

No. 04-0074C  
into which has been consolidated  
No. 04-0075C  
Judge Hewitt

(Filed Electronically, February 20, 2009)

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IN THE UNITED STATES COURT OF FEDERAL CLAIMS

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PACIFIC GAS AND ELECTRIC COMPANY,

Plaintiff,

v.

THE UNITED STATES,

Defendant.

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PLAINTIFF PG&E'S STATEMENT OF DAMAGES DUE,  
AND ISSUES TO BE ADDRESSED, ON REMAND

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PACIFIC GAS AND ELECTRIC	)	No. 04-0074C,
COMPANY,	)	into which has been consolidated
Plaintiff,	)	No. 04-0075C
v.	)	
UNITED STATES OF AMERICA,	)	(Judge Hewitt)
Defendant.	)	

PLAINTIFF PG&E’S STATEMENT OF DAMAGES DUE,  
AND ISSUES TO BE ADDRESSED, ON REMAND

Pursuant to the Court’s Order of January 15, 2008 and consistent with the Federal Circuit’s August 7, 2008 opinion and consequent mandate, Plaintiff PG&E hereby submits its statement of damages due on remand, together with supporting schedules, a description of issues to be addressed on remand, and an explanation of the basis for recovery of the damages now claimed.

I. The Federal Circuit Decision And Its Impact.

A. The Decision.

The Federal Circuit opinion addressed the four issues appealed by PG&E.

*First*, the Federal Circuit reversed this Court’s application of the acceptance rate contained in DOE’s 1991 Annual Capacity Report (“ACR”). The Federal Circuit held that damages in this and other spent fuel contract cases must instead be determined in accordance with what the appellate court termed the contract’s “acceptance capacity schedule” or “ACS” process and in accordance with the acceptance rate contained in DOE’s 1987 ACR. *See Pacific Gas and Elec. Co. v. United States*, 536 F.3d 1282, 1289 (Fed. Cir. 2008) (“[T]he language of

the contract specifies that *the ACS process* provides the contractual acceptance rate.”) (emphasis added); *id.* at 1292 (“[T]his court concludes that the standard Contract required DOE to accept SNF/HLW in accordance with the 1987 ACR [*sic*, probably should be “ACS”] process.”); *see id.* at 1285-86 (using term “ACS process” to refer to the entire scheduling process in the DOE contract, including DOE’s issuance of ACRs and annual priority reports (“APRs”), utility submission of delivery commitment schedules (“DCSs”), the oldest fuel first or “OFF” priority scheme, and the “Exchanges” provision allowing utilities to swap DCS allocations).

*Second*, the Federal Circuit also reversed this Court’s conclusion that greater than class C (“GTCC”) waste, including such waste from PG&E’s shutdown Humboldt Bay Power Plant, is not covered by the DOE Standard Contract. On this issue the appellate court expressly incorporated its discussion of the GTCC waste issue in its opinion in the companion case of *Yankee Atomic Elec. Co. v. United States*, 536 F.3d 1268 (Fed. Cir. 2008). *See PG&E*, 536 F.3d at 1292-93. In *Yankee Atomic*, the Federal Circuit held that “the trial court correctly determined that the parties interpreted the contract to include GTCC within HLW and acted accordingly. For these reasons, this court affirms the Court of Federal Claims’ finding that ‘the conclusions reached with respect to recoverability of SNF storage expenses are equally applicable to GTCC waste.’” *Yankee Atomic*, 536 F.3d at 1278-79.

*Third*, the Federal Circuit found no abuse of discretion in this Court’s exclusion of expert testimony of Frank Graves. *See PG&E*, 536 F.3d at 1292. The appellate court stated that “Mr. Graves’ lack of involvement with the DOE waste acceptance program gave th[is Court] a reasonable basis for excluding his testimony.” *Id.* However, the Federal Circuit also “[s]aw] no difficulty in the decision of th[is Court] to accept Mr. Graves’ testimony in *Yankee*.”

*Fourth*, the Federal Circuit, again incorporating its discussion in *Yankee Atomic*, affirmed this Court's refusal to maintain jurisdiction over PG&E's future damages claim by certifying its judgment for past damages as a partial final judgment under Rule 54(b). *Id.* at 1293.

B. Impact of the Federal Circuit Decision on PG&E's Damages.

This Court's opinion of October 13, 2006, *Pacific Gas and Elec. Co. v. United States*, 73 Fed. Cl. 333 (2006), addressed PG&E's claim for damages through 2004 in seven different categories: 1) Humboldt Bay SAFSTOR damages; 2) Humboldt Bay dry storage ("ISFSI") damages; 3) Humboldt Bay Stack Take Down damages; 4) Diablo Canyon ISFSI damages; 5) Diablo Canyon Temporary Rack damages; 6) Diablo Canyon Storage Options Study damages; and, 7) Offsite Storage Evaluation damages. *See generally id.* at 409-432. As discussed in more detail below, the Federal Circuit decision affects damages in these categories in varying ways.

In brief summary:

1. The Federal Circuit's conclusion that PG&E's damages must be assessed by applying the 1987 ACS process, including the 1987 ACR acceptance rate, to determine DOE's performance obligation requires this Court to revisit the issue of causation with respect to each of the seven categories of damages claimed by PG&E. Adhering to the general approach to damages articulated by this Court in its original opinion, *see PG&E*, 73 Fed. Cl. at 398-99, 405, and generally affirmed by the Federal Circuit in *Yankee Atomic*, *see* 536 F.3d at 1272-74, the question on remand with respect to each category of damages is whether PG&E would or would not have incurred those costs if DOE had performed in accordance with the 1987 ACS process beginning in 1998. The answer in each case is that PG&E would *not* have incurred the costs if DOE had performed at the 1987 ACR rate, so those damages should now be awarded to PG&E.

2. The Federal Circuit's reversal of this Court's conclusion that GTCC waste is not covered by the Standard Contract requires, in turn, reversal of this Court's conclusion denying recovery of PG&E's costs to store GTCC waste at the Humboldt Bay ISFSI.

3. The Federal Circuit's affirmance under an abuse of discretion standard of this Court's refusal to hear Dr. Graves' testimony has no direct effect on remand. However, the appellate court's rationale for reversing this Court on the 1991 ACR acceptance rate requires this Court to revisit its factual finding, made without reference to the Graves testimony, that "the evidence does not establish that PG&E would have attempted to engage in exchanges." 73 Fed. Cl. at 413. What this Court cited as "the only contemporaneous evidence" relating to that finding reflected the now-discredited 1991 ACR rates. *See id.* at 413 (citing PX 185, DX 232).

This need to revisit the exchanges issue is explained further below. In addition, in its original opinion this Court noted, but never addressed the effect of, the contractual clause providing for priority acceptance at shutdown nuclear plants like Humboldt Bay. That issue should now be addressed as well. Nonetheless, under the 1987 ACR acceptance rate PG&E should recover the vast majority of the damages it is claiming whether or not the Court now finds that exchanges or shutdown priority would have occurred absent the breach. Therefore, because exchanges and/or shutdown priority ultimately have only minor effect on PG&E's claimed damages, and in order to better frame the effect that exchanges and shutdown priority do have, we first discuss the impact of the Federal Circuit's decision on each category of damages under the no-exchanges, no-shutdown priority, "oldest fuel first" or "OFF" pickup sequence applied by this Court in its original decision.

4. The Federal Circuit's affirmance on the Rule 54(b), partial judgment for past damages issue has no effect on the damages due PG&E on remand. In accordance with the Federal Circuit ruling, and with the ruling in *Indiana Michigan Power Co. v. United States*, 422 F.3d 1369 (Fed. Cir. 2005), which the appellate court reaffirmed in both *Yankee Atomic* and this case, *see* 536 F.3d at 1281-82; 536 F.3d at 1293, PG&E expects to file a new complaint seeking post-2004 damages later this year or early in 2010.

Importantly, the Federal Circuit decision has no effect at all on many conclusions this Court reached in its original damages decision. For example:

i) regarding failed fuel, that "DOE would have collected PG&E's failed fuel at Humboldt Bay along with the rest of its spent fuel," 73 Fed. Cl. at 401;

ii) regarding allocated costs, that "the court finds this methodology [as presented at trial by Professor Cornell] to provide a reasonable and appropriate way to approximate the total amount in activity prices listed on Mr. Kapus' costs schedules," *id.* at 407;

iii) regarding PG&E's internal labor costs, that "such labor costs should properly be awarded to plaintiff," *id.* at 408;

iv) regarding all other pertinent cost and accounting issues, that "[t]he court finds generally plaintiff's system of accounting and methodology for calculating damages to be reliable and reasonably accurate in approximating the damages it alleges for a particular year," *id.* at 409;

v) regarding "dual purpose" dry storage canisters for spent fuel, that PG&E's use of such canisters was both reasonable and foreseeable, *id.* at 418-19; and

vi) regarding the reasonableness of PG&E's mitigation efforts, "the preponderance of the credible evidence adduced at trial illustrates that PG&E acted safely, prudently, and entirely

reasonable in addressing its storage concerns caused by the government's breach . . . ,” *id.* at 432.

Accordingly, these issues that were not addressed by the Federal Circuit or even appealed by the government need not, and should not, be revisited by this Court on remand. In addition, the Court disallowed only two specific cost items claimed by PG&E, one included in the Humboldt Bay SAFSTOR damages (concerning a document discrepancy issue) and the other in the Humboldt Bay ISFSI damages (concerning investigation of a Taiwan earthquake). There is also no reason now to revisit those rulings, or the Court's rulings rejecting all the government's other objections to specific cost items included in PG&E's damages.

