UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF LOUISIANA

IN RE: KATRINA CANAL BREACHES CONSOLIDATED LITIGATION	CIVIL ACTION NUMBER: 05-4182 "K"(2) JUDGE DUVAL MAG. WILKINSON
PERTAINS TO: *Robinson* (No. 06-2268)	

PLAINTIFFS' MEMORANDUM OF POINTS AND AUTHORITIES IN OPPOSITION TO DEFENDANT'S MOTION *IN LIMINE* TO BAR INTRODUCTION OF EVIDENCE CONCERNING BREACHES OF THE EAST BANK OF THE IHNC (DOC. NO. 18444)

I. INTRODUCTION

Claiming that Plaintiffs' expert has admitted that the MR-GO did not cause the floodwall breaches on the east side of the IHNC and there are no disputed facts on this issue, Defendant seeks to bar introduction of any evidence about the MR-GO's contribution to their failure. Proceeding from this erroneous assumption, Defendant applies the wrong causation standard under Louisiana law. The motion should be denied.

Aside from being a not too well disguised (and impermissible) summary judgment motion masquerading as an *in limine* motion,[1] this motion is based on a faulty and incomplete reading of only one of Dr. Robert Bea's expert reports. The rest of the Corps' argument is superfluous. Having "proven" that the Corps' MR-GO had nothing to do with the IHNC breach, Defendant then goes on to discuss the difference between the "substantial factor" and "but-for" causation tests. But why? If MRGO had *nothing whatsoever* to do with these breaches the

[1] As set forth in their accompanying Objection to Defendant's Seven Motions In Limine, Plaintiffs incorporate here their objection to this motion on the ground that it is an improper motion for summary judgment.

distinction is meaningless. The issue of the causes of the failure of the LPV system along the east side of the IHNC must be adjudicated at trial.

II. DISPUTED FACTS

The Government argues that Dr. Bea opines that the two breaches that flooded the Lower 9th Ward from the east bank of the IHNC were due solely to excavation activities at the East Bank Industrial Area ("EBIA"), not the MR-GO. Motion at pp. 1-2. In selectively citing Dr. Bea's January 2009 report, the Army Corps apparently conflates the word "primary" for "exclusive." This is what he said in the cited excerpt: "In the absence of the backfilled excavations . . ., the breaches that developed at the Lower Ninth Ward would (probably) not develop in similar ways, locations and times. I conclude the excavations were a *primary factor* in causation of the breaches . . . ." Bea Report at ¶ 17 (emphasis added) cited at Motion at page 2.

Conspicuously, at no time did Dr. Bea opine that the EBIA excavation was the only, or exclusive, factor for both breaches. At no time did he rule out other causes. As the evidence at trial will show, it would have been difficult to rule out entirely the MR-GO as a significant factor in both breaches because of its demonstrated (and largely undisputed) effect on the volume, amplitude, and velocity of the surge in the IHNC.[2]

As demonstrated in their Proposed Findings of Fact and Conclusions of Law, Plaintiffs will offer substantial evidence at trial about the causes for the breaches along the IHNC. *See*

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[2] You cannot compress water—it must go some place. Defendant ignores the expert testimony of Dr. Paul Kemp on the MR-GO's impact on storm surge.

> One thing about surge, and you know, we are dealing with Newtonian physics here, so water is essentially incompressible. So there's no free lunch here. When you prevent surge from going someplace it goes someplace else.

Kemp Deposition of November 27, 2007 at 88:24-89:8 (Attachment "B").

Proposed Findings Nos. 519-531 (attached as Attachment "A"). The surge in the IHNC reached 17.5 feet during Katrina, overwhelming the design elevation (14.8 feet) and actual elevation (2-12.5 feet) of the LPV structures. Plaintiffs' Proposed Findings Nos. 519, 521-22. All of the floodwalls along the IHNC were overtopped. *Id.* at Nos. 523-24.

Why did the surge reach a maximum of 17.5 feet in the IHNC?

