulted from DOE's delay in acceptance of spent fuel (a finding this court has in fact made), then the costs associated with storing the spent fuel would indeed have been foreseeable. Defendant therefore does not challenge the foreseeability of plaintiff's direct expenditures in providing additional storage space. Defendant argues, however, that while the legislation authorizing the dry storage facility-as well as the efforts directed toward its passage-may be seen as a foreseeable mitigatory response to the breach, none of the mandates included as part of that legislation may be regarded as such.

In defendant's view, the mandates imposed by the Minnesota legislature had nothing to do with the contract at issue, *i.e.,* the storage of nuclear waste, and therefore cannot, in contrast to the direct expenditures for the construction of additional spent fuel storage capacity, satisfy the Restatement's criterion that their costs be "foreseeable as a probable result of a breach."On this ground, then, defendant would have us deny recovery of the approximately $46 million in costs associated with plaintiff's compliance with the legislative mandates.

Although defendant's argument is compelling, we are unable to accept its conclusion. It simply cannot be the case that plaintiff should be required to mitigate the damages caused by defendant's breach (a burden that the law in fact imposes), be compelled to pursue that mitigation through the state legislature (again, an effort it was in fact required to undertake), and then in the final analysis be forced to absorb the economic cost of legislative mandates it had no power to avoid-the result defendant urges. Fundamental fairness precludes such a result.

We do not stand alone in rejecting such a position. In a law review article addressing the problems encountered in applying standard mitigation principles to commercially unique contracts, Professors Charles J. Goetz and Robert E. Scott note that while the doctrine of avoidable consequences "denies a mitigator recovery for losses he unreasonably failed to avoid, [it] allows him full recovery for costs incurred through any reasonable affirmative efforts to minimize losses."Charles J. Goetz and Robert E. Scott, *The Mitigation Principle: Toward a General Theory of Contractual Obligation,* 69 Va. L.Rev. 967, 973 (1983). Particularly relevant to the instant case is the authors' additional observation that in applying these mitigation principles, the courts do not "require minimizing the defendant's loss in a way that imposes a still greater loss on the mitigator himself."*Id.* at 975.Essentially this same view is noted in *Corbin on Contracts:*"Inasmuch as the law denies recovery for losses that can be avoided by reasonable effort and expense, justice requires that the risks incident to such effort should be carried by the party whose wrongful conduct makes them necessary. Therefore, special losses that a party incurs in a reasonable effort to avoid losses resulting from a breach are recoverable as damages." 11 Joseph M. Perillo, *Corbin on Contracts* § 57.16, at 349 (rev. ed.2005). We see these observations as directly relevant to this case: plaintiff should not have to bear the unavoidable costs associated with a legislative effort that defendant acknowledges constituted an otherwise reasonable and successful effort to minimize damages.

In rejecting defendant's argument, we remain mindful of the Federal Circuit's admonition in *Indiana Michigan,* 422 F.3d at 1376, that a litigant "must prove foreseeability, causation, and reasonableness" in order to recover mitigation costs. As applied in the context of mitigation damages, we read the term "foreseeability" to require only that the injured party's efforts to minimize damages be pursued in good faith and in a commercially reasonable manner. *See Northern Helex Co. v. United States,* 197 Ct.Cl. 118, 455 F.2d 546, 553 (1972) (describing as the guiding principle in the effort to mitigate damages "whether, in the individual circumstances, the seller exercised 'reasonable commercial judgment' "); U.C.C. § 2-712(1) (2003) (identifying a buyer's cover for a seller's breach as an effort made "in good faith and without unreasonable delay [of] any reasonable purchase of or contract to purchase goods in substitution for those due from the seller").

On the basis of the foregoing discussion, we allow plaintiff's claim for compliance with the legislative mandates in the amount of $48,747,000. The elements of this claim are as follows:

Category	Dollar Amount
Expenditures incurred to develop	$23,142,000

biomass energy production capability:	
Payments to the Renewable Development Fund:	19,800,000
Payments to the Mdewakanton Dakota Tribal Community:	2,938,000
Expenditures incurred in an effort to develop an alternative site in Goodhue County for the construction of a dry storage facility:	2,867,000
Total:	$48,747,000

2. *Private Off-Site Spent Fuel Storage Facility*

In addition to the expenses associated with the dry storage facility constructed at Prairie Island, plaintiff also incurred substantial costs-approximately $24.7 million-in the planning, design, and licensing of an off-site storage facility to be constructed on lands belonging to the Skull Valley Band of Goshute Indians in Utah. As noted above, plaintiff, in association with other nuclear utilities, began to pursue the concept of a private fuel storage facility in early 1994. At that time, legislative authorization for dry storage at Prairie Island had not yet been granted; hence, the development of an independent off-site facility capable of sustaining plaintiff's operations up to and beyond its then-current license period was seen as a reasonable solution to the risk of a future plant shutdown owing to a failure to perform by DOE. Plaintiff thus claims as mitigation damages the sum expended in connection with its efforts to develop such a facility.