## II. Damages Due PG&E On Remand

### A. Application of the 1987 ACR Acceptance Rate on an OFF Basis.

Application of the 1987 ACR acceptance rate on an OFF basis follows directly from the annual acceptance rate and spent fuel discharge information contained in the 1987 ACR, which is PX 96 in the existing trial record. (All citations to plaintiff's and defendant's exhibits (“PX” and “DX,” respectively) and trial transcripts (“TT”) are to the trial record in this case. For the Court's convenience, certain trial exhibits are also included in the accompanying appendix, cited as “A\_\_”).

In summary, application of the 1987 ACR acceptance rate shows that if DOE had performed at that rate beginning in 1998 on an OFF basis, DOE would have removed all spent fuel from PG&E's Humboldt Bay plant in 1998 and 1999, and would have begun removing significant quantities of spent fuel from the Diablo Canyon plant in 2006, before the spent fuel pools there reached capacity. As demonstrated below, assuming DOE performance on that basis in the non-breach world, which is the minimum performance required of DOE under the Federal Circuit's decision and mandate, PG&E is now entitled to recover all but about \$4.7 million of the

\$90.6 million in damages through 2004 that PG&E is now claiming<sup>1</sup> PG&E maintains it also should recover the \$4.7 million, based on a modest amount of exchanges and/or shutdown priority, a matter we address after showing the recovery (approximately \$85.9 million) now due at the 1987 ACR acceptance rate even on an OFF basis.

As shown on page 7 of PX 96, A25, the 1987 ACR set forth annual acceptance rates as follows, expressed in metric tons uranium or “MTU,” a common measure of spent (as well as fresh) nuclear fuel: 1200 MTU per year from 1998 through 2002, then 2000 MTU in 2003, then 2650 MTU per year from 2004 through 2007. As also shown on page 7 of the 1987 ACR, A25, and as recognized by the Federal Circuit, *see PG&E*, 536 F.3d at 1286, the source of these annual acceptance rates is DOE’s contemporaneous, June 1987 Mission Plan Amendment, PX 97, at Appendix F, Table F-1. That table, on page 61 of PX 97, A101, sets forth, in addition to the acceptance rates noted above and reiterated in the 1987 ACR, a spent fuel acceptance rate of 3000 MTU for each year from 2008 until beyond 2020.

The following table shows the annual spent fuel acceptance rates from 1998 through 2012 set forth in the 1987 ACR and its source document, the June 1987 Mission Plan Amendment, as well as the aggregate amount of spent fuel to be accepted by DOE through each successive year. This data will be helpful in the discussion that follows:

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<sup>1</sup> Both these figures are net of the reductions in damages resulting from the Court’s rejection of the document discrepancy and Taiwan earthquake cost items, which PG&E cannot recover and does not seek here based on the Court’s prior rulings.

Year	Spent fuel acceptance per year (in MTU)	Aggregate spent fuel acceptance through indicated year ( <i>i.e.</i> , the sum of all spent fuel acceptance to date) (in MTU)
1998	1200	1200
1999	1200	2400
2000	1200	3600
2001	1200	4800
2002	1200	6000
2003	2000	8000
2004	2650	10650
2005	2650	13300
2006	2650	15950
2007	2650	18600
2008	3000	21600
2009	3000	24600
2010	3000	27600
2011	3000	30600
2012	3000	33600

Notably, in comparison to the 1991 ACR acceptance rates applied by this Court in its prior decision, the 1987 ACR rates shown above provide for three times as much acceptance in 1998 (1200 MTU versus 400 MTU), and well over twice the aggregate acceptance all the way out to 2007 (18600 MTU versus 8100 MTU).

The 1987 ACR also sets forth, in Appendix B, A71-A94, a table listing all spent fuel discharges from commercial nuclear power plants in the U.S. in chronological order by date of discharge. In other words, Appendix B contains a table listing spent fuel discharges in the oldest fuel first, or OFF, sequence provided for in the DOE contracts for initial allocations of DOE's acceptance capacity. *See* PX 96 at B.1, A71 (“The table [in Appendix B] is sorted by OFF based on date of discharge from the reactor.”). As stated in the 1987 ACR, “[t]he data in Appendix B, used for the acceptance ranking and annual allocations in this report, reflect DOE's interpretation of the information supplied by the Purchasers on the Form RW-859.” PX 96 at 5/6, A24. The

form RW-859s, in turn, were submitted to DOE by all the contracting utilities to report spent fuel discharge information including dates and amounts. *See* TT 2941:1-20 (Pollog).

The chronological listing of spent fuel discharges in Appendix B of the 1987 ACR sets forth not only the name of the plant, the date of the respective spent fuel discharge, and the amount discharged both in number of assemblies and in MTU, but also, in the last column, the aggregate amount of spent fuel discharged to that time (*i.e.*, the sum of all prior spent fuel discharges in the chronological listing). By comparing the aggregate discharge amount shown in Appendix B for a particular discharge of spent fuel with the aggregate acceptance amount shown in the last column of the table above in this brief, the Court can straightforwardly determine in which year of DOE performance that discharge would be picked up by DOE, assuming performance at the 1987 ACR rates and an OFF pickup sequence.

PG&E appears ten times in the chronological listing in Appendix B of the 1987 ACR – six discharges from Humboldt Bay and four from Diablo Canyon. First, page B.3 of Appendix B, A72, lists two discharges from Humboldt Bay, one in August 1971 of 40 assemblies/3.054 MTU, making for aggregate discharges to that date of 120.63 MTU, and a second in August 1972 of 55 assemblies/4.195 MTU, making for aggregate discharges to the latter date of 337.08 MTU. Referring to the table above on p. 8, which shows the 1987 acceptance rate, and assuming DOE performance at that rate on an OFF basis, these spent fuel “allocations” would be picked up in 1998, because DOE would pick up a total of 1200 MTU that year.

PG&E next appears on page B.4 of Appendix B, A73, which lists two more discharges from Humboldt Bay, one in September 1973 of 52 assemblies/3.965 MTU, aggregating 523.82 MTU of discharges to that date, and another in October 1974 of 28 assemblies/2.120 MTU, aggregating 811.68 MTU of discharges to that date. Referring again to the table above and

employing the same assumptions, these spent fuel allocations would also be picked up in 1998, because 811.68 MTU – the aggregate amount of spent fuel discharged among all utility contract holders as of the October 1974 discharge from Humboldt Bay – is less than the 1200 MTU of DOE acceptance in that year.

Next, page B.5 of Appendix B, A74, lists a fifth discharge from Humboldt Bay, in May 1975, of 34 assemblies/2.585 MTU, aggregating 1105.08 MTU of discharges to that date. Again, under the 1987 ACR acceptance rate and assuming an pickup OFF sequence, DOE would pick up this spent fuel allocation in 1998 (1155.08 MTU is less than 1200 MTU).

A sixth and final discharge from Humboldt Bay is shown on page B.6 of Appendix B, in July 1976 of 181 assemblies/13.023 MTU, aggregating 1892.74 MTU of discharges to that date. Under the 1987 ACR rate and assuming OFF, DOE would pick up this spent fuel in 1999 (because DOE would pick up 2400 MTU by the end of that year).

The table then lists four discharges from PG&E's Diablo Canyon plant. The first two are listed on pages B.20 and B.22 of Appendix B of the 1987 ACR, A89 and A91, as follows: in September 1986, a discharge of 68 assemblies/31.354 MTU, aggregating 13841.99 MTU discharged to that date; and in August 1987, a discharge of 68 assemblies/31.286 MTU, aggregating discharges of 15497.63 MTU to that date. Referring to the table above on page 8 of this brief, and assuming DOE pickups at the 1987 ACR rate and on an OFF basis, DOE would pick up these spent fuel allocations in 2006, because by the end of that year DOE would pick up a total of 15950 MTU. The final two PG&E entries in Appendix B of the 1987 ACR, on pages B.24 and B.25, A93 and A94, list discharges from Diablo Canyon in May 1988 and January 1989 in the following amounts, respectively: 80 assemblies/36.865 MTU, aggregating discharges to then of 17228.69 MTU; and 80 assemblies/36.795 MTU, aggregating discharges to

then of 18589.17 MTU. Referring to the table above on page 8, DOE would pick up these spent fuel allocations (assuming DOE performance at the 1987 ACR rate and an OFF sequence) in 2007, because the aggregate MTU amounts after each of these discharges is less than the 18600 MTU that DOE would pickup (under these assumptions) by the end of 2007.

Thus, to recap briefly, under the 1987 acceptance rate and assuming an OFF pickup sequence, the 1987 ACR including Appendix B shows that all of PG&E's Humboldt Bay spent fuel would be picked up in 1998 and 1999, and significant quantities of Diablo Canyon's spent fuel would be picked up in 2006 and 2007.