Both parties' experts agree that it was the "funnel effect" caused by the MR-GO. Indeed, Defendant's expert (Westerink) attributes 3.5 feet of additional surge in Reach 1/GIWW due to the "funnel effect." *Id.* at No. 414.

Now what caused the failure of the two floodwalls on the IHNC eastern side—the North and South Breaches?

Defendant's experts have concluded that the South Breach —the much larger of the two breaches—was caused (and preceded) by surge water pressure imposed on the LPV structure and overtopping and the resulting erosion of the soil on the protected side of the LPV floodwall. *Id.* at No. 526. Significantly, Dr. Bea agrees with the Defendant's expert that overtopping of the LPV structures was a contributing cause of the South Breach. *Id.* at No. 529. While Dr. Bea also attributes the failure to the EBIA excavation, he unequivocally concludes that the amplified surge caused by the "funnel effect" increased the structure overtopping intensities and devastation, thereby increasing the protected (back) side erosion and instability. *Id.* at No. 528. In short, Dr. Bea concludes—in two expert reports not cited by Defendant—that the overtopping of this LPV floodwall at the [South Breach] was caused in part by the incremental three feet of

surge caused by the "funnel effect" and was a contributing cause of the South Breach. *Id.* at 527.[3]

Finally, the Government's motion fails to acknowledge the primary source of the floodwaters that inundated the Lower 9th Ward. It is undisputed that the North and South Breaches are largely irrelevant to the catastrophic flooding of the Lower 9th Ward. Experts for both sides concur that the floodwaters emanating from Reach 2—speeding across the Central Wetlands Unit, over the 40 Arpent Canal Levee, and across all of upper St. Bernard Parish and Lower 9th Ward—caused the catastrophic flooding of the Lower 9th Ward. *Id.* at Nos. 563-65, 569-71. Indeed, Steven Fitzgerald opined for the Government that only a relatively small percentage of the total volume came from the North and South Breach—most of the remaining (and catastrophic) floodwaters came from Reach 2. *Id.* at Nos. 569-70.[4]

Factually, the Government's entire argument is a house of cards based on a flawed premise and incomplete recitation of the evidence.

III. "BUT FOR" CAUSATION DOES NOT APPLY TO THIS CASE

It should be preliminarily noted that the Government previously moved for partial summary judgment on the issue of causation. It specifically argued for "but-for" causation. *See* Causation Memorandum (Doc. No. 15371-2) at p. 9; Causation Reply Memorandum (Doc. No.

[3] Dr. Bea and Defendant's experts have different opinions on the causes of the smaller North Breach. While they agree that the North Breach developed before overtopping (*id.* at No. 532), Dr. Bea points to the EBIA excavation while Defendant's experts focus on lateral instability due to surge water pressure imposed on the LPV structure and the reduced cross section of the LPV structure at this location before overtopping. *Id.* at No. 530. This factual dispute must be resolved at trial.

[4]Steven Fitzgerald also admits that the North and South breaches had only a local effect on the time of onset of flooding in the Lower 9th Ward, and the maximum water levels in the St. Bernard Polder (including the Lower 9th Ward) was determined exclusively by flooding from Reach 2. *Id.* at No. 569.

16457) at pp. 13-28. The Government lost. It is now seeking a second bite of the apple. But countless courts from around the country consistently hold that a motion *in limine* cannot be used as a substitute for a motion for summary judgment because it dispenses with the procedural safeguards of the former and is not meant to serve as a vehicle for determining disputed facts. *See*, concurrently filed Objection to Defendant's Seven Motions in Limine. Likewise, there is no basis for the Court to reconsider its prior ruling. *Id.*

To the extent there was any ambiguity in Louisiana as to whether "but-for" causation applies in concurrent causation torts (which there was not), it was definitively resolved by the Louisiana Supreme Court in 2001 in and again in 2004. The answer is: the but for test does not apply in a case like this one.

