

United States Army Corps of Engineers (“Corps”) vessel; and (iii) the M/V Creve Coeur, another Corps vessel.¹

Ingram and IMS both filed a complaint in admiralty for exoneration from or limitation of liability in connection with this incident, under 46 U.S.C. § 30501, *et seq.* (R.1; R.1, 13-cv-04292).² The United States filed a claim in both limitation actions for damages to the Marseilles Dam and related structures, alleging violations of the Rivers and Harbors Act (“RHA”), negligence and unseaworthiness under the general maritime law, and the creation of a public nuisance. (R.129; R.333, 13-cv-04292).³ Ingram and IMS, in turn, filed counterclaims and Rule 14(c) tenders against the United States, alleging, among other theories, negligent conduct on the part of the Corps employee responsible for dam gate movements at the Marseilles Lock and Dam facility. (R.165, R.373; R.357, 13-cv-04292). Numerous claimants—including two groups of individual property owners (“Individual Claimants”), the City of Marseilles, and Marseilles Elementary School District #150 (“MESD”) (collectively, the “Flood Claimants”)—also filed general maritime claims against Ingram, IMS, and the United States for their resulting property damage.

On July 13, 2016, the Court granted the United States’ motion for immunity from tort liability under the discretionary function exception. (R.835). In September 2016, the Court dismissed all claims, counterclaims, and Rule 14(c) tenders between the United States and IMS, and the United States and Ingram, pursuant to stipulations of dismissal with prejudice. (R.879; R.888). The Court further dismissed, with prejudice, the Flood Claimants’ pending claims

¹ Other vessels, including the M/V City of Joliet, the M/V Cody Boyd, and the Nancy S. provided additional assistance to the Dale Heller throughout April 17-18, 2013.

² The Court later consolidated the two limitation actions and all related actions.

³ The Court later dismissed the United States’ *in personam* claims under RHA § 408, as well as its general unseaworthiness claim against IMS. (R.602, R.620, R.744).

against the United States. (R.899). In addition, the Court dismissed the City of Marseille’s claim against Ingram, MESD’s claim against Ingram, and MESD’s claim against IMS, all pursuant to stipulations of dismissal with prejudice. (R.889; R.898).⁴ One group of Individual Claimants also settled with and dismissed their claims against Ingram within the first week of trial. (R.905).⁵

The remaining parties—the second group of Individual Claimants and Ingram—tried their claims and defenses before the Court in a 10-day bench trial.⁶ The Court heard live trial testimony from eighteen fact and expert witnesses, and reviewed numerous deposition designations of both party and non-party witnesses.⁷ In addition, the Court weighed substantial documentary and audio-visual evidence collected from the incident – including, among other evidence: (i) contemporaneous audio recordings from the Dale Heller’s wheelhouse throughout April 16-18, 2013, as captured by its Vessel Data Recorder (“VDR”);⁸ and (ii) contemporaneous visual footage of the Dale Heller’s attempted transit on April 18, 2013, as captured by three Corps cameras positioned around the Marseilles Dam. In trying this case, Claimants primarily focused on two areas of purported negligence: (i) Ingram’s failure to heed weather conditions throughout April 16-18, 2013; and (ii) Ingram’s insufficient planning and ineffective communications leading up to and during the attempted canal transit.

⁴ The Flood Claimants and IMS had previously represented to the Court that they had reached a collective settlement of their claims. (R.831 (reflecting June 30, 2016 status hearing); *see also* R.927, R.923, R.939, R.940 (dismissing individual claims against IMS)).

⁵ The Court thanks Judge Rebecca Pallmeyer for her efforts to try and settle these claims during trial.

⁶ The Court hereinafter refers to the second group of Individual Claimants as “Claimants,” and excludes those individuals who dismissed their claims against Ingram after the trial concluded. (R.939, R.940).

⁷ The Court also reviewed and weighed any counter-designations and/or evidentiary objections for each designated witness.

⁸ The VDR captured not only ambient conversations among the Dale Heller’s vessel crew, but also marine radio transmissions between, for example, the Dale Heller and the Loyd Murphy.

This Memorandum Opinion and Order sets forth the Court’s findings of fact and conclusions of law pursuant to Federal Rule of Civil Procedure 52. After considering the admissible evidence, and upon assessing the credibility of each witness, the Court finds as follows with respect to “Phase One” of this admiralty action:

1. The *Oregon* Rule does not apply to presume fault against Ingram because there is no “factual vacuum” in the record meriting its application. *See City of Chicago v. M/V Morgan*, 375 F.3d 563, 572-73 (7th Cir. 2004). The *Pennsylvania* Rule also does not apply because Claimants have failed to prove a regulatory violation. *See Folkstone Mar., Ltd. v. CSX Corp.*, 64 F.3d 1037, 1046-47 (7th Cir. 1995).
2. Claimants have not established Ingram’s negligence under the general maritime law by a preponderance of the evidence. *See M/V Morgan*, 375 F.3d at 572-73.
3. Even presuming fault under the *Oregon* Rule, Ingram has exonerated itself from liability by proving that the allision was the sole fault of the operator at the dam. *See M/V Morgan*, 375 F.3d at 574. The Court does not need to reach the application of (i) the “inevitable accident” doctrine, or (ii) the *in extremis* doctrine. *See id.* at 575-77.
4. Even if the Court had found contributory fault on the part of Ingram, Ingram is entitled to limit its liability pursuant to the Limitation of Liability Act, 46 U.S.C. § 30505. Ingram’s operational decision to proceed southbound throughout April 16-17, 2013, to reject alternative mooring positions on April 18, 2013, and, ultimately, to attempt and execute the transit plan—even if a proximate cause of the allision—was not within the “privity or knowledge” of Ingram’s managerial shoreside personnel. *See Am. River Transp. Co. v. Ryan*, 579 F.3d 820, 822 (7th Cir. 2009).
5. Even if it had found contributory fault on the part of Ingram, the Court finds no fault on the part of IMS. *See McDermott, Inc. v. AmClyde*, 511 U.S. 202, 217 (1994).

BACKGROUND

I. The Players

A. Ingram Barge Company

1. Vessel Crew

Ingram is a for-hire river carrier, operating more than 150 towboats and nearly 5,000 hopper and tank barges on the inland rivers of the United States, including the Mississippi, Ohio, Illinois, Tennessee, and Cumberland Rivers. (R.846-1, Stmt. of Uncontested Facts ¶ 32). In

April 2013, Ingram owned and operated the 6,120 horsepower-rated Dale Heller, as well as Barges IB9525, IN025300, IN085089, IN095041, IN096081, IN107057, and IN117513. (*Id.* ¶¶ 1, 33). Charles White (“White”) captained the Dale Heller, and Ronald Shrader (“Shrader”) piloted it. (*Id.* ¶¶ 34-37).⁹ Both Captain White and Pilot Shrader testified at the trial.

Captain White began his career in the inland river industry at age 21, starting out as a deckhand with the Ohio River Company. (09/28 White Tr. at 770-73). In 1977, he obtained his towboat pilot’s license and, eventually, merited a First-Class Pilot’s License and a Master of Towing Vessels License for the Western Rivers, which he held in April 2013 and which the Coast Guard has never revoked or suspended. (*Id.* at 773-74, 777-78). He has been a captain and pilot on the Illinois River for roughly 25 years, and—throughout that career— has transited past the Marseilles Lock and Dam “between a thousand and two thousand” times. (*Id.* at 774-75). He has worked on the Dale Heller—originally known as the Olmstead—for approximately 35 years, and became its captain “roughly 12 years ago.” (*Id.* at 776-77).¹⁰ After Captain White retired two years ago, Pilot Shrader became the captain of the Dale Heller. (*Id.* at 770; 10/03 Shrader Tr. at 1317-18). Pilot Shrader, like Captain White, has extensive experience in inland towing operations, having worked in the industry for 31 years, including 20 years as a pilot. (10/03 Shrader Tr. at 1318-19). He holds a Master of Towing Vessels License for the Western Rivers, and has transited into the Marseilles Canal more than 100 times. (*Id.*).

According to Claimants’ maritime expert, Captain Donald Kinsey, “the mariners who operate on the upper rivers [such as the Illinois River] are the ‘elite’ of the inland mariners.” (TREX 2221, Kinsey Expert Rep. at 4). Captain Kinsey further testified that the Dale Heller’s

⁹ Captain White’s regular watches aboard the Dale Heller were 5:00-11:00AM and 5:00-11:00PM, while Pilot Shrader’s were 11:00AM to 5:00PM and 11:00PM to 5:00AM. (*Id.*).

¹⁰ The Olmstead was an Ohio River Company vessel. Ingram acquired the Ohio River Company, and its vessels, during the course of Captain White’s career. (*Id.* at 771, 776-77).

crew on April 18, 2013, was “properly licensed, trained, and experienced,” that Ingram’s policy and procedures manual was “very comprehensive,” and that the Dale Heller itself was “very well-equipped, modern and very powerful,” with “the latest available technological aids . . . far in excess of any statutory requirements.” (*Id.* at 28; 09/22 Kinsey Tr. at 330-32, 326-27).

Captain Kinsey—a lead auditor for the national Responsible Carrier Program (“RCP”)—testified that the Dale Heller, its crew, and its governing safety procedures were certified as RCP-compliant at the time of the allision. (09/22 Kinsey Tr. at 326-330). Ingram’s expert in inland towboat operations—Captain Samuel Schropp (“Schropp”)—testified to the same effect at trial. (10/05 Schropp Tr. at 1619-23).¹¹ Captain Schropp further opined that the Dale Heller’s tow was “staunch and tight, and . . . built appropriately for the prevailing circumstances” on April 18, 2013. (*Id.* at 1626). The Court also heard testimony from Ingram’s Chief Engineer onboard the Dale Heller at the time of the allision—Justin McNees (“McNees”)—who confirmed that the Dale Heller had no mechanical issues throughout April 17-18, 2013. (09/29 McNees Tr. at 1016-17, 1020-21). Claimants do not contest the seaworthiness of the Dale Heller or the staunchness of its tow at the time of the allision.¹²

2. Shoreside Personnel

Ingram’s shoreside personnel included two teams: (1) a customer service team responsible for coordinating barge deliveries between vessel crews and customers; and (2) an operations team responsible for overseeing towboat operations such as the Dale Heller’s. (09/29 Moore Tr. at 1031-32, 1055). From the customer service side, Adrienne Moore (“Moore”),

¹¹ Captain Schropp further opined that Ingram’s policy and procedure and safety manuals “meet or exceed” those of other inland towing companies, based on his review of said manuals throughout his tenure as a trip pilot for various companies. (*Id.* at 1614-15, 1620). Given Claimants’ failure to renew their *Daubert* objection as to this opinion—or to otherwise demonstrate prejudice by the non-production of these manuals—the Court admits this opinion. (R.859, Memorandum Opinion and Order at 9).

¹² Claimants do question the propriety of configuring the tow to have a “notch” at its head, but they have failed to submit any evidence that this configuration was unreasonable. *See* discussion *infra*.

Ingram's General Manager for Customer Service, and Carissa Koeller ("Koeller"), an Ingram barge dispatcher, testified at the trial. The Court also reviewed the deposition designation of Gary Holt ("Holt"), who supervised Moore and Koeller. Both Moore and Koeller testified that they were not responsible for the vessels' navigational decisions or for the dissemination of weather information to vessel crews. (09/29 Moore Tr. at 1032, 1034; 09/29 Koeller Tr. at 1063, 1066).

On the operational side, Ed Henleben ("Henleben") testified at the trial. For the last twelve years, Henleben has served as a Senior Manager of Vessel Operations (also known as a "port captain") at Ingram, the Dale Heller being one of the vessels in his area of responsibility. (R.846-1, Stmt. of Uncontested Facts ¶ 38; 10/04 Henleben Tr. at 1427). Prior to joining Ingram's operations team, Henleben worked as a port captain for other marine transportation companies. (10/04 Henleben Tr. at 1429). He also piloted river towboats as a licensed mariner for approximately 15 years and became "very familiar" with the Marseilles Lock and Dam. (*Id.* at 1428-29). Henleben described his port captain responsibilities as "assisting the captain and pilot or any other crew member with any . . . issues that they might have," including with respect to fuel and supplies. (*Id.* at 1430). He also "assist[s] other people" to ensure that vessel crews "have adequate information regarding the weather." (*Id.* at 1488-89). In terms of navigation issues, Henleben testified that, while he "sometimes serves as a sounding board" for vessel crews, the captain or pilot "has the final say over his flotilla." (*Id.* at 1430, 1435). In April 2013, Henleben's supervisor was John Operle, Ingram's Vice President of Operations. (R.846-1, Stmt. of Uncontested Facts ¶ 39).¹³ A fellow Ingram port captain, Thomas More ("More"), also testified at the trial. (09/30 More Tr. at 1096).

¹³ Claimants withdrew their designations of the Operle deposition testimony. (R.882, R.890).

3. Other Ingram Designees

In rendering its factual findings and conclusions of law, the Court also reviewed the deposition designations of: (i) Glen Dotts (“Dotts”), Ingram’s Assistant Vice President of Customer Service who circulated weather information to select Ingram personnel; (ii) Robert Taylor (“Taylor”), Ingram’s Senior Manager of Vessel Operations, who forwarded Dotts’ weather information to vessel crews; and (iii) Sam Guge (“Guge”), an Ingram deckhand who was aboard the Dale Heller on April 18, 2013.

B. Inland Marine Service

IMS is a vessel management company, which staffs, manages, and navigates vessels for its clients, including American Commercial Lines, LLC (“ACL”). (R.846-1, Stmt. of Uncontested Facts ¶ 40). In April 2013, ACL owned the 6,100 horsepower-rated Loyd Murphy, while IMS was its bareboat charterer, operator, and owner *pro hac vice*. (*Id.* ¶¶ 2-3, 41). ACL is no longer a party to this litigation. (R.674).

IMS employee Anthony Ice (“Ice”) captained the Loyd Murphy, while Jackie Daniel (“Daniel”) piloted it. (R.846-1, Stmt. of Uncontested Facts ¶¶ 42-43). Captain Ice—who testified at the trial—holds a Master of Towing Vessels License for the Western Rivers and has 24 years of experience navigating towboats and barges on the Illinois River. (10/03 Ice Tr. at 1181-83).

In rendering its factual findings and conclusions of law, the Court also reviewed the deposition designations of: (i) Daniel; (ii) David Hammond, Jr. (“Hammond”), the President of IMS; and (iii) Harold Dodd (“Dodd”), ACL’s Director of River Operations.

C. The Army Corps of Engineers

1. The Marseilles Lock and Dam

In April 2013, the United States of America, through its agency, the Corps, operated and maintained the Marseilles Lock and Dam and the Marseilles Canal. (R.846-1, Stmt. of Uncontested Facts ¶ 5). Larry Rodriguez (“Rodriguez”) was the Lockmaster at the Marseilles Lock and Dam in April 2013, and was in the lockhouse during the Dale Heller’s attempted transit into the Marseilles Canal. (*Id.* ¶ 17). As Lockmaster, Rodriguez was the top-ranking Corps manager at the Marseilles facility on April 18, 2013. He had worked at the Marseilles Lock and Dam for 27 years prior to this incident. (09/28 Rodriguez Tr. at 622-23). Assistant Lockmaster Floyd Smith (“Smith”) was also in the lockhouse during the attempted transit. (R.846-1, Stmt. of Uncontested Facts ¶ 18).

Rodriguez’s direct supervisor was Craig Hess (“Hess”), the Corps’ Chief of Locks and Dams for the Illinois Waterway in April 2013. (*Id.* ¶ 21). Hess reported to Michael Zerbonia (“Zerbonia”), the Acting Project Manager for the Illinois Waterway. (*Id.* ¶ 20). Zerbonia, in turn, reported to Michael Cox (“Cox”), the Chief of the Operations Division for the Rock Island District. (*Id.* ¶ 19). Rodriguez and Hess testified at the trial, while Smith, Zerbonia, and Cox testified via deposition designations. The Court also considered deposition designations for (i) Thomas Nock (“Nock”), a Corps hydraulic engineer who participated in discussions concerning the attempted canal transit; and (ii) Kevin Landwehr (“Landwehr”), a Corps hydrologist familiar with the Marseilles Lock and Dam and involved in the Corps’ post-incident investigation.

2. The Maintenance Vessels

Zerbonia also supervised Brady Beckman (“Beckman”), the General Maintenance Supervisor of the Illinois Waterway. (R.846-1, Stmt. of Uncontested Facts ¶ 22). Beckman, in

turn, supervised Jeffrey Griffin (“Griffin”), a Crane Operator Supervisor who was onboard the Loyd Murphy and communicating with the Marseilles lockhouse leading up to the allision. (*Id.* ¶¶ 23-24). Griffin, in turn, supervised: (i) Captain Robert Slack (“Slack”), who captained the 2,100 horsepower-rated City of Ottawa; and (ii) Captain Michael Cutler (“Cutler”), who captained the 1,800 horsepower-rated Creve Coeur. (*Id.* ¶¶ 25-31). In rendering its factual findings and conclusions of law, the Court reviewed deposition designations for Slack, Cutler, Beckman, and Griffin, as well as deposition designations for: (i) Chauncey Rosenblad (“Rosenblad”), a Corps deckhand who was aboard the City of Ottawa on April 18, 2013; and (ii) Tom Heinhold (“Heinhold”), the Deputy Chief of Operations for the Rock Island District who was involved in the Corps’ post-incident investigation.

D. Non-Parties

The Court also heard live witness testimony from several non-parties, including: (i) expert research meteorologist Dr. Peter Hildebrand (“Hildebrand”); (ii) expert applied meteorologist Stephen Pryor (“Pryor”); (iii) hydraulic engineering experts Dr. Marcelo Garcia (“Garcia”), Dr. Robert Ettema (“Ettema”), and Dr. Forrest Holly (“Holly”); and (iv) accident reconstruction engineering expert Daniel Fittanto (“Fittanto”). The Court further reviewed deposition designations from the following non-parties:

1. Representatives of the United States Coast Guard, including (i) Executive Officer of the Marine Safety Unit in Chicago, Stacy Miller (“Miller”), and (ii) Commanding Officer of the Marine Safety Unit in Chicago, Jason Neubauer (“Neubauer”);
2. Representatives from the National Weather Service (“NWS”), including (i) hydro-meteorologist Steve Buan (“Buan”) and (ii) supervisory hydrologist Mark Glaudemans (“Glaudemans”);
3. Expert witnesses in the fields of hydraulic engineering, naval architecture, and fluid dynamics / accident reconstruction, respectively, (i) Dr. Tonja Koob (“Koob”), (ii) Mr. George Randall (“Randall”), and Dr. Kenneth Orloff (“Orloff”);

4. Representatives of Kirby Inland Marine (“Kirby”), including port captain Shannon Dale Hughes (“Hughes”) and the Captain of the City of Joliet, Orbie Gene Deaton (“Deaton”);
5. Representatives of American River Transportation Company (“ARTCO”), including port captain Bernie Heroff (“Heroff”) and the Captain of the Nancy S., Lloyd Scott Hardin (“Hardin”);
6. Representative of Marquette Transportation and participant in discussions surrounding the attempted canal transit, Quentin Craig Harris (“Harris”);
7. Representative of AEP River Operations (“AEP”) and the Captain of the Cody Boyd, Al Stunkel (“Stunkel”);
8. City of Marseilles resident Joseph Jakupcak, who witnessed river conditions on April 18, 2013.

II. The Facilities and Structures

A. The Marseilles Lock and Dam

The Marseilles Dam is located at Illinois River Mile 247.1, about 2.5 miles upriver of the Marseilles Lock. (R.846-1, Stmt. of Uncontested Facts ¶¶ 4, 11). Vessels navigating downriver past the Marseilles Dam must enter the Marseilles Canal—the mouth of which is adjacent to the Dam—in order to pass through the Marseilles Lock. (*Id.* ¶ 12). There are five protective cells on the starboard southbound approach to the canal wall, just above the dam, as well as three tie-off cells along the right descending bank of the river. (*Id.* ¶ 13; 09/28 Rodriguez Tr. at 630, 635 660). The city of Marseilles sits along the right descending bank of the river. (TREX 14-15).

The Marseilles Lock and Dam is a navigation facility, designed and operated “to provide the required nine-foot minimum channel from Marseilles Lock and Dam to Dresden Island Lock and Dam, a distance of approximately 27 river miles.” (TREX 10, Master Water Control Manual for the Marseilles Lock and Dam at B-1). The river stretch between the Marseilles facility and the Dresden Island facility is known as the “Marseilles Pool.” (R.867, Hardin Dep. Tr. at 20, 109-10). The Corps maintains normal pool elevation—483.2 feet—by opening and closing the Marseilles Dam’s eight tainter gates, each of which is 60 feet wide and 16 feet high. (R.846-1,

Stmt. of Uncontested Facts ¶¶ 6-7; 09/28 Rodriguez Tr. at 649, 698). As the river level rises, for example, the Corps opens the gates to allow additional water to flow through, maintaining pool elevation. Corps personnel adjust the dam gate settings remotely, from the downstream lockhouse. (R.846-1, Stmt. of Uncontested Fact ¶ 8). The Marseilles facility is unique within the Western Rivers system in that, ordinarily, “the locks are actually physically attached to the dam.” (10/05 Schropp Tr. at 1616-17; *see also* R.867, Slack Dep. Tr. at 194). The Marseilles lockhouse is equipped, however, to monitor the real-time river gauge for the Marseilles Pool, as well as to display live video feed from three cameras positioned around the Marseilles Dam. (9/28 Rodriguez Tr. at 689-92; TREX 2268-69).

B. Other Illinois River Areas

Less than one mile upriver from the Marseilles Dam is an area known as “Gum Creek.” (TREX 15 (reflecting “Gum Creek Light & Daymark” at River Mile 247.8)). Further upriver, at approximately River Mile 248.0, sits an island known as Ballards Island. (*Id.*)¹⁴ Other Illinois River areas—including Johnson Island and Dresden Island—sit upriver from Ballards Island. (10/03 Ice Tr. at 1215; 09/28 White Tr. at 813). Further upriver still—approximately six miles above Dresden Island—is the town of Channahon, Illinois. (09/28 White Tr. at 806).

1. Fleeting Facilities between Channahon and Marseilles

There are several commercial fleeting and dock facilities upriver of Ballards Island, and downriver of Channahon, designed to hold vessels and tows in an emergency. (09/29 White Tr. at 963-64 (naming Fox River Minerals, Spicer Gravel, Black Marine, Farmers Elevator, and Valley Run, among others); *see also* R.867, Hardin Dep. Tr. at 18-42 (discussing various commercial facilities and mooring structures in the Marseilles Pool, upriver of Ballards Island)).

¹⁴ The downstream end of Ballards Island is located about 3,200 feet upriver of the Marseilles Dam. (R.846-1, Stmt. of Uncontested Facts ¶ 15).

2. Ballards Island

Ballards Island does not have any fixed mooring structures to secure barges or towboats. (R.846-1, Stmt. of Uncontested Fact ¶ 16). Several industry and government witnesses, however, testified that Ballards Island is a standard holding area for vessels planning to navigate downriver past the Marseilles Dam. (09/29 White Tr. at 856; 10/03 Shrader Tr. 1325-26; 10/05 Schropp Tr. at 1638; R.867, Stunkel Dep. Tr. at 123; R.867, Dodd Dep. Tr. at 248-49; R.867, Zerbonia Dep. Tr. at 19-20; R.867, Deaton Dep. Tr. at 27-28; R.867, Daniel Dep. Tr. at 62; R.867, Harris Dep. Tr. at 34-35; R.881, Smith Dep. Tr. at 87; 09/28 Rodriguez Tr. at 667-69).¹⁵ As Lockmaster Rodriguez testified, an upriver tow awaiting lockage cannot enter the Marseilles Canal absent permission from the lock. (09/28 Rodriguez Tr. at 676). The Marseilles Lock and Dam Operations Manual itself recites that “[o]nly vessels waiting lockage turn at Marseilles Lock will be allowed to moor in Marseilles Canal,” and that the “lockmaster shall be charged with the immediate control and management of the lock . . . No one shall cause any movement of any vessel . . . except by or under the direction of the lockmaster.” (TREX 9 at -1147, -1128 (citing 33 C.F.R. § 207.300(a))).

Captain White, in particular, testified that “99 percent of the time, I back in on Ballards Island and stop” while waiting for a lock turn or while “wait[ing] out high water” upriver of the Marseilles Dam. (09/29 White Tr. at 856-57). On one prior occasion, he had held a full tow at Ballards Island in high waters—with over 70 feet of gate opening at the Marseilles Dam¹⁶—by

¹⁵ The Court properly considers Rodriguez’s prior deposition testimony on this issue as substantive evidence. *See United States v. DiSantis*, 565 F.3d 354, 360 (7th Cir. 2009) (“If a prior inconsistent statement meets the oath and cross-examination requirements of [Federal Rule of Evidence] 801(d)(1)(A) it may be admitted as substantive evidence” (citation and quotation omitted)).

¹⁶ The Marseilles Dam gates can be opened to as much as 14 feet of gate opening each. (R.846-1, Stmt. of Uncontested Facts ¶ 10). As discussed *infra*, the Marseilles Dam gate opening is customarily expressed as the sum of the openings of all eight gates, as measured from the bottom of the gate to the concrete sill running along the river bed. (09/28 Rodriguez Tr. at 633, 647-48).

backing into the island and using the Dale Heller’s horsepower to hold its barges. (*Id.* at 1006).

Claimants’ maritime expert, Captain Kinsey, agreed that “backing in” is a common way to hold a tow on a river. (09/22 Kinsey Tr. at 349-51).

III. Uncontested Timeline

The following is an uncontested timeline of events leading up to the April 18, 2013 collision at the Marseilles Dam:

Date/Time	Event
April 16, 2013	
09:30	M/V DALE A. HELLER (“HELLER”) begins locking northbound through Dresden Island Lock and Dam.
11:19	HELLER finishes locking northbound through Dresden Island Lock and Dam.
13:45	HELLER arrives at Channahon, Illinois.
21:48	HELLER departs Channahon, Illinois on a voyage downbound on the Illinois River.
23:57	HELLER begins locking southbound through Dresden Island Lock and Dam.
April 17, 2013	
03:07	HELLER finishes locking southbound through Dresden Island Lock and Dam.
07:35	HELLER arrives at Ballards Island, upriver from the Marseilles Dam.
16:25	M/V LOYD MURPHY (“MURPHY”) begins locking northbound through Marseilles Lock and Dam.
19:57	MURPHY navigates out of the Marseilles Canal.
20:17	Decision made to tie off the MURPHY and its tow to the tow of the HELLER.
20:35	MURPHY tow joins alongside the HELLER at Ballards Island.
April 18, 2013	
07:21	Captains decide to secure combined tows to trees on Ballards Island.
08:35	The M/V NANCY S (“NANCY S”) faces up to combined tows to assist them in holding position.
10:34	NANCY S leaves the HELLER’s tow.
10:53	M/V CITY OF JOLIET (“JOLIET”) with two barges arrives to assist the HELLER.