These conclusions are explicitly confirmed in Appendix A of the 1987 ACR, A30 to A93. That Appendix applies the 1987 ACR annual acceptance rates to the OFF listing in Appendix B, and reports which specific spent fuel from which nuclear plants, including PG&E's two plants, would thus be picked up in each year of DOE performance – assuming DOE performance at the 1987 ACR rate and using an OFF sequence.<sup>2</sup> For example, Table A.1 in Appendix A at A.4, A32 (Titled “Annual Acceptance Allocation for 1200 MTU, Year 1,”) shows acceptance in “year 1” (*i.e.*, 1998) from PG&E's Humboldt Bay plant of 209 assemblies/15.92 MTU – the total amount of the first five discharges from Humboldt Bay listed in Appendix B and discussed above. Other specific pickups from Humboldt Bay and Diablo Canyon are similarly indicated on Tables A.2 (for “year 2,” or 1999), A.9 (“year 9,” or 2006) and A.10 (“year 10,” or 2007), A35, A62, A68.

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<sup>2</sup> The 1987 ACR explains Appendix A this way: “After the SNF was listed by date of discharge, it was divided into groupings whose totals were consistent with the annual acceptance capacity to be allocated. The annual groupings were then summed for each reactor and aggregated by Purchaser. The results are presented in Appendix A.” PX 96 at 10, A28.

Appendix B of the 1987 ACR only list chronological spent fuel discharges to January 1989, but subsequently-issued DOE Annual Priority Ranking (“APR”) documents list chronological discharges in subsequent years. For example, DOE’s most recent combined ACR/APR, dated July 2004, PX377, lists chronological spent fuel discharges through December 2002. Although the discharge dates and amounts for some discharges differ slightly from the data in the 1987 ACR, those minor differences have no material effect on PG&E’s acceptance allocations because in the 2004 ACR/APR all six Humboldt Bay discharges discussed above still fall within the first 2400 aggregate MTU of acceptance shown on the 2004 listing, and the four Diablo Canyon discharges discussed above fall within the first 17100 aggregate MTU of acceptance, which is actually earlier in the OFF “queue” than under the 1987 ACR. The only real significance to these remand proceedings of APRs after the 1987 ACR is to show that Diablo Canyon continued to have allocations in the OFF queue at periodic intervals and in significant quantities subsequent to the first four discharges listed in the 1987 ACR. As discussed below, those later allocations are relevant to the Diablo Canyon ISFSI damages that PG&E is due on remand.

1. Humboldt Bay SAFSTOR Damages.

At trial PG&E claimed Humboldt Bay SAFSTOR damages – essentially, the cost of operating the Humboldt Bay spent fuel pool for additional years due to DOE’s breach – of \$44,617,000. *PG&E*, 73 Fed. Cl. at 412. This was the sum of SAFSTOR costs from 1999 through 2004, which PG&E claimed as damages based on its theory that with requisite performance and reasonable exchanges, DOE would have removed all the Humboldt Bay spent fuel before 1999. *See, e.g.*, 73 Fed. Cl. at 412-414. SAFSTOR costs for 1999 through 2004 were shown at trial in Table 2 of PX 722, A4. The Court, based on its application of the 1991

ACR acceptance rates, concluded that DOE, if performing, would not have finished removing the Humboldt Bay spent fuel until “approximately the end of 2001,” 73 Fed. Cl. at 412, and accordingly awarded PG&E its Humboldt SAFSTOR costs only for 2002 through 2004. *Id.* at 417. The Court rejected all but one of the government’s objections to specific SAFSTOR cost items claimed by PG&E. 73 Fed. Cl. at 413-417. The exception was the Court’s denial of PG&E’s claim for the \$1.1 million cost of resolving a “document discrepancy” relating to missing fuel pieces in the Humboldt Bay spent fuel pool. 73 Fed. Cl. at 414-415.

PG&E has removed the document discrepancy costs from Table 2 of PX 722, and made the appropriate resulting adjustments to allocated costs included in Table 2. That revised schedule of SAFSTOR costs from 1999 through 2004 is included in the accompanying appendix, A1.<sup>3</sup> As shown above, under the 1987 ACR acceptance rate and assuming an OFF pickup sequence, DOE would finish removing PG&E’s Humboldt Bay spent fuel in 1999. At a minimum, the Federal Circuit’s adoption of the 1987 ACR acceptance rate requires that conclusion. Therefore, on that basis the Court should award PG&E its SAFSTOR costs for 2000 through 2004, a total of \$38,678,000.

## 2. Humboldt Bay ISFSI Damages.

At trial, PG&E claimed Humboldt Bay ISFSI damages through 2004 of \$9,775,000. This represented the cost of implementing dry storage for PG&E’s Humboldt Bay spent fuel, which through 2004 consisted largely of NRC licensing costs. *See* 73 Fed. Cl. at 417. These costs were shown at trial in Table 3 of PX 722, A5. The Court, applying the 1991 ACR acceptance rates and believing that DOE would thus have removed the Humboldt Bay spent fuel by the end of

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<sup>3</sup> The changes to Table 2 arising from deletion of the document discrepancy costs are shown in italics on the revised version of the Table included in the appendix, A1. The changes are in the column for 2004 costs.

2001, concluded that PG&E in that event would not have constructed an ISFSI at Humboldt Bay, making the Humboldt Bay ISFSI costs compensable damages. *Id.* at 417 (“The court finds that, absent the government’s breach of the parties’ Standard Contract, plaintiff would not have had to construct the ISFSI at Humboldt Bay.”). It follows that if DOE had performed at the significantly higher acceptance rates in the 1987 ACR, as required by the Federal Circuit decision, the Humboldt Bay ISFSI and its costs also would have been avoided in the non-breach world, and this category of damages thus remains compensable on remand.

The Court rejected all but two of the government’s objections to specific Humboldt Bay ISFSI costs claimed by PG&E. *Id.* at 417-421. The Court denied PG&E’s claim for costs of investigating a Taiwan earthquake, in the amount of \$175,954. *Id.* at 420. The Court also deducted one sixth of the remaining Humboldt Bay ISFSI costs on the ground that one of the six planned dry storage containers at Humboldt Bay would store GTCC waste, *id.* at 421 & n.73, which the Court concluded was not covered by the DOE contract, *see id.* 401-05.

PG&E has removed the Taiwan earthquake costs from Table 3 of PX 722, and made the appropriate resulting adjustments to allocated costs. A copy of Table 3 from PX 722 with those revisions is included in the accompanying appendix, A2.<sup>4</sup> In addition, the Federal Circuit’s reversal of this Court’s conclusion that GTCC waste is not covered by the DOE contract requires this Court now to reverse its resulting ruling that PG&E’s costs of storing GTCC waste at the Humboldt Bay ISFSI are not compensable. This Court made clear that its deduction of one-sixth of the Humboldt Bay ISFSI costs, based on the one of six dry storage containers that would store GTCC waste, followed directly from this Court’s conclusion that the contract does not cover

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<sup>4</sup> The changes to Table 3 arising from deletion of the Taiwan earthquake investigation costs are shown in italics on the revised version of the Table included in the appendix, A2. The changes are in the column for 2000 costs.

GTCC waste:

“The court has ruled that defendant has *no performance obligation* under the Standard Contract to accept PG&E’s GTCC waste. *See supra* Part I. B.4. *Accordingly*, the court finds that the government’s partial breach of the Standard Contract *did not cause* plaintiff to incur additional costs for its storage of GTCC waste at Humboldt Bay . . .”

73 Fed. Cl. at 421 (emphasis added).

The Federal Circuit has now held that the government has had a performance obligation with respect to GTCCC waste. Accordingly, by this Court’s own reasoning, DOE’s breach of that obligation *did cause* PG&E to incur the Humboldt Bay ISFSI costs relating to GTCC waste, just as this Court concluded that DOE’s breach of its performance obligation with respect to spent fuel caused PG&E to incur the Humboldt Bay ISFSI costs relating to spent fuel storage. In fact, the Federal Circuit reached exactly that same conclusion with respect to the recoverability of GTCC waste storage costs in a portion of its *Yankee Atomic* opinion that the appellate court explicitly adopted in PG&E’s case: “this court affirms the Court of Federal Claims’ finding that ‘the conclusions reached with respect to recoverability of SNF storage expenses are *equally applicable* to GTCC waste, which is stored on-site in the same manner as SNF.’” *Yankee Atomic*, 536 F.3d at 1279 (citing *Yankee Atomic*, 73 Fed Cl. at 315) (emphasis supplied); *see PG&E*, 536 F.3d at 1293 (“This court incorporates that section [of *Yankee Atomic* regarding GTCC waste] into this decision as well.”).