In *Perkins v. Entergy Corp,* 782 So.2d 606 (La. 2001), employees were injured in a flash fire. They sued, among others, a utility company because of a disturbance in power. They lost because they were unable to prove that the power outage was a "substantial factor" in causing their damages. The Louisiana Supreme Court made clear that in cases of multiple causes, the "but for" test does not apply:

> The plaintiffs argue that the court of appeal erroneously required the plaintiffs to satisfy both the "but for" test and the "substantial factor" test, when it should have only asked if the accident would not have occurred but for the defendants' negligence, because the "substantial factor" test is only an alternative test to be applied when the "but for" test is impractical. However, *our case law is clear that the substantial factor test is the preferred test when there are multiple causes* . . . .

782 So.2d at 612 n.4 (emphasis added).

Three years later, in *Bonin v. Ferrellgas, Inc.*, 877 So.2d 89 (La. 2004), the Louisiana Supreme Court once again specifically rejected the "but for" test. Consistent with *Perkins,* it applied a straight forward "substantial factor" test because there were multiple causes:

> Cause-in-fact is generally a "but for" inquiry … However, where there are concurrent causes of an accident, the proper inquiry is whether the conduct in question was a substantial factor in bringing about this accident.

877 So.2d at 94.

Two years after the decision in *Bonin*, a Louisiana court of appeal reaffirmed the validity of that case and *Perkins* in *Chaisson v. Avondale Indust., Inc.*, 947 So.2d 171, 187-8 (La. App. 2006) when it held that in determining whether an incident or act was a "substantial factor," the Louisiana Supreme Court has analyzed whether:

> Each of the multiple causes played so important a role in producing the result that responsibility should be imposed upon each item of conduct, *even if it cannot be said definitively that the harm would not have occurred 'but for' each individual cause.*

Ibid. (emphasis added).

This is consistent with the Fifth Circuit's interpretation of Louisiana law. In *In re Manguno*, 961 F.2d 533 (5th Cir. 1992), the plaintiffs contracted lung cancer and sued the manufacturer of the asbestos to which they were exposed. The plaintiffs all were smokers. They did not sue the tobacco manufacturers. The expert testimony at trial indicated that asbestos was a "substantial contributing factor" to contracting cancer, although tobacco could not be ruled out as a cause. The theory of the case was that asbestos and cigarettes were concurrent causes of the cancer. The question was whether the asbestos manufacturer could be liable for the plaintiffs' damages. The trial court instructed the jury that asbestos had to be a "but-for" cause of the cancer. The jury found for the manufacturer.

The Fifth Circuit reversed, finding the "but-for" instruction to be in error. The court noted that prior precedent "made manifest that a 'but for' definition of causation is inappropriate for a concurrent cause Louisiana tort action" and that "[T]here can be more than one cause in

fact…." *Id.* at 535 (internal cites omitted). The court concluded that the plaintiff did not have to prove "that the defendant alone would have caused the harm." *Id.*

The seven cases cited by the Government in its brief either support Plaintiffs' contention that "but-for" causation is not applicable, or they were decided before the Louisiana Supreme Court's 2001 decision .. Four cases were decided prior to 2001. The first of those cases was decided forty-seven years ago, *Dixie Drive it Yourself Syst. v. American Beverage Co.,* 137 So.2d 298 (La. 1962) applied the "substantial factor" test to an automobile collision, but in *dicta* mentioned that if the accident would have happened anyway, then there would not have been a "substantial factor" cause. Obviously, this case was essentially overruled four decades later in *Perkins* and again in *Bonin.*

Lejune v. Allstate Ins. Co., 365 So.2d 471 (La. 1978) was decided twenty-three years before *Perkins* and is somewhat ambiguous in its holding. It also applied the "substantial factor" test, noting that the trial court improperly applied the "but-for" test. 365 So.2d at 476. In imposing liability the court seemingly rejected the "but for" test when it specifically found that "the accident might possibly happened anyway if one of the actors was negligent, but it is equally true that the accident might not have happened except for the negligence of each of the three parties…." *Id.* at 476-7. But like *Dixie Drive* it muddied the waters by saying that "substantial factor" is similar to "but-for." *Id.* at 477.