10:59	NANCY S departs, headed upriver.
11:48	The M/V CITY OF OTTAWA (“OTTAWA”) faces up to combined tows to assist them in holding position.
13:04	OTTAWA departs, heading back downriver.
13:09	The M/V CODY BOYD faces up to combined tows to assist them in holding position.
14:00	RIAC/IRCA High Water Call begins.
15:04	OTTAWA again faces up to combined tows to assist them in holding position.
15:18	Captains’ meeting on the OTTAWA begins.
15:37	Captains’ meeting ends.
16:11	The MURPHY’s tow is disconnected from the HELLER’s tow.
16:45	The MURPHY returns to the starboard side of the HELLER’s tow.
16:48	JOLIET and its two barge tow disconnect from the HELLER’s tow.
16:55	JOLIET departs downstream towards the canal.
17:03	HELLER tow with the assistance of the LOYD MURPHY, OTTAWA and CREVE COUER begin moving downriver toward the canal.
17:33	The tow of the HELLER allides with the Marseilles Canal wall.

(R.863, Uncontested Timeline).

IV. Weather Forecast Products

A. Product Differences

A significant portion of trial testimony in this case concerned weather forecast tools available to the Dale Heller and Ingram’s shoreside personnel throughout April 14-18, 2013, elicited to address Claimants’ arguments that the Dale Heller should not have proceeded to Ballards Island on April 17 given the weather forecasts. These tools included, among others, (i) Hazardous Weather Outlooks; (ii) Significant River Flood Outlooks; (iii) five-day precipitation maps; (iv) flood warnings and watches; (v) weather forecast summaries; and (vi) river stage forecasts. Both parties offered expert testimony regarding the weather conditions at Marseilles in April 2013.

Claimants' meteorology expert, Dr. Peter Hildebrand, for example, interpreted data from a variety of sources, including climate and hydrological data from the National Oceanic and Atmospheric Administration ("NOAA"), weather data and forecasts from the National Weather Service ("NWS"), river gauge data from the Corps, and weather data and forecasts from the North Central River Forecast Center ("NCRFC"), a branch of the NWS. (TREX 2231, Hildebrand Rep. at Appendix A). Dr. Hildebrand explained that the regional NWS office—the Chicago Weather Forecast Office ("WFO")—is responsible for the "official forecasts and warnings" covering the Marseilles area, including "hazardous weather warnings, flood warnings, storm warnings . . . [and] textual forecasts." (09/21 Hildebrand Tr. at 156-57; 09/22 Hildebrand Tr. at 271). The Minnesota-based NCRFC, meanwhile, is responsible for "putting out the river forecast." (09/21 Hildebrand Tr. at 155). The river forecasts "contain stage and/or flow forecasts for specific river/stream locations based on existing and forecast hydro-meteorological conditions. The contents of these products are used by the [WFO] to prepare WWA products (Watches, Warnings, and Advisories)[.]" (TREX 2246). In generating their respective products, the WFO and the NCRFC each use, in part, the quantitative precipitation forecast ("QPF") transmitted by the national NWS office in Maryland. (09/21 Hildebrand Tr. at 155, 157).

The QPF is a "precipitation forecast over a given area and period of time. It is incorporated into river forecasts to help predict flood potential or river rises to other critical levels." (09/22 Hildebrand Tr. at 239; TREX 2246). As Dr. Hildebrand testified, WFO products such as Hazardous Weather Outlooks incorporate a five-day QPF among other inputs, whereas the NCRFC river forecasts—depicted graphically in "hydrographs"—incorporate a 24-hour QPF. (09/22 Hildebrand Tr. at 200, 202, 221-22, 245). Dr. Hildebrand characterized the use of a 24-hour QPF for river forecasts as "routine," given the concern about "its inaccuracy at longer times

and not wanting to have false positives.” (*Id.* at 200, 222, 248; *see also* 09/21 Hildebrand Tr. at 174 (“the choice of the word ‘outlook’ probably just relates to the uncertainty in [the] precipitation forecast; that they start out being very accurate in the first 12 hours, and by the time you’re a week out, they’re a lot less accurate. They might be right or they might be wrong. So [the significant river flood outlook] uses a five-day forecast, which is less accurate than a one-day”). At the same time, however, Dr. Hildebrand recognized the “limitation” in using a 24-hour QPF – specifically, its limited predictive value beyond that 24-hour period. (09/22 Hildebrand Tr. at 203). The NCRFC hydrograph for the Marseilles Pool,¹⁷ for example, contains a textual note, advising that “[r]iver forecasts for this location take into account past precipitation and the precipitation amounts expected approximately 24 hours into the future from the forecast issuance time.” (*Id.* at 204; TREX 2226). Stephen Pryor—Ingram’s applied meteorology expert—however, declined to characterize this as a “limitation,” observing that at least one Morris hydrograph “appear[ed] to be predictive of conditions beyond 24 hours.” (09/30 Pryor Tr. at 89).

Dr. Hildebrand further testified that weather products such as Hazardous Weather Outlooks, Significant River Flood Outlooks, and five-day precipitation maps, were readily available to the public in April 2013. (09/21 Hildebrand Tr. at 156-59, 171-72, 186; 09/22 Hildebrand Tr. at 195).¹⁸ Ingram’s meteorology expert, meanwhile, agreed that “hazardous weather outlooks, flood warnings, and flood watches, once issued by the [NWS], are then available to the public.” (09/30 Pryor Tr. at 1159). Glen Dotts (“Dotts”)—an Ingram employee

¹⁷ The river gauge at Morris, Illinois is used as the reference gauge for determining flood stage in the Marseilles Pool. (TREX 8, Illinois Waterway Annex at 21). Accordingly, the Court refers to the hydrograph for the Marseilles Pool as the “Morris hydrograph” or the “river stage at Morris” or the “river forecast at Morris.” The NCRFC updates the river forecast at Morris twice per day – once in the morning, and once in the evening. (R.881, Buan Dep. Tr. at 32-33).

¹⁸ On cross-examination, Dr. Hildebrand could not recall where he found the Significant River Flood Outlooks, as contained in his expert report. (*Id.* at 219-21). The NCRFC’s corporate designee, however, confirmed that such outlooks were public documents. (R.881, Buan Dep. Tr. at 163).

in the customer service department—testified similarly, noting that he would cut and paste bits of weather information from “a variety of public sites; National Weather Service, weather.com, NOAA[,]” to create a “courtesy” weather package most weekday mornings. (R.867, Dotts Dep. Tr. at 56-57, 81-82).

B. Expert Opinions

Ultimately, Dr. Hildebrand opined that “[NWS] products read considerably differently than what you see coming out of the [NCRFC],” with NWS products being “more ominous and specific” than NCRFC river stage products throughout April 14-18, 2013. (09/22 Hildebrand Tr. at 236-37, 272). According to Dr. Hildebrand, “anybody who was being thoughtful about the use of this data would see that after 24—out beyond 24 hours, this [river stage forecast] was not a good forecast tool to figure out what should I be doing. There were other things out there [*i.e.*, Hazardous Weather Outlooks, weather forecast summaries, and Significant River Flood Outlooks] readily available that would—should change your opinion about what’s going to happen and then affect your actions.” (*Id.* at 214-15). In short, the NWS forecasts issued on April 14-16, 2013 were, in Dr. Hildebrand’s opinion, “accurate and . . . adequate information to know that this was a situation where more flooding would likely occur.” (*Id.* at 196-97).

Stephen Pryor, meanwhile, concluded that the “official river forecast issued at 9:59PM on April 17, 2013 . . . was the first official forecast for a peak river stage above flood stage at the Morris gauge . . . [and which] included, for the first time, a 48-hour precipitation forecast instead of a 24-hour precipitation forecast.” (TREX 91, Pryor Rep. at 16; 09/30 Pryor Tr. at 1140). In addition, Pryor testified that an “exceptional amount” of rain fell in the 24-hour period immediately preceding 7:00AM on April 18, 2013, and that the April 2013 flood event at Marseilles peaked “significantly faster” than the previous record flood event in September 2008.

(TREX 91, Pryor Rep. at 16; 09/30 Pryor Tr. at 1141-46). In terms of forecast tools, Pryor characterized “outlook” products as “fairly general in aerial coverage [and] unlike the official river forecast, not specific to a particular gauge at a particular time on a particular day and with a particular gauge height.” (09/30 Pryor Tr. at 1146). The “primary basis” for his expert testimony, thus, was “the official river forecast.” (*Id.* at 1161). Pryor “did not spend a lot of time looking at hazardous weather outlooks because they weren’t specific to the flooding situation on April 18th and the barge collision.” (*Id.* at 1155-58). From his “perspective . . . [as] a meteorologist,” however, “you’d probably want to be looking at the big picture, everything that’s available to you, including . . . the outlooks and longer-range forecasts at that time.” (*Id.* at 1165).

V. Weather Information Available April 14-15, 2013

In the afternoon of Sunday, April 14, 2013, the Chicago WFO issued a Hazardous Weather Outlook covering LaSalle County, Illinois,¹⁹ advising—among other items—that “periods of heavy rainfall are possible Wednesday and especially Wednesday night.” (TREX 2234 at 1). In addition, an NCRFC-issued five-day Significant River Flood Outlook indicated areas of “possible,” “likely,” or “imminent/occurring” flooding in the drainage basin above Marseilles. (TREX 2231, Hildebrand Rep. at Figure 4; 09/21 Hildebrand Tr. at 172-73). Even after accounting for drainage flows on the Illinois River, however, the scientists who created the April 14, 2013 outlook did not “predict any chance of significant river flooding in the area of Marseilles.” (09/22 Hildebrand Tr. at 224-25).

The next morning, Dotts sent an e-mail to Ingram’s shoreside personnel, with the subject line “hydrographs, precip/weather and forecast info.” (TREX 2000). This e-mail included (i) a five-day precipitation map showing three to four inches of rain falling in northeastern Illinois;

¹⁹ The city of Marseilles is located within LaSalle County. (09/21 Hildebrand Tr. at 170)

and (ii) a Morris hydrograph, showing the Illinois River gauge gradually declining through Monday, April 22. (*Id.* at 29, 34). Later that morning, the NWS-WFO issued another Hazardous Weather Outlook covering LaSalle County, advising, in part, about “an increasing potential for very heavy rainfall across the area Wednesday night and Thursday. Several inches of rainfall are possible and this could exacerbate the ongoing river flooding[.]” (TREX 2234 at 4). A Significant River Flood Outlook, meanwhile, indicated an *expanded* area of possible, likely, and/or imminent flooding, covering much of Illinois – including Marseilles. (TREX 2231, Hildebrand Rep. at Figure 6; 09/21 Hildebrand Tr. at 179-80). According to Dr. Hildebrand—given the prior rainfall and the soil saturation approaching April 15—“the rivers were not in flood, but they were close to it.” (*Id.* at 164-65, 178).

VI. April 16, 2013

A. The Morning

At 6:59AM on Tuesday, April 16, 2013, Dotts e-mailed another weather package to Ingram shoreside personnel. (TREX 4). This e-mail included: (i) a five-day precipitation map showing over four inches of rain falling in northeastern Illinois; (ii) a Significant River Flood Outlook indicating potential or imminent flooding for most of Illinois through April 20; and (iii) a Morris hydrograph, showing the river gauge rising to a crest of 11.3 feet—well below flood stage—on April 17, gradually declining thereafter. (*Id.* at 28, 32, 34; *see also* TREX 1). One recipient of the e-mail—Robert Taylor—then “edited” the weather e-mail and forwarded it to Ingram vessels, including the Dale Heller. (R.867, Taylor Dep. Tr. at 10, 13, 15). In particular, Taylor testified that he would delete non-pertinent river information, as well as certain charts in order to reduce file size, otherwise “the e-mail won’t go out. It’s just physically too big.” (*Id.* at 15-18). Thus, while Captain White received the Morris hydrograph from Taylor, he did not

receive 5-day QPF products, such as the Significant River Flood Outlook. (09/28 White Tr. at 791-92, 803; 09/29 White Tr. at 948-51). The received Morris hydrograph, moreover, did not bear the textual note advising of the 24-hour QPF input, because—as Dotts testified—“it’s easier to cut and paste the picture versus the whole page. It looks messy.” (R.867, Dotts Dep. Tr. at 102-03; TREX 4 at 28). According to Taylor, however, vessel crews could always access weather information online, via the onboard internet connection. (R.867, Taylor Dep. Tr. at 18). Ingram’s maritime expert—Captain Schropp—likewise testified that “the subscriber Internet program WeatherWorks was available; the weather packets were sent via Internet from Ingram Barge Company; and, the VHF weather channel was available” to the Dale Heller. (10/05 Schropp Tr. at 1631).

At 11:19AM on April 16, the Dale Heller finished locking northbound through the Dresden Island Lock and Dam. (R.863, Uncontested Timeline). By this time, the NWS-WFO had issued another Hazardous Weather Outlook covering LaSalle County, as well as a flood warning for the Illinois River at LaSalle. (TREX 2234 at 7; TREX 2236 at 1). Although this warning predicted “minor flooding” and applied to the Illinois River *downstream* of Marseilles, (TREX 91, Pryor Rep. at 7), it also advised that “the current forecast only accounts for rainfall expected through early Wednesday and not the forecast heavy rainfall in excess of 2 inches the rest of Wednesday through early Friday. If these heavy rainfall totals are attained . . . many locations along the Illinois River will experience more significant rises late this week than indicated in the current river level forecasts.” (TREX 2236 at 1). Local media outlets, such as the Chicago Tribune, likewise reported “heavy rains, possible severe weather this week,”

predicting what “[c]ould be one of the wetter weather systems of the past 2 years.” (TREX 2365 at 6).²⁰

B. The Afternoon

The Dale Heller arrived at Channahon around 1:45PM. (R.863, Uncontested Timeline). Once there, it dropped off its 15-barge northbound tow and picked up its southbound tow, including thirteen loads and one empty. (09/28 White Tr. at 799; TREX 11). This 14-barge tow configuration resulted in a “notch” at the port head – that is, two barges across the front of the tow instead of three. (09/28 White Tr. at 800). Numerous witnesses, however, testified that a “notch” configuration was neither an unusual configuration on the Illinois River, nor a cause for concern in terms of navigating within the Marseilles Pool and into the Marseilles Canal on April 17-18, 2013. (*Id.* at 800, 811-13; 09/29 Koeller Tr. at 1065-66; 10/03 Shrader Tr. at 1322; 10/04 Henleben Tr. at 1444-45; 10/05 Schropp Tr. at 1628-29).

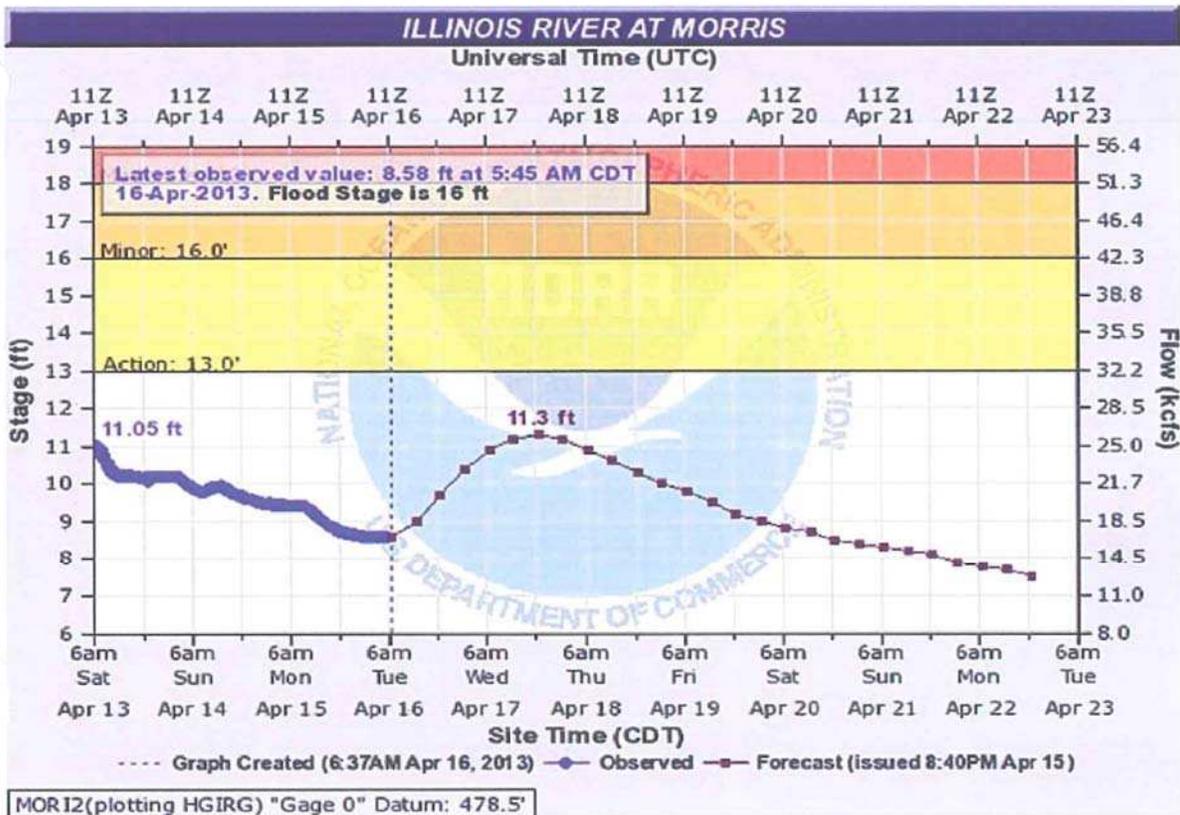
Meanwhile, the NWS issued updated Hazardous Weather Outlooks and a Significant River Flood Outlook covering the Marseilles area. (TREX 2231, Hildebrand Rep. at 12-13). At 4:31PM, the NWS-WFO issued a flood watch for LaSalle County, effective Wednesday afternoon (April 17) through Friday morning (April 19), advising that “area streams and rivers that are currently near or at flood stage will likely rise to moderate or major flood stage.” (TREX 2235 at 2-3). As NWS documents recite, “[a] Flood Watch is issued to indicate current or developing conditions that are favorable for flooding. The occurrence is neither certain nor imminent.” When a watch is issued, however, “you should begin to gather more information about the situation[.]” (TREX 2246). No one told Captain White about that flood watch, or the prior flood warning applicable to the Illinois River at LaSalle. (09/29 White Tr. at 958).

²⁰ The Court admitted this exhibit for notice purposes only. (09/21 Hildebrand Tr. at 184).

C. The Evening

At 8:56PM, before departing Channahon, Captain White called the Marseilles Lock to inquire about gate settings. (TREX 5000, Clip 1). The lockhouse informed him that the gate opening was at “17 foot and rising[,]” which was “already above the stage or pretty close to the stage that [Captain White] would not go down into [the] canal because of the outdraft.” (09/28 White Tr. at 806-09). In Captain White’s experience—regardless of tow size or load—once the gates reached that setting, “the outdraft gets so strong right here at the very upper end of the canal that it will pull you out toward the cells, and normally you’re going to break up and your barges [are] going out on the dam.” (*Id.* at 820; *see also* R.867, Deaton Dep. Tr. at 36 (“the more the gate’s open, the more current that is pulling so there’s more outdraft”). Indeed, the Corps usually posts an “outdraft warning” sign near the canal entrance when the dam gates are set to 15 feet or more of total gate opening. (R.846-1, Stmt. of Uncontested Facts ¶ 67; 09/28 Rodriguez Tr. at 631, 663-64). Similarly, the Waterways Action Plan (“WAP”)—a document developed by representatives of the Coast Guard, the Corps, and the river towing industry, and “used as a guideline for a crisis” on the Illinois Waterway—states that “tows typically stop navigation above 20-25 feet of dam gate opening due to out draft conditions,” although “industry gave [the Corps] those reference numbers.” (TREX 8 at 1, 20; R.867, Zerbonia Dep. Tr. at 75-76; R.881, Neubauer Dep. Tr. at 273). Other industry representatives testified similarly. (R.867, Deaton Dep. Tr. at 30-32 (testifying that “20 to 22 feet” would be the “maximum gate opening... [he’s] willing to pass at the dam” headed southbound with 15 empty barges); R.867, Daniel Dep. Tr. at 63-64 (“That is just pretty much rule of thumb for all of us that run with a full tow up there; that we do not fool with it much over 20 feet”); R.867, Hughes Dep. Tr. at 67-68, 71-72 (“somewhere around the 18 to 20 foot range” is the “maximum safe setting” for such a passage)).

After learning about the gate settings, Captain White informed the Marseilles Lock that he'd "probably stop at the island"—that is, Ballards Island—to wait out the weather. (TREX 5000, Clip 1; 09/28 White Tr. at 806-09). In other words, although the gate setting at Marseilles had already exceeded Captain White's comfort level by the time he left Channahon, he anticipated—based on the April 16 Morris hydrograph depicted below—for the river level to rise, to crest below "action" stage on April 17, and then to fall, enabling him to transit past the Marseilles Dam at a safe gate setting thereafter. (09/28 White Tr. at 803-06, 816-17; TREX 1).



As Captain White testified, "I didn't see, from looking at our graphs in the daily river stages, that the river was going to go much higher after 24 hours before it crested and started falling out, so there's really no reason for me to stop." (09/28 White Tr. at 816-17). Indeed, commercial towboats and lock-and-dam facilities were operating normally on April 16, 2013, as called for

under the WAP. (*Id.* at 814; TREX 8 at 21). Accordingly, around 9:48PM, the Dale Heller departed Channahon, headed southbound with its fourteen-barge tow. (R.863, Uncontested Timeline).

Captain White acknowledged, however, that—in hindsight—had he known on April 16 “that the Illinois River had an outlook for significant river flooding, [he] would have tied up between Channahon and Marseilles[.]” (09/29 White Tr. at 990-91). Dr. Hildebrand’s expert testimony and the Dotts e-mails support that such an “outlook” was publicly available for the general “Illinois River.” (*E.g.*, TREX 5 at 34; TREX 2231 at 13, Fig. 9). As Dr. Hildebrand acknowledged, however, both the Dale Heller’s departure city (Channahon) and arrival city (Marseilles) were within the area of *possible* river flooding on April 16, 2013. (09/22 Hildebrand Tr. at 225-27). As Ingram’s maritime expert explained, that “possibility” is “why I refer to hydrographs and river forecasts.” (10/05 Schropp Tr. at 1689-90; *see also id.* at 1631 (“To find out about navigation and piloting, I have to look at river stages”); *see also* 09/30 Pryor Tr. at 1146 (an outlook “basically discusses the possibilities of what weather events may occur during that period of time”)). That “possibility” is also why industry, the Coast Guard, and the Corps chose to rely on specific river gauge readings—and not general weather information—as trigger points for various actions under the WAP. (10/04 Henleben Tr. at 1437-40 (using general weather information “created some ambiguity and a lot of problems with not knowing what the exact weather forecast was going to be”); 09/28 Hess Tr. at 737-38 (“[Q]. And if any of [industry, the Coast Guard, or the Corps] thought that any of these reference stages that we see listed in the annex were incorrect or insufficient, they could have objected to it or raised the issue, correct? [A]. Correct”)). Long-range “outlook” information, moreover, was available not only to the Dale Heller, but also to the Coast Guard and the Corps. (09/22 Hildebrand Tr. at 225-

27). The Coast Guard and the Corps nonetheless continued normal operations on the Illinois River, even after the NWS issued another flood watch at 9:37PM. (R.867, Beckman Dep. Tr. at 24; R.881, Neubauer Dep. Tr. at 46-52; TREX 2235 at 5-6).

At 11:57PM, the Dale Heller began locking southbound through the Dresden Island Lock and Dam. (R.863, Uncontested Timeline).

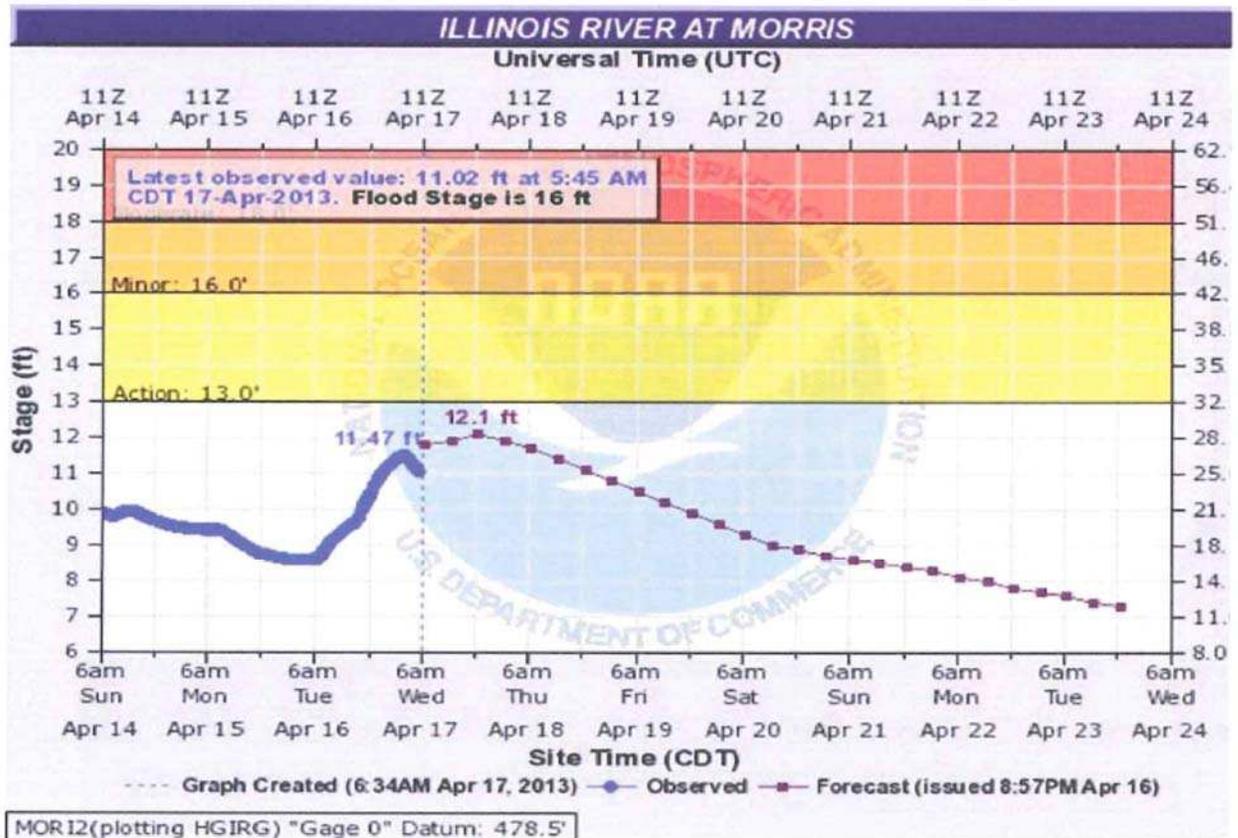
VII. April 17, 2013

A. The Morning

Around 2:07AM, while locking through the Dresden Island facility, Pilot Shrader and an Ingram deckhand, Sam Guge, discussed impending rainfall and the existence of a flood watch in the area. (TREX 4000, Clip 3). Neither told Captain White about the flood watch. (09/29 White Tr. at 959-61). As the Dale Heller transited from Dresden to Ballards Island, however, Captain White was aware that the Metropolitan Water Reclamation District of Chicago (“MWRD”) was releasing more water downriver, that the Illinois River was rising, and that more rain was expected. (*Id.* at 994; *see also* 10/03 Shrader Tr. at 1365-69 (testifying similarly)). Captain White further acknowledged the existence of mooring facilities between Dresden and Ballards Island, agreeing that, “if things got tough and [he] had to tie up at one of those locations and [he] tied [his] tow up securely, this accident would have not happened.” (*Id.* at 963-64). Once the Dale Heller transited southbound from Dresden Island through the Johnson Island Cut, moreover, those upriver mooring facilities were no longer an option. (*Id.* at 934-35; *see also* R.867, Holt Dep. Tr. at 59, 63-67 (testifying that, upon request, Ingram’s customer service team could “try to locate fleeting space” to hold extra barges, but a vessel captain could refuse or modify tow configuration decisions)).