Given the Standard Contracts’ coverage of GTCC waste, there should be no question that DOE would have picked up that waste along with Humboldt Bay’s spent fuel absent the breach. Indeed, in *Yankee Atomic*, where Judge Merow concluded that GTCC waste is covered by the DOE contract, the Court made the consistent factual finding that DOE would have picked up the Yankees’ GTCC waste along with their spent fuel. In making that finding, Judge Merow relied,

as the Federal Circuit recounted, *see Yankee Atomic*, 536 F.3d at 1277-78, on the extensive documentary record of DOE's actual plans in the 1990's to pickup GTCC waste along with spent fuel and to "co-locate" the two types of waste at Yucca Mountain. *See Yankee Atomic Elec. Co. v. United States*, 73 Fed. Cl. 249, 314-315 (2006) (noting "preponderance of trial evidence concerning removal by DOE of GTCC waste along with SNF . . ."). That same documentary record was introduced at trial in this case, through the testimony of DOE official Mr. Huizenga, who conceded (albeit very reluctantly, *see* TT 893:20-895:7; 913:8-18) that DOE's documents reflect its plans in the 1990's to pickup GTCC waste along with spent fuel. *See* TT 896:12-900:3; 920:20-923:1; 966:2-971:23 (Huizenga). Indeed, the Federal Circuit in *Yankee Atomic* specifically endorsed the evidence that led this Court to conclude in that case that DOE would pickup GTCC waste with a utility's spent fuel. *See, e.g., Yankee Atomic*, 536 F.3d at 1277 ("[as] the trial court pointed out, the record contains ample documents demonstrating the Government's intent to 'pursue co-disposal of GTCC' in a geologic repository with SNF."); *id.* at 1278 (quoting "letter [that] supports the trial courts' determination that the Government agreed to accept GTCC with SNF and other HLW."). Those are the same facts and the same evidence in this case as well, which this Court should now credit, given the Federal Circuit's agreement that "that the Standard Contract requires the Government to accept GTCC radioactive waste *concurrently* with SNF and other HLW." *Yankee Atomic*, 536 F.3d at 1277 (emphasis added).<sup>5</sup>

For the same reasons, as well others, there is no merit to the government's new-fangled suggestion that room for GTCC waste should be effectively "carved out" of the acceptance rates

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<sup>5</sup> This Court credited testimony from Mr. Kouts to the affect that DOE lacked plans to take GTCC waste with utilities' spent fuel, but that testimony simply reflected DOE's legal position that the Standard Contracts do not cover GTCC waste. *See* 73 Fed. Cl. at 404. Now that the Federal Circuit has reached a contrary legal conclusion regarding the Standard Contracts' coverage of GTCC waste, this finding and Mr. Kouts' testimony are irrelevant.

for spent fuel set forth in the 1987 ACR. Those acceptance rates are expressed in MTU – metric tons uranium – a unit of measure inapplicable to PG&E’s GTCC waste, which consists not of *any* uranium, but rather of radioactive scrap metal from near the Humboldt Bay reactor core. Moreover, although the 1987 ACR document was the centerpiece of the Federal Circuit’s opinion in this case, that court’s opinion contains not one hint of the government’s carve-out theory. To the contrary, as noted above, the Federal Circuit endorsed Judge Merow’s factual finding in *Yankee Atomic*, based on DOE’s own planning documents, that DOE would pick up utility GTCC waste “concurrently” with spent fuel. In other words, both the 1987 ACR document and the Federal Circuit decision make clear that the schedule for DOE pickups was to be determined by the “ACS process” *as applied to spent fuel*. Pickup of the relatively small quantities of GTCC waste at the small number of shutdown reactors having such waste would merely have been an “add-on” to that established pickup schedule.

Contrary to the government’s half-hearted suggestion during the January 15, 2009 status conference, *see* Tr. at 15:6-15, there is no support for the government’s new carve-out theory in the footnote to the waste acceptance schedule in the 1987 ACR stating that the “schedule for HLW is not included since the Mission Plan Amendment does not specify acceptance of HLW during the 10-year period covered by this report.” *See* PX 96 at 7, A25. As is clear from the text of the underlying Mission Plan Amendment to which it refers, that footnote refers not to GTCC waste, but to an entirely different form of HLW that *is* measured in MTU, namely, the radioactive liquid by-product created when spent fuel is reprocessed. *See, e.g.*, PX97 at 61 (A101), 62-63 (A102-A103). In fact, the 1987 ACR could not possibly refer to GTCC waste, because at that time such waste was not even covered by the Standard Contracts. It was not until later, in 1989, that the NRC Rule was promulgated that brought GTCC waste within the

contract's definition of "HLW," by requiring "permanent isolation" of GTCC waste. *See Yankee Atomic*, 536 F.3d at 1277-78 (discussing 10 C.F.R. § 61.55(a)(2)(iv)).

Because PG&E's costs to store GTCC waste at the Humboldt Bay ISFSI are recoverable, this Court's deduction of the one-sixth of the ISFSI costs attributable to such storage is not warranted. The revised Table 3 from PX 722 that is included in the accompanying appendix therefore does not make that deduction. In sum, the Court should now award PG&E \$9,534,000 in Humboldt Bay ISFSI costs through 2004, as shown on the revised Table 3 in the appendix, A2.

3. Humboldt Bay Stack Take Down Damages.

Under the standards set out by the Federal Circuit, PG&E should also recover its additional costs for removing the Humboldt Bay ventilation stack because of the presence of spent fuel. At trial, PG&E claimed damages in this category through 2004 of \$919,420, as shown on Table 4 of PX 722, A6. This Court's prior rejection of that claim was based on its view that the Humboldt Bay spent fuel would not have been removed even absent the breach until 2001. The Court reasoned that the same safety issues that warranted removal of the stack in the breach world in 1998 would have also led PG&E to remove the stack in 1998 in the nonbreach world. 73 Fed. Cl. at 422.

But the safety concerns that led to that conclusion were caused by the presence of the spent fuel. *Id.* Accordingly, those concerns could have been mitigated either by removal of the ventilation stack or removal of the spent fuel. If the spent fuel would have been removed earlier in the nonbreach world, there would have been no need for PG&E to have also undergone the more complicated and costly stack take down procedure it used in the breach world.

As explained above, under the 1987 ACR acceptance rates mandated by the Federal Circuit, the last of Humboldt Bay's spent fuel would have been removed in 1999 even assuming an OFF sequence. And with either a modest number of exchanges, priority acceptance for shutdown reactors or under the emergency delivery provision of the Standard Contract, Art. V.D., *see* PX54 at 12, A13, the Humboldt Bay spent fuel would have been removed in 1998 absent the breach. Under such a scenario in the non-breach world, PG&E would have addressed the safety issue by having DOE remove the spent fuel. Therefore, no special procedures or additional costs would have been incurred to remove the ventilation stack.

Because this Court rejected the stack take down damages down on causation grounds, the Court did not address PG&E's estimate of the incremental cost of removing the vent stack over what the cost would have been had PG&E been able to perform the task after the spent fuel was removed from the spent fuel pool building near the stack. Both PG&E's estimate and the government's objections to it are in the record, so no further evidentiary proceedings are necessary on this issue. And the Court should agree that the existing record firmly supports PG&E's estimate as a "fair and reasonable" one. *See, e.g., Bluebonnet Sav. Bank v. United States*, 266 F.3d 1348, 1357 (Fed. Cir. 2001) ("[T]he court's duty is to make a fair and reasonable approximation of damages."). First, the Humboldt Bay plant manager, Mr. Willis, testified to the specific additional steps that were necessary to remove the vent stack given the close proximity of spent fuel, and also explained the need to replace the stack with a smaller one since spent fuel was still present in the spent fuel pool. TT 1562:10-1593-25 (Willis). Then, PG&E's cost witness, Mr. Kapus, testified to the line-by-line cost of those additional steps. TT 2141:2-2148:17 (Kapus). In response, the government presented no witness or evidence of its own on this issue, but simply rested on cross-examination of PG&E's witnesses. Much of that

cross-examination went to the issue of causation, not the incremental cost of the stack take down in the breach world. Thus, on remand, the Court should find not only that the incremental cost of the stack take down were caused by the presence of spent fuel, but also that PG&E's estimate of that incremental cost is fair and reasonable.

4. Diablo Canyon ISFSI Damages.

At trial PG&E claimed Diablo Canyon ISFSI damages through 2004 of \$31,734,000, as shown on Table 5 of PX722, A7; *see* 73 Fed. Cl. at 425. The government did not challenge any of the included costs and the Court did not deduct any. However, the Court awarded only about 22% of these claimed damages, *see id.* at 427, based on reasoning summarized below. Now, applying the 1987 ACR acceptance rates as the Federal Circuit has required, and even assuming an OFF pickup schedule (*i.e.*, without exchanges), PG&E is entitled to the entire amount of claimed damages in this category.

After trial, the Court, based on its application of the 1991 ACR acceptance rates, concluded that "DOE would not have begun accepting PG&E's spent fuel at Diablo Canyon until after 2007, and likely not before approximately 2013 . . ." 73 Fed. Cl. at 425. The Court recognized that the spent fuel storage pools at Diablo Canyon would reach capacity in 2006, according to PG&E's historical planning documents and testimony introduced at trial. *See, e.g., id.* Accordingly, the Court concluded that in the non-breach world PG&E would have had to construct an ISFSI anyway since DOE spent fuel pickups would begin well after 2006. The Court found that the ISFSI would have been smaller than in the actual, "breach" world because under the 1991 ACR acceptance rates this Court applied, DOE would have begun picking up spent fuel from Diablo Canyon in 2013. Those pickups in the non-breach world would have

allowed PG&E to construct an ISFSI with less capacity than the one actually being built, which is based on no DOE pickups until many years after 2013, if ever. *See id.* at 425, 427.