The two remaining pre-*Perkins* cases cited by the Government actually support Plaintiffs' position. *Fowler v. Roberts,* 556 So.2d 1 (La. 1990) involved a three car collision. The court did not address a "but for" issue but did note in a footnote: "Another technique for determining cause-in-fact is the "substantial factor" inquiry, which is useful when the combined active conduct of two separate parties operates to cause the harm." *Id*. at 5, n.6.

Similarly, in *Roberts v. Benoit,* 605 So.2d 1032 (La. 1992) the court applied the "substantial factor" test, and seemingly dismissed the "but for" test (without using those words) when it concluded that liability should be imposed because the defendant "had something to do with—was a cause-in-fact of—plaintiff's injuries." *Id.* at 1042.

Of course, to the extent there was ambiguity in the case law, it was definitively clarified in *Perkins* in 2001. The three post-*Perkins* cases cited by the Government do not change this. As noted, in *Bonin v. Ferrellgas, supra* the Louisiana Supreme Court once again specifically rejected the "but for" test and applied the "substantial factor" test in a concurrent cause context. In the second post-*Perkins* case (*Long v. State*, 916 So.2d 87 (La. 2005))the majority opinion *did not concern causation whatsoever.* The page cite the Government references in its motion concerns *dicta* in the dissent! Finally, *Thibodeaux v. Asbestos Corp. Ltd.*, 976 So.2d 859 (La. App. 2008) is an appellate court decision that turns on the vagaries of asbestos litigation law. It too applies the "substantial factor" test but like some of the pre-*Perkins* case law, it uses ambiguous language. Of course, to the extent it is inconsistent with *Perkins* and *Bonin* the latter govern because they are opinions of the Louisiana Supreme Court.

As the evidence summarized above demonstrates, there were potentially several reasons for the breaching of the east bank of the IHNC other than EBIA excavation, including the "funnel effect" created by the MR-GO, overtopping, and resulting soil erosion. It is clear that in Louisiana, where the evidence shows that potentially more than one cause can be associated with the harm, *i.e.*, concurrent causes, , the "but for" test has been repeatedly rejected.

The Court should put to rest once and for all the Government's unsubstantiated reliance on the but for test in this case.

IV. CONCLUSION

For the foregoing reasons, the Corps motion should be denied.

Dated: April 7, 2009

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Pierce O'Donnell, hereby certify that on April 7, 2009, I caused to be served **PLAINTIFFS' MEMORANDUM OF POINTS AND AUTHORITIES IN OPPOSITION TO DEFENDANT'S MOTION *IN LIMINE* TO BAR INTRODUCTION OF EVIDENCE CONCERNING BREACHES OF THE EAST BANK OF THE IHNC (DOC. NO. 18444)** upon Defendants' counsel, Robin D. Smith, George Carter, Keith Liddle, and Richard Stone by ECF and email at robin.doyle.smith@usdoj.gov; george.carter@usdoj.gov, keith.liddle@usdoj.gov, and richard.stone@usdoj.gov.

/s/ Pierce O'Donnell

517. Early failure of the LPV structures along Reach 2 allowed the 32,000 acre wetland buffer between the MR-GO and 40 Arpent Canal Back Levee (Central Wetlands Unit) to fill and overtop the 40 Arpent Canal Back Levee while the surge was still rising, resulting in catastrophic flooding in St. Bernard Parish to an elevation of at least 11 feet (NAVD88) as well as catastrophic flooding in the Lower 9th Ward. Exh. 81, Bea Expert Report (Jan. 2009) at p. 15, ¶13; Exh. 83, Bea Technical Report I (Jan. 2009) at p. 11; Exh. 4, Team Louisiana Report at p. v.

518. Overtopping of resilient Reach 2 LPV structures at the design level (MSL) would have delivered only about half of the volume necessary to fill the 32,000 acre wetland (Central Wetlands Unit) behind, and initiate overtopping of, the local 40 Arpent Canal Back Levee. Had these LPV structures failed at a later stage in the surge hydrograph, or failed less completely, the storage capacity of the Central Wetlands Unit would likely have absorbed the discharge across the LPV structure alignment for long enough to save Chalmette and the rest of St. Bernard Parish and Lower 9th Ward from the disastrous flooding that occurred across the local 40 Arpent Canal Back Levee. Exh. 4, Team Louisiana Report at p. 135; Exh. 91 Kemp Expert Report (July 2008) at pp. 63, 66, 146.