In the morning of April 17, however, Captain White received and reviewed an updated Morris hydrograph. (*Id.* at 817-19). Hydrographs, as the trial record reflects, incorporate factors such as soil saturation, temperature, past precipitation, and downriver MWRD discharges. (R.881, Buan Dep. Tr. at 54-55, 61, 124-25; R.867, Nock Dep. Tr. at 101). In particular, the NCRFC uses hydrological models and applies the professional judgment of its team of hydrologists, meteorologists, and hydrometeorologists—in consultation with the Corps and the United States Geological Service—to create the official river forecasts each day. (R.881, Buan Dep. Tr. at 157, 21, 24-25, 58-61, 83). As its corporate designee testified, the NCRFC is aware that the public—including commercial river mariners—rely on its daily forecasts. (*Id.* at 41). Accordingly, the NCRFC runs quality control checks and continually strives “to improve the process so that the daily river forecast can be as accurate as it possibly can be given today’s science[.]” (*Id.* at 39).

The April 17 Morris hydrograph—as depicted below—indicated “that the river was going to rise on up from 11.47 up to 12.1 foot and crest and can start falling back out.” (09/29 White Tr. at 817-19). Captain White’s plan, thus, was “to wait for the water to drop down to 16 or 17 feet of gate [which] according to [the hydrograph] . . . wouldn’t have been a day or two.” (*Id.*).



(TREX 2, TREX 5). The WAP called for “normal operations” under such conditions. (TREX 8 at 21; *see also* R.867, Zerbonia Dep. Tr. at 57-58, 62; R.867, Beckman Dep. Tr. at 24; R.881, Neubauer Dep. Tr. at 46-52; 09/28 Rodriguez Tr. at 725-26 (Corps and Coast Guard testimony corroborating the same)). Neither Captain White nor Pilot Shrader, thus, felt the need to stop upriver of Ballards Island on the morning of April 17, 2013. (09/28 White Tr. at 822-23 (“the river stages didn’t give me any information that the river was going to rise like it did . . . what it was showing, I was very comfortable with”); 10/03 Shrader Tr. at 1325-26 (“This was done normal conditions, operating conditions”)).

It is not rare, after all, for river towboats to operate in heavy rain and high waters. (10/03 Shrader Tr. at 1326-27 (“[Q]. Is it rare to do that? [A]. To operate in those conditions? No”); *see also* 09/29 McNees Tr. at 1016-17 (“[Q]. Have you been on the Dale Heller operating in flood

conditions before? [A]. Yes. [Q]. Is it rare? [A]. No. [Q]. Describe for us the ability of the Dale Heller to operate in heavy rain. [A]. Does it all the time”); *see also, e.g.*, R.867, Hammond Jr. Dep. Tr. at 83 (“In all my experience, I’ve seen in many years heavy rains that—that increase the rivers by feet, many feet; and we have to navigate . . . in those conditions”); *cf.* R.867, Stunkel Dep. Tr. at 61 (“[Q]. In your experience operating on the Illinois, is it unusual for there to be high water during the springtime? [A]. No”); 09/22 Hildebrand Tr. at 218 (“[Q]. Are you aware that towboats often operate in flood conditions? [A]. Yes”)). Indeed, both the Loyd Murphy and the City of Joliet operated their tows within the Marseilles Pool on April 17, 2013, locking northbound through the Marseilles Lock and Dam. (TREX 2048; TREX 151; 10/03 Ice Tr. at 1183-92; R.867, Deaton Dep. Tr. at 72-73; 09/28 Rodriguez Tr. at 657-58).²¹

Around 7:35AM, the Dale Heller arrived at Ballards Island. (R.863, Uncontested Timeline). The Dale Heller backed into the island, with downriver currents pushing on the starboard side of its tow. (09/22 Kinsey Tr. at 349-51 (“as long as the stern of the towboat stays close to the bank, the current holds the tow in”)). Upon arrival, Captain White called the Marseilles lockhouse to inquire about gate settings. After learning that the gates were set to 23 feet, he informed the lockhouse that he would “back in up here on the island and wait for the water to drop down before I come down any canal.” (09/28 White Tr. at 817; *id.* at 819 (“My plan was to wait for the water to drop down to 16 or 17 feet of gate before I tried to go down any canal;” *see also* TREX 5000, Clip 3). Captain White subsequently called Koeller, an Ingram shoreside dispatcher, to inform her of his plan to “wait out the weather.” (TREX 5000, Clip 4A (“It’s coming up pretty quick, but the river stages show it is going to drop out. But I just want you to know we, we was going to wait here until it dropped back down to try to get down in that

²¹ It is easier, however, to transit northbound through the Marseilles facility with a large tow than to transit southbound with the same tow. (10/03 Ice Tr. at 1184).

canal”). Subsequent to this conversation, Koeller and her supervisor, Adrienne Moore, had further conversations with the Dale Heller on April 17, to see if they could “get them to go with fewer barges or see what options were available.” (09/29 Koeller Tr. at 1066-68; 09/29 Moore Tr. at 1036-38, 1056-57). Although Captain White and Pilot Shrader “complained” to each other about “being pressured to move the barge,” (09/29 White Tr. at 968),²² the record reflects that Captain White exercised his authority, as the licensed vessel captain, to delay transit on April 17, regardless of shoreside preferences. (TREX 46, Ingram Vessel Policy on Navigation (“The vessel Captain or wheelhouse person on watch must navigate the vessel in a safe and prudent manner . . . [including] Using the judgment of a prudent mariner and stopping operations when conditions dictate”); 09/28 White Tr. at 82; 10/04 Henleben Tr. at 1434-35) (testifying to the same)). It is undisputed that the Dale Heller and its tow remained at Ballards Island until the early evening of April 18. (R.863, Undisputed Timeline).

B. The Afternoon

By 1:16PM, the NCRFC had issued an updated Significant River Flood Outlook, indicating “likely” flooding in the area of Marseilles. (TREX 2231, Hildebrand Rep. at Fig. 12; *see also* TREX 39; R.867, Nock Dep. Tr. at 27-28 (testifying to his 2:00PM e-mail concerning heavy rains in the area; *but see* R.867, Hammond Jr. Dep. Tr. at 81-84 (two to four-inch storm totals are “customary for high water . . . I see this frequently”))). The most up-to-date river forecast, though, still showed the Morris gauge peaking below flood stage. (TREX 7, April 17, 2013 11:49AM River Forecast). Indeed, the Coast Guard saw no reason to host a high-water call for the Illinois River Carriers Association (“IRCA”) on April 17, 2013. (R.881, Neubauer Tr. at 50-52; *see also* R.867, Heroff Dep. Tr. at 45-51, 65 (testifying that, although Nock’s weather e-

²² As noted above, the Dale Heller’s VDR captured such conversations within its wheelhouse. (*See, e.g.*, TREX 4000, Clips 4-8).

mail “comes out when high water and lock closures become an issue,” IRCA calls “only happen if there are things of concern” – in other words, “where we’re talking about the WAP . . . you could pretty much be certain there would be an IRCA call that day”). IRCA—as discussed more fully below—is a joint association of towage companies and government agencies, formed to disseminate information and to facilitate navigation on the Illinois River.²³

C. The Evening

In the early evening of April 17, the Loyd Murphy and its fifteen-barge tow (ten loads, five empties) locked through the Marseilles Lock, headed northbound. (R.863, Uncontested Timeline; R.846-1, Stmt. of Uncontested Facts ¶ 44). After navigating past the Marseilles Dam, Captain Ice determined that upriver conditions at Johnson Island Cut would be too difficult to traverse with his tow. (10/03 Ice Tr. at 1184-85 (“running Johnson Island Cut at the gate opening that they had at the time was not a safe move due to the fact that it’s shallow and rocky”). Accordingly, Captain Ice decided to stop and wait out the river conditions, expecting to proceed northbound “maybe the next morning or so.” (*Id.* at 1185-86). After an unsuccessful attempt to moor at a rocky area known as Gum Creek Light, Captain Ice radioed over to Captain White to discuss whether the Loyd Murphy could also position itself at Ballards Island until the water levels reduced. (*Id.* at 1186-88). Captain White told Captain Ice that he was “welcome to come over here and tie off the side of [the Dale Heller], but once he got tied off, he would have to keep his engines clutched in to help hold the barges.” (*Id.* at 1188; 09/28 White Tr. at 825-27; TREX 5000, Ice Clip 3). Around 8:35PM, the northbound-facing Loyd Murphy shoved in alongside the Dale Heller, securing their tows together through various head and stern lines. (R.863, Uncontested Timeline; 10/03 Ice Tr. at 1189). The combined flotilla, thus, consisted of

²³ The River Industry Action Committee (“RIAC”), meanwhile, is a similar organization, coordinating navigation on the Upper Mississippi River. (10/04 Henleben Tr. at 1436-37).

29 barges – six barges wide and five barges long, 210 feet across and almost 1,000 feet in length. (R.846-1, Stmt. of Uncontested Facts ¶ 72).

Before retiring for the night, Captain White informed Pilot Shrader and Ingram shoreside personnel that the Marseilles Lock was running 25 feet of gate—a two-foot increase since 7:35AM—and “looking to go up to 28 feet by morning.” (TREX 5000, Clip 7A; 09/28 White Tr. at 829; TREX 168; 09/29 Moore Tr. at 1038-39). Captain Ice, meanwhile, informed Pilot Daniel that “it was . . . still raining out . . . [and] they were running a substantial amount of water through the dam; and, we were going to hold up and see if conditions got better by morning.” (10/03 Ice Tr. at 1192). At this time, the combined flotilla was holding its position “relatively easily.” (09/28 White Tr. at 828; 10/03 Ice Tr. at 1190-92).

At 9:59PM, however, the NCRFC issued its first forecast predicting “flood stage” status at Marseilles. (TREX 7; R.867, Glaudesman Dep. Tr. at 40 (“[Q]. So . . . 9:59 p.m. [CDT] on April the 17th was the first time there was a prediction from the National Weather Service that the river stage at the Morris site would exceed the flood stage of 16.0 feet? [A]. Correct”); 09/30 Pryor Tr. at 1140). This forecast incorporated—for the first time—48-hour QPF, instead of the customary 24-hour QPF. (R.881, Buan Dep. Tr. at 64, 66-69, 91-94; 09/30 Pryor Tr. at 1140). As Claimants’ own expert explained, the decision to change the QPF input resulted from “discussions between the Chicago Forecast Office and the [NCRFC]. And they actually talk to each other fairly often, daily . . . they talk about it when any storm’s happening.” (09/22 Hildebrand Tr. at 209). The 48-hour QPF, as discussed *supra*, has “notorious false positives . . . or false negatives.” (*Id.*). In other words, “the probability of error goes up.” (*Id.* at 248). Once the NCRFC “became confident enough in the 48-hour QPF,” however, they began to incorporate

it in their daily river forecasts. (*Id.*). As it turned out, “[i]n this case, it was highly accurate, but they didn’t know that. They hadn’t made that determination.” (*Id.*).

Around 10:30PM, the NWS made this 9:59PM river forecast available on its website. (R.867, Glaudesman Dep. Tr. at 41-42). At 10:31PM, it issued a flood warning for the Illinois River at Morris, forecasting “moderate flooding” and a “rise to near 21.1 feet by Friday evening.” (TREX 2236 at 4-5).

VIII. April 18, 2013

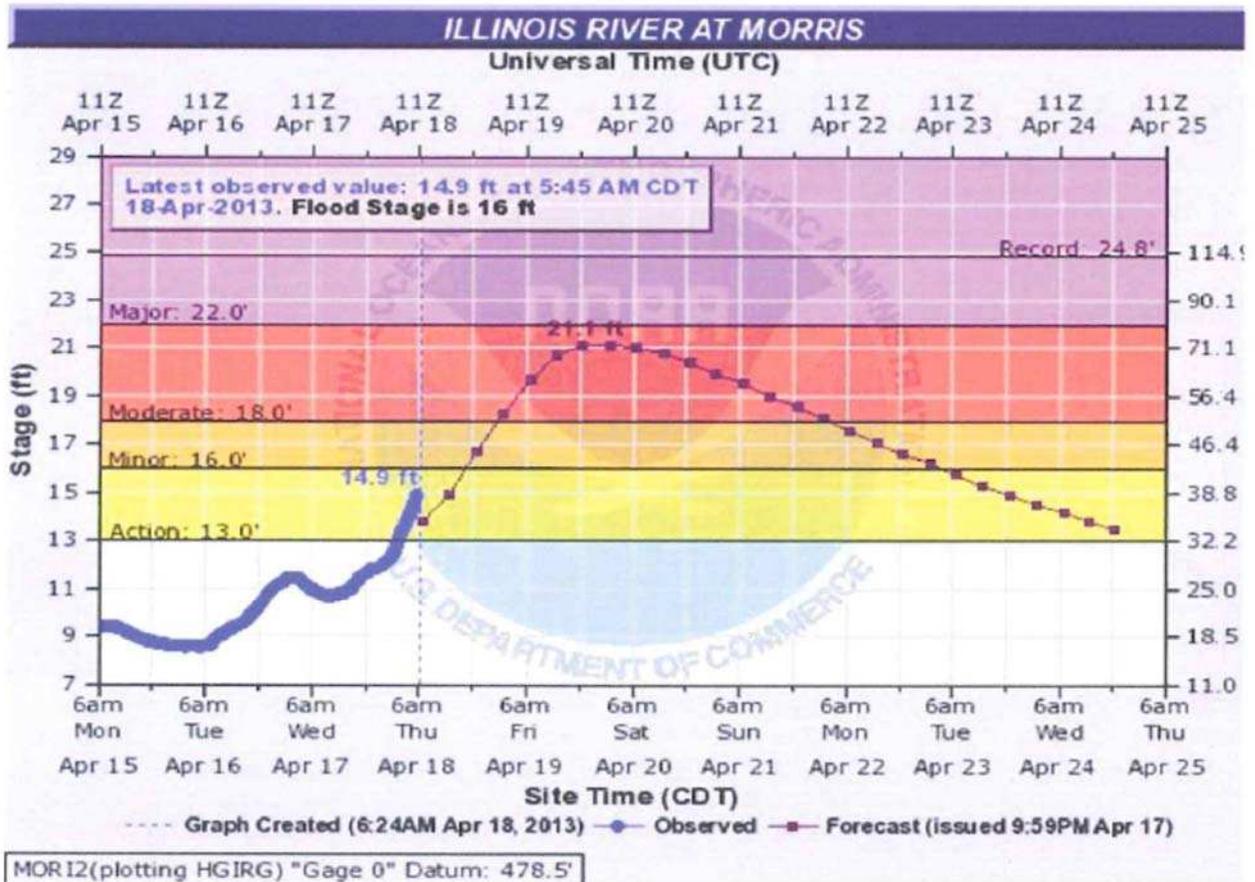
A. The Morning

By the time Captain White and Captain Ice came back on watch at 5:00AM, river conditions had worsened. (09/28 White Tr. at 830; 10/03 Ice Tr. at 1193; R.867, Daniel Dep. Tr. at 88-90 (“We started having a little more trouble holding the tow”). Pilot Shrader, for example, informed Captain White that the Marseilles Dam’s gate settings had increased, and that—on two separate occasions—he had to clear drift out of the Dale Heller’s wheel. (10/03 Shrader Tr. at 1333-36; TREX 5000, Shrader Clips 3 and 4). Drift refers to floating debris on a river, including trees, tires, buoys, and other items, “that can get in the propellers of a boat and stop the engines.” (09/28 White Tr. at 795-97). To clear the drift from an engine, a boat must either push or back on that engine in the reverse direction, temporarily losing horsepower. (*Id.*). Drift is “particularly dangerous,” therefore, when a boat is unmoored in high, fast water. (*Id.*; *see also* 10/03 Ice Tr. at 1226; 10/03 Shrader Tr. at 1335-36). The Dale Heller continued to encounter drift throughout the morning of April 17. (09/29 White Tr. at 859-64; TREX 5000, White Clips 12 and 13).

Around 7:08AM, Captain White called Henleben to “let him know that the situation where we [were] at was deteriorating pretty rapidly and I had concerns about losing the barges.”

(09/29 White Tr. at 842). With respect to gate settings, Captain White noted that the Marseilles Lock was already running 55 feet of gate and expected to open even more – which meant “that the current was going to get a whole lot worse than what it already was.” (*Id.* at 843-44; TREX 5000, White Clip 10 (“we’re up to 55 feet down here at, uh, at Marseilles . . . it’s a handful right now and they’re talking about going up at least ten more foot up to 65 here. I don’t know whether we’re going to be able to hold it or not, I really don’t . . . Yeah, I mean I knew it was going to raise some more but I never anticipated this”)). Captain White advised Henleben that “if push comes to shove . . . I would un-face from the barges and release them because I wasn’t going to put the crew and the boat in jeopardy of going over the dam[.]” (*Id.* at 844-45; TREX 5000, White Clip 10). He also informed Henleben, with respect to the Loyd Murphy, that they were “probably . . . better off with [Captain Ice], in case something does happen he stands half a chance of maybe holding long enough for us to get something going[.]” (*Id.* at 850-51; TREX 5000, White Clip 10).

Between 8:00 and 8:30AM, Captain White received and reviewed a new river forecast at Morris, predicting an April 19 crest of “21.1 feet, just below major flood stage.” (09/29 White Tr. at 857-59; *see also* TREX 3; TREX 6). The April 18 Morris hydrograph depicted:



This hydrograph incorporated NCRFC's April 17, 2013 9:59PM forecast data. (*See id.*). Such conditions constituted "extreme high water" under the WAP. (TREX 8 at 21).

That morning, RIAC-IRCA scheduled an "emergency conference call to discuss rapidly rising Illinois and Mississippi River levels that were caused by a 24-hour period of heavy rains across Northern Illinois [and] projected to hit record levels at several points south of Dresden Lock (including at the Marseilles Lock within the next 12-hours from the start of the call)." (TREX 17, Neubauer Statement Regarding IRCA Call; R.881, Neubauer Dep. Tr. at 25-26; R.867, Miller Tr. at 30-31; TREX 144 at 2-3, 8:36AM E-mail from Heroff to RIAC Members ("We will have a call today at 1400 to discuss high water, lock closures and WAP"); *id.* at 1-2, 9:52AM E-mail from Terry Wiltz to IRCA Members ("We have a call along with RIAC for high

water on the Illinois. We will follow after RIAC’’)). The RIAC/IRCA call occurred at 2:00PM that day. (R.863, Uncontested Timeline).

1. Alternatives to Holding at Ballards Island

In light of the deteriorating river conditions on the morning of April 17, the two vessel captains considered—but ultimately rejected—a number of alternatives to holding the flotilla at Ballards Island. Captain Ice proposed, for example, dropping downriver to the slack water underneath Ballards Island. (10/03 Ice Tr. at 1202-04; TREX 5000, Ice Clip 6). White and Ice agreed, however, that this option was not safe due to the concern of drift “loading up in the wheels” of one vessel, leaving the other alone to hold the combined tow against rising river currents. (10/03 Ice Tr. at 1204; 09/28 White Tr. at 832-833 (“And if water comes down through here, it’s—it’s going to be hard for us to hold these barges here with that water pushing us out”); 09/29 White Tr. at 852, 864). The captains also considered (i) un-facing the Loyd Murphy to have it push up underneath both tows; and (ii) moving the Dale Heller to the head of its tow to have it push ahead, instead of backing astern. Given, however, (i) the difficulty of facing up to a “notched” barge,²⁴ (ii) the time it would take to perform such an un-facing maneuver, and (iii) the risk—given the swift water and the increasing drift—of the Dale Heller getting stuck underneath the Loyd Murphy’s tow, the captains determined that these alternatives were less safe than maintaining the status quo, with the combined horsepower of both vessels pushing and backing at once. (09/28 White Tr. at 830-31, 833-34, 865; 10/03 Ice Tr. at 1208-11; 10/05 Schropp Tr. at 1651-52; TREX 5000, White Clip 9; TREX 5000, Ice Clips 8 and 10).

The captains also weighed, and rejected, the idea to break up the flotilla and either (i) leave the Dale Heller’s tow in place by itself, (ii) move the Dale Heller’s tow across the river and

²⁴ Disassembling and reconfiguring the Dale Heller’s tow, in general, was not feasible, given “the way [the river] was running and the drift and everything.” (10/03 Ice Tr. at 1210; *see also id.* at 1213).

anchor it to some steel I-beams located there, or (iii) move tow “strings”—that is, smaller groups of barges—either upriver or into the Marseilles Canal. (10/03 Ice Tr. at 1205-07, 1213; TREX 5000, Ice Clip 11). The first option was not feasible because the Dale Heller “couldn’t hold where he was at by himself.” (10/03 Ice Tr. at 1206; TREX 5000, Ice Clip 7). The second “wasn’t an option” because—given the river currents—the Dale Heller’s tow “could have topped around. Anything could have happened at that point in time . . . [Captain White] might not be able to hold it and would continue on downriver” into the dam. (*Id.* at 1206-07). In addition, the Loyd Murphy had already tried, on the evening of April 17, to shove against the right descending bank of the river, but it was too rocky to hold there. (TREX 5000, White Clip 17 (Captain Ice to Captain Hardin: “Yeah, I was over there yesterday and I was picking up rocks with the boat”); *see also* 09/29 White Tr. at 848, 865-69). As to the third option, an upriver transit pushing a string of barges was not possible because, according to Captain Ice, a string is a “weak coupling,” and “[t]he minute you try to steer around [Johnson Island Cut], it would snap one of them couplings in half.” (10/03 Ice Tr. at 1213-14). There is no evidence, moreover, that reassembling the tow and taking fewer barges into the Marseilles Canal at then-existing gate settings would have been prudent. Even at the lower gate settings on April 17, Captain White had considered and rejected the idea of transiting into the canal with fewer barges. (09/28 White Tr. at 824 (“But it’s like I told [Adrienne Moore], I said even if I got down to six barges, until water drops down to 17 feet, I’m not going down any canal”); *see also* R.867, Hardin Dep. Tr. at 103-04, 122-23 (“There was no option of getting in the canal, not with that—not with that much water running”); 10/03 Ice Tr. at 1213 (“It wouldn’t be safe trying to separate those wires in that kind of current with all the drift and everything around. Somebody could have got hurt deck crew-wise”)).²⁵

²⁵ The City of Joliet, by contrast, did not have to reconfigure its two-barge tow when it transited southbound into the

Both Captain White and Captain Ice spoke with their respective port captains regarding these options. (09/29 White Tr. at 848, 851-53; 10/03 Ice Tr. at 1212; 10/04 Henleben Tr. at 1450-53, 1456-59, 1462). The vessel captains, however, retained the authority to decide whether, or not, to attempt a given maneuver involving their respective tows. (09/29 White Tr. at 851-53; 10/04 Henleben Tr. at 1451-53 (“[Q]. Whose ultimate decision was that? [A]. Both captains. The captain of the Loyd Murphy and the Dale Heller”). Ultimately, both Captain White and Captain Ice agreed that they were better off together, holding the combined flotilla at Ballards Island. (09/29 White Tr. at 869 (“But if we’re separated and something happens to his boat, he’s lost his barges, I couldn’t help him at all. And same with me . . . It’s just—it’s just a safer situation to me for both crews on both boats”); 10/03 Ice Tr. at 1204-16 (testifying that he and Captain White reached joint conclusions about the viability and prudence of alternative mooring positions); *see also* R.867, Hardin Dep. Tr. 95-96, 103-04, 125-26 (“[T]hey were in safety mode and everything was safety, safety, safety. And they were—they were very leery about jeopardizing the safety of their crew or their barges”); R.867, Daniel Dep. Tr. at 135-36 (“[T]hey talked about everything to try to figure something out”).

2. Precautions Taken at Ballards Island

While holding at Ballards Island throughout the morning and early afternoon of April 18, the Dale Heller and the Loyd Murphy took a number of additional precautions to ensure the safety of the vessels and their crews. (10/05 Schropp Tr. at 1652-53).

a. Increased Rigging

The vessel crews tightened the tow rigging. In particular, as conditions worsened, the crews “decided to wire the tows together” as “basically one big tow” using steel cables, instead

Marseilles Canal at 4:55PM on April 18, 2013. (R.863, Uncontested Timeline; R.867, Deaton Dep. Tr. at 76-78, 97-98, 111, 133-34).

of lines. (10/03 Ice Tr. at 1189-90; 10/05 Schropp Tr. at 1652). The Dale Heller also increased its own rigging, implementing the “strongest wire configuration that you can use” on a jumbo hopper barge. (10/05 Schropp Tr. at 1625-26 (“in anticipation of working down into the canal and the assist boats working alongside of them, they had gone to triple-up rigging”); R.867, Guge Dep. Tr. at 101-05).

b. Securing the Tows to Trees

In addition, at approximately 8:27AM, a crew from the Loyd Murphy and the Dale Heller tied the combined tow to some trees on Ballards Island, supervised by Captain Ice. (R.846-1, Stmt. of Uncontested Facts ¶ 74; TREX 5000, Ice Clip 5; 09/28 White Tr. at 834-35; 10/03 Ice Tr. at 1193-1201). The purpose of this tree-tying operation, Captain Ice explained, was “to anchor us in case one of us lost an engine due to drift or anything,” given that—at that point in time—“I believe I was almost full ahead and [Captain White] was almost full astern and we were just holding what we had.” (10/03 Ice Tr. at 1195-96). Once the crews secured the flotilla to two trees, “[i]t seemed to ease where we didn’t have to back and push so hard trying to hold it.” (*Id.* at 1201; *see also* 09/28 White Tr. at 835 (“they helped a lot . . . I didn’t have to back as hard on my boat, and he didn’t have to push as hard on his”)). It is common in the inland river industry to secure tows to trees. (10/03 Ice Tr. at 1196; 09/28 White Tr. at 834; 10/05 Schropp Tr. at 1652).

c. Requesting Assist Boats

Furthermore, both Ingram and IMS contacted assist boats on April 18 to request additional horsepower in holding the flotilla at Ballards Island. Captain Ice, for example, called Captain Hardin of the Nancy S., and deckhand Chauncey Rosenblad of the City of Ottawa. (10/03 Ice Tr. at 1213-14, 1217-18). Ingram, meanwhile, called inland river operators such as

Marquette, AEP, and ARTCO, as well as local fleets. (09/29 Moore Tr. at 1041-42; 09/29 Koeller Tr. at 1068-69; TREX 167 (“The M/V Cody Boyd (AEP’s boat) is turning their tow loose in Channahon and coming [southbound] to assist the DAH & M/V Loyd Murphy along with the Nancy S. (small ARTCO tug) assistance”). In addition, Captain Deaton of the City of Joliet testified that, after receiving a call from the “captain of the Heller,” he received permission from his employer, Kirby, to assist the flotilla. (R.867, Deaton Tr. at 88-89; *see also* 09/29 White Tr. at 856 (“I found one boat, and that was the City of Joliet; and, he had one load and one empty”); 10/03 Ice Tr. at 1218-21 (observing that the City of Joliet and its two barges “could fit in the notch at the head of the Heller’s tow”)).