Defendant opposes recovery of these costs on several grounds. Defendant refers us first to the decision in *Indiana Michigan*, 422 F.3d 1369, in which the court of appeals upheld the trial court's rejection of Indiana Michigan's claim for recovery of the roughly $7.2 million it had paid as a participating member of the industry group involved in the same Utah private fuel storage undertaking at issue here. The court of appeals based its affirmance on the evidence that had guided the trial court's decision: "The credited evidence ... showed that the utility's investment in the private storage facility was speculative and that the high cost of the venture was unforeseeable."*Id.* at 1376.The court of appeals thus concluded that "[w]hile DOE should have foreseen that its breach would force Indiana Michigan to find alternate storage for its [spent nuclear fuel], it is not liable for such a speculative venture and unforeseeable costs."*Id.*

Defendant maintains that the Federal Circuit's ruling in *Indiana Michigan* governs the outcome in the instant case. This is so, defendant argues, because foreseeability is measured from the perspective of the defendant at the time the contract was entered into, and given that Indiana Michigan's and plaintiff's contracts are materially identical, the determination regarding foreseeability

reached in *Indiana Michigan* must control here as well.

We do not accept defendant's argument. Northern States was not a party to the *Indiana Michigan* litigation, nor were its interests represented by the plaintiff in that suit. Northern States, in other words, has not had its day in court. Under these circumstances, then, no rule of preclusion based on prior litigation is applicable: "It is a violation of due process for a judgment to be binding on a litigant who was not a party or a privy and therefore never had an opportunity to be heard."*Parklane Hosiery Co. v. Shore*, 439 U.S. 322, 327 n. 7, 99 S.Ct. 645, 58 L.Ed.2d 552 (1979). Accordingly, plaintiff is entitled to have this court decide on the basis of the utility's own evidence whether the efforts directed toward the development of a private fuel storage facility were foreseeable or, as defendant maintains, "speculative."

In addressing this issue, we note at the start that defendant provides no rationale for characterizing plaintiff's involvement in the private fuel storage undertaking as speculative. Presumably, defendant means to suggest that private fuel storage represented an approach not reasonably calculated to relieve the loss caused by the breach, *i.e.*, that success of the venture was too uncertain to justify the expenses involved. As explained, however, by the trial testimony of Mr. Charles Bomberger, currently plaintiff's general manager and at the time in question the director of overall business planning for plaintiff's holding company, plaintiff saw the private fuel storage initiative as its only means of addressing its very real concern that DOE's continuing nonperformance would eventually force upon it the need for spent fuel storage capacity that a divided legislature either would be unable or unwilling to satisfy, or, as actually happened, would satisfy only at a high price (through legislative mandates). Mr Bomberger went on to explain:
[Private fuel storage], at that time, was about one of our only credible alternatives to be able to create a spent fuel storage installation that would allow us to have continued operation of Prairie Island. Had we not had an alternative like [private fuel storage]-we had a state-imposed limit on the existing approved and operational [dry storage facility] at Prairie Island of 17 casks-we would have run out of space there, and we still-four years after 1998-did not have any movement of spent fuel from the existing pad that would have allowed us to continue to operate Prairie Island by pickup from DOE under the Standard Contract. So in 2002 and 2003, when I took this over, we were one of the only remaining members that were very active in providing support for [private fuel storage], primarily because it was our main alternative at that time that would have helped us prevent the premature shutdown of Prairie Island.

Mr. Bomberger's testimony, we believe, squarely answers defendant's charge that plaintiff's pursuit of private fuel storage was a speculative venture: private fuel storage, reasonably evaluated, was plaintiff's only option.

In this same regard, we should also note that DOE itself saw private fuel storage as a viable solution to plaintiff's storage needs. In a January 2001 report addressing spent fuel storage alternatives that was prepared by DOE's Office of Civilian Radioactive Waste Management for submission to Congress, DOE observed the following with respect to private fuel storage:
Transport of the [spent nuclear fuel] to licensed off-site storage facilities has been successfully done in the United States for many years. This includes transhipment of [spent nuclear fuel] to other reactor sites owned by the utility. Shipments could also be made to a licensed facility owned by another company, such as another utility site, the proposed Private Fuel Storage (PFS) facility which is currently undergoing licensing review by the NRC, or the Owl Creek Project planned for Wyoming by the NEW Company.

Office of Civilian Radioactive Waste Management, U.S. Dep't of Energy, *Spent Fuel Management Alternatives Available to NorthernStatesPower Company Inc. and the Federal Government for the Prairie Island Nuclear Plant, Units 1 & 2: Report to the H. Comm. on Appropriations* at 7 (Jan.2001). Given DOE's acknowledgment that "[t]ransport of the [spent nuclear fuel] to licensed off-site storage facilities has been successfully done in the United States for many years," defendant cannot persuasively argue here that plaintiff had embarked on a commercially reckless venture in pursuing the development of a private fuel storage facility. We therefore conclude that plaintiff's efforts in regard to the off-site private fuel storage facility were rational, reasonable, and no less foreseeable than the development of the on-site dry storage facility at Prairie Island.