As discussed above, under the acceptance rates contained in the 1987 ACR, and as that document explicitly states, if DOE had performed at those rates beginning in 1998 – even on an OFF basis – DOE would have picked up from Diablo Canyon 136 assemblies/62.64 MTU of spent fuel in “Year 9,” or 2006, *see* PX 96 at A.34, A62, and another 160 assemblies/73.60 MTU of spent fuel in “Year 10,” or 2007, PX 96 at A.40, A68. Moreover, the spent fuel discharge information for years subsequent to 2007 that is set forth in later DOE ACR/APRs makes clear that under the acceptance rates used in the 1987 ACR/APRs (and even on an OFF basis) DOE would have continued to pickup significant quantities of spent fuel from Diablo Canyon approximately every year or two after 2007 as well. For example, DOE’s 2004 ACR/APR shows “allocations” for PG&E in the chronological listing of spent fuel discharges in that document of 65 assemblies/30.1 MTU in October 1989, making aggregate discharges to that date of 19,364.9 MTU; 89 assemblies/41.3 MTU in February 1991, for aggregate discharges of 21,698.2 MTU at that date; 113 assemblies/52.4 MTU in August 1991, for aggregate discharges of 22,598.5 MTU at that date; 88 assemblies/39.6 MTU in September 1992, for aggregate discharges of 24,842.4 MTU at that date etc. *See* PX377 at A.18 (A108), A.19 (A109), A.20 (A110), A.22 (A112), A.24 (A114). By comparing the aggregate discharge data from that listing to the aggregate discharge data in the table on p. 8 above in this brief, the Court can see that assuming performance at the 1987 ACR rates, DOE would pick up these significant quantities of spent fuel from Diablo Canyon in 2008, 2009, and 2010. Further allocations for PG&E are also shown in subsequent years. *See, e.g.*, PX377 at A.26 (A116), A.27 (A117), A.28 (A118), A.29 (A119), A.30 (A120), A.31 (A121), A.32 (A122), A.33 (A123), A.34 (A124).

Because the spent fuel pools at Diablo Canyon otherwise were not expected to reach capacity until 2006, DOE's removal of a significant quantity of spent fuel beginning in that year, and continuing at regular intervals in subsequent years, would have prevented the Diablo Canyon pools from ever reaching capacity. That, in turn, would have obviated the need for PG&E to build an ISFSI at Diablo Canyon, and thus have allowed it to avoid all the costs it has actually spent building that ISFSI given DOE's breach. Specifically, during 2006 and as late as February 2007, the racks in the Unit 1 pool at Diablo Canyon still had 67 available spaces to store additional assemblies, over and above the 193 storage spaces in the racks in the pool that PG&E held open to maintain full core reserve, or "FCR" capacity – the ability to offload all fuel from the Unit 1 reactor core to the pool. (The reactor cores of both Unit 1 and 2 each hold 193 assemblies).<sup>6</sup> Similarly, as late as December 2007, the racks in the Unit 2 pool had 31 available spaces for additional assemblies, in excess of the 193 FCR spaces. Therefore, DOE's assumed removal of 136 assemblies in 2006 and another 160 assemblies in 2007 would readily have kept the pools from reaching capacity.<sup>7</sup>

As this discussion indicates and as we now know from historical data regarding actual spent fuel discharges, PG&E's assumption for planning purposes that the Diablo Canyon pools would reach capacity in 2006 (absent the temporary racks, *see* note 7) turned out to be

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<sup>6</sup> To the extent the straightforward, objective facts set forth in this section that post-date the 2006 trial cannot be stipulated between the parties, they can readily be established by documents and/or a modest amount of testimony.

<sup>7</sup> The discussion here assumes that the temporary racks that PG&E inserted in each pool in the breach world were never inserted, and the assemblies stored in those temporary racks instead were stored in the permanent racks in each pool. That would have been what occurred in the non-breach world, and there still would have been the excess storage capacity in each pool indicated in the text.

conservative. The actual discharge data shows that the Unit 2 pool only would have reached capacity (absent the temporary racks, and apart from FCR) during the refueling cycle that commenced in December 2007, and the Unit 1 pool only would have reached such “capacity” during the refueling cycle that commenced in February 2007. Thus, despite the 2006 date used in PG&E planning documents, in fact, until well into 2007, there remained additional storage capacity in both pools. Accordingly, the assumed non-breach world DOE pickups in 2006 and 2007 that are reflected in the 1987 ACR and discussed above would have kept the pools from reaching capacity and thereby have allowed PG&E to avoid constructing dry storage.<sup>8</sup>

Because, as shown above, PG&E could have avoided constructing an ISFSI at Diablo Canyon in the non-breach world if DOE had performed at the 1987 ACR rates on an OFF basis, exchanges are unnecessary to the recoverability of PG&E’s Diablo Canyon ISFSI damages. That is particularly true given that under the Standard Contract, PG&E had “the right to adjust the quantities of [spent fuel] plus or minus ( $\pm$ ) twenty percent (20%).” PX54, Art. V.B.2, A12. Nonetheless, the introduction of even a modest amount of exchanges, which the Court should recognize for reasons discussed below, would make this conclusion even more clear.

#### 5. Diablo Canyon Temporary Rack Damages.

At trial PG&E claimed Diablo Canyon Temporary Rack damages through 2004 of

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<sup>8</sup> Even if there were any question whether DOE pickups at the 1987 ACR rate and pursuant to OFF would have been adequate to keep the Diablo Canyon pools from reaching capacity (and PG&E maintains there is no such question), the answer would not have been a \$100 million-plus ISFSI. Various other alternatives would have been available, alone or in combination, such as transshipment of spent fuel between the two Diablo Canyon pools to optimize storage capacity, reducing the amount of discharged spent fuel at the next refueling, utilizing the plus or minus 20% feature of the Standard Contract (to obtain pickup of 20% more spent fuel), possible temporary use of the 193-space FCR, obtaining a very small temporary rack to use until the next DOE pickup, or simply exchanging for a few additional pickup allocations.

\$2,663,807. These costs were shown at trial in Table 6 of PX 722, which is included in the accompanying appendix, A8. Apart from the causation issue, none of these costs were challenged by the government (or rejected by the Court).

As the Court recognized in its factual findings, the process of licensing and permitting the Diablo Canyon ISFSI was difficult and contentious, “due [among other things] to intervention by anti-nuclear groups, a requirement imposed – over PG&E objection – for an additional environmental review, and successive proceedings before the [local] planning board and the California Coastal Commission . . . .” 73 Fed. Cl. at 424. The Court found that, as result, “PG&E began to evaluate alternatives for a contingency plan that PG&E could implement if the licensing process caused PG&E to be unable to obtain a permit and construct an ISFSI at Diablo Canyon by 2006 . . . .” *Id.* Ultimately, PG&E determined to obtain temporary storage racks for each spent fuel pool that would provide additional spent fuel storage capacity and “allow[] continued discharge of spent fuel at Diablo Canyon until approximately 2010.” *Id.* at 425.

The Court, having found (based on its application of the 1991 ACR rates) that PG&E’s “initial need for the licensing and construction” for an ISFSI at Diablo Canyon was not caused by the government’s breach, *see id.* at 427, logically concluded that costs of the temporary racks which arose from *delays* in licensing and construction of the ISFSI also were not compensable. *See id.* at 427-28 (“It follows that plaintiff’s need to construct the temporary rack to prepare for a possible delay in licensing and construction of the Diablo Canyon ISFSI was not caused by the government’s partial breach of the Standard Contract, and would have occurred even in its absence.”).

That conclusion is no longer tenable. As explained above, if DOE had performed at the 1987 ACR rates as it was required to do, then even assuming an OFF pickup sequence, PG&E

would not have needed or constructed an ISFSI at Diablo Canyon. *A fortiori*, there would not have been any delays in the licensing or construction of the ISFSI, and therefore no need for temporary racks to serve as a “contingency” against such delays. Accordingly, PG&E would not have incurred the Diablo Canyon Temporary Rack damages, all of which (through 2004) are now compensable in this remand proceeding, in the amount of \$2,663,807 as shown on Table 6 of PX 722, A8.

6. Diablo Canyon Storage Options Study Damages.

At trial PG&E claimed damages of \$1,451,091, “for the evaluation of storage options at Diablo Canyon.” 73 Fed. Cl. at 428. These costs are shown on Table 7 of PX 722, A9.

Although the Court denied these damages, it did so for a reason that is no longer valid in light of the Federal Circuit decision requiring application of the 1987 ACR acceptance rates.

Specifically, the Court noted that PG&E’s evidence showed that the company undertook the Diablo Canyon storage options studies based on its belief that “there was a significant likelihood that fuel would not be picked up from Diablo [Canyon] *by 1998.*” 73 Fed. Cl. at 428 (citing TT 997:10-17 (Womack)). The Court found that this did not establish the requisite causal link to DOE’s breach because, under the Court’s view that the 1991 ACR acceptance rates were controlling, the Court believed that:

“Even if DOE had performed under the parties’ Standard Contract by beginning to accept the utilities’ spent fuel by January 31, 1998, the preponderance of the evidence indicates that it would not have begun accepting PG&E’s spent fuel at Diablo Canyon until well after 2007. . . . Because Diablo Canyon would reach capacity in or around 2006, absent the government’s partial breach, PG&E still would have been obligated in the regular course of its business to evaluate its storage options at Diablo Canyon.”

73 Fed. Cl. at 428.

In light of the Federal Circuit's determination that the 1987 ACR acceptance rates are controlling, the Court's conclusion on this issue also must be reversed. Under the 1987 ACR acceptance rates, and even assuming an OFF pickup sequence, DOE would have picked up significant quantities of Diablo Canyon in 2006 and 2007, and periodically in subsequent years. Therefore, the spent fuel pools at Diablo Canyon would never reach capacity, and PG&E would never need any additional spent fuel storage "options." It follows that PG&E would not have had any need to study such options. For purposes of assessing PG&E's damages in accordance with the Federal Circuit's decision, it must now be assumed that the 1987 ACR acceptance rates are actually written into the DOE contract. That is the clear import of the Federal Circuit decision in this case – that PG&E and all other contracting utilities, as well as DOE, should have been able to rely on the fact that DOE would perform at those rates beginning in 1998. Accordingly, PG&E was also entitled to rely on the fact that DOE would begin picking up Diablo Canyon's spent fuel no later than 2006 and 2007. Moreover, with the use of even a modest amount of exchanges, the DOE pickups would have been even earlier.