The Nancy S. arrived at 8:35AM to help the flotilla hold position. (R.863, Uncontested Timeline). It departed at 10:59AM, after the City of Joliet arrived to wire into the tow. (*Id.*). The City of Ottawa, meanwhile, arrived at 11:48AM and departed at 1:04PM, after being relieved of its assistance duties by the Cody Boyd. (*Id.*; *see also* R.867, Beckman Dep. Tr. at 19-22; 09/29 White Tr. at 869-70). Both Captain Ice and Captain White testified to the usefulness of these assist boats in getting “all the horsepower that we could get down around these barges to kind of hold everything” at Ballards Island. (09/29 White Tr. at 871-72; 10/03 Ice Tr. at 1221-22). Both captains went off watch at 11:00AM on April 18. (*Id.*).

B. The Afternoon

1. River Conditions

By the time Pilot Shrader resumed his watch at 11:00AM, the “flow had increased quite a bit” since 5:00AM. (10/03 Shrader Tr. at 1336-37). At 12:17PM, the NCRFC issued a new river forecast at Morris, predicting a record peak of 25.5 feet. (TREX 91, Pryor Rep. at 12-13). The latest *observed* river stage at Morris—18.53 feet—was over “moderate” flood stage status. (*Id.*).

At 12:41PM, the NWS issued an updated flood warning for the Illinois River at Morris, forecasting “record severity” and advising that the “river will continue rising and crest between 24 and 26 feet early Saturday morning. Record crest is 24.84 feet set in September 2008.” (*Id.*; *see also* TREX 2236 at 4-6).

During Pilot Shrader’s afternoon watch, both trees securing the flotilla to Ballards Island gave way. (10/03 Shrader Tr. at 1338). The second tree uprooted around 2:15PM. (TREX 5000, Shrader Clip 5 (radio transmissions between the City of Joliet, the Dale Heller, the Cody Boyd, and the Loyd Murphy, “Looks like that last tree gave. I see slack in the cable . . . Yeah, it just pulled it all, you know, up.”)). After it fell, the flotilla moved slightly downriver, and then remained in place as the vessels applied full horsepower. (*See id.* (“Yeah, I’m hooked up. Looks like she’s dropping back . . . I am too, and yes we are falling back . . . We [are] all pretty much hooked up here . . . We’re all coming ahead. You know, looks good for now, but who knows.”); *see also* 10/03 Shrader Tr. at 1339; R.687, Daniel Dep. Tr. at 102-06; 10/03 Ice Tr. at 1222-23; 09/23 Fittanto Tr. at 588-93).²⁶ The City of Ottawa then offered to come back to Ballards Island to assist, along with a spud barge. (TREX 5000, Shrader Clips 5 and 6; 10/03 Shrader Tr. at 1339-40; R.867, Slack Tr. at 94, 99; R.867, Beckman Tr. at 38-39). At 3:04PM, the City of Ottawa arrived on scene. (R.863, Uncontested Timeline).

2. The IRCA Call

Meanwhile, around 2:00PM, the RIAC-IRCA conference call commenced. (R.863, Uncontested Timeline). Both industry and government representatives participated in the IRCA

²⁶ The Court agrees with Ingram that Automated Identification System (“AIS”) data belies any suggestion that “after the trees pulled over, the Dale Heller and its tow slid downriver until the Loyd Murphy departed with its tow.” (09/21 Ingram Opening Statement Tr. at 109-11; *contra* R.881, Orloff Dep. Tr. at 87-88 (“once the Loyd Murphy’s tow left, it was no longer a losing battle”) *id.* at 74-75 (“you will actually see that they actually were starting to slip downstream particularly when the first tree uprooted . . . once the Loyd Murphy tow disconnected . . . the Heller and the Ottawa all by themselves were able to hold the Heller’s tow in position”)).

call, including Ed Henleben (Ingram), Adrienne Moore (Ingram), Carissa Koeller (Ingram), Thomas More (Ingram), Harold Dodd (ACL), Bernie Heroff (ARTCO), Shannon Hughes (Kirby), Rocky Young (AEP), Quenton Harris (Marquette), Craig Hess (Corps), Larry Rodriguez (Corps), Thomas Nock (Corps), Mike Zerbonia (Corps), Captain Jason Neubauer (Coast Guard), and Commander Miller (Coast Guard). (R.846-1, Stmt. of Uncontested Facts ¶ 75; R.867, Miller Tr. at 39-41). Among other discussion items, the IRCA participants discussed the situation at Ballards Island – in particular, the flotilla’s difficulty in holding its position. (R.846-1, Stmt. of Uncontested Facts ¶ 76). Eventually, the IRCA participants set a general plan to break up the Ballards Island flotilla and to move the Dale Heller and its tow into the Marseilles Canal – a plan which involved the adjustment of gate settings at the Marseilles Dam and the use of assist boats. The Court recounts witness testimony concerning this portion of the call.

a. Corps Testimony

i. Lockmaster Rodriguez

a. IRCA Statements on Gate Settings

According to Rodriguez, while he was on the IRCA call, the assistant lockmaster—Floyd Smith—told him that the Dale Heller was having trouble holding at Ballards Island, and asked him whether they wanted to bring the Dale Heller down into the Marseilles Canal. (09/28 Tr. at 670-71). Rodriguez relayed that idea to the IRCA participants. (*Id.*). Rodriguez agreed that the IRCA participants subsequently asked him “what gate settings [he] could do to allow the Heller tow to pass into the canal,” (*id.* at 675), but denied that there was a “gate-setting plan.” (*Id.* at 683-84). According to Rodriguez, when “asked how much gate that I could close . . . I told them 12 feet and, then, I changed it to 16 feet . . . all they got from me was the amount of feet that I could close the dam.” (*Id.*). Rodriguez did not testify as to whether or not he informed the

IRCA participants about the then-existing gate setting at the Marseilles Dam. Contemporaneous handwritten notes, however, suggest that Rodriguez (or someone else) did mention an initial 66-foot gate setting. (TREX 19, Koeller IRCA Call Notes, (“Larry at Marseilles . . . 66’ → 16’”); *see also* R.867, Hughes Dep. Tr. at 39 (“[Q]. What was the current setting at that time? [A]. It was somewhere around 66 feet”). According to hydraulic sheets maintained at the lockhouse, the total gate opening at the time of the IRCA call was 70 feet. (TREX 29 at 18).²⁷

b. Post-Incident Statements on Gate Settings

Shortly after the allision, Corps representatives, including hydrologist Kevin Landwehr, interviewed Rodriguez as part of the Corps’ post-incident investigation. (09/28 Rodriguez Tr. at 703-06; R.867, Landwehr Tr. at 6-7). On April 20, 2013, for example, Landwehr sent Rodriguez an e-mail asking him to confirm, among other details, the following: (1) “prior to the tow accident, the gates were set at 66’ of total opening;” (2) “the transiting vessel requested that 16’ of gate be closed to assist the downbound tow entering the canal;” and (3) “once the tow was beyond the final cell, re-opening of the gates to 66’ was initiated.” (TREX 34). On April 25, 2013—one week after the allision—Rodriguez confirmed these details, noting, “This looks pretty consistent with what I said.” (TREX 33). Rodriguez testified that he knew “it was important to give [his] best answers” during that post-incident investigation, and “probably” remembered the gate settings better then, than during this trial. (09/28 Rodriguez Tr. at 706).

On April 24, 2013—six days after the allision—Rodriguez prepared a witness statement for the Coast Guard, certifying it to be “true and correct” to the “best of [his] knowledge and belief.” (TREX 23). In it, Rodriguez stated the following:

²⁷ Lock personnel maintain hydraulic sheets as a handwritten record of the total gate opening at the Marseilles Dam, logged at two-hour intervals over a given day. (09/28 Rodriguez Dep. Tr. at 642-52, 706-07). On April 18, 2013, there was no electronic record of minute-by-minute gate settings at the dam. (*Id.*; *see also* 09/28 Hess Tr. at 739-40).

At approx. 1645, after discussions, it was decided to start bringing Dale Heller into the canal with 14 barges. It was assisted by the City of Ottawa and Creve Coeur Corps boats and Loyd Murphy. I was running a dam at lock with 66 ft of gate open and closed 16.’ The M/V City of Joliet came into the canal first with two barges no problem. Then the M/V Dave Heller made his approach with City of Ottawa on head, Creve Coeur at second coupling starboard side and then Loyd Murphy. As the tow was near or starting to get head in canal, I was directed to open the gates back up to 66 feet and I saw the City of Ottawa break off on the monitor. After he let go I saw the lead barges drifting toward the approach wall. Either just before it hit or when it hit I was ordered to shut the gates down. While this was being done we were watching the tow break and go toward the dam. They hit gates 2-3-4-5 and 6. After everything was settled down we opened the gate back up. When I was getting orders it was by radio from Jeff Griffin.

(*Id.*; *see also* 09/28 Rodriguez Tr. at 624-29).

Several pieces of evidence contradict Rodriguez and call into question his credibility and post-incident statements regarding gate settings. First, expert evidence submitted by both parties demonstrates that the initial gate setting was not 66 feet, as Rodriguez represented. Instead, the gates were initially set in the mid-to-high 70s, lowered to 60, and then—mid-transit—raised back up to 88. (09/23 Garcia Tr. at 436-38, 458-59, 491-92, 504-05, 508, 520 (discussing Scenario 6); TREX 2326, Garcia Rep. at 32 and Table 8; 09/23 Fittanto Tr. at 569-71, 583-86, 596-97; TREX 85, Fittanto Rep. Table 12 (“Gate Setting Timeline”). Second, this same evidence establishes that Rodriguez did not raise the dam gates “once the tow was beyond the final cell” or “[a]s the tow was near or starting to get [its] head in [the] canal.” (TREX 34, TREX 23; *see also* 09/28 Rodriguez Tr. at 664-65 (“[Q]. Your testimony is that this is the time—that is, what we’re seeing in this view on Camera 6 [the City of Ottawa breaking off the head of the tow, immediately prior to the allision]—when you got the call directing you to raise the gates, correct? [A]. Correct”). To the contrary, Rodriguez raised the gates mid-transit—around 5:20PM—to 88 feet. The gates remained at 88 feet until the allision at 5:33PM. (R.863, Uncontested Timeline; 09/23 Garcia Tr. at 436-38, 458-59, 491-92, 504-05, 508, 520; TREX 2326, Garcia Rep. at 32 and Table 8; TREX 85, Fittanto Rep. Table 12). In addition, the only contemporaneous recording of gate settings at

the Marseilles Lock on April 18, 2013—the handwritten hydraulic sheet—contained whited-out and “overwritten” notations, although Rodriguez himself did not make these notations. (09/28 Rodriguez Tr. at 652-55; TREX 29). Given these inconsistencies and suspicious circumstances, as well as the credibility of other witnesses and the strength of other evidence, the Court discounts the credibility and reliability of Lockmaster Rodriguez’s trial testimony.

ii. Other Corps Witnesses

a. IRCA Call Participants

Rodriguez’s supervisors, Craig Hess and Mike Zerbonia—although participants on the IRCA call—claim to recall nothing about that call. (09/28 Hess Tr. at 741-42 (“[Q]. Do you recall discussion on the call about moving the Dale Heller into the Marseilles Canal? [A]. No, I do not. [Q]. Do you recall at any time on the call any discussion at all about gate settings? [A]. No. [Q]. Did you at any time on the call hear anyone mention 16 feet in connection with any gate settings? [A]. No, I did not”); R.867, Zerbonia Dep. Tr. at 26-27, 93-96, 101 (“[Q]. That call is a total blank to you? [A]. It really is”). After the IRCA call, however, Zerbonia spoke to Rodriguez. (*Id.* at 118-20). Rodriguez informed him that the pool level was dropping and “that he thought he could lower the gates to give us some calm water to pass the tows into the canal safely.” (*Id.*). Zerbonia’s understanding of the plan was that “Larry would close the gates from 66 to either 50 or 55.” (*Id.* at 215-16).

Another Corps representative, Thomas Nock, participated in the IRCA call. (R.867, Nock Dep. Tr. at 25, 55). On that call, Nock “questioned how long they could close off the gates” because “if you’re not letting as much water out as you’re letting in, the pool will build.” (*Id.* at 60, 64-66, 124). At one point during the call, he heard the term “50 feet” mentioned, but

he did not “hear in stone, ‘this is what we’re going to do’” with respect to gate settings. (*Id.* at 72-73, 120-21). He does not, in short, remember a final decision on gate settings. (*Id.* at 77).

b. Non-Participants in the IRCA Call²⁸

Rodriguez’s assistant lockmaster, Floyd Smith—who was in the Marseilles lockhouse during the IRCA call—testified that he had no involvement in that call. (R.881, Smith Dep. Tr. at 124-25). Smith explained: Rodriguez “said he had a conference call,” took the call in his office with the door shut, and only later informed Smith about the transit plan for the Dale Heller. (*Id.* at 124-27). After the call, Rodriguez told Smith he would “close gates 1, 2, 3, and 4 and shut them down 4 feet from what they currently were.” (*Id.* at 128-29). Smith did not recall Rodriguez using the words “16 feet.” (*Id.*). The Crane Operator Supervisor, Jeff Griffin, was also “in the office talking to Larry [Rodriguez] several times.” (*Id.*).

Jeff Griffin, meanwhile, testified that he “was on the IRCA call from time to time.” (R.881, Griffin Dep. Tr. at 244-45). In particular, when Griffin walked into the Marseilles lockhouse that afternoon, Rodriguez informed him that he was on the IRCA call. (*Id.* at 86). At that time, Rodriguez was “pacing around” on his cell phone. He “would just hand the phone” to Griffin, who then spoke to the call participants about the possibility of bringing a crane barge up to Ballards Island. (*Id.* at 87-92 (“I didn’t feel that it was a good idea”)). Griffin then handed the phone back to Rodriguez. (*Id.* at 92). He did not hear any discussion related to gate settings. (*Id.* at 271-72). Griffin could not say whether he subsequently heard about gate settings through Rodriguez or another Corps representative, although he agreed that he “must have heard it from Rodriguez.” (*Id.* at 95, 272, 282).

²⁸ Zerbonia’s supervisor, Mike Cox, did not participate in the IRCA call and did not testify to specific gate settings. (R.881, Cox Dep. Tr. at 100-01, 187).

Griffin's direct supervisor, Brady Beckman, did not participate in the IRCA call. (R.867, Beckman Dep. Tr. at 32-33). After the call, Beckman "found out the details" from Griffin. (*Id.* at 41-43, 83-84 ("I recall the conversation with Jeff being the plan is to shut the dam down and get the tow into the canal")). Beckman then spoke to Mike Zerbonia, who did not know what was meant by "shut the dam down." (*Id.*). Accordingly, Beckman called Larry Rodriguez "to find out." (*Id.*). Rodriguez, in turn, told Beckman "that he was going to go down to 46 feet of gate." (*Id.* at 44-46). This conversation constituted the only one Beckman had with Corps personnel "about what the gate settings would be" prior to the incident. (*Id.* at 85). He did not talk about specific gate settings, for example, with Jeff Griffin or Captain Bob Slack. (*Id.* at 92, 97). Within the next hour, Beckman and Rodriguez again spoke, but this time "to discuss who was going to be talking to who during the procedure." (*Id.* at 46-48). In neither of those two calls did Rodriguez mention anything about the numbers 66 or 50. (*Id.* at 52).

Captain Slack of the City of Ottawa, meanwhile, testified that Jeff Griffin had told him the gates would be lowered *to* 16 feet, although "[s]omewhere there in translation either I probably relayed it wrong or heard it wrong." (R.867, Slack Dep. Tr. at 105, 113).²⁹ That afternoon, Captain Slack issued two pre-transit radio transmissions speaking to a total gate opening of 16 feet. (*Id.* at 102-06 ("[Q]. Would you agree with me that anyone listening to this radio transmission would understand you to be saying that the gates would be closed to 16 feet, meaning total gate opening of 16 feet? [A]. I said that")). First, at 3:41PM, Captain Slack radioed to the Loyd Murphy, "When the Creve Coeur, they haven't left yet, but they're gonna leave. And when they get up here, the, uh, lock will shut that dam down . . . they'll shut the dam

²⁹ Neither Captain Slack nor Captain Cutler (Creve Coeur) participated in the IRCA call. (R.867, Slack Dep. Tr. at 107; R.881, Cutler Dep. Tr. at 60-61, 144-45, 284). While Captain Slack testified to speaking with Griffin about gate settings, Captain Cutler did not. Instead, he received information from marine radio transmissions and from conversations with Captain Slack. (*Id.* at 70, 76, 81-83).

down to 16. For however long they can, you know what I mean. Later.” Seconds later, Captain Slack followed up, “Yeah, Tony [Captain Ice]. My, my—Jeff just told me he’s coming up on the Creve Coeur. When they get here with it, he’ll have the uh, lockmaster shut down the dam to 16 feet. And, well, it’s everyone’s guess as to how long that could happen, but that’s when we need to go.” (TREX 4000, Clip 100; TREX 5000, Ice Clip 13 (the “3:41PM Slack Transmission”)). Griffin, for his part, denied telling Captain Slack “to communicate to the Loyd Murphy that the gates of the dam for this transit would be lowered to 16 feet.” (R.881, Griffin Dep. Tr. at 77-78). Griffin did not know where Captain Slack received that information, and had not heard the 3:41PM Slack Transmission prior to his deposition in this case. (*Id.*).

Captain Slack later issued another pre-transit communication bearing on the gate-setting issue. In particular, at 4:23PM—one half-hour before the transit began—he radioed to Captain Ice, “Tony, I’ve got the parameters on that dam. It takes them 4 minutes to shut the gates and 4 minutes to open them. So, they, they’re going to shut four on the, uh, left side and that’s all. But that should help when you get down there.” (TREX 5000, Ice Clip 14 (the “4:23PM Slack Transmission”)). According to Captain Slack, this 4:23PM transmission “superseded” his 3:41PM transmission and “clarified it.” (R.867, Slack Dep. Tr. at 107, 110, 114-15, 160-62). In other words, the information provided in the 4:23PM transmission—specifically, that the lockmaster would close four gates on the left side “and that’s all”—would allow “someone to deduce that [his] first radio communication perhaps was not accurate.” (*Id.* at 162-63). The Court addresses both radio transmissions in more detail below.

b. Industry Testimony

i. Ingram

a. IRCA Call Participants

Ingram’s IRCA call participants—including Ed Henleben, Adrienne Moore, Carissa Koeller, and Thomas More—each recall Rodriguez’s gate-setting discussion differently than Rodriguez. (*Contra* 09/28 Rodriguez Tr. 683-84 (“asked how much gate that I could close . . . I told them 12 feet and, then, I changed it to 16 feet . . . all they got from me was the amount of feet that I could close the dam’’)). In particular, each recalled Rodriguez offering to lower the dam gates *to* a certain number, rather than *by* a certain number of feet.

Henleben, for example, testified that—after Rodriguez informed the IRCA participants that the Ballards Island flotilla had lost its mooring to the trees—Henleben cut away from the IRCA call to get an update from the Dale Heller. (10/04 Henleben Tr. at 1465-66). He spoke with Pilot Shrader.³⁰ (*Id.* at 1466-67 (“Since we no longer had mooring there at Ballards Island, we talked about other options that might be available to us’’); *see also* TREX 5000, Henleben Clip 5A; TREX 2001, Phone Logs; 10/03 Shrader Dep. Tr. at 1341-42). Although initially resistant to the idea of a southbound canal transit accompanied by assist boats, Pilot Shrader became more comfortable with this option once Henleben proposed, “well, what if we can get them to lower the dam to 15 to 16 gate feet . . . that’s when it became more of a situation that [Shrader] said, yes, I think we can do that.” (10/04 Henleben Dep. Tr. at 1467-68). Pilot Shrader’s trial testimony—and the recorded wheelhouse audio—confirm this. (TREX 5000, Henleben Clip 5A (Shrader to Henleben at 2:38PM, “I’d rather stay here, to be honest with you,

³⁰ During his deposition, Henleben testified to speaking with Captain White during the IRCA call – not Pilot Shrader. (10/04 Henleben Tr. at 1498-1501). When he reviewed his deposition transcript, however, he “saw that that was a mistake.” (*Id.*). After hearing the remainder of Henleben’s trial testimony and witnessing his in-court demeanor, the Court finds that Claimants have not impeached Henleben’s credibility through this line of questioning.

than try that and it not work, you know . . . And it's working, we're holding it . . . Yeah, what are they going to cut back to, 15 feet or something? Right, right, but I mean, even, even so, a little—a little hairy even at—you know, okay, 15 feet's good, you know, we can do that. Anything above that I'd, uh, prefer not to . . .”); *compare* TREX 4000, Clip 310 (Shrader to an Ingram deckhand at 2:50PM, “No, we won't even go at 18 feet. What [are] they going to do? Cut it back 60 feet?”) *with* Clip 311 (Shrader to Henleben at 3:06PM, “I guess we could probably go then, you know . . . [if] Marseilles would cut back, cut back a whole bunch before anybody does anything, I would, uh, I would think that, that would be possible then . . . we'll give that a shot”); 10/04 Shrader Tr. at 1413-14, 1424 (“[Q]. When did you become comfortable with the scenario? [A]. When Mr. Henleben called me back and mentioned having the lock go down to 15 feet and the other two boats, three boats, more boats assisting”)).

After speaking with Pilot Shrader around 2:38PM, Henleben returned to the IRCA call and asked Rodriguez “what are the options of us getting 15 gate feet -- 15, 16, gate feet at Marseilles Dam.” (10/04 Henleben Tr. at 1468-70). Rodriguez dropped off the call to find out. (*Id.*) Henleben testified that—upon Rodriguez's return to the call—“we talked a little bit more about getting the boats down through 15 gate feet. And [Rodriguez] said . . . that he could indeed get us to where there were 15 to 16 gate feet of opening at Marseilles Dam.” (*Id.* at 1470-71).³¹ Rodriguez told Henleben, “you have the flotilla inform us when they're underway, and...

³¹ The Court accepts Rodriguez's IRCA statements as evidence of his state of mind regarding the dam gates – not for their truth. *See* Fed. R. Evid. 801(c), 803(3) (excepting from the hearsay bar “[a] statement of the declarant's then-existing state of mind (such as motive, intent, or plan) . . . but not including a statement of memory or belief to prove the fact remembered or believed”); *see also* *Catalan v. GMAC Mortg. Corp.*, 629 F.3d 676, 694-95 (7th Cir. 2011); *O'Donnell v. Am. At Home Healthcare & Nursing Servs., Ltd.*, No. 12 CV 6762, 2015 WL 684544, at *2 n.4 (N.D. Ill. Feb. 17, 2015) (“Statements describing a declarant's intentions are not hearsay” or are “admissible under the state-of-mind exception to the hearsay rule”). The negligence determination in this case does not require the Court to determine whether Rodriguez's IRCA statement—that he would lower the gates to 16 gate feet to allow the Dale Heller and its tow safe passage into the canal—was true or false. *See* *Aetna Life Ins. Co. v. Wise*, 184 F.3d 660, 666 (7th Cir. 1999) (“The fact finder in this case was not required to determine whether the statement was true or false, only to recognize that the statement was made”). Given the settlement and dismissal of Ingram's contract

I can lower it very quickly to 16 gate feet . . . long enough for that flotilla to pass – safely pass.” (*Id.* at 1472-73). After hearing this, Henleben confirmed that the Dale Heller would attempt the transit at that gate setting, and subsequently called Pilot Shrader to inform him that “that was the plan; that the dam was going to be lowered to 16 gate feet and that we could safely navigate to get through there.” (*Id.* at 1471-73, 1478-80 (informing Shrader that Rodriguez “could manipulate those gates fast” to “16 gate feet” – that is, “16 feet of opening. That’s the only terms that we use. There’s no other”)); *see also* 10/04 Shrader Tr. at 1424; TREX 4000, Clip 311).

Thomas More—an Ingram port captain and IRCA participant—likewise recalled that “[v]arious different numbers were tossed around. The number of 16 feet of total gate opening is what I recall Mr. Rodriguez, the lockmaster, talking about.” (09/30 More Tr. at 1100-03). According to More, “There was a little bit of concern of how long they could hold that gate opening with the river rising as fast as what it was, that the river would back up and possibly flood the City of Marseilles or a portion of the City of Marseilles. But the Corps of Engineers thought that they could hold that gate opening for a period of time for the Dale Heller to transit down in the canal with the assistance of the Loyd Murphy and the two Corps of Engineers vessels.” (*Id.* at 1103). The plan—as More understood it—was for the Corps to “hold the dam opening to 16 foot long enough for the Dale Heller to safely transit down into the canal.” (*Id.* at 1104-05).

claim against the United States, moreover, the Court need not determine whether Ingram and the Corps reached an “agreement” on gate settings, contrary to Claimants’ suggestion. (R.919, Claimants’ Response Brief). The Court further considers Rodriguez’s IRCA statements to show their effect on the listener’s state of mind. *See United States v. Leonard-Allen*, 739 F.3d 948, 954 (7th Cir. 2013), *as amended on denial of reh’g and reh’g en banc* (“A witness’s statement is not hearsay if the witness is reporting what he heard someone else tell him for the purpose of explaining what the *witness* was thinking, at the time or what motivated him to do something”).

Carissa Koeller also listened to, and took contemporaneous notes on, the IRCA call. (09/29 Koeller Tr. at 1070, 1093). Those notes reflected, in part, “Larry at Marseilles . . . 66’ → 16’.” (TREX 19). Additionally, she sent an internal e-mail at 3:37PM—after the IRCA call—reflecting what she had heard concerning the plan to assist the Dale Heller. (09/29 Koeller Tr. at 1072-73). This e-mail stated: “Marseilles Lock/DAH Tow – They currently have 66’ of gate open, but are planning to close gates to 16’ at 1645 in order for the N/B tow Loyd Murphy and Cody Boyd to get moved N/B. They are waiting on the M/V Creve Coeur (COE Boat locking up now) to get up there before shutting the gates. The City of Ottawa & Creve Coeur will assist the City of Joliet and DAH down into the Canal out of harm’s way.” (TREX 65).

In addition, Adrienne Moore listened to, and took notes on, part of the IRCA call. (09/29 Moore Tr. at 1044-46). She “heard that they were going to lower the gate to 16 feet of gate.” (*Id.*). Her contemporaneous handwritten notes reflect that the participants had originally discussed “dropping the gates down to 12 to 15 feet of gate. There was a lot of conversation going on in the beginning of the meeting, different ideas being discussed.” (*Id.* at 1046-47; TREX 18 (“Shut gates off . . . drop down to 12-15’ . . . Cody Boyd assist DAH down into the canal . . . safe place”)). When she later rejoined the call and stopped taking notes, however, she heard the specific discussion concerning the number “16.” (*Id.* (“in the end, after I had come back from the meeting . . . they talked about lowering the gates to 16 feet of gate”)). Koeller’s 3:37PM e-mail (TREX 65) is consistent with Moore’s recollection of the IRCA call. (*Id.* at 1048). Neither Koeller nor Moore communicated with the Dale Heller after the IRCA call. (*Id.*; 09/29 Koeller Tr. at 1073).

b. Non-Participants in the IRCA Call

Neither Captain White nor Pilot Shrader participated in the IRCA call. After his 3:06PM conversation with Henleben, however, Pilot Shrader radioed to the other vessels, “I just got off the phone with, uh, my man there in the office and he’s saying Marseilles said they’d cut back to 16 feet possibly. You know. They’ve still got stuff to figure out. But since tentatively they’d cut back to 16 feet, let this stuff settle down a little bit and then, uh, Loyd, you and that Joliet take off northbound and, uh, Cody Boyd, you hang with me, you know, just hang on the side there somewhere, and just be available when I go down into the hole.” (TREX 5000, Shrader Clip 7; *see also* 10/03 Shrader Tr. at 1343). After hearing this transmission, Captain Ice asked Pilot Shrader to wake up Captain White to discuss the “game plan” with the “Corps of Engineers guys.” (*Id.*; *see also* 10/03 Ice Tr. at 1223-27).