In addition to claiming that plaintiff's efforts to develop an off-site private storage facility were speculative in nature, defendant also claims that the costs associated with those efforts were excessive. There is nothing in the record, however, to support such a claim, and given that the burden of providing such proof rests on defendant, the argument warrants no further discussion. *See Southern Nuclear Operating Co. v. United States*, 77 Fed.Cl. 396, 407 (2007) (holding that "defendant bears the burden of establishing that mitigating decisions or expenditures were unreasonable"); *Tennessee Valley Auth. v. United*

States, 69 Fed.Cl. 515, 523 (2006) (ruling that mitigation damages "may be reduced to the extent that the government can show [that the plaintiff] did not undertake reasonable efforts to mitigate its damages or that the efforts it did undertake were insufficient or unreasonable").

Nor can we accept defendant's assertion that plaintiff's investment in the private fuel storage venture is not recoverable as damages because the utility has failed "to offer any evidence, such as balance sheets, cash flow analyses, or other documentation indicating that its capital investment in [private fuel storage] is valueless."This argument is not analytically sound. The costs plaintiff incurred in pursuit of the off-site private storage facility are conceptually indistinguishable from the costs the utility incurred in developing the similar facility at Prairie Island: each set of costs signifies an expenditure by plaintiff to develop a substitute for the performance lost on account of the breach. Thus, restoring the costs plaintiff expended on the private storage facility does not enhance plaintiff's position (as defendant's argument implicitly assumes); rather, it simply restores plaintiff to the position it was in before the breach.

Similarly, we must reject defendant's argument that plaintiff's private fuel storage costs are unrecoverable because the utility continued its financial support of the venture long after it needed to do so. In defendant's view, the fact that plaintiff made all of its capital contributions to the private fuel storage venture after passage of the 1994 legislation authorizing the loading of up to 17 casks at Prairie Island "belies any contention by [plaintiff] that it was compelled to contribute as much to [the private fuel storage venture] as quickly as it did."Defendant adds that plaintiff "[e]ven more damningly ... made $3.485 million in capital contributions to [the private fuel storage venture] *after* enactment of legislation in 2003 that authorized [plaintiff] to store spent fuel in dry storage at Prairie Island through the expiration of the individual reactor units NRC operating license (2013 for Unit 1 and 2014 for Unit 2)...." Defendant thus asserts that plaintiff's continued contributions to the private fuel storage venture despite the enactment of legislation relieving the concerns that ostensibly prompted those contributions in the first place is sufficient proof that the venture was a wholly separate undertaking divorced from any bonafide effort to mitigate damages.

We do not agree with defendant's assessment. Given that the 1994 legislation provided plaintiff with less than one-half of the added storage capacity it had requested, the legislation could hardly be characterized as a complete remedy to the situation the utility faced. Indeed, as the earlier-quoted testimony of Mr. Bomberger makes clear, the 17-cask limitation, coupled with the absence of any fuel pick-up by DOE, would have caused plaintiff to "run out of space ... four years after 1998."In reality, then, the 1994 legislation underscored the need for private fuel storage rather than relieved it.

The same may also be said of the 2003 legislation. Although the legislation provided plaintiff with storage space sufficient to sustain its operations until 2013-14, the utility's focus in 2003 was upon the renewal of its nuclear operating license and the continuation of operations beyond 2013-14. Thus, at the time plaintiff made the $3.485 million contribution to the private fuel storage venture, with the construction of a permanent repository not yet authorized and an MRS facility largely an abandoned concept, the utility would have had every reason to continue funding the private fuel storage facility. Indeed, in 2003, the likelihood of DOE's performance at a reasonable future date was little changed from 1988, the year plaintiff was first required to address its spent fuel storage requirements.

Nor is it an answer to these concerns to point out that the 2003 legislation placed authority for future expansion of the dry storage facility in the hands of the Public Utilities Commission. This transfer of authority carried with it no assurance of future success. As Mr. Bomberger explained, "the 2003 legislation ... gave me another alternative, but it was only an option at that time. I still had to go through all of the state's certificate of need processes, and I was not guaranteed that I was going to have [a dry storage facility] at Monticello, nor the ability to expand the one at Prairie Island."

Based on the evidence presented by plaintiff, the court concludes that plaintiff's support of the private fuel storage venture represented a reasonable course of action to pursue given the ongoing uncertainty of DOE's ability to perform and the utility's need to establish a fuel storage capacity sufficient to ensure its continued operations into the future. Accordingly, plaintiff is entitled to recover $24,720,000 in mitigation costs incurred in its efforts to develop an off-site private fuel storage facility.