The government cannot be heard to argue that PG&E might have studied spent fuel storage options anyway, because in the 1980s and 1990s PG&E might have thought there was a possibility DOE would breach its contract obligations. Such an argument would belittle, and essentially deny, the central holding of the Federal Circuit decision, namely, that DOE was bound to follow the 1987 ACR acceptance rates. Damages in a contract case are measured by comparing cost with the breach against costs without any breach. *E.g., Yankee Atomic*, 536 F.3d at 1273 (determining damages entails a "comparison between the breach and non-breach worlds."). The measure is not costs with the breach less costs assuming DOE might breach anyway. Here, PG&E's costs of studying storage options due to the breach are \$1,451,091.

PG&E's study costs without the breach would have been zero, because if DOE had honored the 1987 ACR acceptance rates as the Federal Circuit has determined it should have, PG&E would not have needed any storage options other than the existing pools at Diablo Canyon and consequently would not have needed to study any such options. Therefore, PG&E is entitled to recover the study costs it did incur as damages.

7. Offsite Storage Evaluation Damages

PG&E also should now recover the costs of its participation in the effort to develop an offsite dry storage facility, Private Fuel Storage ("PFS"). These costs are shown on Table 8 of PX722, A10, in the amount of \$899,517. The Federal Circuit's analysis concerning the applicable acceptance rate makes clear that this Court's primary reason for rejecting PG&E's claim for PFS damages is invalid. In its 2006 opinion, this Court found that PG&E's expenditures on PFS in the mid-1990s (*i.e.*, 1995-97) were incurred "in the ordinary course of business," rather than due to the DOE's impending breach, because this Court found that DOE performance at the 1991 ACR acceptance rates was still reasonably anticipated in the 1990s. *See* 73 Fed. Cl. at 430. But the Federal Circuit's decision makes clear that reasonable DOE performance by 1998 was not anticipated by the time the 1991 ACR was published or any time much after publication of the 1987 ACR. *PG&E*, 536 F.3d at 1291. (At the time of the 1991 ACR, DOE performance "had, by then, already become a distant possibility."). Accordingly, this Court's primary ground for rejecting PG&E's claim for PFS costs cannot stand.

Similarly, this Court also found that PG&E's participation was not foreseeable. But that ruling cannot be reconciled with the Federal Circuit's ruling (albeit unpublished) in *Sacramento Mun. Utility Dist. v. United States*, 2008 WL 3539880 at \*4 (Fed. Cir. Aug. 7, 2008) ("*SMUD*"). There, the Federal Circuit made clear that only the general type of harm need to have been

foreseeable, not the specific method of mitigation followed by the non-breaching party. In *SMUD*, the Federal Circuit reversed this Court's ruling that the use of dual-purpose dry storage/transportation casks (as opposed to storage-only casks) was not foreseeable. Applying the rule that only the general type of harm need to have been foreseeable in the event of breach at the time of contracting, the appellate court concluded that it did not matter whether dual-purpose casks were specifically foreseeable. *Id.* Likewise, since PFS is merely another effort to store spent fuel in light of DOE's breach, it does not matter whether that particular type of effort was foreseeable at the time of contracting. In fact, elsewhere in this Court's original opinion, in discussing dual purpose casks, this Court articulated a view of foreseeability identical to that set out by the Federal Circuit in *SMUD*. *See* 73 Fed. Cl. at 418-19. This Court should now apply that correct view of foreseeability to PG&E's PFS damages as well.

The Federal Circuit's affirmance of this Court's rejection of a claim for PFS damages in *Indiana Michigan*, 422 F.3d at 1373, is not to the contrary. Fairly read, that decision merely held that this Court's finding in that PFS expenditures were not reasonable mitigation for that utility was not clearly erroneous. That finding, however, was based on very different evidence than was presented at trial here. In particular, *Indiana Michigan*'s own witnesses testified that participation in the project was a bad idea. *See Indiana Michigan Power Co. v. United States*, 60 Fed. C. 639, 659 (2004). Here, conversely, PG&E's witnesses testified in favor of the company's participation in the project. *See, e.g.*, TT 1401:10-1403:25 (Stock); TT 1039:1-1041:1 (Womack). Tellingly, this Court approved an award of PFS damages in another spent fuel case where the utility's witnesses also testified that their company's participation in the project was appropriate. *See Northern States Power Co. v. United States*, 78 Fed. Cl. 449, 465-67 (2007). And the Federal Circuit, in *Yankee Atomic*, made clear that factual findings made in

*Indiana Michigan* are not controlling in cases that present different factual records. *See* 536 F.3d at 1276 (“Those *Indiana Michigan* findings stand in stark contrast to the record this court confronts in this case.”).

8. Summary of Damages Due on Remand Assuming OFF.

In summary, applying the 1987 ACR acceptance rates, even on an OFF basis, the Court should award PG&E the following damages on remand:

Humboldt Bay SAFSTOR damages	\$38,678,000
Humboldt Bay ISFSI damages	\$ 9,534,000
Humboldt Bay Stack Take Down damages	\$ 919,420
Diablo Canyon ISFSI damages	\$31,734,000
Diablo Canyon Temporary Rack damages	\$ 2,663,807
Diablo Canyon Storage Option Study damages	\$ 1,451,091
Offsite Storage Evaluation damages	\$ 899,517
Total	\$ 85,879,835

These damages consist of all the damages PG&E sought originally except the two cost items disallowed by the Court and the Humboldt Bay SAFSTOR costs for 1999, in the amount of \$4,744,000. Assuming an OFF pickup schedule, the 1999 SAFSTOR damages are not recoverable because if DOE had performed in that manner, even at the 1987 ACR rates, DOE would not have finished removing PG&E’s Humboldt Bay spent fuel until sometime in 1999. PG&E therefore would have incurred SAFSTOR costs in that year even if DOE had performed in that manner. For the reasons explained above, all the other damages still being sought by PG&E can clearly be shown to have been caused by DOE’s breach, given the Federal Circuit’s

determination that DOE was required to perform at the 1987 ACR acceptance rates (and even assuming an OFF pickup sequence).

B. The Court Should Revisit the Issue of the Sequence of DOE Pickups.

With exchanges and/or shutdown priority, both of which are explicitly provided for in the DOE contract, PG&E is also entitled to recover the 1999 Humboldt Bay SAFSTOR costs. Moreover, recognizing exchanges would remove any possible argument about causation, and thus recoverability, with respect to other damages PG&E now seeks, thus further streamlining these remand proceedings. That is because, as Judge Merow found in *Yankee Atomic*, “through exchange markets, possible priority for shut down reactors and campaigning, as well as the plus or minus 20 percent allowed by the contracts, [] utilities would have been able to increase their pickup allocations significantly particularly during the first years following commencement of performance in 1998.” *Yankee Atomic*, 73 Fed. Cl. at 306.

But PG&E does not seek to revisit the exchanges issue merely because doing so would increase the award to PG&E by \$4.7 million and also simplify the remand proceedings. Rather, for three separate but related reasons, the Federal Circuit decision requires this Court to reconsider its conclusion that DOE would have adhered to an OFF pickup sequence in the non-breach world.

1. First, the Federal Circuit decision, by making the contract’s entire “ACS process” controlling as to DOE’s pickup obligations, requires this Court to give effect to the explicit contract provisions addressing exchanges and shutdown priority, which are part of the ACS process. Although the Federal Circuit opinion focuses attention on the acceptance rates in the 1987 ACR, the court did not hold – or even imply – that DOE was required to adhere to those rates on an OFF basis. To the contrary, the Federal Circuit explicitly held that “the language of

the contract specifies that *the ACS process* provides the contractual acceptance rate.” *PG&E*, 536 F.3d at 1289 (emphasis added). And in defining the term “ACS process,” there can be no doubt that the Federal Circuit intended to include all the provisions in the DOE contract that pertain to setting not only the rate, but also the schedule – *i.e., the sequence* – for DOE pickups:

“DOE . . . agreed to take title to SNF/HLW ‘as expeditiously as practicable’ . . . . The Standard Contract also included provisions setting priority for acceptance of waste (generally through an oldest fuel first (OFF) scheme) and allowed utilities to swap approved delivery commitment schedules (the Exchanges provision). In lieu of a firm rate for SNF/HLW acceptance and disposal, the Standard Contract required DOE to issue [ACRs] beginning no later than July 1, 1987. . . . In addition to the annual reports, the Standard Contract also required DOE to issue annual acceptance priority rankings beginning April 1, 1991. In response to these priority reports, the Standard Contract obligated each utility to submit a delivery commitment schedule to DOE. . . . *This court refers to this entire process as the acceptance capacity schedule or ACS process.*”

*Id.* at 1285-86 (emphasis added).<sup>9</sup>

The Federal Circuit’s directive that all parts of the ACS process must be given effect in determining spent fuel pickups for purposes of assessing damages in these cases should not be a surprise. Well-settled legal principles likewise require the Court to give PG&E the full benefit of the entire contract, including the exchanges and shutdown priority provision. *See, e.g., New Valley Corp. v. United States*, 119 F.3d 1576, 1584 (Fed. Cir. 1997) (courts must adopt “interpretation [that] gives reasonable meaning to all terms of the [parties’ contract] without rendering any superfluous and best effectuates the parties’ intent and the [contract’s] ‘spirit and purpose.’”).