An Ingram deckhand subsequently woke up Captain White, who proceeded to the City of Ottawa to meet with the other vessel captains (the “Captains’ Meeting”). (09/29 White Tr. at 872-73). According to White, the other captains explained the general plan to him, and someone speaking over the City of Ottawa’s pilothouse speakerphone—who Captain White believed to be from the Corps—stated that “they will have the gates down to a 16-foot gate.” (*Id.* at 874-76).³² Hearing this, Captain White “agreed to the whole plan.” (*Id.* (“I told them if they [were] going to get the gates down to a 16-foot gate and I was going to have all that horsepower on the outside of my tow, that . . . I was very comfortable with trying it’’)). Captain Ice likewise believed the speakerphone participant to be a Corps representative, who—according to Ice—stated that they

³² The Court discusses the Captains’ Meeting in more detail *infra*. The Court considers the statements of the speakerphone participant under the “state-of-mind” exception to the hearsay rule. *See* Fed. R. Evid. 803(3) (excepting from the hearsay bar “[a] statement of the declarant’s then-existing state of mind (such as motive, intent, or plan) . . . but not including a statement of memory or belief to prove the fact remembered or believed”). The Court also accepts them for the non-hearsay purpose of demonstrating their impact on Captain White. *See Leonard-Allen*, 739 F.3d at 954.

would lower the gates to 16 feet once the head of the tow was “a thousand feet above the dam... because that’s when the strongest outdrafts usually start to hit your boat.” (10/03 Ice Tr. at 1227-32; *see also* R.867, Slack Dep. Tr. at 119-20 (unable to identify the speakerphone participant); R.867, Stunkel Dep. Tr. at 80 (“[Q]. Do you know if anybody from the lock was there either in person or by phone? [A]. I do not know that”)).

ii. Other Industry Witnesses

Other industry witnesses who participated in the IRCA call recalled Rodriguez offering to lower the dam gates *to* a certain number, rather than *by* a certain number of feet. (*Contra* 09/28 Rodriguez Tr. 683-84). The Court recounts this witness testimony below.

1. **Harold Dodd (ACL)** recalled that Henleben and Rodriguez discussed lowering the gates to 16 feet, and—after some “back and forth” and after Henleben spoke with the Dale Heller—both were “willing to try it.” (R.867, Dodd Dep. Tr. at 207-15, 251). They “discussed that [the gate settings at that time] were in the 50s or 60s, you know, something we had never heard before, that high.” (*Id.* at 210). From Dodd’s perspective, “if the Corps had agreed only to lower the gates from somewhere in the 50s or somewhere in the 60s by 16 feet,” they’d “have to come up with another plan.” (*Id.* at 245-46, 254).
2. **Quenton Harris (Marquette)** recalled that, after Henleben asked whether the Corps could lower the dam gates to allow the Dale Heller safe harbor in the canal, Rodriguez “went on hold for a little while” and then came back and said, “Yes, I can set the gates in the teens.” (R.867, Harris Dep. Tr. at 25-31, 36-37, 47-48, 77-78). Harris could not recall the exact number, but it was “in the teens” and could have been 16 feet. (*Id.*). According to Harris, Rodriguez “did not say he would reduce the gates from current levels *by* a certain number of feet” because “that’s not how it works.” (*Id.*) (emphasis added). River mariners, in other words, “can’t operate that way because we don’t know what the setting is. [The lockmaster] can change the setting at any time . . . you’ve got to know exactly what the setting is going to be at . . . that tells the pilot exactly what the current’s going to do, the draft; and then he can make his decision.” (*Id.*).
3. **Shannon Hughes (Kirby)** recalled that, after he asked if “the gate settings could be reduced for a short period of time to safely get the boat into Marseilles Canal,” someone from the lockhouse said, “Yes we can. And Ed [Henleben] asked the question, What can you get the gate setting down to; and his reply was, around 15 feet.” (R.867, Hughes Dep. Tr. at 36-42). Prior to that discussion, the IRCA call participants had discussed the then-current gate setting at Marseilles – 66 feet. (*Id.*). In those river conditions, “there’s a concern of getting the tow into the canal. But at 15-foot gate setting, which [is what]

we were told was going to take place, no, there wouldn't be a concern.” (*Id.* at 48-49). After the call, Hughes called the on-site Kirby vessel—the City of Joliet—and told them “that the lock was going to be reducing the flows down to 15 feet of gate setting and that they needed to be in position to go down into the canal when the lock was ready for them.” (*Id.* at 52-53, 64). When asked whether “cutting the flow of a fast-running river next to a town by three-quarters can cause the river to rise,” Hughes responded, “I have no idea on the lock operation part of it.” (*Id.* at 82).

4. **Bernie Heroff (ARTCO)** recalled that that Corps had a “window” where they “might be able to reduce the dam opening so [the Dale Heller] could get in.” (R.867, Heroff Dep. Tr. at 92-96). Heroff could not recall specific details of this discussion. (*Id.*).

In addition, other industry witnesses—although not IRCA call participants—heard about the IRCA-developed transit plan. In particular:

1. **Jackie Daniel (IMS)** recalled hearing the 3:41PM Slack Transmission while aboard the Loyd Murphy. Specifically, Daniel testified: “It was my understanding that they were supposed to take it all the way down to 16 feet.” (R.867, Daniel Dep. Tr. at 83-84, 115-16). He did not hear the 4:23PM Slack Transmission. (*Id.* at 125-29).
2. **Orbie Deaton (Kirby)** recalled speaking to his port captain, Shannon Hughes, and learning that the gates would be dropped to 15 feet as the Dale Heller and its tow were approaching the canal, in order to give it “a short time to get into the canal.” (R.867, Deaton Dep. Tr. at 96-99, 104-06, 145-46, 158). His own vessel—the City of Joliet—would leave “a little bit before [the Dale Heller] did at a higher flow because we only had two barges.” (*Id.* at 97-98 (“I told [Hughes] it wouldn't be [a] problem for us leaving with two barges”)).
3. **Al Stunkel (AEP)** recalled learning, from the Captains' Meeting, that “there was going to be a window of opportunity there to cut the flow back . . . I don't know how much or when, but I know they were only going to be able to do it for a short time . . . You cut back too long, you flood the town.” (R.867, Stunkel Dep. Tr. at 82-83).

c. Coast Guard Testimony

Coast Guard representatives Jason Neubauer and Stacy Miller also participated in the April 18, 2013 IRCA call.

i. Captain Neubauer's Written Statement

On May 16, 2013—eighteen days after the attempted canal transit—Captain Neubauer issued a written statement concerning the IRCA call. (TREX 17). In it, he wrote that “[a]fter

some back and forth conversation, it was agreed that a setting of 16-gate feet would temporarily be required to enable safe passage into the Marseilles Canal It was then agreed that the 16-gate feet setting would be implemented just prior to the Dale A. Heller, assist tugs, and tow starting their approach to the Marseilles Canal and held for the shortest duration possible.” (*Id.*) Captain Neubauer “took care” in drafting this statement. (R.881, Neubauer Dep. Tr. at 90).

ii. Neubauer and Miller Deposition Testimony

Captain Neubauer later testified that he wrote the May 16, 2013 statement—using the phrases (1) “a setting of 16-gate feet” and (2) “the 16-gate feet setting”—“to indicate what [he] understood during the [IRCA] call.” (R.881, Neubauer Dep. Tr. at 191, 171, 90, 97). As he recalled, the lockmaster’s exact words were, “I can provide you 16 feet of gate.” (*Id.* at 87, 166; *see also id.* at 97 (“I can give you 16 feet of gate”)). Captain Neubauer’s Coast Guard team “really didn’t understand what 16 feet of gate meant. They didn’t know if it meant total gate setting or total applied. I don’t think they had an opinion either way.” (*Id.* at 166-69; *see also id.* at 171 (“there might be ambiguity amongst Coast Guard staff members because I felt like they may not be as well-versed on gate settings as somebody who works the waterways every day”)). Captain Neubauer personally interpreted “16 feet of gate” to mean a reduction *by* 16 feet from the current gate setting (“wide open”), although “[t]his was really the first time that I’ve listened to the industry and Army Corps discuss gate settings.” (*Id.* at 169, 174, 80-81). There was “never a specific clarification during the call” on this issue, although there was “some clarification” insofar as the participants discussed “which gates might be better to close than others.” In Captain Neubauer’s view, “that’s what helped me understand that it was only going to be 16 feet of gate applied,” since “[i]f you were going to apply only 16 feet of total gate, that would tell me you would almost use every gate.” (*Id.* at 81, 192-93, 170, 244-45).

Commander Miller, meanwhile, recalled “the number 16 foot of gate, gate feet, something to that effect.” (R.867, Miller Dep. Tr. at 28-2). The terminology used in Captain Neubauer’s May 16, 2013 statement—that is, (1) “a setting of 16-gate feet” and (2) “the 16-gate feet setting”—was consistent with Miller’s memory of the IRCA call. (*Id.*). Commander Miller further agreed that “that number, as [his] understanding was in April of 2013, was below the 20 to 25 feet [figure] . . . noted in the [WAP] for the Marseilles Dam[.]” (*Id.* at 60-61; *see also* TREX 8, WAP at 20 (“tows typically stop navigation above 20-25 feet of dam gate opening due to out draft conditions”)). The Coast Guard was satisfied with the plan as stated, and did not object to any part of it. (*Id.* at 78; *see also* R.881, Neubauer Dep. Tr. at 128 (“It was my belief that it was the best plan possible at the time”)).

d. Fact-Finding as to the IRCA Call

After weighing the aforementioned evidence and supporting documentation, and after assessing witness credibility, the Court finds that the IRCA call resulted in a plan wherein Lockmaster Rodriguez would lower the dam gates to 16 feet for a short period of time, sufficient to allow the Dale Heller and its tow to enter the Marseilles Canal, aided by one or more assist boats (hereinafter, the “IRCA Plan”). The following supports the Court’s finding on this issue.

i. Lockmaster Rodriguez’s Testimony Is Not Credible

First, in light of the inconsistencies discussed *supra* and the credibility of other witnesses, the Court discounts Lockmaster Rodriguez’s testimony concerning what occurred during the IRCA call. The other Corps witnesses who participated in the IRCA call either (i) do not recall anything about it (Hess and Zerbonia) or (ii) do not recall any specifics about the gate-setting discussion (Nock). The other Corps witnesses who testified to this issue, meanwhile, learned about it secondhand from Rodriguez. This limited and discounted testimony—particularly when

viewed against the evidence discussed below—does not overcome the overwhelming credible witness testimony and contemporaneous IRCA documents reflecting an arrangement to lower the gates to 16 feet.

ii. Gate Setting Terminology

Second, consistent witness testimony establishes that lock personnel and river mariners communicate gate settings in terms of the total cumulative gate opening across all gates – *not* in terms of a “gate feet” reduction from a dynamic setting. (*See, e.g.*, 09/28 Rodriguez Tr. at 647-648 (testifying that (i) “we’re running 14 gate feet,” (ii) “we’ve got 14 feet of gate,” and (iii) “we’ve got a 14-foot gate setting” each “refers to the cumulative total gate opening across at the Marseilles Dam eight gates”); R.881, Smith Dep. Tr. at 39-40, 139 (same); 09/28 White Tr. at 775-76 (a “16-foot gate” at Marseilles means that “each roller—or gate as they call them—would be two feet off the bottom of the river, which would total 16 feet”); R.867, Harris Dep. Tr. at 51 (“the lock tells you the gate. That’s the way it is. They tell you the gate opening. They tell you how much gate. That’s a gate setting); R.881, Griffin Dep. Tr. at 42-43). Ingram’s maritime expert, Captain Schropp, confirmed as much in the following exchange:

- Q. How does the dam tell you gate settings?
- A. In the total amount of opening across the dam and they’ll express that in gate feet. So, they’ll say, we’ve got 80 gate feet on the dam.
- Q. How many times in your entire career can you remember a lockmaster on the Illinois River or the Ohio River communicating gate settings in anything other than total open gate feet?
- A. I’ve never had that happen.

(10/05 Schropp Tr. at 1656). The terminology used in Captain Neubauer’s May 16, 2013 statement, moreover, parallels this language. *Compare* TREX 17 (referencing “a setting of 16-

gate feet” and “the 16-gate feet setting”) *with* 09/28 Rodriguez Dep. Tr. at 648 (“14 feet of gate” or “a 14-foot gate setting” means the “total gate opening”). Although Captain Neubauer later testified that he understood this reference to mean something different, he acknowledged that he lacked the expertise or experience of “somebody who works the waterways every day.” (R.881, Neubauer Dep. Tr. at 169, 171, 174, 80-81).

iii. Awareness of Industry Practice

Third, the record reflects that IRCA participants, including Rodriguez, were aware that commercial towboats with full tows “do not fool with [the Marseilles Dam] much over 20 feet.” (R.867, Daniel Dep. Tr. at 63-64; *see also* 09/28 Rodriguez Tr. at 663-64, 667). The Marseilles Lock and Dam Operations Manual, in fact, incorporates the WAP and recites that “[t]ows typically stop navigation above 20-25 feet of dam gate opening due to out draft conditions.” (TREX 9 at -1241; 09/28 Rodriguez Tr. at 666-67 (acknowledging the same); *see also* R.881, Neubauer Dep. Tr. at 39, 73; R.867, Miller Dep. Tr. at 32, 57-58).

Rodriguez, himself, “thought it was dangerous” for a tow to transit past the Marseilles Dam at an opening of 50 gate feet, yet he did not convey any such concern on the IRCA call. (09/28 Rodriguez Tr. at 681-83). Henleben concurred, testifying that any operation involving gate settings in the range of 50 feet would have “been too dangerous. And if I would have agreed to that, I’m sure the other industry leaders would have questioned that, as well . . . That’s just too high.” (10/04 Henleben Dep. Tr. at 1480-81; *see also* R.867, Dodd Dep. Tr. at 245-46, 254 (“if the Corps had agreed only to lower the gates from somewhere in the 50s or somewhere in the 60s by 16 feet,” they’d “have to come up with another plan”)). In 27 years at the lockhouse, Rodriguez had never witnessed a full tow—such as the Dale Heller’s—transit past the Marseilles Dam at such a heightened gate setting. (09/28 Rodriguez Tr. at 861). Other Corps

witnesses testified similarly. (R.867, Smith Dep. Tr. at 104; R.867, Beckman Dep. Tr. at 92; R.881, Cox Dep. Tr. at 150-51; *cf.* R.867, Hughes Dep. Tr. at 53-54, 67-72 (the City of Joliet “could safely go down through [the canal] at 66 feet with the [one load, one empty] tow they had” on April 18, 2013, but an “all-loaded 15-barge tow generally would not go down through there at 25 feet”); R.867, Deaton Dep. Tr. at 100, 108, 111 (same)).

iv. Gate Setting Responsibilities

Some evidence suggests that the Corps and Coast Guard may have relied on industry—that is, Ingram—to clarify the gate setting discussion on the IRCA call. (*See* R.867, Beckman Dep. Tr. at 60-61, 95 (“These industry towboats do this for a living . . . If they think that they can get that tow in that canal with that much flow, you’re going to have to trust that fact . . . we’re assisting”);³³ R.867, Miller Dep. Tr. at 41, 68-69 (“We were depending on industry to tell us if this was an emergency situation or not” and to “pull this together”)). The Corps, however, controlled the movement of the gates and the flow of traffic through the Marseilles Lock and Dam – not Ingram or any other commercial operator. Corps manuals and federal regulations make this responsibility clear, reciting, for example: (i) “It is the duty and responsibility of the Lockmaster . . . to [d]irect the movement and mooring of all vessels . . . in or near the lock and dam,” (ii) “No one shall cause any movement of any vessel . . . in the lock or approaches except by or under the direction of the lockmaster[,]” and (iii) the lockmaster “[e]xercises full regulatory authority in controlling river traffic through the facility.” (TREX 9, Marseilles Lock and Dam Operations Manual at –1110, –1128, –1147; 33 C.F.R. § 207.300(a); TREX 31, Corps Position Description at –8221-22; *see also* 09/28 Rodriguez Tr. at 675-79; R.881, Smith Dep. Tr.

³³ Beckman did not participate in the IRCA call. Rather, Rodriguez told him afterwards that industry had agreed to a 46-foot gate setting. No other evidence in the trial record supports this proposition.

at 89, 96-100). Ingram, in other words, had to receive Lockmaster Rodriguez's authorization in order to use the Marseilles Canal as a safe harbor on April 18, 2013. (*See id.*).

Towboat operators rely on lock personnel, moreover, to communicate accurate gate setting information. (TREX 74, Corps Training Manual at -71322 (“When a lock operator is locking a boat through, the operator must communicate with people on the boat . . . In emergency situations, it is even more important to be able to speak clearly and concisely to people”); R.881, Smith Dep. Tr. at 38-40, 92-93 (testifying to the importance of the lock giving “clear and concise information about gate settings”). As Captain White explained, “Usually when I call the lock, I give them my tow information, ask what they’re running, and they will proceed to tell me [the gate setting]. And, then, I go on down in the canal and make the lock, and normally I never hear another word from the lockman at all.” (09/29 White Tr. at 879). Other towboat operators testified similarly. (R.867, Harris Dep. Tr. at 48 (“And the understanding is that . . . when you set that gate there, that that’s the gate setting. We don’t go with assumptions and ambiguity. That was the gate setting”); R.867, Deaton Dep. Tr. at 131 (“[Q]. Do you rely on the lockmaster to tell you if the gates are going to change appreciably during your trip into the canal at Marseilles? [A]. Yes. [Q]. So that if the lockmaster tells you that the gates are going to be at a certain level and then discovers that they’re not going to be, you would expect him to notify you of that? [A]. Yes”)). As one operator explained:

[A]s mariners, we have to rely on the lock to give us a gate setting . . . We [have] to know exactly what the gate setting is so then we can determine . . . what our actions are because every high water event is different. We need to know exactly what that gate setting is. And that kind of gives us an idea of what that’s going to do to our tow and our boat as we proceed down on any lock, if it’s Marseilles or any lock. It’s—the gate setting is very, very important for the mariner to know.

(R.867, Harris Dep. Tr. at 28). Furthermore, as Lockmaster Rodriguez acknowledged, an upriver mariner cannot “see the gate setting” at the Marseilles Dam. (09/28 Rodriguez Tr. at 634-35; *see also* 09/28 Hess Tr. at 739 (same)).

Given this evidence—and the customary gate-setting terminology discussed above—the Corps had the responsibility to clarify the gate setting discussion on the IRCA call.

v. No Reason to Question a 16-Foot Gate Setting

The record is also devoid of meaningful evidence that Henleben (or any other industry participant) should have questioned Rodriguez’s ability or intent to lower the dam gates *to* 16 feet at the time of the IRCA call.

In terms of ability, several Corps witnesses questioned, post-facto, the plausibility of lowering the gates to 16 feet to allow the transit “given the amount of flow coming down the river.” (*See e.g.*, R.867, Nock Dep. Tr. at 123-24; R.867, Heinhold Dep. Tr. at 26-27 (“I assume that cutting the total gate from 66 to 16 would not be a reasonable thing to do . . . given the flows that were coming down the river at that time, I believe the gates would have been overcome . . . there would likely within minutes be water flowing over the gates”); R.867, Slack Dep. Tr. at 107, 112, 113, 114-15 (testifying that a 16-foot total gate opening would have been “impossible” because that is “very little opening,” akin to “virtually shutting off the dam” in flood conditions)). None of these witnesses, however, testified with any degree of certainty on this issue. (R.867, Heinhold Dep. Tr. at 26-27 (testifying that he could not say “with any certainty” that “there would also be flooding in the town with minutes”); R.867, Slack Dep. Tr. at 113 (“it was not my area of expertise to do any more than pass on numbers I heard”); *id.* at 206-07 (testifying—in response to whether he “felt the Corps could have closed the gates long enough to get the tow down into the canal”—that, “[h]ad different things been done differently, probably,

possibly”); *see also* R.867, Grimm Dep. Tr. at 31, 54-55 (recalling that Captain Slack made post-incident statements expressing “displeasure” about the way the Corps had operated the gates during the attempted transit)). Indeed, as discussed *infra*, expert evidence establishes that a “window of opportunity” existed for the Corps to hold the gates to 16 feet long enough to allow the transit without flooding the city of Marseilles. (09/23 Garcia Tr. at 488-89; 10/04 Holly Tr. at 1541-48; *see also* 09/28 Hess Tr. at 743-44 (testifying that the Corps could have called its own hydraulic engineers to weigh in on the issue)).

In terms of intent, the only firsthand account supporting Rodriguez’s IRCA testimony comes from Captain Neubauer, who testified that the IRCA participants discussed closing *certain* gates to reduce the outdraft, whereas “[i]f you were going to apply only 16 feet of total gate, that would tell me you would almost use every gate.” (R.881, Neubauer Dep. Tr. at 81, 192-93, 170, 244-45). No other firsthand witness, however, recalled this discussion, and the contemporaneous notes taken by Koeller and Moore—while referencing the speed of gate movements (“1 foot / minute”)—do not make reference to particular gate numbers. (TREX 18, TREX 19). The other corroborating evidence—Assistant Lockmaster Smith’s testimony and the 4:23 Slack Transmission—are not firsthand evidence of the IRCA call discussion. Rather, both stem from Rodriguez’s post-call statements. (R.881, Smith Dep. Tr. at 128-29 (post-call, Rodriguez told Smith he would “close gates 1, 2, 3, and 4 and shut them down 4 feet from what they currently were”)); TREX 5000, Ice Clip 14 (4:23PM Slack Transmission, “So, they, they’re going to shut four on the, uh, left side and that’s all”)). Thus, although both corroborate Rodriguez’s testimony that he had planned to—and did—lower Gates 1-4 by four feet each

(09/28 Rodriguez Tr. at 717-19), they do not convince the Court that—during the IRCA call—Henleben should have questioned Rodriguez’s intent in operating the dam gates.³⁴

3. The Captains’ Meeting

Captains White, Ice, Stunkel, and Slack attended the Captains’ Meeting onboard the City of Ottawa, which lasted from 3:18PM to 3:37PM. (R.846-1, Stmt. of Uncontested Facts ¶¶ 78-80). Corps deckhands were also present. (*Id.*). No one from the City of Joliet or the Creve Coeur attended the meeting. (*Id.*).

a. General Operational Details

The attendees—including the speakerphone participant—discussed the operational details of the IRCA Plan, including transit communications and assist boat movement. (09/29 White Tr. at 873-82; 10/03 Ice Tr. at 1227-37; R.867, Stunkel Dep. Tr. at 80-83; R.867, Slack Dep. Tr. at 120-21; R.867, Brown Dep. Tr. at 24-25; 10/05 Schropp Tr. at 1657-58). The tactical plan following this meeting was for (i) the City of Joliet to transit into the Marseilles Canal with its two barges, (ii) the Loyd Murphy and the Cody Boyd to move the Loyd Murphy’s tow across the river—where the Cody Boyd would hold it—and (iii) for the Loyd Murphy, the City of Ottawa and the Creve Coeur to then help the Dale Heller transit into the canal with its fourteen barges. (*See id.*; *see also* R.846-1, Stmt. of Uncontested Facts ¶¶ 81-85)). The advantage of the IRCA Plan, as Captain White explained, was that by “dropping the gates down to a 16-foot gate, that would do away with probably 80 percent of the crosscurrent that I’m going to run into right at the very upper end of the canal; and, that would give me the opportunity to get on down in the

³⁴ Corps representative Brady Beckman also questioned why there would be any need for assist boats if, in fact, the lockmaster was lowering the gates to 16 feet, as opposed to 46 feet. (R.881, Beckman Dep. Tr. at 93-95). As Ingram’s maritime expert explained, however, “the river would still be swift. There would still be a lot of drift, a lot of junk coming down. And it was really necessary—it was essential that the Dale Heller be in the proper place in the river at the proper time when the gates reached that 16-foot configuration so that they could get into the canal without—without delaying the process.” (10/05 Schropp Tr. at 1664).

canal.” (09/29 White Tr. at 881-82). Given the rising river level and increasing drift, Captain White preferred this course of conduct. (*See id.*; *see also* 10/03 Ice. Tr. at 1225-26, 1241 (discussing continuing drift issues); TREX 5000, Ice Clip 12; TREX 5000, Shrader Clip 9; 10/03 Shrader Tr. at 1345-46 (“I thought it was a viable plan . . . Since we were slowly dropping down, something needed to be done. And it sounded like a good plan and that it would work . . . going down to 16 feet, that’s a doable stage’’)). At that point in time, the vessels had “maybe two to two-and-a-half hours of daylight [left] at the most.” (09/29 White Tr. at 886; *see also* 10/03 Ice Tr. at 1299-1300).

b. The Communications Plan

As part of this operational planning, Jeff Griffin—a Crane Operator Supervisor who did not have any supervisory role over the lockmaster—was designated as the intermediary “communicator” between the vessels and the lock. (R.867, Slack Dep. Tr. at 127-28; R.881, Griffin Dep. Tr. at 95-96). According to Griffin, Beckman and Zerbonia asked him “to go up and assist however we could assist,” since his maintenance vessels—the City of Ottawa and the Creve Coeur—would be there. (*Id.* at 31, 96 (“I was the only supervisor there for the maintenance fleet’’)). Beckman, meanwhile, recalled “talking to both Jeff [Griffin] and Larry [Rodriguez] and ensuring that they were going to be talking to one another as [to] exactly when the dam was going to be going down. And so there was clear communication between the tow and the dam and the operator of the dam.” (R.867, Beckman Dep. Tr. at 49-50). Rodriguez and Griffin did not, however, “have a specific conversation . . . in which [they] talked about what the plan was for the transit, how the communications would go, and what would happen if [Rodriguez] got to the point that [he was] concerned that the town would flood.” (09/28 Rodriguez Tr. at 687; *see also* R.867, Zerbonia Dep. Tr. at 214 (acknowledging that such a

conversation “should have happened”); R.881, Griffin Dep. Tr. at 97-98, 182-83 (the plan was, “whenever [industry] felt they were ready, I would call [Rodriguez] on the phone”); *but see id.* at 193 (agreeing that they had “no specific plan as to what would be done if there was a concern about flooding”).