II.

A. *Defendant's Challenges to Specific Costs*

In addition to challenging plaintiff's mitigation efforts on the grounds of causation and foreseeability, defendant

also takes issue with some of the costs plaintiff has identified with those efforts.

1. *Internal Labor and Overhead Costs*

Defendant challenges certain internal labor and overhead costs that it maintains are not identifiable with the breach and therefore not properly included as damages. More particularly, defendant argues that although plaintiff included as part of its claim *all* internal labor costs that were billed to any damages-related project, only four employees actually spent significant periods of time working on breach-related activities and, in a few instances, some employees were required to work overtime on such projects. Defendant concedes that the labor costs associated with these employees are properly recoverable as damages since the costs would not have been incurred absent the partial breach. As to the remaining 200-plus employees who charged time to breach-related projects, however, defendant points out that on average, this group as a whole charged only slightly more than one hour per week to breach-related work over the full eight-year period. Defendant thus argues that the labor costs associated with these employees would have been incurred even in the absence of a breach and, therefore, are not recoverable.

We are unable, however, to discern any principled distinction between the employee fully engaged in breach-related work and the employee whose involvement in such work may have been only limited. In either case, a cost was incurred that is properly chargeable to the activity benefitted-the development of a dry storage facility. Our concern here, it should be noted, is not in determining whether a loss was caused by the breach (in which case the issue of causation that defendant raises would, of course, be relevant), but rather whether the cost was incurred to ameliorate the effects of a breach. And since every use of a resource has an opportunity cost-namely, the alternative uses of that resource-it is quite appropriate to recognize as a cost of mitigation any diversion of labor that was applied to the accomplishment of that mitigation. The same argument that defendant has raised here was also raised and rejected by the court in *Tennessee Valley Authority*, 69 Fed.Cl. at 539:"[T]he fact that [the plaintiff] used its own internal resources to support its mitigation is not fatal to its claim for damages in mitigating a breach of contract. Rather, the test for recovery is a targeted one: whether use of the internal resources by [plaintiff] deprived it of the ability to employ those resources on other projects."We adopt this conclusion as our own.

2. *Loading of Spent Fuel Storage Casks*

Defendant next proposes an offset to plaintiff's damages claim to account for costs that plaintiff would have incurred in the but for world in loading spent fuel storage casks for delivery to DOE. Defendant maintains that the benefit plaintiff received as a result of the partial breach, *i.e.*, the dollars not spent in loading the casks, must be subtracted from plaintiff's claim. The problem with this argument, however, is that the costs in question have not been avoided but rather simply deferred. At some future date, when DOE does begin performance, plaintiff will incur these costs. Thus, to offset these costs now is to run the distinct risk that plaintiff will end up paying them twice. Since plaintiff has not been permanently relieved of these costs, there is no compelling reason in contract law to acknowledge them now and we therefore decline to do so. *See Southern Nuclear*, 77 Fed.Cl. at 450;*Pacific Gas & Elec. Co. v. United States*, 73 Fed.Cl. 333, 416 (2006); *Tennessee Valley Auth.*, 69 Fed.Cl. at 542-43.

3. *Crane Upgrade*

The next issue we address is defendant's contention that plaintiff's damages claim erroneously includes the costs it incurred to upgrade an overhead bridge crane used to transfer spent fuel storage casks to and from the spent fuel storage pool. In defendant's view, the crane upgrade would have been required even if DOE had commenced timely performance of the contract and the dry storage facility had not been built. In support of this contention, defendant refers to testimony submitted by plaintiff in the 1991 hearings before the Minnesota Public Utilities Commission concerning the utility's "Certificate of Need" application for construction of a dry storage facility. Specifically, in response to criticism that plaintiff's estimate of the total cost of the dry storage project should include the cost of the NRC license required to upgrade the building crane, plaintiff's representative stated:
I do not agree. Even if the spent fuel storage facility is not built, this crane would have to be modified to handle shipping casks to remove spent fuel from the site. This need exists regardless of how much fuel is stored at the Prairie Island plant site, or whether the spent fuel is stored only in the pool or in both the pool and the proposed spent fuel storage facility.

Taken at face value, the quoted testimony fully supports defendant's argument against the inclusion of crane-upgrade costs as part of plaintiff's damages claim: damages for breach may not encompass the cost of work that the injured party has acknowledged it must perform in the first instance. This testimony, however, turns out to

be incomplete and thus misleading. At trial, Ms. Laura McCarten, plaintiff's representative who provided the testimony quoted above and who was at the time in question the project manager for the Prairie Island spent fuel storage project, explained that her statement arguing against inclusion of the crane-upgrade costs was based on the belief that when performance by DOE eventually began, crane modifications would be required to accommodate the DOE-provided casks and that the costs of that undertaking would not be chargeable to plaintiff. The witness's position, in other words, was that the dry storage project should not bear costs for work that would, in any event, be required in the future and be payable by DOE once contract performance began. Ms. McCarten's testimony on this point reads as follows:

Within the context of the certificate of need, ... the question was what costs should be associated with the proposed dry storage facility, and at the time ... ultimately, the DOE would remove spent fuel from our facility, and my understanding was that if we had to modify our facility to accommodate the type of casks the DOE would use, that wouldn't necessarily be our cost.