2. In its original opinion, this Court nevertheless failed to give effect to the exchanges provision, based on a factual finding that the trial evidence “d[id] not indicate that

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<sup>9</sup> In essence, the Federal Circuit held that the ACS process determines the rate at which DOE would pick up spent fuel from any particular utility. The industry-wide acceptance rates specified in the 1987 ACR are an important input to the overall ACS process.

PG&E would have used the exchanges provision, or how it would have used it.” 73 Fed. Cl. at 413. The Court based that finding on “[t]he only contemporaneous evidence relevant to whether PG&E would have used the exchanges provision,” *id.*, which, the Court noted, “indicates that PG&E found that exchanges could be ‘very expensive,’ PX 185 (August 1993 PG&E Preliminary Evaluation of Spent Fuel Storage Technologies for Diablo Canyon Power Plant) at 3 . . . and that, because of ‘the general lack of storage capacity by utilities,’ use of exchanges was ‘unlikely.’ DX 232 (Minutes of August 31, 1992 Spent Fuel Storage Action Plan Workshop) at 3.” *Id.*

The second reason to revisit the exchanges issue on remand is that the Federal Circuit’s decision requires this Court to reconsider the factual finding it made based on this “contemporary evidence” from the 1990s. That evidence is infected by DOE’s promotion at that time of the 1991 ACR acceptance rates, which the Federal Circuit has now flatly condemned as “necessarily tainted,” inherently breach-infected, and apparently “put forth . . . as a litigation strategy, to minimize DOE’s exposure for its impending breach.” *See PG&E*, 536 F.3d at 1291. For example, the August 1993 Diablo Canyon storage options study that this Court relied on, PX 185, cites the very low acceptance rates from the 1991 ACR (it actually cites the 1992 ACR, which contains the same rates, *see* PX182 at 4). That study then reports based on those rates that “[a]ssuming the MRS becomes operational as scheduled in 1998, the DOE schedule projects limited fuel shipments every third year for each D[iablo Canyon] unit from 2013 through 2024.” PX 185 at 3. That is the same, very low acceptance rate scenario for Diablo Canyon that this Court applied, *see PG&E*, 73 Fed. Cl. at 400, and the Federal Circuit has now rejected. Nonetheless, assuming those very low acceptance rates (*i.e.*, very low acceptance capacity in the DOE program), which PG&E did assume in the August 1993 study, *see* PX 185 at 3, PG&E

reasonably concluded that exchanges would be “expensive” based on the basic economic principle of supply and demand – low supply (of DOE acceptance) for a given demand raises prices.

The other “contemporaneous evidence” this Court relied on to find that PG&E would not have engaged in exchanges, notes from an internal PG&E meeting in August 1992, DX 232, also assumed the same, low level of DOE performance at the now-discredited 1991 ACR rates. *See* DX 232 at 3 (“The first allotment of D[iablo Canyon] spent fuel will be accepted 13 years after a facility is available.”). Thus the statement in this document that exchanges “seem unlikely” also reflects those low rates, and the correspondingly high prices for exchanges that would obtain if DOE performed at those rates. More fundamentally, PG&E’s assessment that exchanges were “unlikely” reflected the fact that given DOE’s impending breach, there was simply nothing to exchange. *See, e.g.*, TT 1197:3-1198:24; 1201:5-9 (Womack). If acceptance rates are going to be zero in 1998, as was at least reasonably likely (if not probable) by 1992, then obviously there was nothing meaningful for PG&E to exchange, making exchanges quite unlikely indeed. *Cf. Yankee Atomic Elec. Co. v. United States*, 2004 WL 1535686 at \* 4 (Fed. Cl. Jun. 28, 2004) (denying motions in limine) (“There is no market data because the government’s breach thwarted this possibility.”).

In short the Court, in making its previous finding that the evidence did not show PG&E would engage in exchanges, relied on evidence from what we now know was a *breach world* – one where DOE was announcing spent fuel pick up only at the low rates in the 1991 ACR, and where exchanges were not only anticipated to be expensive and unlikely, but in fact were *non-existent*. *See PG&E*, 536 F.3d at 1291. (“[T]he 1987 [NWP] Amendments presented the specter of an impending breach. This specter necessarily tainted the 1991 [ACR] report.”). Not

only is the evidence this Court relied on now entirely unreliable as a basis for factual findings, that evidence does not even address the correct issue. The issue on remand is not whether PG&E would have engaged in exchanges given an impending DOE breach and/or performance at the low 1991 ARC acceptance rates. The issue, instead, is whether and how PG&E would have engaged in exchanges assuming that DOE performed as required in accordance with the 1987 ACS process, including the substantially higher 1987 ACR acceptance rates. There simply is no “contemporary evidence” addressing that issue, because until the Federal Circuit decision in this case, DOE’s contractual performance obligation remained uncertain.

This Court, having heard substantial evidence at trial concerning both DOE’s plans and the contracting utilities’ expectations, “d[id] not doubt ‘that a market would develop around the exchange provision of the Standard Contract.’” 73 Fed. Cl. at 413 (citing *Tennessee Valley Auth. v. United States*, 69 Fed. Cl. 515, 533 (2006)). Overwhelming evidence supports that conclusion. *See, e.g.*, TT 501:24-502:3 (Bartlett); TT 164:5-165:6 (Mills); TT 242:23-243:20 (Mills); TT 503:14-505:8 (Bartlett); PX239. Given the reality that an exchanges market would exist in the non-breach world, this Court must now determine how that market would have worked for PG&E based on evidence that is not tainted by the 1991 ACR acceptance rates that the Federal Circuit has held to be breach-infected.

3. The third, and related reason the Federal Circuit decision requires this Court to revisit the exchanges issue is that the decision requires this Court to reverse its pretrial *in limine* ruling precluding the expert testimony of Frank Graves. Because there is no probative “contemporary evidence” of how exchanges would have worked for PG&E if DOE had performed at the 1987 ACR acceptance rates, expert testimony on that issue is necessary in order to give proper effect to the explicit exchanges provision in the DOE contract. *See Cal. Fed.*

*Bank v. United States*, 395 F.3d 1263, 1270-71 (Fed. Cir. 2005) (expert economic testimony can shed light on how markets would work in a non-breach world); *Cf. Coastal Fuels of P.R., Inc. v. Caribbean Petrol. Corp.*, 175 F.3d 18 (1<sup>st</sup> Cir. 1999) (economic models are often the only methodology available to understand what would happen in the non-breach world); *see also Locke v. United States*, 283 F.2d 521, 524 (Ct.Cl. 1960) (“The defendant who has wrongfully broken a contract should not be permitted to reap advantage from his own wrong by insisting on proof which by reason of his breach is unobtainable.”). In contrast to the breach-world evidence the Court previously relied on, Graves’ expert testimony will demonstrate how the exchanges provision of the Standard Contract would have worked for PG&E if DOE had performed as the contract requires.

Previously, this Court stated it was hesitant “to engage in wholesale speculation” about hypothetical exchanges. *PG&E*, 73 Fed. Cl. at 413. By hearing Graves’ testimony on remand, the Court will be able to avoid that result. Indeed, the value of Graves’ testimony in illuminating how exchanges would have worked in the non-breach world is confirmed by Judge Merow’s opinion in *Yankee Atomic*, which was not available when this Court was deciding this case: “Graves’ testimony on the efficiencies and cost avoidances from campaigns and trades was *compelling*.” *Yankee Atomic*, 73 Fed. Cl. at 303 (emphasis added).

Another reason to reverse the prior ruling precluding Graves’ testimony is that the previous uncertainty concerning DOE’s performance obligation has now been resolved, at least with regard to the required acceptance rates. The certainty on that central input to Graves’ exchanges model resulting from the Federal Circuit’s decision greatly reduces, if it does not entirely eliminate, whatever amount of speculativeness this Court previously perceived in Graves’ proposed prior testimony. Rather than modeling exchanges across a range of possible

acceptance rates, as in his original expert report (and *Yankee Atomic* trial testimony), Graves can now focus with certainty on the 1987 ACR acceptance rates as the foundation for his exchanges model. An analogous situation arose in *Coal Resources, Inc. v. Gulf & Western Industries, Inc.*, 954 F.2d 1263 (6<sup>th</sup> Cir. 1992). There, in a previous appeal following a previous trial, the Sixth Circuit found that “the testimony of plaintiffs’ expert witness was too speculative in some respects to be admissible . . . .” *Id.* at 1265. On remand, the district court again admitted expert testimony from the same witness. Defendant appealed, claiming that plaintiff had “openly defied” the Sixth Circuit “by basing its case on the same testimony and expert this Court found to be speculative in [the prior appeal].” *See id.* However, the Sixth Circuit affirmed the district court’s admission of the expert testimony in the retrial, essentially because – as in PG&E’s case – important underlying facts, circumstances and other evidence were different at the retrial :

That the previous testimony was speculative does not now preclude Barker’s testimony where a foundation for it is supplied. Barker’s testimony is admissible since both [defendant] and [plaintiff] submitted substantially different testimony. [Defendant] argues that this exception should not apply because [the expert]’s testimony has remained the same. However, there is no requirement that Barker’s specific testimony must change; *a change in the other testimony and evidence presented at trial which provides support for Barker’s testimony removes the impediment of speculation.*

*Id.* at 1265-66 (emphasis added).