IHNC

519. The maximum surge height in the IHNC was 17.5 feet during Hurricane Katrina as shown in the "Katrina As Was" conditions (Scenario 1). Exh. 90, Bea Supp. Decl. (Oct. 2008) at p. 17, Table 1.

520. Under the "Neutral MR-GO" conditions (Scenario 2C), the maximum surge height in the IHNC would have been 14.5 feet—three feet lower than the actual maximum surge height during Hurricane Katrina. Exh. 90, Bea Supp. Decl. (Oct. 2008) at p. 17, Table 1.

521. The design elevation of the LPV structures along the IHNC was 14.8 feet. Exh. 73, Bea Expert Decl. II (July 2008) at p. 28.

522. The actual elevation of the LPV structures along the IHNC was between 12-12.5 feet during Hurricane Katrina. Exh. 90, Bea Supp. Decl. (Oct. 2008) at p. 17, Table 1.

523. All of the LPV structure reaches exposed to the Lake Borgne surge system, including those along the IHNC, experienced overtopping. If the IHNC LPV structures had been at the design elevation, they should have experienced less than 1 foot of overtopping at peak surge, rather than the 1.5 to 3.0 feet that occurred. This would have prevented some of the breaches and transition failures. Exh. 4, Team Louisiana Report at pp. 133-34.

524. Overtopping of the LPV system by Katrina occurred along nearly all portions of the IHNC. There were four breaches in the protection system, two on the east side and two on the west side. The east side breaches are both located in the Lower 9th Ward neighborhood and the west side breaches are both in the vicinity of France Road and Benefit Street. Exh. 20, IPET at p. III-439.

525. Defendant's experts have concluded that the failure of the LPV floodwall at the southern end of the east side of the IHNC ("South Beach")—the larger of the two breaches—was caused (and preceded) by surge water pressure imposed on the LPV structure and overtopping and the resulting erosion of the soil on the protected side of the LPV floodwall. Exh. 81, Bea Expert Report, Summary (Jan. 2009) at pp. 27-28.

526. The South Breach developed at a water level of 12 to 14 feet. Exh. 74, Bea Expert Decl. III (July 2008) at p. 148, ¶141.

527. The overtopping of this LPV floodwall at the southern end of the east side was caused in part by the incremental three feet of surge caused by the "funnel effect," and was a

contributing cause of the South Breach. Exh. 72, Bea Expert Decl. No. II (July 2008) at p. 15, ¶25; Exh. 81, Bea Expert Decl. (Jan. 2009) at p. 6, ¶7.

528. The South Breach developed from a combination of causes, including seepage and hydraulic uplift effects caused by the EBIA site during excavation and backfilling work and amplified surge in the IHNC caused by the "funnel effect" which increased LPV structure overtopping intensities and devastation, thereby increasing the protected (back) side erosion. Exh. 81, Bea Expert Report (Jan. 2009) at pp. 28, ¶29.

529. Both parties' experts therefore agree that overtopping of the LPV structures was a contributing cause of the South Breach. Exh. 82, Bea Expert Decl. (Jan. 2009) at p. 105, ¶147.

530. Defendant's experts have concluded that the failure of the LPV floodwall at the northern end of the east side of the IHNC ("North Beach") developed very early during the morning of August 29th as a result of lateral instability due to surge water pressure imposed on the LPV structure and the reduced cross section of the LPV structure at this location before overtopping. Exh. 82, Bea Expert Decl. (Jan. 2009) at p. 104, ¶146.

531. The North Breach developed at a water level of approximately 9 feet. Exh. 73, Bea Expert Decl. II (July 2008), at p. 99, ¶107.

532. Both Plaintiffs' and Defendant's experts agree that the North Breach developed before overtopping. Exh. 82, Bea Expert Decl. (Jan. 2009) at p. 104, ¶146.