Considered in its entirety, then, the witness's testimony flatly contradicts the premise on which defendant's argument is based: that plaintiff's claim for mitigation damages includes costs for which the utility would otherwise be liable. It is also significant to note that defendant does not assert, independent of the witness's initial testimony, that plaintiff is in fact responsible for any crane-upgrade costs that might be necessary upon the commencement of performance by DOE. That issue, as we see it, is a matter of contract interpretation which we need not venture into here. For our purposes, it is sufficient to find on the basis of uncontested testimony that the crane upgrade was necessary to the successful operation of the dry storage facility. Hence, the costs of that effort, like the costs of the dry storage facility itself, represent expenditures made necessary by defendant's breach and thus qualify as bonafide mitigation damages.

4. *Cask-Transportation License*

The next of defendant's offset claims concerns the cost that plaintiff incurred in obtaining a transportation license for the particular dry storage cask it had selected for use at Prairie Island, the TN-40. Defendant maintains that this expenditure (approximately $110,000) was unnecessary (or at least premature) because under the terms of the Standard Contract, the utility was responsible only for the storage of the spent fuel and not for its transportation.

Under the terms of the 1994 legislation, however, plaintiff was obligated to move the spent fuel from Prairie Island as soon as another site for the storage of that fuel became available. (“The spent fuel contents of dry casks located on Prairie Island must be moved immediately upon the availability of another site for storage of the spent fuel that is not located on Prairie Island.”Minn Stat. § 116C.777 (1994).) Thus, plaintiff had a responsibility to transport the stored fuel independent of DOE's own transportation obligation-a duty that might in fact be triggered even before DOE's performance began. Hence, obtaining a transportation license for the TN-40 cask was a requirement necessary to the future discharge of plaintiff's obligation to move the spent fuel “immediately” upon the availability of another storage site.

In a similar vein, plaintiff also points out that the 1994 legislation contained a provision requiring the Public Utilities Commission to order the replacement of casks that were suitable only for storage, and not for transportation, upon a determination by the Commission affirming the existence and economic feasability of dual-purpose casks, *i.e.*, casks suitable for storage as well as for transportation of spent nuclear fuel. Minn.Stat. § 116C.776 (1994). Rather than risk a future requirement directing it to purchase, at considerable cost, a new storage technology and to transfer accumulated spent fuel from old casks to new casks, plaintiff deemed it prudent to qualify the TN-40 cask in advance for transportation.

In light, then, of the court's earlier ruling recognizing the legislative mandates as integral components of plaintiff's efforts to mitigate damages, we agree with plaintiff that the costs incurred in qualifying the TN-40 cask for transportation should also be viewed as part of these efforts. Absent the utility's precautionary action, the cost of mitigation (as embodied in the 1994 legislative mandates) ran the distinct risk of becoming even greater than the amount now being claimed. We therefore conclude that plaintiff acted reasonably in qualifying the TN-40 cask for transportation and that the costs of that effort are recoverable as mitigation damages.

5. *Enhanced Security*

Defendant's final challenge to plaintiff's damages claim concerns the costs related to increased security measures that plaintiff incurred with respect to spent fuel that was shipped in the mid-1980s from plaintiff's Monticello plant to a storage facility maintained by the General Electric Company in Morris, Illinois. Based on documents prepared by plaintiff's own expert, defendant maintains that the fuel stored at the Morris facility is located at the bottom of the storage pool and therefore cannot be

physically removed until eight years after DOE's first acceptance of spent fuel. Defendant thus argues that even in the absence of a breach, plaintiff's spent fuel would have remained at the Morris facility for approximately eight years, *i.e.*, until 2005, and the utility therefore would have incurred the increased security costs (first initiated in 2002) that it is now seeking to pass on to DOE.

Plaintiff argues in response that if DOE had commenced contract performance as planned, there would have been no continuing need, as in fact there now is, for the utility to store its spent fuel at the Morris facility. This response, however, does not answer defendant's point: that even if there had been no breach, access to the stored fuel would remain restricted and its removal therefore would not be possible. In such a situation, the security costs would of course remain ongoing but, as defendant points out, responsibility for the costs could not be attributed to DOE.

Based on the evidence defendant has presented in support of its argument, and given the lack of a persuasive response from plaintiff, we conclude that the $280,000 plaintiff claims in increased security costs is not chargeable to DOE. Plaintiff's mitigation damages shall be reduced accordingly.