This case presents even stronger grounds than *Coal Resources* for reversing the prior ruling excluding Graves’ testimony. In *Coal Resources*, the changed factor warranting acceptance of Barker’s testimony on remand was merely the introduction of some new supporting testimony from another expert, whereas in this case, the new factor is a clear, objective and entirely certain legal ruling that DOE has been contractually required to perform at the 1987 ACR acceptance rates. That objective ruling by the

Federal Circuit removes at least as much uncertainty from Graves' exchanges model as did the new supporting expert testimony in *Coal Resources*.

Given the changed legal and factual circumstances arising from the Federal Circuit's decision in this case, that court's affirmance under the applicable abuse of discretion standard of this Court's ruling excluding Graves is no impediment now to a contrary ruling on remand. This Court retains ample authority to make a contrary evidentiary ruling now, just as the district court did in comparable circumstances in *Coal Resources*.

In fact, a careful parsing of the Federal Circuit's reasoning is fully consistent with allowing Graves' testimony on remand. This Court offered two reasons for excluding the Graves testimony – first, his lack of “involvement or experience” in the DOE program, “let alone [] expert[ise] on the acceptance rate the DOE would have used,” *PG&E*, 73 Fed. Cl. at 435, and second, “the court[’s] agree[ment] with defendant that Mr. Graves’ hypothetical model of a market for exchanges of utilities’ DCSs was too speculative to be helpful to the court,” *Id.* at 435-46. In finding no abuse of discretion, the Federal Circuit cited only the first reason, Mr. Graves’ lack of involvement with the DOE program, as providing a reasonable basis for excluding his testimony. *PG&E*, 536 F.3d at 1292. The appellate court pointedly “d[id] not address at all t[his Court]’s assessment that Mr. Graves’ testimony would have been speculative.” *Id.*

The Federal Circuit's different treatment of the two reasons for exclusion offered by this Court reflects the fact that Graves presented two separate but related opinions, one concerning a reasonable acceptance rate and the other concerning the sequence for DOE's spent fuel pickups. *See Yankee Atomic*, 73 Fed. Cl. at 300 (“Graves was tasked

with determining an overall acceptance rate in the nonbreach world . . . and a ‘sequence of removal amongst the various parties . . .’”). Mr. Graves’ opinions on a reasonable acceptance rate are irrelevant now that the Federal Circuit has determined that rate as a matter of law. But the Federal Circuit’s refusal to endorse this Court’s conclusion that Graves’ sequence opinion was speculative confirms that the appellate decision is no bar to consideration of Graves’ sequence opinion on remand. Indeed, had the Federal Circuit believed Graves’ sequence opinion was speculative, a point argued by the government on appeal, it could not (and would not) have “see[n] no difficulty” in Judge Merow’s consideration of Graves’ testimony in *Yankee Atomic*. 536 F.3d at 1292.

Moreover, PG&E had pointed out on appeal that this Court, in concluding that Mr. Graves’ opinions on exchanges were speculative, cited only assertions in the government’s motion *in limine* to the effect that the opinion depended on a series of extreme assumptions. *See* 73 Fed. Cl. at 436 (citing the government’s motion to exclude at 22). In fact, Graves’ sequence opinion does not rely on such assumptions, as explained in his expert report and his rebuttal report, which this Court previously does not appear to have considered, *see* PG&E’s Opp’n to the Government’s Mot. *In Limine* to Exclude Certain Expert Testimony at App. B & C, and as Judge Merow recognized upon actually hearing Graves’ testimony. *See Yankee Atomic*, 73. Fed. Cl. at 299 (finding that Graves “model would work even if only half the utilities participated.”).

Furthermore, Graves’ sequence opinion does not purport to rest on expertise or involvement with the DOE program. It relies instead on “basic economic principles of supply and demand [which] would have created a market for exchanges based on an individual utility’s cost to store its SNF until its pickup commitment, and a price at which

another utility was willing to exchange its earlier pickup date.” *Yankee Atomic*, 2004 WL 1535686 at \* 1. Indeed, in *Yankee Atomic*, “Graves was qualified as an expert in economics *without objection*.” *Yankee Atomic*, 73 Fed. Cl. at 300 (emphasis added) (citation and footnote omitted).

Judge Merow found Graves’ trial testimony in *Yankee Atomic* concerning his sequence opinion “compelling,” not speculative. *See id.* at 303; *id.* at 299 (“Graves demonstratives dramatically highlighted the wisdom and economic sense of campaigning.”). Of particular significance to the sequence of acceptance at Humboldt Bay, where on an OFF basis (and under the 1987 ACR acceptance rates) DOE would pick up about half PG&E’s spent fuel in 1998 and the other half in 1999, *see supra* p. 9-10, Graves’ testimony also led Judge Merow to find that “[e]xchanges in conjunction with campaigning would lessen the number of trips DOE would make to a particular utility, thus fostering efficiency and lessening environmental and other hazards.” 73 Fed. Cl. at 303; *id.* (“Certainly defendant is not advocating that DOE would implement the program inefficiently and at higher cost.”). Given that the Court in *Yankee Atomic* made those findings even before the Federal Circuit determined the required acceptance rate as a matter of law, for reasons discussed above, the same findings should be even more clear now that the prior uncertainty surrounding that central aspect of DOE’s performance obligation has been conclusively eliminated.

In these circumstances, it is no longer tenable for the Court to simply assume an OFF sequence of acceptance as some sort of default or safe harbor. That is effectively what the Court did in its original opinion, even though the government presented no evidence that DOE would have used an OFF sequence in the non-breach world (and even

though the chronological listing of discharges in DOE documents was never intended, and is not well suited, to be the actual pickup sequence). On remand, the Court should not again simply accept OFF without support. Instead, considering that this Court “does not doubt” that an exchanges market would have developed had DOE performed, 73 Fed. Cl. at 413, the Court should now hear Graves’ testimony concerning the sequence of acceptance in the non-breach world, which will demonstrate – as no other evidence can – how those exchanges would have worked for PG&E.

Graves’ testimony now will be based on a revised expert report and economic model. But we expect that similar to the conclusions outlined in his original expert report, Graves’ testimony on remand will show, based on a reasonable amount of exchanges and not any extreme or even unusual assumptions, that 1) the economic incentives facing PG&E to have its Humboldt Bay spent fuel removed in 1998 would have led PG&E to exchange for sufficient allocations to have DOE in the non-breach world remove all spent fuel from that site in 1998, thus making the 1999 SAFSTOR costs compensable here, and 2) PG&E also would have arranged any exchanges for Diablo Canyon spent fuel that were needed to eliminate any possible question (and PG&E maintains there is none) whether in the non-breach world the spent fuel pools at Diablo Canyon would reach capacity before DOE began making pickups. And contrary to another government argument, but not to the actual evidence, such exchanges would not disadvantage any other utility. As Judge Merow found in *Yankee Atomic*, based on Graves’ testimony and consistent with economic market theory generally, “[t]hese are mutually beneficial exchanges.” 73 Fed. Cl. at 302.

For all these reasons, this Court should reach a different result than its prior ruling excluding Graves' opinion on the sequence of DOE acceptance in the non-breach world, and assess the weight and merit of that opinion after hearing Graves' testimony based on a new expert report, rather than merely on the basis of a government brief asserting that the opinion is speculative.

Finally, as ample evidence showed at the 2006 trial, an efficient market for exchanges would have obviated the need for shutdown priority. *See, e.g.*, TT 501:1-505:8 (Bartlett); PX239. But the logical conclusion of that same evidence is that had there been any difficulty with the development of a market for exchanges in the non-breach world, then DOE would have accorded priority acceptance to spent fuel at shutdown reactors such as Humboldt Bay. No evidence supports the notion that even if exchanges would not have developed, that shutdown priority would not have been accorded if necessary. Indeed, in DOE's Federal Register notice publishing the Standard Contract as a Final Rule, PX48 at 16593, DOE made this point plain by rejecting comments urging it to delete the shutdown priority provision from the contract. DOE explained there that shutdown priority may be necessary in order to prevent shutdown reactors from having to delay decommissioning, potentially for many years. In no event may the distinct shutdown priority provision simply be ignored.

1. Damages Due PG&E On Remand With Exchanges and/or Shutdown Priority

With exchanges and/or shutdown priority, DOE in the non-breach world would have picked up all the Humboldt Bay spent fuel before 1999. As a result, PG&E would have avoided all SAFSTOR costs in 1999, and therefore is entitled to recover those costs as damages together with all the other costs discussed above that PG&E would have

avoided absent the breach even assuming OFF pickups. In addition, exchanges would eliminate any possible question concerning the recoverability – as damages caused by DOE’s breach – of other categories of damages now due to PG&E. The Court should now hear and credit relevant evidence addressing how exchanges would have worked for PG&E, including Graves’ testimony, and award PG&E \$90,623,835. That is the total amount of damages set forth above on p. 29, plus the 1999 Humboldt Bay SAFSTOR damages. This total amount of damages is shown, and broken out by category, on the new, revised version of Table 1 from PX722 that is included in the appendix, A126.

CONCLUSION

For these reasons, the Court should award PG&E \$90,623,835 on remand.

Respectfully submitted,

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/s/

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