40 Arpent Canal Levee

533. The storm surges produced by Hurricane Katrina passed over the Reach 2 LPV structure into the Central Wetlands Unit, then filled up the bowl, overtopped the 40 Arpent Canal Levee, and catastrophically flooded the St. Bernard/Lower 9th Ward polder. Exh. 20, IPET at p. IV-258.

Team Louisiana Report at pp. 71-72, Figure 19; Exh. 20, IPET, p. IV-190-93; Exh. 91, Kemp Expert Report (July 2008) at pp. 15, 38; Exh. 74, Bea Expert Decl. III (July 2008) at p. 14, ¶23; p. 152, Table 5.

559. Breaches along Reach1/GIWW affecting the residential areas of New Orleans East were much less extensive than those affecting the MR-GO LPV structures on the south side of the funnel. As a result, most flooding was caused by overtopping that stopped once surge levels dropped. Exh. 4, Team Louisiana Report at pp. 71-72; Exh. 20, IPET at p. IV-190-93.

560. The water level in New Orleans East initially got to +1.5 ft in some residential areas close to sources of overtopping, and higher in the industrial land to the south, and in the Bayou Sauvage marsh to the east. Exh. 4, Team Louisiana Report at pp. 71-72; Exh. 20, IPET at p. IV-190-93.

561. The overtopping of Reach 1/GIWW began at about 6 a.m. and subsided around midnight on August 30, 2005 when the peak surge receded. Exh. 105, Vrijling Polder Flood Simulations (July 2008) at pp. 17-19.

562. Once the surge abated on the Reach 1/GIWW and the IHNC, the surge water that had entered New Orleans East then spread out, dropping in some areas and rising in others until it reached equilibrium more than a foot below mean sea level. Because Little Woods is so low, however, with many homes between 8 and 12 feet below sea level, even flooding to this modest elevation had catastrophic consequences. Exh. 4, Team Louisiana Report at pp. 71-72; Exh. 20, IPET at p. IV-190-93.

Lower 9th Ward

563. The floodwaters that catastrophically inundated the Lower 9th Ward—and the property of Plaintiffs Anthony and Lucile Franz—came from three sources:

(a) water in the Reach 2 channel that overtopped and breached the Reach 2 LPV structures, filled the Central Wetlands Unit, passed over the 40 Aprent Canal Levee, and poured into St. Bernard Parish and the Lower 9th Ward;

(b) water in the IHNC that overtopped and breached the LPV structures at the North Breach and South Breaches on the eastern side; and

(c) water from overtopping of the southern side of Reach 1/GIWW.

Exh. 105, Vrijling Polder Flood Simulations (July 2008) at pp. 25-28; Exh. 91, Kemp Expert Report (July 2008) at pp. 3, 15-16.

564. The St. Bernard polder (bowl) is one single area—with a minor, very low divider at the railroad tracks—that includes upper St. Bernard Parish and the Lower 9th Ward. By 8:30 a.m. on August 29th, water was overflowing the 40 Arpent Canal Levee and inundating areas both east and west of this divider. Trial testimony of Glenn Diaz; Trial testimony of Donald Riley.

565. Water entering the St. Bernard polder from the east—originating in Reach 2 and then filling up the Central Wetlands, and then overflowing the 40th Arpent Canal Levee—was distributed throughout upper St. Bernard Parish and the Lower 9th Ward. Exh. 105, Vrijling Polder Flood Simulations (July 2008) at pp. 25-28; Exh. 91, Kemp Expert Report (July 2008) at pp. 3, 15-16.

566. Some of the flooding of the Lower 9th Ward was also caused by the waters overflowing the flood protection works on the east side of the IHNC and two breaches of flood protection works on the east side and some overtopping of LPV structures. The South Breach was the largest—nearly 900 feet in length. Overtopping and scouring occurred at both ends of the breach. Exh. 28, Dalrymple Depo. (Sept. 18, 2007) at 138:7-139:9; Exh. 105, Vrijling Polder

Flood Simulations (July 2008) at pp. 25-28; Exh. 20, IPET at p. IV-200; Exh. 73, Bea Expert Decl. II (July 2008) at p. 15, ¶25.