B. *Cost of Capital*

We turn now to the final category of plaintiff's claimed costs. Plaintiff includes in its mitigation damages the cost of the capital it expended in its numerous mitigation-related activities, an amount it calculates by applying its annual after-tax weighted average cost of capital (a combination of the utility's equity and debt costs) to each of its mitigation-related expenditures, starting on the date of the expenditure and continuing through December 31, 2004, the cutoff date for damages established for purposes of this litigation. Plaintiff thus seeks to recover $54.5 million as its cost of capital.

Defendant opposes the inclusion of these costs, asserting that the claim is at bottom a demand for prejudgment interest and as such is not recoverable against the United States absent a statute or contract provision specifically recognizing the right to maintain such an action. In support of its argument, defendant refers to 28 U.S.C. § 2516(a) which provides that "[i]nterest on a claim against the United States shall be allowed in a judgment of the United States Court of Federal Claims only under a contract or Act of Congress expressly providing for payment thereof."Defendant points out that in this case, there is neither statutory nor contractual authorization for the allowance of an interest claim. And absent an express waiver of sovereign immunity, defendant concludes, there is no jurisdictional basis for plaintiff's demand for its cost of capital.

In response, plaintiff claims that the interest prohibition addressed in the statute involves interest *on* a claim as opposed to interest *as* a claim. Plaintiff draws a distinction, in other words, between interest as an imputed cost, *i.e.*, interest based simply on a delay in payment (interest on a claim), and interest identifiable as an actual cost, i.e., interest on a specific borrowing (interest as a claim). According to plaintiff, allowance of the former demands a waiver of sovereign immunity; the latter does not. In support of this argument, plaintiff relies upon the decision in *Wickham Contracting Co. v. Fischer*, 12 F.3d 1574, 1582-83 (Fed.Cir.1994), in which the court of appeals adopted language from its earlier opinion in *Gevyn Construction Corp. v. United States*, 827 F.2d 752, 754 (Fed.Cir.1987), observing that 28 U.S.C. § 2516(a) "does not bar an interest award as part of an equitable adjustment under a fixed-price contract if the contractor has actually paid interest because of the government's delay in payment."Plaintiff interprets this language to mean that interest as a substantive claim is not barred by the statutory "no interest" rule.

In defendant's view, however, it is not the nature of the interest being claimed that explains the language in *Wickham.*Rather, defendant maintains, the interest recovery envisioned in *Wickham* is tied to the existence of a "Changes" clause in a standard government contract, pursuant to which (according to defendant) interest may be recovered as part of an equitable adjustment. Since plaintiff's Standard Contract does not contain a "Changes" clause, defendant thus argues that *Wickham* can offer plaintiff no support.

We do not find it necessary to address the parties' differing interpretations of the *Wickham* decision.[FN16]It is sufficient to note that in *Wickham*, the court of appeals went on to affirm the denial of the interest claim (the case was before the court on review of a decision by a contract appeals board) "because [the claim] showed neither that borrowed funds were used in connection with the [contract] project, nor that the borrowing resulted from the [government's] delay."12 F.3d at 1583. The same is true here. Plaintiff has not demonstrated, apart from the existence of debt to augment its capital structure, any borrowing specifically undertaken to address the capital required to fund its mitigation efforts. Indeed, during closing arguments, counsel explained that public utilities,

and plaintiff in particular, rely on their capital structure to finance capital improvements rather than seek out specific financing to support such activities. Absent proof of any borrowings with which the interest claim can be causally identified, however, plaintiff's cost of capital damages become conceptually indistinguishable from prejudgment interest, *i.e.*, interest on a claim. Given the doubt thus cast on the nature of the interest claimed by plaintiff, and recognizing at the same time the conservatism that is required in the interpretation of statutes waiving the sovereign's immunity to suit, *United States v. Sherwood*, 312 U.S. 584, 590, 61 S.Ct. 767, 85 L.Ed. 1058 (1941), we must conclude that plaintiff's cost of capital claim is barred by 28 U.S.C. § 2516.

III.

In addition to its principal claim of partial breach of contract based on DOE's failure to begin timely performance, plaintiff's amended complaint also sets forth as alterative theories of recovery (i) a breach of contract based on alleged violations of the contract's implied covenant of good faith and fair dealing (Count II) and (ii) a taking of property for which just compensation is due under the Fifth Amendment to the United States Constitution (Count III). Following the close of plaintiff's proof at trial, defendant moved to dismiss both of these counts on the ground that the evidence failed to sustain either theory as an independent basis for relief. The court agreed: neither theory was shown to have any basis in fact.

Specifically, as to the claim that DOE's actions demonstrated a lack of good faith in the implementation of its contract responsibilities under the Nuclear Waste Policy Act of 1982, this court declared that "the evidence is overwhelming that DOE pursued the implementation of this statute-[as demonstrated by] the various reports and planning documents-with the utmost good faith [and] there [is] no reason whatsoever to think that anybody in industry took it for anything less than that."Having now reconsidered the entire record in the preparation of this opinion, we affirm our bench ruling with respect to Count II.