From the industry side, Captain Ice agreed to facilitate transit communications from the Loyd Murphy in order to reduce distractions in the Dale Heller pilothouse, such that Captain White could keep his “undivided attention on what was happening with [his] tow.” (09/29 White Tr. at 878-79; 10/03 Ice Tr. at 1235-37, 1302-03). As Captain Ice testified, “I was going to help [Captain White] run communications to a degree. Jeff Griffin was going to come up—he was with the Corps—and get on my boat so that he could—so Charlie didn’t have any distractions in his wheelhouse . . . I relayed whatever Jeff told me to relay, you know. He would say my name and I would pass on to the rest of the flotilla what was being said between him and whoever he was on the phone with.” (*Id.* at 1235-37)). Captain White did not attempt to communicate with either Griffin or Rodriguez during the transit, although the evidence indicates that he could have done so via marine radio. (09/29 White Tr. at 879, 985; R.881, Griffin Dep. Tr. at 196, 248-49, 278; R.881, Smith Dep. Tr. at 139; R.867, Hughes Dep. Tr. at 74-76). Lockmaster Rodriguez, in any event, was not monitoring the relevant radio channels. (09/28 Rodriguez Tr. at 724 (“[Q]. Were you monitoring ship-to-ship communications during this transit? [A]. No”)).

c. The Slack Radio Transmissions

The Captains’ Meeting ended at 3:37PM. (R.863, Uncontested Timeline). Minutes later, Captain Slack radioed the Loyd Murphy, “Captain Tony, you read me?” (TREX 4000, Clip 100). Pilot Daniel informed Captain Slack that Captain Ice had not yet returned to the Loyd Murphy. (*Id.*). Captain Slack responded, “Okay, just pass this on . . . when they get here with

Creve Coeur, they'll shut the dam down to 16." Pilot Daniel then interjected, "Here he is, right here," at which point Captain Slack informed Captain Ice, "Jeff just told me he's coming up on the Creve Coeur. When they get here with it, he'll have the uh, lockmaster shut down the dam to 16 feet." (*Id.*). Other vessel operators listening to this radio communication—the 3:41PM Slack Transmission—understood it to confirm a total gate opening of 16 feet. (10/03 Shrader Tr. at 1344-45 (interpreting it to mean that "the lockmaster was going to shut it down to 16 feet on the gates"); R.867, Daniel Dep. Tr. at 83-84, 115-16 ("[Q]. So you heard 16 feet from the City of Ottawa? [A]. Yes"); *see also* 10/03 Ice Tr. at 1242-43, 1302). Captain White did not hear the 3:41PM Slack Transmission because he was "on the way from the head of [his] tow back to the stern of [his] tow when this conversation was going on." (09/29 White Tr. at 973-75 ("What I was told, the gates would go down to 16-foot gate and they would be there or stay there long enough for me to get in the canal. No time frame"))).

Between 4:11 and 4:45PM, the Loyd Murphy disconnected from the Dale Heller and moved its tow across the river. (R.863, Uncontested Timeline). During that time, Captain Slack again radioed the Loyd Murphy, "Tony, I've got the parameters on that dam. It takes them 4 minutes to shut the gates and 4 minutes to open them. So, they, they're going to shut four on the, uh, left side and that's all." (Trex 5000, Ice Clip 14). Captain Ice responded, "Okay that will work. Uh, once that Joliet gets in the hole and I get over there alongside and you get up alongside, then we'll have them go ahead and shut them." (*Id.*). This radio communication (the 4:23PM Slack Transmission) did not cause Captain Ice—or any other vessel operator who had heard it—to believe that the IRCA Plan had changed. (10/03 Ice Tr. at 1243-44 ("I did not think that anything had changed because we had agreed on 16 foot at the time we had agreed on"); 10/03 Shrader Tr. at 1347 (testifying that he did not tell Captain White about the transmission

because it “didn’t affect anything in the plan. They didn’t – just them discussing how long it takes for them to get the gates down and up”); 09/29 White Tr. at 977 (testifying that he was not present in the pilothouse for this transmission)).

The Creve Coeur subsequently arrived at Ballards Island, carrying Griffin, who then joined Captain Ice in the wheelhouse of the Loyd Murphy in preparation for the canal transit. (10/03 Ice Tr. at 1237-38, 1241; R.881, Griffin Dep. Tr. at 106-07)). After he boarded, Griffin did not give Captain Ice any reason to believe that the IRCA Plan had changed. (10/03 Ice Tr. at 1245 (“[Q]. What, if anything, did Jeff say to you when he was on the boat about any change or possible change in the 16-foot agreement? [A]. He never said anything as far as a change was going”)). Griffin, meanwhile, could not recall whether or not he told Captain Ice “what [he] thought the gate settings were going to be set to.” (R.881, Griffin Dep. Tr. at 289-90).

C. The Evening

1. The Loyd Murphy’s Tow

As noted above, the Loyd Murphy disconnected from the Dale Heller at 4:11PM, and, with the help of the Cody Boyd and Creve Coeur, moved its tow across the river to a pocket along the right descending bank, upriver of Gum Creek. (R.863, Uncontested Timeline; R.846-1, Stmt. of Uncontested Facts ¶¶ 57-58, 81; 10/03 Ice Tr. at 1295-97). There, the 3,000 horsepower-rated Cody Boyd held the Loyd Murphy’s fifteen-barge tow, without issue, for the remainder of the high-water event on April 18, 2013. (*Id.*). According to Captain Stunkel of the Cody Boyd, that “pocket” meant less current. (R.867, Stunkel Dep. Tr. at 89-91). That pocket, however, was also “very shallow” and “very rocky.” (10/03 Ice Tr. at 1289; *see also* 10/05 Schropp Tr. at 1638-39 (“Ballards Island has a mud bank as opposed to a rocky shore . . . There are rock shelves on the right descending bank in that area and the river runs out more shallow.

So, there's a possibility of either pulling rocks off the bottom, sucking them up through the wheels . . . or poking holes in the barges as you land in the rocks"). Furthermore, while there may have been room for additional barges below that point, such barges would have faced increased current. (R.867, Stunkel Dep. Tr. at 89-91; *see also* R.867, Daniel Dep. Tr. at 180-84 ("there's room for one tow in there"))).

As the Loyd Murphy moved its tow across the river, the Dale Heller, the City of Ottawa, and the City of Joliet—with a combined total horsepower of 12,220—held the Dale Heller's tow at Ballards Island. (10/03 Ice Tr. at 1297; R.881, Orloff Dep. Tr. at 74-75; 09/29 White Tr. at 1004-06).

2. The City of Joliet's Tow

At approximately 4:48PM, the City of Joliet and its two barges detached from the Dale Heller's tow, reversed direction, and transited southbound past the Marseilles Dam, successfully entering the canal at 5:02PM. (R.846-1, Stmt. of Uncontested Facts ¶¶ 82-84). At that time, the total gate opening was approximately 60 gate feet. (TREX 88, Fittanto Animation; TREX 85, Fittanto Rep. Table 12).

When questioned about his strategy in counteracting the outdraft at Marseilles, Captain Deaton responded that he "stay[s] as close to the left descending shore as possible" and applies "a little bit more speed" if he sees the outdraft impacting his tow. (R.867, Deaton Dep. Tr. at 39-40, 110; *see also id.* at 133 ("[Q]. Was there a strong outdraft that day? [A]. I couldn't tell much because I had good speed up, you know, two barges")). The situation is "totally different," however, when navigating a full tow such as the Dale Heller's. (*Id.* at 133, 39 ("less barges, you don't have near the outdraft because you don't have the length and weight")). The use of assist boats also changes the calculus. (*Id.* at 158 ("[Q]. Isn't it true that when you're using assist boats

on a tow, you have to go slow for the assist boats . . . to be of any use? [A]. Yes. [Q]. And could you explain why that is? [A]. Because they wouldn't be able to stay on the side of the tow with the speed . . . They would be useless"); *see also* 09/29 White Tr. at 911 (testifying to the same); 10/03 Ice Tr. at 1315-16 (same)).

3. The Dale Heller's Tow

a. The Beginning of the Transit (5:02PM)

About fifteen minutes before the transit started, Captain Ice stated on the radio, "Jeff [Griffin] says he's got the phone ready waiting to shut the dam off when need be . . . once we start easing down, I'll have Jeff make the call. I don't want to keep it shut down for too long." (TREX 4000, Clip 205). At 4:57PM, wheelhouse audio captured Captain White stating, "he'll call the lock, then they can drop their rollers. It takes 4 minutes. It'll take us that long, I'm sure, to work down there." (*Id.*). At 4:58PM, the gate setting was in the mid-to-high 70s. (TREX 85, Fittanto Rep. Table 12 (79 feet at 4:58PM); TREX 2326, Garcia Rep. at Table 8 (76 feet at 4:58PM)).

At 5:02PM, after receiving gate information from Griffin, Captain Ice radioed the other vessels, "They're putting the dam down right now . . . It takes them 4 minutes to put the dam down . . . They're at 76 right now he said, going down to 55." (TREX 4000, Clip 17; TREX 5000, Ice Clip 16 (the "76 to 55 Transmission"); *see also* TREX 2036, Griffin Phone Records, (reflecting a lockhouse call at 5:01PM)). Transmitting this, Captain Ice did not "believe there was any kind of change at all [to the IRCA Plan]. I didn't know how they were going to put the dam down, you know, to 16 foot if it was in stages or what, because there was an awful lot of water coming down that river." (10/03 Ice Tr. at 1248, 1303-04). Griffin, meanwhile, claimed

that he “thought [the captains] all knew” that the gates would be set to 55 feet. (R.881, Griffin Dep. Tr. at 121-22).

After hearing the 76 to 55 Transmission, Pilot Shrader commented to Captain White, “I thought he was going down to 15,” to which Captain White responded, “They are.” Pilot Shrader then remarked, “He says it’s going down to 55,” to which Captain White responded, “Yeah he’s dropping them now . . . He’s just telling us what it’s getting to.” (TREX 4000, Clip 17). In so responding, Captain White “tried to assure [Shrader] that I didn’t expect the gate to be at 15 whenever we started, but I expected them to be at 15—or not 15, but 16 when we got there.” (09/29 White Tr. at 897-99; *see also* R.867, Daniel Dep. Tr. at 156 (“they [were] supposed to take this thing down to 55 feet and as we approached on down there it was supposed to come on down to 16”)). This response, in turn, “reassured [Shrader] that that’s what was going on, that they were going to 15 feet.” (10/03 Shrader Tr. at 1347-49). Neither Pilot Shrader nor Captain White verified further that the gates would, in fact, continue to go down to 16 feet of total gate opening. (*Id.* at 1377). The 76 to 55 Transmission—at 5:02PM—was the last gate setting that Captain Ice (or anyone else) relayed to Captain White and the other vessel operators. (10/03 Ice Tr. at 1304; 09/29 White Tr. at 982-83; 10/03 Shrader Tr. at 1380).

At 5:03PM, the Dale Heller and the three assist boats—the Loyd Murphy, the City of Ottawa, and the Creve Coeur—began their southbound transit to the canal. (R.846-1, Stmt. of Uncontested Facts ¶ 85; R.863 Uncontested Timeline). By that time, Rodriguez had lowered the gates to 60 feet. (TREX 85, Fittanto Rep. Table 12 (60 feet at 5:03PM); TREX 2326, Garcia Rep. Table 8 (60 feet at 5:03PM)). The flotilla proceeded at approximately two miles per hour. (09/29 White Tr. at 909-10; 10/03 Ice Tr. at 1246 (“It was safe navigable speed”); 10/05 Schropp Tr. at 1666-67 (“So you have to go slow to be able to give the assist boats a chance to effectively

move the tow where you want it to go . . . [appropriate speed] is all based on the captain or pilot’s assessment of the prevailing circumstances’’)).

In terms of the physical pilotage of his tow, Captain White’s plan “was to keep my stern tucked in as close to the [left descending] bank as I could and use my assist boats to control my head and keep my head close to the bank . . . And when I get to a certain point and the gates get down to shut off this current, then I can push it full ahead and push it on down in the canal.” (09/29 White Tr. at 888-89). Captain White was satisfied with the positioning of his tow throughout the attempted transit. (*Id.* at 889-906). Expert testimony and correlated audio-visual evidence, including the contemporaneous video feed from Dam Camera 6—all of which the Court has reviewed—confirm the soundness of tow alignment and assist boat positioning throughout the attempted transit. (10/05 Schropp Tr. at 1665, 1669-72, 1674; TREX 52; TREX 88; *see also* 10/03 Ice Tr. at 1247 (“[Q]. What did you believe about his position as he came down? [A]. We looked—we looked good all the way down through here . . . He stayed over here in here tight, close, the way it should have been’’)).

b. The Middle of the Transit (5:18PM)

i. Holding Underneath Ballards Island

At 5:15PM, as the flotilla neared the slack water underneath Ballards Island, Captain Ice transmitted, “If we have to, I know we could stop right here . . . You’re under that point, you know.” (TREX 5000, Ice Clip 17). Captain Ice “felt no reason in stopping” at that point, but wanted “to put it out there that, you know, this is a whoa or go spot” in the event that Captain White was having issues with his tow. (10/03 Ice Tr. at 1249). “Everything was looking good,” however, so the flotilla continued southbound. (*Id.*; *see also* 09/29 White Tr. at 902 (“I was satisfied with, you know, the position we was in. I really wanted to go on with it’’)).

ii. River Observations

During the transit, Rodriguez and Smith monitored pool elevation, in part, by using Dam Camera 4 to pan and zoom into a tie-off cell near the right descending bank – using it as a visual reference point. (Rodriguez Tr. at 638, 692-93, 695-96). They could also monitor an upstream elevation gauge in real-time. (*Id.* at 637-38, 689-91) (“[Q]. And the second arrow to the right . . . that 484.50, is there—while you’re standing at that workstation, do you have a digital printout of the pool level based on that pool elevation gage and that stilling well upstream from the dam? Is that what that number is? [A]. Yes”). The lockhouse also monitored the movement of the southbound flotilla through Dam Camera 6. (*Id.*).

When Lockmaster Rodriguez lowered the dam gates as the transit began, the river level rose—albeit not “much above normal pool level” (09/28 Rodriguez Tr. at 696-97)—causing certain witnesses to comment on its rise. Around 5:15PM, for example, Captain Ice transmitted, “They cut some dam off, you can see that. It’s already come up three feet over there on the shore.” (TREX 4000, Clip 119). As Captain Ice explained, he did not observe the river rise by three feet; rather, he saw the water wash over low lying land, going “three feet up the shore.” (10/03 Ice Tr. at 1304-05; *see also* 09/29 White Tr. at 899-901 (testifying, “I never paid that much attention to it. I glanced that way [to the park on the left descending bank], but I—just in my mind, I assume if you’re going to drop the rollers down in the water, the water’s going to come up”)). An Ingram deckhand, too, observed the water “coming up fast.” (R.867, Guge Dep. Tr. at 123, 149-50).

A Marseilles resident watching the river from Snug Harbor Marina, meanwhile, observed the river moving “very quickly,” between 8 and 10 miles per hour, and “lapping at” the edge of the Snug Harbor dock. (R.867, Jakupcak Tr. at 27, 43, 45-46). Snug Harbor is the lowest point

in the earthen dike running along the right descending bank of the river, with an elevation of 487.7 feet. (09/23 Garcia Tr. at 436, 525; 10/04 Holly Tr. at 1526, 1543, 1547). Snug Harbor, thus, constitutes the place where “overtopping would first occur in an overtopping scenario.” (*Id.*). Griffin—from onboard the Loyd Murphy—also observed the water level rise at Snug Harbor. (R.881, Griffin Dep. Tr. at 122, 239; *see also id.* at 264 (“I mean, it was getting close. I don’t think that it was higher than the levee, but it was getting close”); TREX 2033, Griffin Coast Guard Witness Statement (“[Y]es, saw that the town was flooding—within 6 inches of coming over the levee”)). When asked, post-incident, “who first noticed that the town was flooding,” Griffin stated, “Jeff (myself), the Captain of the Loyd Murphy, [and] Larry saw it on the camera.” (TREX 2033 at –31788); *see also* R.881, Griffin Dep. Tr. at 143-44, 148, 183 (same)). Several pieces of evidence, however, belie Griffin’s statement on this issue, including the contemporaneous video footage from Dam Camera 4—which the Court has reviewed—and the trial testimony of Captain Ice and Lockmaster Rodriguez. (*See e.g.*, 10/03 Ice Tr. at 1267 (“[Q]. Did you ever see any flooding at the City of Marseilles prior to the accident involved in this case? [A]. No, I did not”)).

For his part, Lockmaster Rodriguez—the top-ranking Corps manager at the Marseilles facility, with 27 years of experience in lock and dam operations—never witnessed “any conditions that would have alarmed [him] that the town was in any kind of threat of being flooded” during the attempted transit. (09/28 Rodriguez Tr. at 622-23, 700). Based on his own pool gauge monitors and camera observations, he had no concern about Marseilles flooding. As he testified:

[Q.] When you were ordered by Jeff [Griffin], when he gave you an order to open gate, was there any issue of flooding?

[A]. No.

[Q]. As long as the water didn't hit to the top of the cell you were watching -- or you and Floyd [Smith] were watching -- you weren't concerned about Marseilles flooding, were you?

[A]. No, I wasn't.

(*Id.* at 700).

After reviewing dam camera footage and expert evidence on this issue, the Court finds that—at 5:18PM—there was no imminent risk of flooding in Marseilles. (TREX 77, Dam Camera 4 Footage; TREX 52; TREX 85, Fittanto Rep. at Figure 50 (“The distance from the water to the top of the [reference] cell was approximately 30 inches”); 09/23 Garcia Tr. at 520-21 (“[Q]. So we're all clear, the highest elevation, according to your model running Scenario 6, was 484.5, perhaps 484.6? . . . [A]. Right . . . [Q]. And the low elevation of the dike along the right descending bank is 487. -- [A]. 7”); R.867, Koob Dep. Tr. at 67 (testifying that the Marseilles Pool reached a maximum elevation of 484.69 feet); *cf.* 09/29 White Tr. at 900 (“[Q]. Prior to the accident and during the transit, did you ever see the town of Marseilles flood? [A]. No, sir, I did not”)).

iii. The Open More Gate Transmission

Radio recordings reflect that, around 5:17PM, Captain Ice radioed, “I'm telling him to open up a little bit more gate because they're starting to flood up into them houses already.” Captain White responded, “Okay.” (TREX 4000, Clip 121; TREX 5000, Ice Clip 18 (the “Open More Gate Transmission”)). Seconds later, Captain Ice relayed, “If you look, that ladder's already under water over there.” (*Id.*). Captain Ice, however, denied ever observing flooding in the city of Marseilles, and denied ever telling Griffin to open up the dam gates. (10/03 Ice Tr. at 1267, 1251). According to Captain Ice:

Prior to that transmission -- that was actually a mix-up in my words -- Captain Charlie [White] had said to me, I'm starting to get aground or I'm starting to suck down, as he's

trying to come ahead on it. And I was getting ready to tell him, I'm going to pull your stern out, and just as I grabbed the radio, Jeff [Griffin] said, hey, they're flooding the houses; I'm telling them to open up dam. And I just instantly repeated what he said rather than finishing my transmission.

(*Id.* at 1250-51). After hearing his live testimony and witnessing his demeanor, and after reviewing the full audio transcript and Griffin's deposition transcript, the Court credits Captain Ice's explanation for the Open More Gate Transmission, finding him to be a credible witness. (TREX 52, Audio Transcript; R.881, Griffin Dep. Tr. at 278, 284 (discussing the "ladder across the river" from the park – that is, at Snug Harbor); 10/03 Ice Tr. at 1306-07 (Griffin is "looking all around behind me. I'm just focusing forward, you know, downriver and forward")). Given the Corps' regulatory authority over lock and dam operations, moreover, it is not reasonable to assume that a towboat operator such as Captain Ice would have "told" Corps personnel to "open up more gate." (TREX 9 at –1110 ("It is the duty and responsibility of the Lockmaster . . . to [o]perate the lock and dam . . . in accordance with regulations"); *contra* 10/03 Ice Tr. at 1251 ("I'm not a dam operator. I drive a towboat"))).

In addition, as noted above, several pieces of evidence directly refute the accuracy of Griffin's post-incident witness statement and deposition testimony regarding his mid-transit "flooding" observation, including (i) the trial testimony of both Captain Ice and Lockmaster Rodriguez; (ii) the Court's review of contemporaneous camera footage; and (iii) expert evidence concerning the risk of overtopping at Snug Harbor. (*Compare* TREX 2033 at –31788 *and* R.881, Griffin Tr. at 143-44, 148, 183, *with* 10/03 Ice Tr. at 1267, 09/28 Rodriguez Tr. at 700, TREX 52, TREX 85 at Fig. 50, *and* 09/23 Garcia Tr. at 520-21). The Court, accordingly, discounts Griffin's testimony that—when he called Rodriguez mid-transit to open the dam gates—it was on Captain Ice's direction. (R.881, Griffin Dep. Tr. at 143-48, 253)). Indeed, such testimony

directly contradicts the Corps manuals and federal regulations that place these duties on the lockmaster.

In any event, Griffin himself recognized that he was “never delegated the duty or the responsibility to determine when [the] gates should be opened or closed” and that, ultimately, it “would be the lockmaster’s decision to raise the gates if necessary because of flooding.” (*Id.* at 127-28). The Marseilles Lock and Dam Operations Manual makes this clear, reciting, “It is the duty and responsibility of the Lockmaster . . . to [o]perate the lock and dam in the most efficient manner possible and in accordance with regulations.” (TREX 9 at –1110). Federal regulations, too, state that the “lockmaster shall be charged with the immediate control and management of the lock, and of the area set aside as the lock area, including the lock approach channels.” *See* 33 C.F.R. § 207.300(a). Thus, while Griffin may have been familiar with the Marseilles Dam through his maintenance duties, he lacked the expertise—or regulatory authority—to direct the operation of the dam gates. (*Id.*; R.881, Griffin Dep. Tr. at 71-73; 09/28 Rodriguez Tr. at 685-86).

After hearing the Open More Gate Transmission at 5:17PM, Captain White stated, “Okay.” (TREX 4000, Clip 121). He did not later confirm that the Corps would, in fact, lower the gates again to 16 feet. (09/29 White Tr. at 981-83; 10/03 Tr. at 1308)). Neither did Pilot Shrader. (10/03 Shrader Tr. at 1378-80). This transmission did not concern Pilot Shrader, though, because “the plan was to go to 15. They didn’t mention anything about going—changing that.” (10/03 Shrader Tr. at 1349-50 (“[Q]. So the transmissions that you heard didn’t reference any other gate setting agreement? [A]. Correct”)). Captain Ice, likewise, was not concerned. (10/03 Ice Tr. at 1251-52 (“I figured if there was going to be a major change, he’d be like, hey, we’re not going to make it to 16 feet”)). Captain White, meanwhile, was under the

impression—based on prior radio transmissions—that it only took the lockmaster “four minutes to get these gates down to a 16-foot gate.” (09/29 White Tr. at 897, 899, 979; *see also* 10/04, Henleben Tr. at 1472-73 (recalling that Rodriguez had represented on the IRCA call, “I can lower it very quickly to 16 gate feet”)).

iv. Mid-Transit Gate Raising

After receiving Griffin’s mid-transit call, Rodriguez opened the dam gates without consulting with anyone or independently verifying any information. (TREX 23 (“I was directed to open the gates back up to 66 feet . . . When I was getting orders it was by radio from Jeff Griffin”); *see also* TREX 2036, Griffin Phone Records). Rodriguez contends that he did so because Beckman—who was not his supervisor—had told him to “follow orders” from Griffin—also not his supervisor—regarding when to act upon the dam gates. (09/28 Rodriguez Tr. at 685-86; *id.* at 702 (“[Q]. Did you use your own judgment in raising the gates, or were you just following orders? [A]. I was following orders”)). Beckman, however, denies giving Rodriguez this direction. (R.867, Beckman Dep. Tr. at 50-51). Indeed, given Griffin’s role as a Crane Operator Supervisor—with no expertise in dam gate movements—it would not have made sense to put Griffin in charge of this significant task during such a challenging operation. (09/28 Hess Tr. at 741 (“[Q]. On April 18th, 2013, did you give Larry Rodriguez permission to delegate any of his lockmaster duties to Jeff Griffin or Brady Beckman? [A]. No, I did not”); R.867, Zerbonia Dep. Tr. at 217 (testifying that Rodriguez had the authority to ignore Griffin’s gate-setting instruction or recommendation)).

As noted above, Rodriguez—the top-ranking Corps manager at the Marseilles facility, with 27 years of experience in tainter gate operations—had no concern about Marseilles flooding at the time he raised the gates. (09/28 Rodriguez Tr. at 622-23, 700). In fact, if Griffin had not

“ordered” him to raise the gates, Rodriguez would not have done so. (*Id.* at 702). Nonetheless, beginning around 5:18PM, Rodriguez started to raise the gates. (TREX 2326, Garcia Rep. Table 8 (64 feet at 5:20PM; 88 feet at 5:26PM); TREX 85, Fittanto Rep. Table 12 (76 feet at 5:23PM; 88 feet at 5:27PM); *see also* R.881, Cutler Dep. Tr. at 229-30 (agreeing that it did not make “any sense” to “reopen the gates all the way” prior to the flotilla entering the canal, unless there was a “dire emergency”).

c. The End of the Transit (5:20 – 5:30PM)

After Rodriguez raised the gates, the river level dropped. (09/28 Rodriguez Tr. at 701 (“[Q]. Is that where the water level has dropped and exposed stuff on the side of that tie-off cell? [A]. It’s—that would be where the water line was”); TREX 85, Fittanto Rep. at Figure 51; 09/23 Fittanto Tr. at 575-76; 09/23 Garcia Tr. at 521 (“[Q]. And after 17:20, according to your model, the water level began dropping again, right? [A]. Yes”)).

Marseilles resident Joseph Jakupcak, too, recalled the gates moving and the river level dropping after the flotilla passed him at Snug Harbor. (R.867, Jakupcak Tr. at 49-54, 69, 72-75, 79-80, 87 (“And I turned and I noticed the gates, and then I noticed the water had dropped”)). Jakupcak stood one-half mile away from the dam, and did not use binoculars, when he observed the gates moving, as “dark rectangles on a gray background.” (*Id.* at 74). His deposition testimony indicates that he made this observation close in time to the allision. (*Id.* at 64-68, 80, 89, 91, 94). Captain White, too, “glanced and saw them moving up” as he “got close to the canal,” but he deemed it “too late” to “say anything to anybody.” (09/29 White Tr. at 1003). By 5:27PM—as the head of the tow entered the protective cell area—the dam gates had reached 88 feet of total gate opening. (TREX 2326, Garcia Rep. Table 8; TREX 85, Fittanto Rep. Table 12; 10/05 Schropp Tr. at 1670). Pilot Shrader, meanwhile, “could see” the gates during the transit,

but he did not “specifically look” at the four on the right “to see if [they] were out of the water.” (10/03 Shrader Tr. at 1370-75 (“[Q]. Are you aware that the four gates on the right, that is, half the gates were out of the water for this entire transit? [A]. I’m not aware that they were”); *see also* TREX 2077 (Shrader Cell Phone Photographs)).

According to Claimants’ fluid mechanics expert, around 5:20PM—after the vessel operators had learned about the gates being raised—“it would have been very easy to hold the tow below Ballards Island and reassess what they were going to do.” (R.881, Orloff Dep. Tr. at 108-15, 117-20). This opinion, however, does not account for pilotage considerations such as speed, timing, assist boat positioning, danger, and difficulty. (*Id.* (“I’ve never piloted a towboat”)). Furthermore, although Dr. Orloff looked to Captain Ice’s 5:15PM radio observation—“we could stop right here”—as evidence of operational feasibility, the Court is not convinced that this transmission necessarily supports his opinion. In particular, Ingram’s chart-plotting data (CEACT) showed that the Dale Heller and its tow were in a different southbound location at 5:15PM—before the Open More Gate Transmission—versus 5:20PM. (TREX 52; *see also* TREX 88, Fittanto Animation). The record is clear that the approach area became narrower as the flotilla headed southbound, enhancing any pilotage concerns. (09/29 White Tr. at 928, 931, 938 (“[Q]. And the hole’s that narrow entrance and approach when you’re coming downbound and going into the canal, correct? [A]. Correct”); 10/05 Schropp Tr. at 1697-98). In any event, as Captain White credibly testified:

[Q]. Ballards Island, when you’re going downbound, is one of the last places to stop before getting into the canal, correct?