567. The North Breach occurred at about 7:30 am on August 29th and flooding lasted until after August 30, 2005 when the surge receded. Exh. 105, Vrijling Polder Flood Simulations (July 2008) at pp. 25-28.

568. The South Breach occurred at about 9:00 a.m. on August 29th and flooding lasted until after August 30, 2005 when the surge receded. Exh. 105, Vrijling Polder Flood Simulations (July 2008) at pp. 25-28.

569. While the North and South Breaches had a local effect on the time of onset of flooding in Lower 9th Ward which was earlier than flooding from Reach 1 and Reach 2, the maximum water levels in the St. Bernard Polder (including the Lower 9th Ward) was determined exclusively by flooding from Reach 2. In other words, the catastrophic flooding of the Lower 9th Ward was caused by floodwaters originating in Reach 2. Steven Fitzgerald Expert Report (Dec. 2008) (Defendant's Expert) at p. 20.

570. With respect to sources of flooding of the Lower 9th Ward, only a relatively small percentage of the total volume came from the North and South Breaches along the IHNC. Most of the remaining floodwaters came from Reach 2, with some minor contribution from Reach 1. Exh. 4, Team Louisiana Report at p. 80; Steven Fitzgerald Expert Report (Dec. 2008) (Defendant's Expert) at p. 20.

571. Without the IHNC breaches, almost the same volume of floodwater enters the populated area of the St. Bernard bowl—upper St. Bernard Parish and Lower 9th Ward—compared with the scenario of MR-GO breaches plus overtopping plus rain. Without the IHNC breaches, it takes a little longer in the western part of bowl to reach the peak water level, but the

UNITED STATES DISTRICT COURT

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PERTAINS TO:	MAG. WILKINSON
Robinson, No. 06-2286	

Deposition of G. PAUL KEMP, PH.D., given at the offices of Lambert & Nelson, P.L.C., 701 Magazine Street, New Orleans, Louisiana 70130, on November 27th, 2007.

REPORTED BY:

JOSEPH A. FAIRBANKS, JR., CCR, RPR

CERTIFIED COURT REPORTER #75005

in New Orleans East suggested in 1965. It's essential the same design. And what it shows is that then the area in the apex of the funnel and in these connecting channels, the IHNC and what IPET has called MRGO Reach 1 are then controlled by lake levels -- Lake Pontchartrain levels rather than Lake Borgne levels. Okay? So this was an example of showing, um -- some of the ways that the MRGO and what kind of closure would really be required. And most of that is in response to the congressional interest in the closure plan, trying to look at the --

Okay. This is Appendix 4, Closing New Orleans Back Door, a Plan to Reduce Consequences of the Mississippi River Gulf Outlet and Improve Flood Protection. I believe this was probably submitted as part of, um -- testimony to Congress. I'm not sure.

EXAMINATION BY MR. SMITH:

Q. When it says, looking at the subtext below Figure A4.9 --

A. Yes.

Q. It says that peak surge in the southeastern part of the MRGO levee is raised

about two feet, though it is greatly reduced elsewhere. What's that referring to?

A. Okay. One thing about surge, and, you know, we are dealing with Newtonian physics here, so water is essentially incompressible. So there's no free lunch here. When you prevent surge from going someplace it goes someplace else. And in this case, it piles up on that, um -- connecting levee, that structure that has been created -- fictional structure.

MR. O'DONNELL:

As shown on Figure A4.8?

A. Yes. That's correct. A4.8. And you can see actually you have this yellow color which is indicative of much higher surge, on the order of 19 feet or so, is actually occurring now out midway out the MRGO Reach 2 as opposed to in the apex of the funnel where it occurred during Katrina.

EXAMINATION BY MR. SMITH:

Q. In fact, during Katrina it didn't actually occur in the apex of the funnel, did it?

A. Actually, the maximum elevation occurred on south shore. There were -- you