As to plaintiff's takings claim, plaintiff does not assert that it has been deprived of any of its contract rights. Nor does it claim that it has suffered any loss of property independent of its contract rights. Thus, there is no basis in fact or law upon which to support a claim for a taking of property under the Fifth Amendment. *See Castle v. United States*, 48 Fed.Cl. 187, 217-20 (2000), *aff'd in relevant part*,301 F.3d 1328, 1341-42 (2002). Similarly, then, we now affirm our bench ruling denying Count III of plaintiff's amended complaint.

CONCLUSION

For the reasons set forth above, we conclude that plaintiff is entitled to recover on all elements of its claimed damages except for the amount identified as cost of capital damages ($54,497,000) and the amount claimed for security upgrade costs ($280,000). Additionally, we have increased the amount of plaintiff's offset for the third rerack by $892,000, for a total offset of $12,532,000. Taking these various adjustments into account, we conclude that plaintiff is entitled to recover as damages for DOE's partial breach of contract, measured through December 31, 2004, the sum of $116,485,000. The Clerk shall enter judgment accordingly.

FN1. This claim for damages follows a liability determination that was entered in plaintiff's favor on July 31, 2001, in accordance with the Federal Circuit's decision in *Maine Yankee Atomic Power Co. v. United States*, 225 F.3d 1336 (Fed.Cir.2000).

FN2. In *Indiana Michigan Power Co. v. United States*, 422 F.3d 1369, 1376 (Fed.Cir.2005), the court of appeals held that where a claimed breach is only partial, the injured party "may recover damages for nonperformance only to the time of trial and may not recover damages for anticipated future nonperformance."As a result of this ruling, plaintiff filed an amended and supplemental complaint seeking the recovery of damages only through December 31, 2004.

FN3. At the times relevant to this lawsuit, plaintiff was a stand-alone company but now operates as a wholly owned subsidiary of Xcel Energy, Inc., a public utility holding company.

FN4. Plaintiff executed two other contracts on June 20, 1983, providing for DOE's pick-up of spent fuel from the company's Monticello operations and from an off-site spent nuclear fuel storage facility in Morris, Illinois.

FN5. The Act required DOE to prepare a comprehensive report, referred to as the "Mission Plan," to provide a statement of the overall goals, objectives, and strategy for the disposal of spent nuclear fuel and other high-

level radioactive waste. 42 U.S.C. § 10221(a).

FN6. The Act required DOE to conduct a study of the need for and the feasibility of constructing an MRS facility and to submit a proposal to Congress by June 1, 1985, for the siting, development, construction, and operation of one or more MRS facilities. 42 U.S.C. § 10161(b)(1).

FN7. On December 22, 1987, Congress enacted the Nuclear Waste Policy Amendments Act of 1987 (the "Amendments Act"), Pub.L. No. 100-203, §§ 5001-5065, 101 Stat. 1330, 1330-227 to -255 (1987) (codified in scattered sections of 42 U.S.C. §§ 10101-10270). The Amendments Act directed DOE to identify a single site-at Yucca Mountain in Nevada-for the development of a permanent repository and to terminate activities at all other sites. 42 U.S.C. § 10172(a). The Amendments Act also authorized DOE to site, construct, and operate a single MRS facility, 42 U.S.C. § 10162(b), provided that DOE not select a site for the MRS facility "until the Secretary recommends to the President the approval of a site for development as a repository,"42 U.S.C. § 10165(b), and that construction of the MRS facility not begin "until the [NRC] has issued a license for the construction of a repository,"42 U.S.C. § 10168(d)(1). Finally, the Amendments Act provided that "the quantity of spent nuclear fuel or high-level radioactive waste at the site of such facility at any one time may not exceed 10,000 metric tons of heavy metal until a repository under this chapter first accepts spent nuclear fuel."42 U.S.C. § 10168(d)(3).

FN8. Fuel rod consolidation refers to the process by which spent fuel assemblies (*i.e.,* arrays of individual fuel rods housed in a steel canister) are disassembled and repackaged to achieve a closer alignment in a canister of approximately the same size as the original assembly, thereby allowing for the storage of additional fuel rods in the same space, thus maximizing the use of the existing storage pool.

FN9. As required by the contract, the priority ranking was to be based on the date the spent nuclear fuel was discharged from the nuclear power reactor, with the owners of the oldest spent fuel, on an industry-wide basis, being accorded the highest priority.

FN10. The amended complaint now before the court adds as alternative grounds for recovery a claim for breach of contract based on an alleged violation of the contract's implied covenant of good faith and fair dealing and a claim for just compensation under the Fifth Amendment based on an alleged taking of property.

FN11. The Renewable Development Fund, which is administered by plaintiff's parent, Xcel Energy, and is subject to oversight by the Minnesota Public Utilities Commission, is engaged primarily in awarding grant contracts to public and private institutions pursuing research and development related to energy production from wind, biomass, solar, and hydro power sources.