[A]. Yes.

[Q]. And one of the reasons you didn’t want to go down here—and that’s this little inlet below Ballards Island—is because if anything happened, say, to your propellers by drift, next thing you know, you’d be in the dam, correct?

[A]. Correct.

(09/29 White Tr. at 998; *id.* at 796, 854-55 (discussing drift issues below Ballards Island); *see also* 09/22 Kinsey Tr. at 349-51 (discussing the benefits of holding a tow against a river bank, as opposed to out in the river current)). For these reasons, the Court discounts Dr. Orloff's expert testimony on this issue.

D. The Allision (5:33PM)

1. The Canal Approach

At 5:26PM, Captain White radioed, “[the stern is] dragging down the bank right here now [. . .] they got that head out there in pretty good shape. We get it down past that concrete wall, we got it made.” (TREX 52, Audio Transcript). In other words, as the head of the tow approached the five protective cells just upstream of the canal wall, Captain White felt that his tow was in “good position.” (09/29 White Tr. at 903). Contemporaneous video footage confirmed this sound positioning. Two minutes later, Captain White continued to be “flat on the bank right exactly where I wished to be.” (*Id.* at 906; *see also* TREX 52 (Shrader to White at 5:28PM: “Bout another 40 feet, you’ll be clear . . . Bout another 15 feet . . . You’re good”); 10/03 Ice Tr. at 1254 (“he’s lined up to make the canal like he should”); 10/05 Schropp Tr. at 1670-71 (at 5:27PM, the Loyd Murphy and the Creve Coeur are “just floating alongside because the tow is where it needs to be,” while the City of Ottawa “has shifted around slightly on the tow . . . so it’s in a position to begin pushing as they come down closer to the dam”)).

By 5:30PM, however, the outdraft began to pull the head of the tow towards the dam. (TREX 52 (demonstrating swing meter shift to the starboard side); TREX 52, Audio Transcript (Ice to vessel crews: “Right here is where the dangerous part is . . . You better start pushing her over in this shore there Bob [Slack], right now you’re getting caught in that outdraft . . . That

head's starting to come out quick"); 10/03 Ice Tr. at 1261-67; 09/29 White Tr. at 906-08). At that point, the City of Ottawa was pushing "pushing full ahead everything he's got," against an "extremely strong" outdraft. (09/29 White Tr. at 908; 10/03 Ice Tr. at 1265-67, 1269). The lockhouse, meanwhile, swiveled Dam Camera 4 to look from the reference cell—which bore a water line—to various individuals standing along the right descending bank, at Marseilles. (TREX 52; 10/03 Ice Tr. at 1264-67 ("It looks like the water is actually down low because you can see the water line on the cells"))).

At 5:31PM, Captain Ice advised the City of Ottawa, "get out of there, Bob, if it has to land on there, it has to land on there." (TREX 52; 10/03 Ice Tr. at 1271). Captain White radioed back, "Okay, let me see if I can slow this thing down." (*Id.*). Captain Cutler of the Creve Coeur later criticized Captain White for slowing down near the canal entrance. (R.881, Cutler Dep. Tr. at 113-115, 160-63, 265-68, 295-96). Captain Slack, too, felt that this directive—ordering the City of Ottawa off the head of the tow—was "premature." (R.867, Slack Tr. 149-50). As Captain White explained, however, he slowed down because he was "afraid that I was going to pin the City of Ottawa on that wall and maybe sink his boat." (09/29 White Tr. at 909). At that point, "there wasn't a doubt in my mind. It was going to hit that wall . . . the outdraft was just too strong." (*Id.*; *see also* 10/03 Ice Tr. at 1271-73 (same)).

At 5:33PM, the lead, starboard barge of the Dale Heller's tow allided with the canal wall. (R.846-1, Stmt. of Uncontested Facts ¶ 87). The entire tow subsequently broke apart, and barges IB9525, IN025300, IN085089, IN095041, IN096081, IN107057, and IN117513 either allided with the Marseilles Dam or sank upriver from it. (*Id.* at 88). The Dale Heller, meanwhile, went sideways out across the dam, until Captain White regained control, topped it around, and pushed it upstream. (09/28 White Tr. at 911-12; 10/03 Ice Tr. at 1274-75; 10/05 Schropp. Tr. at 1675-79

(“He was very professional and he showed a lot of courage”). By the morning of April 19, the river water overtopped the earthen dike and flowed into the city of Marseilles.

2. Post-Allision

Later that evening, after the allision, wheelhouse audio captured a series of statements by Captain White, including, “This just wasn’t a good idea,” and, “finally, you get tired of listening to [shoreside calls], you know . . . finally you say, [expletive], let’s go.” (TREX 4000, Clips 20-23; 09/29 White Tr. at 985-89 (explaining, “In hindsight, yes, it wasn’t a good idea,” and, “I’m thoroughly venting my frustration”)). The audio also captured Captain White stating, “He [Henleben] told me to get with Tony [Ice] . . . and make sure that we all heard the same story. He said that’s gonna save us a lot . . . save the company a lot of money.” (TREX 4000, Clip 22; 09/29 White Tr. at 987).³⁵ Having heard their live testimony and having witnessed their demeanor, however, the Court finds no evidence that Captain White and Captain Ice coordinated to “come up” with the same story. Instead, the contemporaneous audio recordings support their independently credible trial testimony. Moreover, Captain White made these statements after a traumatic rescue of the Dale Heller.

The post-allision audio, in fact, further captured Captain White expressing that the transit would have been successful had the Corps “stuck to their word” and held the gates down to 16 feet. (TREX 5000, White Clips 22-25, 27-28 (“They were supposed to hold it to 16 foot. They didn’t do it . . .”)). Based on Captain White’s 35 years of pilothouse experience, “once I got down past the first three cells, [given] the position my tow was in, if they had cut off the gates and shut off that current, there’s not a doubt in my mind we could have got down in the canal . . .

³⁵ In addition, the audio captured Captain Ice asking Captain White, post-incident, whether Henleben was “in” on what had happened, and whether they had gone too slow. (TREX 4000, Clips 132 and 125). As Captain Ice credibly testified, however, “We were throwing ideas around what could have possibly went wrong. That’s all we were doing.” (10/03 Ice Tr. at 1310-11).

we needed probably not more than five minutes, six minutes at the very most, because I would have pushed it full ahead to get on down in the canal.” (09/29 White Tr. at 890-92). Ingram’s maritime expert, Captain Schropp, agreed. (10/05 Schropp Tr. at 1673-74 (“Listening to the conversations on the Blue Box Channel 4, looking at the videos, and looking at the position of the boats and the position of the tow, if the gates had been anywhere close to 16 feet, they would have gone into the canal with no trouble”)). Lockmaster Rodriguez, himself, knew the location of (i) the protective cells, (ii) the navigational markers lining the approach area, and (iii) the outdraft’s impact – that is, “about 200 to 300 feet above the entrance to the canal.” (09/28 Rodriguez Tr. at 692-94, 683). Despite his ability to monitor, in real-time, both the pool elevation and the flotilla’s southbound movement along these known landmarks, Rodriguez did not move the gates from the 88-foot gate setting until after the allision. (TREX 85, Fittanto Rep. at Table 12). As the Court observed through contemporaneous camera footage, the outdraft at that gate setting pulled the head of the tow towards the dam. (TREX 52).

Expert evidence confirms that the heightened gate setting affected the velocity of the outdraft (also known as a cross-current). Ingram’s hydraulic engineering expert, Dr. Robert Ettema, for example, built a physical model of the Marseilles Dam and compared cross-current velocities at a 16-foot gate setting and an 88-foot gate setting. (TREX 87, Video; TREX 80, Ettema Rep. at Part B).³⁶ He concluded that the cross-current velocity was 3.33 times greater at an 88-foot gate setting than at a 16-foot gate setting. (10/05 Ettema Tr. at 1593-96). This result corroborates the finding of Claimants’ hydraulic engineering expert, Dr. Marcelo Garcia, who used a two-dimensional computational model to conclude that the cross-current velocity was

³⁶ Given Claimants’ failure to renew their *Daubert* objection as to Dr. Ettema’s expert opinions—or to otherwise demonstrate prejudice by the dismantling of Dr. Ettema’s physical model—the Court admits his opinions. (R.842, R.762; *see also* 10/04 Ettema Tr. at 1575-77 (discussing background materials and testifying, “Given that the drawings were adequate to build the model, the same materials would allow any hydraulic lab tech to replicate with exactitude the physical model used in my study”)).

roughly 6 times greater at an 88-foot gate setting than at a 16-foot gate setting. (*Id.*; *see also* 09/23 Garcia Tr. at 503)). In terms of side-force impact on the tow, Dr. Ettema concluded that the outdraft was 11 times greater at an 88-foot gate setting than at a 16-foot gate setting, again corroborating Dr. Garcia’s findings. (10/05 Ettema Tr. at 1596-97; 09/23 Garcia Tr. at 503-04 (36 times); *see also* TREX 80, Ettema Rep. at 88 (“Overall Conclusions”)). The cross-current velocities would have been less, moreover, had the Corps lowered the gates to 16 feet, and then raised them back to 70 feet—as opposed to 88 feet—at 5:20PM, for the tow’s southbound approach. (09/23 Garcia Tr. at 494-501; *compare* TREX 2361 (Garcia Scenario 6) *with* TREX 170 (Garcia Scenario 2).³⁷ In addition, had the Corps simply maintained the gates at 60 feet, instead of raising them to 88 feet at 5:18PM, “the outdraft velocity would have been significantly less[.]” (R.867, Koob Dep. Tr. at 123, 125 (“[Q]. So had the gates been held just at 60 feet, let alone going down to 16 feet, conditions at the approach to the canal would have been much more favorable in your opinion? [A]. Yes”)).

In addition, expert testimony demonstrates that a “window of opportunity” existed for the Corps to lower the gates 16 feet without overtopping the dike at Snug Harbor. Ingram’s hydraulic engineering expert, Dr. Forrest Holly, for example, ran various computational modeling scenarios to conclude: “If instead of opening the gates from 60 feet to 88 feet beginning at 17:18, dam operators had begun a temporary, 10-minute window-of-opportunity closure of all gates to a uniform opening of two feet each, beginning to reopen them at 17:34, there would have been no overflow of the low spot in the dike near Snug Harbor.” (10/04 Holly Tr. at 1541-48; TREX 80, Holly Rep. at 19). Dr. Marcelo Garcia—Claimants’ hydraulic engineering expert—did not dispute this conclusion, agreeing that the “dam gates could have

³⁷ Scenario 2, moreover, did not result in overtopping at Snug Harbor. (09/23 Garcia Tr. at 529).

been lowered to 16 feet without overtopping the dike on the right descending bank for at least some period of time.” (09/23 Garcia Tr. at 488-89). According to Dr. Garcia, however, a scenario in which the lockmaster (i) lowered all eight gates to two feet each at 5:00PM, and (ii) held them there, at 16 feet total gate opening, until 5:40PM, “would have resulted in river water overtopping the bank at Snug Harbor starting at approximately 17:18.” (TREX 2352, Garcia Corrigendum at 6 (“Scenario 2A”)). Dr. Garcia did not, however, quantify this amount of overtopping. (09/23 Garcia Tr. at 529). When Dr. Holly simulated Dr. Garcia’s Scenario 2A, it “led to about 61 acre-feet of volume of overflow” in the city of Marseilles – that is, “minor street flooding, perhaps a little bit higher than the curb, but not much.” (10/04 Holly Tr. at 1548-50)).

ANALYSIS

I. Exoneration

A. Applicable Legal Principles

“The elements of a maritime negligence cause of action are essentially the same as land-based negligence under the common law,” including (i) duty, (ii) breach, (iii) causation, and (iv) damages. *See* 1 Thomas J. Schoenbaum, *Admiralty & Maritime Law* § 5-2 (5th ed. 2011); *see also City of Chicago v. M/V Morgan*, 375 F.3d 563, 572-73 (7th Cir. 2004) (same). In maritime collision cases, the applicable standard of care “is derived from general concepts of prudent seamanship and reasonable care, statutory and regulatory rules governing the movement and management of vessels and other maritime structures, and recognized maritime customs and usages.” *Folkstone Mar., Ltd. v. CSX Corp.*, 64 F.3d 1037, 1046 (7th Cir. 1995). In determining liability in such cases, the Court considers “the specific factual circumstances under which the accident took place.” *Id.* The Seventh Circuit has recognized the application of comparative fault principles under the general maritime tort law. *See, e.g., M/V Morgan*, 375 F.3d at 573.

1. The Oregon Rule

Under maritime law, the “Oregon rule creates a rebuttable presumption of fault against a moving vessel, which under its own power, allides with a stationary object.” *M/V Morgan*, 375 F.3d at 571-72 (citing *The Oregon*, 158 U.S. 186, 192-93 (1895)). As the Seventh Circuit has explained, this rule “is premised on the common-sense observation that moving vessels do not usually collide with stationary objects unless the vessel is mishandled in some way.” *Id.* (citation omitted). The Oregon Rule is “not a rule of ultimate liability” but instead “merely addresses a party’s burden of proof and/or burden of persuasion[.]” *Id.*

Evidentiary presumptions such as the Oregon Rule, however, “are designed to fill a factual vacuum.” *Rodi Yachts, Inc. v. Nat’l Marine, Inc.*, 984 F.2d 880, 887 (7th Cir. 1993). In other words, “if the facts of a case are apparent, the need for a presumption is eviscerated.” *M/V Morgan*, 375 F.3d at 572; *see also Bessemer & Lake Erie R.R. Co. v. Seaway Marine Transp.*, 596 F.3d 357, 362 (6th Cir. 2010) (“the rule presumptively allocates fault when the circumstances of an allision are unknown”); *Combo Mar., Inc. v. U.S. United Bulk Terminal, LLC*, 615 F.3d 599 (5th Cir. 2010) (same). Other courts have declined to presume fault under the Oregon Rule where there is a fulsome trial record concerning the circumstances of an allision. *See, e.g., Slatten, LLC v. Royal Caribbean Cruises Ltd.*, No. CIV.A. 13-673, 2014 WL 5500701, at *5 (E.D. La. Oct. 30, 2014) (“This multi-party action has seen extensive discovery and evidence produced by various parties . . . The record at trial will contain sufficient evidence on which the Court, as the finder of fact, can determine the liabilities of the parties”); *see also Par. v. Lafarge N. Am., Inc.*, No. CV 11-2350, 2016 WL 5390381, at *5 (E.D. La. Sept. 27, 2016) (same).

Here, Claimants argue that “the evidence presented at trial did not make apparent all the facts that preceded the allision.” (R.924, Claimant Post-Trial Br. at 6). In particular, they point to the following as “evidentiary gaps:” (1) there is “no evidence” that the Dale Heller considered moving its tow underneath Ballards Island or across the river late on April 17, 2013 or early on April 18, 2013; and (2) the trial evidence “did not make apparent what was planned out during the IRCA call,” given the “wildly different accounts of what happened.” (*Id.* at 15, 19-20, 25). In addition, Claimants ask: (3) “why Ingram shoreside personnel failed to advise the Heller of forecasted flooding in the days leading up to the allision,” (4) “why Ingram failed to hold at Ballards Island after the Murphy’s tow was separated from the Heller’s tow,” and (5) “why Ingram failed to understand or ignored, prior to and during the transit, ample evidence that the gates were not being lowered to a total gate feet of 16,” arguing that “the answers to these questions are not apparent.” (*Id.* at 1).

None of these, however, constitutes a “factual vacuum.” As to the first, Claimants had three years of extensive discovery to pursue this particular theory of liability; they did not do so, apparently, until trial and in post-trial briefing. (R.925, Ingram Post-Trial Br. at 26-27). The trial record, in any event, contains evidence bearing on this issue. (*Id.* (“the record is clear [these options] were not any more practical during the night than they would have been during daylight hours’’)). The trial record further contains evidence bearing on issues three, four, and five. Setting aside whether the “answers” to these questions constitute negligence, the answers are in the record – that is, Captain White: (3) relied on river forecasts and lock information, not shoreside personnel, for weather-related information; (4) thought the IRCA Plan was the best option in light of the rising river, increasing drift, and impending darkness; and (5) piloted his tow under the impression that the gates would be down to 16 feet by the time he “got to a certain

point down [there], particularly where the crosscurrent is.” (09/28 White Tr. at 876). As to the second issue, the Court—after reviewing, weighing, and reciting an extensive trial record—made a factual finding as to the IRCA Plan, undermining the need for a presumption. *See M/V Morgan*, 375 F.3d at 574 (“presumptions are merely tools used by courts to analyze the facts which underlie an allision and address any factual voids in the record”).

In short, throughout the three-year litigation of this dispute, all parties have introduced evidence—now contained in an extensive trial record—bearing on the negligence inquiry. There is no “evidentiary gap” requiring “the party most likely to know what happened (the moving vessel) to present evidence to rebut the presumption of fault.” *Bessemer*, 596 F.3d at 362; *contra M/V Morgan*, 375 F.3d at 573 (confronting an unresolved question of “what caused the starboard winch brake to fail” and noting, “[t]his lack of an explanation is sufficient to find a ‘factual vacuum’”). Here, as in *Rodi*, “there *is* other evidence” concerning the “action and inaction” of Ingram, IMS, and the Corps. *See* 984 F.2d at 887 (emphasis in original). Accordingly, the Court declines to apply the *Oregon* Rule. The negligence determination in this case, thus, requires Claimants to “prove the elements of duty, breach, causation and injury by a preponderance of the evidence.” *See M/V Morgan*, 375 F.3d at 572-73. For the reasons set forth below, the Court concludes that Claimants have failed to meet this burden.

Even applying the *Oregon* Rule and shifting the burden of proof, moreover, Ingram has rebutted the presumption—and exonerated itself from liability—by showing that the allision was the sole fault of the operators at the Marseilles Dam. *See id.* (“Once fault is presumed the defendant may come forward with evidence to rebut the presumption by showing that: (1) the allision was actually the fault of the stationary object; (2) the moving vessel acted with

reasonable care; or (3) the allision was the result of an inevitable accident”); *Combo*, 615 F.3d at 605 (“Each independent argument, if sustained, is sufficient to defeat liability”).

2. The *Pennsylvania* Rule

In post-trial briefing, Claimants argue for the first time that Ingram violated Inland Navigation Rule 2 (Responsibility), Rule 5 (Look-Out), and Rule 7 (Risk of Collision), 33 C.F.R. §§ 83.01 *et seq.*, triggering the application of the *Pennsylvania* Rule. The *Pennsylvania* rule eases “the causation analysis” and provides that “a vessel shown to be in breach of a statute or regulation has the burden of proving not only that the fault probably was not one of the contributory causes of the accident, but also that it could not have been a contributory cause.” *Folkstone*, 64 F.3d at 1046-47 (citing *The Pennsylvania*, 86 U.S. 125, 136 (1873)). In other words, if Claimants offer “proof by a preponderance of evidence” of an applicable regulatory violation,³⁸ Ingram must demonstrate “that the accident would have occurred despite” said violation. *Id.* at 1047; *see also id.* at 1052-53 (without a predicate violation, “there was no occasion to apply the *Pennsylvania* Rule and to place the burden on the mariners to show that their violation of any statute or regulation was not a proximate cause of the accident”).

For the reasons set forth below, the Court concludes that Claimants have not made a predicate showing of a violation under the *Pennsylvania* Rule. Even if they had, Ingram has demonstrated that actions taken by Corps employees were the sole cause of the accident. *See Folkstone*, 64 F.3d at 1047 (“a violator of a navigational statute may not be held liable by

³⁸ The Court does not comment, at this point, on whether Inland Navigation Rules 2, 5 or 7 “delineate a clear legal duty”—falling within the purview of the *Pennsylvania* Rule—or whether they “require judgment and assessment of a particular circumstance[.]” falling outside its purview. *See Tokio Marine & Fire Ins. Co. v. FLORA MV*, 235 F.3d 963, 966-67 (5th Cir. 2001); *see also Folkstone*, 64 F.3d at 1047 (for the *Pennsylvania* Rule to apply, the statute or regulation must “impose[] a mandatory duty” and “involve marine safety or navigation,” and the resulting injury must “be of a nature that the statute or regulation was intended to prevent”).

application of the *Pennsylvania* Rule if the other party to the accident is found to be the sole cause of the accident”).

With these principles in mind, the Court examines Claimants’ negligence theories.

B. Analysis

1. Claimants’ Case – The Reasonableness of Ingram’s Conduct

a. The Decision to Enter the Marseilles Pool (April 16-17, 2013)

The Court first examines Captain White’s decision to proceed from Channahon to Ballards Island on April 16-17, 2013. In particular, Claimants argue that Captain White was negligent in failing to monitor the “longer-range weather outlooks, forecasts, watches and warnings” which, ultimately, “accurately predicted” what amounted to a record flood event in Marseilles, Illinois. (R.924, Claimant Post-Trial Br. at 8-15). After weighing the evidence, the Court disagrees.

i. River Forecasts

During the course of the trial, Claimants impugned Captain White’s reliance on river forecasts – specifically, the Morris hydrographs sent by Ingram employee Glen Dotts. (TREX 1-3). Claimants contend that three pieces of evidence call into question the reliability of these hydrographs.

First, Claimants point to the textual note—which Dotts cut from the Morris hydrograph—advising that “[r]iver forecasts for this location take into account past precipitation and the precipitation amounts expected approximately 24 hours into the future from the forecast issuance time,” which does not appear in the Morris hydrographs. (*Compare e.g.*, TREX 2226 with TREX 4 at 28). When questioned about the removal of this text at his deposition, Dotts testified that “it’s easier to cut and paste the picture versus the whole page. It looks messy.” (R.867,

Dotts Dep. Tr. at 102-03). Given Dotts’ testimony that he created these e-mails as a “courtesy,” with no “rhyme or reason” to the process, (*id.* at 56-57, 84-85), the Court does not ascribe any sort of intent to him in “clipping” this text. Even if he *had* included it, moreover, this text is not a “disclaimer” or a “warning.” Rather, it merely advises that the river forecast takes into account a 24-hour QPF—an input that Claimants’ meteorology expert characterized as “routine,” given the concern about “its inaccuracy at longer times and not wanting to have false positives.” (09/22 Hildebrand Tr. at 200, 222, 248). Accordingly, the absence of this text does not render Captain White’s reliance on the April 16 or April 17 Morris hydrographs unreasonable.

Second, Claimants point to a “special disclaimer” contained in the April 16, 2013 11:19AM flood warning for the Illinois River at LaSalle. Specifically, they identify the following language: “the current forecast only accounts for rainfall expected through early Wednesday and not the forecast heavy rainfall in excess of 2 inches the rest of Wednesday through early Friday. If these heavy rainfall totals are attained . . . many locations along the Illinois River will experience more significant rises late this week than indicated in the current river level forecasts.” (TREX 2236 at 1). This particular flood warning, however, did not apply to the Marseilles Pool, and the Court cannot say—as a matter of law—that Captain White should have (1) studied this warning; and (2) interpreted it to mean that the specific river forecasts on which he was relying were conservative estimates of the river stage at Morris. (TREX 91, Pryor Rep. at 7 (“It also advised of potential rises on non-specific portions of the Illinois River”)). Indeed, the NWS-WFO did not issue a flood warning applicable to the Illinois River at Morris until 10:31PM on April 17, 2013—well after the Dale Heller arrived at Ballards Island. (TREX 2236 at 4-5 (incorporating the 9:59PM river forecast)). Moreover, this warning came only after the NCRFC and NWS made the joint decision to switch to a 48-hour QPF, and forecasted—for

the first time—flooding at Marseilles. (R.881, Buan Dep. Tr. at 64, 66-69, 91-94; 09/30 Pryor Tr. at 1140; 09/22 Hildebrand Tr. at 209, 248; R.867, Glaudesman Dep. Tr. at 40). Claimants offer no basis for suggesting that Captain White should have had more foresight in interpreting the non-specific 11:19AM April 16, 2013 flood warning than the scientists at NCRFC and NWS. (10/05 Schropp Tr. at 1694 (“I’ve always assumed that people who . . . make river forecasts would know these things”)).

Third, Claimants point to an NOAA “Product Specification” document, which contains language suggesting that NCRFC river forecasts are “guidance products,” unlike the “Official Forecasts/Warnings” issued by the NWS-WFO. (TREX 2243 at 5). Even assuming that Captain White could have accessed this document, other evidence belies the suggestion that NCRFC river forecasts are unreliable “guidance products.” Testimony from NCRFC’s corporate designee, for example, establishes that expert hydrologists, meteorologists, and hydrometeorologists work on these products each day, with knowledge that others rely on their accuracy and reliability. (R.881, Buan Dep. Tr. at 21, 24-25, 39, 58-61, 83). The NWS, itself, uses river forecasts “to prepare WWA products (Watches, Warnings, and Advisories).” (TREX 2246). In short, the trial record—including the testimony of Claimants’ own meteorology expert—supports the reliability of such short-range weather tools. (09/22 Hildebrand Tr. at 199-200 (noting that long-range QPF “is known to give increasing unreliability as time goes on”)).

Accordingly, in view of the evidence presented at trial, the Court finds that Captain White’s reliance on Marseilles Pool-specific weather tools—including the April 16 and April 17 Morris hydrographs—was not unreasonable under the circumstances. To the contrary, given the testimony concerning their reliability, Captain White reasonably relied on these tools.

ii. Long-Range Outlook Tools

Claimants next challenge Captain White’s failure to monitor—and/or Ingram’s failure to advise him about—general NWS forecasts throughout April 14-16, 2013. The trial record demonstrates a variety of practices with respect to the receipt and dissemination of general weather information by and among vessel captains and port captains. Some vessel operators, for example, monitor the Weather Channel and the Doppler radar, in addition to river gauges. (R.867, Hardin Dep. Tr. at 84; *see also* R.867, Deaton Dep. Tr. at 60-61 (Weather Channel)). Others review river gauges, but not hydrographs. (10/03 Ice Tr. at 1294-95). Pilot Shrader, meanwhile, testified that he reviewed hydrographs, river gauges, and the Weather Channel. (10/03 Ice Tr. at 1362). With respect to port captains, some review hydrographs several times each day, (R.867, Hughes Dep. Tr. at 23), while others review “hydrographs, precipitation forecasts, and weather maps” each morning. (09/30 More Tr. at 1115-19 (“I know that I do every day, but I can only speculate that that’s the same thing that [other port captains] do every day”); *see also* R.867, Taylor Dep. Tr. at 10, 13, 15 (cutting “information that really doesn’t pertain to them” and sending weather e-mail to vessel crews)).

Here, the record reflects that Captain White and Pilot Shrader were generally aware of the Illinois River conditions throughout April 16-17, 2013. (09/29 White Tr. at 994; 10/03 Shrader Tr. at 1365-69 (testifying to an awareness of downriver MWRD discharges, rising river levels, and expected rain)). Their failure to review (and/or alert each other to) the proffered NWS weather outlooks and flood advisories, however, does not amount to negligence. As noted above, none of these long-range weather products were specific to Marseilles—or indicated imminent flooding therein—until the night of April 17, 2013. Claimants fail, moreover, to explain why—if these predictions were so ominous—the Corps, the Coast Guard, and

commercial vessels continued normal operations on the Illinois River throughout April 16-17, 2013. Towboat operations do not cease because of long-range, heavy rain predictions, even when—in hindsight—they turn out to be accurate. (09/22 Hildebrand Tr. at 248 (“In this case, it [the 48-hour QPF] was highly accurate, but they didn’t know that. They hadn’t made that determination”)).