FN12. At trial, defendant objected to the admissibility of Mr. Kaptiz's testimony regarding the feasability of a third reracking on the ground that it amounted to opinion testimony-traditionally the province of an expert but in this case offered by a witness who had not been qualified as such. Defendant's position, in short, was that the testimony lacked a qualifying foundation.
This court, however, while mindful of defendant's concern, considered the testimony trustworthy and reliable. In reaching this conclusion, we specifically took into account (i) the witness's education (Mr. Kapitz holds a master of science degree in nuclear engineering); (ii) the witness's experience (Mr. Kapitz has served in numerous supervisory engineering capacities at Northern States involving spent nuclear fuel storage, including project manager of the rod consolidation study and later technical coordinator of the dry storage project); and (iii) the witness's comprehensive knowledge of the subject matter (Mr. Kapitz was plainly conversant with NRC requirements relating to the licensing of spent fuel storage facilities, including all testing requirements for such facilities, and, similarly, he was aware of the status in 1989 of spent fuel rack designs). Additionally, it should be noted that the probative worth of the witness's testimony regarding the feasability of achieving a 30 percent increase in storage capacity through reracking was not diminished either by the comprehensive cross-examination to which it

was exposed or by the surrebuttal testimony of defendant's expert.

FN13. As noted above, the Standard Contract did not specify a rate for the acceptance of spent fuel by DOE. Instead, the contract provided a procedural mechanism by which the parties were expected to reach agreement in regard to the timing, quantity, and priority in delivery that would govern DOE's acceptance of spent fuel. Further, the contract did not call for the engagement of this mechanism until 1991. Hence, it was not until DOE's issuance of the 1991 ACR that the process of defining the acceptance rate actually began.
It is on the basis of this 1991 ACR, and the accompanying APR, that the parties now agree that in the but for world plaintiff's spent fuel would not have been picked up until 1999. The parties disagree, however, whether the pick-up quantities identified in that report would similarly have been controlling in the but for world. Although defendant urges us to resolve this acceptance rate issue now, we need not do so given our finding that a 30 percent increase in on-site storage capacity at Prairie Island would have provided plaintiff with a margin of operating safety (*i.e.*, storage capacity) sufficient to accommodate the pick-up rates assigned to Northern States in the 1991 ACR that defendant insists would have been controlling in the but for world. Indeed, those rates would have been sufficient in themselves to have precluded the need for additional on-site storage capacity at Prairie Island after January 31, 1998. (For the sake of the record, we note here the rates of acceptance of plaintiff's spent fuel through 2003 as stated in the 1991 ACR: 26.1 MTU for 1999; 83.5 MTU for 2000; 29.8 MTU for 2001; 33.9 MTU for 2002; and 17.5 MTU for 2003.)

FN14. Plaintiff identified the cost of a third rerack as $11,640,000. We have increased that amount by $ 892,000, however, to reflect the increase in fabrication and installation costs of a reracking yielding a 30 percent increase in storage capacity as opposed to the 20 percent increase on which plaintiff's calculation was based. We reached this amount by referring to cost estimates prepared by plaintiff's personnel in 1990 which identified an expected increase of approximately $800,000 (from $6 million to $6.8 million) in the base costs of a rack design that would increase the storage capability from 20 percent to roughly 30 to 35 percent. Using this number ($800,000), and following the same methodology applied by plaintiff's expert (the expert allocated the cost uniformly over a four-year rack installation period (*i.e.*, $200,000 per year) and increased each year's allocation by a specific price escalation factor), we came to a cost increase of $892,000 and, thus, a total offset of $12,532,000.

FN15. This amount represents plaintiff's total claim of $44,190,000, less the $892,000 adjustment to the third rerack offset as explained in footnote 14 above.

FN16. Although we deem it unnecessary to decide this issue, we think it important to note that while each side maintains that interest is recoverable as part of an equitable adjustment under the standard “Changes” clause, the relevant procurement regulations do not support such a position. To the contrary, under the Federal Acquisition Regulations, the cost principles and procedures applicable to “the pricing of ... modifications to contracts” and to “the determination ... or allowance of costs when required by a contract clause,”48 C.F.R. § 31.000 (2006), specifically declare “[i]nterest on borrowings (however represented) ... unallowable,”48 C.F.R. § 31.205-20.
Similarly, the predecessor regulations that were applicable to the interest claim addressed in *Wickham* contained cost principles and procedures identical in scope and text to the current Federal Acquisition Regulations. *See* Federal Procurement Regulations, 31 C.F.R. §§ 1-15.000, 1-15.205-17 (1977). Despite the clear relevance of these regulations to the contractor's claim, they were not addressed in the decision entered by the contract appeals board (reported at 92-3 BCA 25040 (1992)); consequently, they did not emerge as an issue on the appeal of that decision.