As the evidence reflects, it is customary for an inland river mariner to plan his voyage by reference to observed and forecasted conditions at a particular destination, as opposed to general predictions over a general region. (R.867, Heroff Dep. Tr. at 60 (“This sheet wouldn’t have much—a lot of value to me. I look at the hydrographs that are provided by the Weather Service every day, sometimes twice a day . . . that’s more of my information stream to—to decide what I’m doing with my vessels on the Illinois River”); R.867, Hughes Dep. Tr. at 28 (“You know, the weather that’s related to [the] area where you’re at”)). As Ingram’s maritime expert explained, while he *does* expect the river level to rise when heavy rain is forecasted, he plans for his voyage by “look[ing] at river stages and river forecasts,” as “I don’t know how much of that water is going to run off and where it’s going to run to.” (10/05 Schropp Tr. at 1636-37 (“I go to the hydrographs or the three-day forecasts from the U.S. Coast Guard”); *id.* at 1688 (“That forecast says it *could* [exacerbate flooding], and that’s why I refer to river stages and the river forecasts”)) (emphasis added)). The WAP’s use of gauge levels—not flood watches or precipitation maps—as “trigger readings” further underscores the significance of river stage products to commercial mariners, the Corps, and the Coast Guard in making voyage plans and rendering navigation decisions. (TREX at 2 (“Under flood conditions, controlling factors are gauge readings at specific locales and locks.”)). The testimony that—from Stephen Pyror’s perspective, “you’d probably want to be looking at the big picture . . . including the [available] outlooks and longer-

range forecasts”—does not convince the Court that, from a daily operational perspective, the Dale Heller crew (or Ingram shoreside personnel) should have been examining the proffered NWS forecasts and outlooks. (09/30 Pryor Tr. at 1165 (“At least in my perspective, but I’m a meteorologist”)).

As Dr. Hildebrand acknowledged, other than NCRFC river forecasts, “there’s no other official product put out by the United States government a person can look at to see what the river stage is expected to be at a given location on a given date and time.” (09/22 Hildebrand Tr. at 245). The river forecasts, meanwhile, take into account factors such as soil saturation, temperature, past precipitation, and downriver MWRD discharges, and are checked for quality control by the experts at NCRFC. The Corps, Coast Guard, and industry regularly use river stage information to render operational decisions. Combined with his general awareness of river conditions on April 16-17, 2013, the Court finds no fault with Captain White’s use of Marseilles Pool-specific weather tools—such as the April 16 and April 17 Morris hydrographs—without consulting the proffered long-range products.

iii. The Decision to Reach and Stop at Ballards Island Was Reasonable

In light of the foregoing, Claimants have failed to prove that a prudent mariner would have stopped and held at commercial fleeting facilities between Channahon and Ballards Island from the evening April 16, 2013 through the morning of April 17, 2013.

First, on the night of April 16, commercial towboats and lock-and-dam facilities were operating normally, and the NCRFC had predicted a river peak of 11.3 feet at Morris – well below flood stage. (TREX 1). The Corps did not cease travel through the Marseilles Lock and Dam. Contrary to Claimants’ suggestion, moreover, while a Significant River Flood Outlook did exist for the general “Illinois River” on April 16, 2013 (*see e.g.*, TREX 5 at 34; TREX 2231 at

13, Fig. 9), this outlook indicated *possible* river flooding in both Channahon and Marseilles. That “possibility” is why river mariners turn to river stage forecasts—such as the April 16 Morris hydrograph—for voyage planning. (10/05 Schropp Tr. at 1689-90, 1631). Furthermore, although at “17 foot and rising slow,” the gate setting at Marseilles had already exceeded Captain White’s comfort level, he expected—based on NCRFC’s forecast—for the river level to fall after April 17, allowing him to transit past the Marseilles Dam at a lower gate setting thereafter. In short, Captain White’s decision to leave Channahon with a fourteen-barge tow was reasonable.

Captain White’s decisions to transit past Dresden Island and Johnson Island, and to back in at Ballards Island to wait out the weather, were likewise reasonable. Testimony and vessel logs establish that normal river operations were still in place throughout April 17, 2013. Furthermore, the April 17 Morris hydrograph again predicted a crest below flood stage, followed by a declining river level. (TREX 2). In view of (i) the then-existing gate setting at Marseilles (23 feet), and (ii) the forecasted river stage at Morris (12.1 foot-peak, followed by a decline), Captain White was prudent in backing in at Ballards Island—the customary holding spot upriver of the Marseilles Dam—to wait out the river conditions. The fact that this NCRFC forecast proved, in hindsight, to be a conservative reflection of the rain that fell on Marseilles on April 17, 2013 does not establish negligence on the part of the Dale Heller.

For these reasons, the Court also does not fault Ingram for its lack of a formal “voyage plan” while departing Channahon. (09/22 Kinsey Tr. at 317-19). There is no evidence that such a practice is customary in the inland river industry, or that it would have led Captain White to moor upriver of Ballards Island, given the existing and forecasted river stages.³⁹ (10/05 Schropp Tr. at 1633-34 (testifying that, unlike for oceanic navigation, Coast Guard regulations exempt

³⁹ Similarly, the fact that the City of Joliet moored upriver of Ballards Island on April 18, 2013 is not evidence of Ingram’s negligence in failing to moor there two days earlier.

inland mariners from formal voyage planning because such mariners have “a lot of local knowledge . . . it’s just a matter of knowing the things through repetition that blue water mariners don’t know because they don’t travel through an area as much as we do”); *see also* 09/22 Kinsey Tr. at 373-74).

b. The Decision to Hold at Ballards Island (April 17-18, 2013)

The Court next examines Captain White’s decision to hold at Ballards Island throughout April 17-18, 2013. In the morning of April 17, the Morris river gauge fell slightly from 10.84 feet (7:45AM) to 10.74 feet (11:45AM). (TREX 91, Pryor Rep. at 8-10). As significant rain fell throughout the day, however, conditions worsened. (*Id.* at 12-16). At 9:59PM, the NCRFC issued its first forecast predicting flooding on the Illinois River at Marseilles, with a peak flood stage of 21.1 feet. (*Id.* at 10, 15). Hydrograph evidence reflects that—between 10:45PM on April 17 and 5:45AM on April 18—the river level rose from 12.09 feet to 14.9 feet, just below flood stage. (*Compare id.* at 11 (“latest observed value”) *with* TREX 3 (“latest observed value”)). By 12:45PM on April 18, the river had risen to 18.53 feet – that is, 2.5 feet over flood stage. (TREX 91, Pryor Rep. at 13).

Trial testimony establishes that—throughout the morning of April 18—Captain White and Captain Ice (of the Loyd Murphy) discussed, weighed, consulted, and ultimately rejected a number of alternatives to holding position at Ballards Island. They did, however, take other precautions at Ballards Island, such as increasing the combined tow’s rigging, securing it to trees, and requesting assist boats. During trial, Claimants offered no convincing evidence calling into question the reasonableness of these actions, in light of the factual circumstances under which Captain White and Captain Ice were operating during the morning of April 18, 2013.⁴⁰

⁴⁰ To the extent Claimants now suggest that Ingram should have anticipated the drift problem when it backed into Ballards Island on April 17, the Court declines to find that Ingram should have had such foresight, for the reasons

Claimants now argue, instead, that—between 9:59PM on April 17 and 5:45AM on April 18—Captain White should have moved the Dale Heller’s tow (i) to the slack water below Ballards Island, or (ii) to the right descending bank of the river. (R.924, Claimant Post-Trial Br. at 15-17). According to Claimants, “there was less drift and the river was lower late on the night of April 17 and the early hours of the 18th.” (*Id.* at 17). This undeveloped argument, however, ignores several operational risks overwhelmingly supported in the evidence, including: (i) the rapidity of the river rise between the night of April 17 and the early morning of April 18; (ii) the general rockiness of the right descending bank, especially as against a tow with thirteen loads; (iii) the loss of the Loyd Murphy’s horsepower acting upon the tow,⁴¹ given that only one full tow could fit into the “pocket” across the river; (iv) the prudence of moving the tow below Ballards Island during the nighttime hours, especially against an increasing river flow “pushing [them] out” from both sides of the island; or (v) the risk of downriver drift eventually blocking the Dale Heller’s wheel below Ballards Island, as river conditions continued to deteriorate throughout April 18-19, 2013. (*See, e.g.*, TREX 91, Pryor Rep. at 11-15; TREX 3; TREX 2226; 10/03 Ice Tr. at 1287-89; 10/05 Schropp Tr. at 1638-39, 1658; R.867, Stunkel Dep. Tr. at 89-91; R.867, Daniel Dep. Tr. at 180-84; White Tr. at 833, 852, 864, 886 (“It’s much safer to do this in the daylight hours than to attempt it at night”)).

explained *supra* (“The Decision to Enter the Marseilles Pool”). (*See, e.g.*, 09/22 Kinsey Tr. at 301 (drift is “a common occurrence in high-water situations if you’re backing”)).

⁴¹ As discussed *infra*, Claimants’ fluid mechanics expert offered the opinion that the Loyd Murphy—not the Dale Heller—required the majority of the horsepower restraining the combined tow throughout April 18, 2013. (R.881, Orloff Dep. Tr. at 60-61, 70-71, 74-75). According to Ingram’s hydraulic engineering expert, however, “Dr. Orloff’s methodology showed that [only] about 31 percent of the Loyd Murphy’s horsepower would have been required to hold position next to the Dale Heller had they not been connected.” (TREX 84; 10/04 Holly Tr. at 1552-53). It appears that Dr. Holly—in rendering this opinion—applied not only Dr. Orloff’s initial, “fundamentals-based” methodology (TREX 2182), but also his supplemental, “empirical” methodology (TREX 2189). (*Id.* at 1553 (“I found both in that report you just showed, as well as a response to his subsequent shifting to a different drag formula [*i.e.*, the supplemental equation] that it’s not at all the majority that was needed to hold position, but the minority of the power”)). Dr. Orloff’s supplemental calculations, themselves, support the finding that the Loyd Murphy had excess horsepower beyond that required to hold its own barges, albeit much less than Dr. Holly had calculated. (R.881, Orloff Dep. Tr. at 135-39; *see also* TREX 2185, Randall Rep. at 10-11).

Captain Ice’s acknowledgement that such maneuvers would be “possible” in improved river conditions, (10/03 Ice Tr. at 1294), does not address the relative prudence of such maneuvers, as compared to the prudence of—among other precautions—backing in at Ballards Island, requesting and applying more horsepower, and reinforcing tow rigging. (10/05 Schropp Tr. at 1652; 09/22 Kinsey Tr. at 349-51 (“as long as the stern of the towboat stays close to the bank, the current holds the tow in”)). For the same reason, the Cody Boyd’s successful handling of a different tow—with ten loads and five empties—throughout April 18-19, 2013 is not dispositive on the negligence inquiry pertaining to the Dale Heller’s tow. After weighing the evidence, the Court finds that Captain White’s decision to hold at Ballards Island throughout April 17-18, 2013 was reasonable.

c. The Decision to Attempt the Canal Transit (April 18, 2013)

Claimants next argue that—instead of attempting the canal transit—Captain White should have “reassessed” the situation after the Loyd Murphy’s tow disconnected at 4:11PM, and either (i) stayed at Ballards Island, or (ii) stayed below Ballards Island, to wait out the high-water event on April 18-19, 2013. Claimants have failed to establish negligence regarding either option.

i. Staying at Ballards Island

With respect to the first option, Claimants point to the fact that—after the Loyd Murphy detached and moved its tow across the river—the combined horsepower of the Dale Heller, the City of Ottawa, and the City of Joliet held the Dale Heller’s tow at Ballards Island. (10/03 Ice Tr. at 1297; R.881, Orloff Dep. Tr. at 74-75). In addition, Captain White had previously held a full tow at Ballards Island with the dam gates open to 70 feet, using only the Dale Heller’s horsepower. (09/29 White Tr. at 1004-06).

This argument, however, ignores that the IRCA Plan was in place by the time the Loyd Murphy moved its tow across the river. As Ingram’s maritime expert, Captain Schropp, testified, “with darkness falling and river conditions worsening, with the plan they had in place, which was a good, feasible, workable plan . . . it was a prudent thing for them to do, to leave Ballards Island for the safe harbor of the canal.” (10/05 Schropp. Tr. at 1660-63). Consistent witness testimony supports Captain Schropp’s opinion. (10/03 Ice Tr. at 1315 (staying at Ballards Island was not viable because “if one of us lost propulsion due to drift and engine mechanical failure, we could be in trouble. We didn’t know how long the flood was going to last, you know”)); 10/03 Shrader Tr. at 1345-46 (“[S]omething needed to be done. And it sounded like a good plan and that it would work . . . going down to 16 feet, that’s a doable stage”); 09/29 White Tr. at 1001-02 (“I was still slowly moving down the bank”)). As Ingram’s port captain credibly summed it up:

[Q]. What, if anything, was said [on the IRCA call] about leaving the Heller’s tow at Ballards Island throughout the flood event?

[A]. There was nothing said about doing that because that was just a bad idea.

[Q]. And why do you say that, sir?

[A]. Because we were looking at at least a five-day flood event, and we knew that we had to do something right away because the river was still on the rise. There was about another ten feet—gate feet going to be opened. The resource that we had, the other available horsepower, is what we referred to as a lunch bucket boat. Those mariners can only work a 12-hour shift and have to leave and go get a relief and come back. So, all of the vessels, including the Corps employees, would have had to leave, make a crew change and come back. Don’t know that there was adequate fuel for them to be shoving for five days to hold us into Ballards Island. There certainly wasn’t food. In fact, we were running out of food, as well, too. But it just was not a viable option because for five days to be backing up that flooded current with driftwood is a problem. All we would have had to do was lose one wheel or one clutch or one engine or one rudder and lose our ability to maneuver, it would have gotten worse.

[Q]. And when you say “it would have gotten worse,” what do you mean?

[A]. We would have not been able to hold our ground.

[Q]. If you couldn't hold your ground, where would the barges go?

[A]. They would—we would be adrift downriver.

(10/04 Henleben Tr. at 1476-78). Given the deteriorating river conditions, impending nightfall, and increasing drift, “[t]he safest place was down in the canal.” (10/03 Ice Tr. at 1235; 09/29 White Tr. at 882 (“If I get everything in the canal, I can just lay here and float till the water goes down”)). Claimants make no showing, by contrast, that such an opportunity—a 16-foot total gate opening, enabling safe harbor into the Marseilles Canal—was available to Captain White on the previous occasion when he held a full tow at Ballards Island in high water.

At bottom, Claimants have failed to submit evidence establishing that the IRCA Plan—had it been implemented—was not a feasible, workable plan. To the contrary, uncontested expert testimony establishes that a “window of opportunity” existed for the Corps to hold the gates to 16 feet long enough to allow the transit without overtopping the dike at Snug Harbor. While expert testimony indicates that the available horsepower *was* sufficient to hold the Dale Heller’s tow at Ballards Island throughout the high-water event, such calculation does not account for the aforementioned practical considerations. (R.867, Randall Dep. Tr. at 108-11). After weighing the evidence, the Court concludes that Captain White’s decision to attempt the canal transit, instead of staying at Ballards Island after the Loyd Murphy’s tow detached, was reasonable.

ii. Staying Below Ballards Island

Claimants also argue that Captain White should have moved his tow to the “sheltered area below Ballards Island, as earlier suggested by [Captain] Ice.” (R.866, US Pre-Trial Brief at 36, 50, 68-69 (adopted by Claimants at R.873, R.876)). According to Claimants’ fluid

mechanics expert, the Dale Heller encountered less drag resistance *below* Ballards Island—even at the river’s “peak flow” on April 18, 2013 (105,000 cfs)—than it did *at* Ballards Island at 5:00PM on April 18. (R.881, Orloff Dep. Tr. at 135-36). As noted above, however, this drag calculation does not account for operational concerns, including the risk of drift, assist boat positioning and availability, and impending nightfall. (*See, e.g.*, 09/29 White Tr. at 796, 852-55, 864, 886, 928, 998). The feasibility of this option from a fluid mechanics standpoint does not convince the Court that Captain White’s preference for another option—based on 35 years of pilothouse experience—was unreasonable. (*Id.* at 880-82, 885-86 (the IRCA Plan was “the one option that we were given that I was most comfortable with”). Similarly, the fact that some vessel captains had previously held tows underneath Ballards Island does not demonstrate that, under the specific facts of this case, Captain White should have done so. (R.867, Stunkel Dep. Tr. at 35-36; R.881, Cutler Dep. Tr. at 236-41, 282-83 (“whether [the flotilla] could have held it there is another question altogether”). After weighing the evidence, the Court declines to find fault against Ingram arising from its failure to shelter below Ballards Island on April 18, 2013.

d. The Development and Execution of the IRCA Plan (April 18, 2013)

Claimants next point to three areas of purported negligence related to the development and execution of the IRCA Plan – specifically, (1) insufficient planning; (2) improper lookout; and (3) unreasonable failure to question whether the IRCA Plan was still in place. The Court addresses each one, in turn.

i. Transit Planning (Inland Navigation Rule 2)

Claimants first argue that Ingram failed to develop a sound transit plan, in violation of recognized maritime customs and Inland Navigation Rule 2. *See Folkstone*, 64 F.3d at 1046; 33 C.F.R. § 83.02(a) (“Nothing in these Rules shall exonerate any vessel, or the owner, master, or

crew thereof, from the consequences of any neglect to comply with these Rules or of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case”).

Claimants’ maritime expert, Captain Kinsey, testified that “this was a very high risk, very unusual transit, and it should have had very detailed planning associated with it,” including (i) a written plan and a formal risk analysis; (ii) verification of operational details; and (iii) direct communication between port captain Henleben and Captain White, and between Captain White and Lockmaster Rodriguez. (09/22 Kinsey Tr. at 306-16). In short:

I would want details. I’d probably want it written at least in the form of an e-mail to all responsible parties to make sure everybody’s on the same page. The pilothouse team on the Dale Heller is going to have certain duties. The pilothouse team on the Loyd Murphy is going to have certain duties. The communication between the assist vessels is going to take place on Channel 82 or 13 or whatever channel they pick. The communications with the lock is going to take place on Channel 14. All of this should have been laid out in advance, planned and verified.

(*Id.* at 324). Claimants expand from Captain Kinsey’s opinion, arguing that “the differing accounts of what occurred on the [IRCA] call are evidence of Ingram’s negligence,” and that “[p]rudence required Henleben to attend the meeting on the Ottawa and speak to all the vessel operators who would be involved in the transit.” (R.924, Claimant Post-Trial Br. at 25-26). The Court disagrees.

a. Written Confirmation of the IRCA Plan

After reviewing, weighing, and reciting an extensive trial record, the Court has made a factual finding as to the IRCA Plan, as set forth in detail above. Specifically, the Court finds that the IRCA call resulted in a plan wherein Lockmaster Rodriguez would lower the dam gates *to* 16 feet for a window of time sufficient to allow the Dale Heller’s tow to enter the Marseilles Canal. In light of this finding, Claimants have failed to establish, by a preponderance of the evidence,

that either Henleben or Captain White should have obtained written confirmation of the gate setting arrangement. *See M/V Morgan*, 375 F.3d at 572-73. In this case, both maritime custom and private arrangement provided Ingram the right to rely on the lockmaster’s representation that he would lower the gates to 16 feet to allow the Dale Heller safe harbor in the Marseilles Canal. *See Tokio Marine & Fire Ins. Co. v. FLORA MV*, 235 F.3d 963, 968 (5th Cir. 2001) (“Even if there were such a custom, the district court found that the present vessels had entered into an agreement to pass port to port. Any such agreement would override custom”). The IRCA Plan, in other words, reflected maritime custom – specifically, once the lockmaster gives the inland mariner a gate setting, the inland mariner navigates his tow in accordance with that gate setting, without the need to confirm, verify, or memorialize in writing. (09/29 White Tr. at 879 (“Usually when I call the lock . . . they will proceed to tell me [the gate setting]. And, then, I go on down in the canal and make the lock, and normally I never hear another word from the lockman at all”); R.867, Harris Dep. Tr. at 48 (“And the understanding is that . . . when you set that gate there, that that’s the gate setting”); R.867, Deaton Dep. Tr. at 131 (“[Q]. So that if the lockmaster tells you that the gates are going to be at a certain level and then discovers that they’re not going to be, you would expect him to notify you of that? [A]. Yes”)). By contrast, Lockmaster Rodriguez’s trial testimony—that he offered to lower the gates from a future gate setting *by* a certain number of feet—does not accord with custom and practice in the inland marine industry. As one inland mariner explained:

We can’t operate that way because we don’t know what the setting is. They can change the setting at any time . . . So when they say, [t]his is going to be set at this gate level and I can hold it there, then it’s set at—if it’s 16, 17 feet, the gate settings are set—at that setting. And then that tells the pilot exactly what the current’s going to do, the draft; and then he can make his decision.

(R.867, Harris Dep. Tr. at 30-31).

Given the congruity of the IRCA Plan with maritime custom, the Court cannot conclude that Ingram should have memorialized it in writing and/or performed a formal risk assessment, especially considering the rapidly deteriorating weather conditions present in this case. Despite it being an unpracticed maneuver with risk involved, the IRCA Plan reflected the input and extensive experience of industry, the Corps, and the Coast Guard, and the various participants deemed it the best option available under the circumstances. (09/29 White Tr. at 881; 10/04 Henleben Tr. at 1482; 10/03 Shrader Tr. at 1345-46; R.867, Dodd Dep. Tr. at 217 (“If the Corps said they could lower the gates to 16 feet, it should have been a normal operation”); R.867, Hughes Dep. Tr. at 49 (“But at 15-foot gate setting, which [is what] we were told was going to take place, no, there wouldn’t be a concern”); R.867, Harris Dep. Tr. at 78-79 (“I actually found relief that [Rodriguez] could set the gates for them and give them time to get down into the lock”); R.867, Miller Dep. Tr. at 78 (the Coast Guard was “satisfied with the plan as it was stated”); R.881, Cox Dep. Tr. at 219-20 (agreeing that everyone “did their best in attempting this maneuver under emergency conditions”).

Claimants also suggest that Ingram should have planned, in advance, the exact timing of the transit. The lack of a precise, prearranged timeline in terms of flotilla movement versus gate movement, moreover, does not strike the Court as unreasonable, given: (i) the common understanding of the outdraft’s impact location; (ii) the lockmaster’s ability to monitor both pool elevation and flotilla movement; (iii) the lockmaster’s representation that he could “lower it very quickly;” and (iv) the lockmaster’s regulatory control over, and expertise in, dam gate movements. (TREX 9; TREX 2268-69; 09/28 Rodriguez Tr. at 689-94; 09/22 Kinsey Tr. at 367 (acknowledging that Rodriguez “could see the physical position of the tow between 5:00PM and 5:33PM on that afternoon”); 10/04, Henleben Tr. at 1472-73). Lockmaster Rodriguez knew,

from his 27 years of experience operating the dam gates at the Marseilles facility, that the outdraft's impact point was "about 200 to 300 feet above the entrance to the canal." (09/28 Rodriguez Tr. at 683). This testimony corroborates that of Captain White and Captain Ice. (09/29 White Tr. at 907 (testifying that he could "feel the outdraft on [his] tow" about "200 feet from the head of the canal"); 10/03 Ice Tr. at 1261 (testifying that he radioed, "Right here is where the dangerous part is," while the head of the tow was "[a]bout 300 feet" from the canal entrance); *see also* 10/05 Ettema Tr. at 1592 ("The crosscurrent associated with the outdraft is particularly pronounced between the canal head wall . . . and the first [protective] pier"))).

In addition, Claimants suggest that Ingram neither sought nor received post-call confirmation of the IRCA Plan, in violation of Inland Navigation Rule 2. Both Captain White and Captain Ice, however, credibly testified that the speakerphone participant in the Captains' Meeting assured them that the gates would be down to 16 feet by the time the Dale Heller's tow "got to a certain point down [there], particularly where the crosscurrent is." (09/29 White Tr. at 875-76; 10/03 Ice Tr. at 1229-32 (testifying that the speakerphone participant stated that they "would bring the dam down to 16 foot for us to safely pass at about a thousand foot or so above the dam itself . . . because that's when the strongest outdrafts usually start to hit your boat"). This statement—along with the 3:41PM Slack Transmission ("Jeff [Griffin] just told me he's coming up on the Creve Coeur. When they get here with it, he'll have the uh, lockmaster shut down the dam to 16 feet")—constituted post-call confirmation of the IRCA Plan. (10/05 Schropp. Tr. at 1660 ("they did get that confirmation on two occasions, one on the—whoever was on the speakerphone on the City of Ottawa and then from Bob Slack on the—the captain of the City of Ottawa"))).

b. Operational Planning

Claimants' maritime expert, Captain Kinsey, further challenged the disjointedness of the IRCA call and the Captains' Meeting, questioning "how the information was transmitted from one meeting to the other." (09/22 Kinsey Tr. at 307-11). The record establishes, however, that Henleben relayed the IRCA Plan to Pilot Shrader, the licensed mariner on watch for the Dale Heller,⁴² who then radioed the other vessels. The captains' respective employers also informed them about the IRCA Plan. (R.867, Slack Dep. Tr. at 107-08 ("[Q]. You didn't know anything about the IRCA call until after this incident, I assume? [A]. I—this probably came up in the captains meeting, a discussion. There were various—I had inputs. I recall that different people were getting orders from their home base; perhaps the captain of the port, the owners of the company, the Corps of Engineers, the Coast Guard")). The speakerphone participant is likewise evidence of the integration between the IRCA call and the Captains' Meeting. (10/05 Schropp Tr. at 1657-59 ("they had someone from the dam on the phone")). Moreover, although Claimants decry the absence of Henleben and Rodriguez at the Captains' Meeting, they have failed to present any evidence that it would have been feasible, or prudent, for either to have joined. (*Id.* ("This operation was best done in daylight or the best light available. And it would have taken too long to get Larry Rodriguez up the canal on a boat and up to the City of Ottawa and, then, back to operate the dam")); 10/04 Henleben Tr. at 1483 ("I would have delayed them by four hours' transit time. And, quite frankly, they're the mariners . . . it's their responsibility to get that tow down through there. And keep in mind, I've got eight or ten other vessels that I'm

⁴² Contrary to Claimants' suggestion, it was not unreasonable for Henleben to discuss the IRCA Plan with Pilot Shrader, instead of Captain White. (09/22 Kinsey Tr. at 309 ("I didn't see any direct communication between Mr. Henleben and Mr. White about the transit")). Pilot Shrader, like Captain White, is a qualified mariner with 20 years of pilothouse experience. As Henleben testified, "if the captain is off watch, it would be the licensed pilot" who "has the final say over his flotilla." (10/04 Henleben Tr. at 1430).

managing that are on the Upper Mississippi River, the Illinois . . . So, there was a lot going on that day”)).

As noted above, the attendees of the Captains’ Meeting discussed the operational details of the IRCA Plan, including transit communications and assist boat movement. While Claimants’ briefing suggests that Captain White and Pilot Shrader “remained confused about the details of the plan” even after the meeting, Claimants introduced no evidence of this purported “confusion” at trial, and the Court finds none. (R.866, US Pre-Trial Brief at 37-38, 41 (adopted by Claimants at R.873, R.876)). Even if they had offered such evidence, moreover, Claimants have failed to establish the causal connection between such “confusion” and the eventual allision. *See Folkstone*, 64 F.3d at 1054 (“CSX has failed to highlight evidence that would establish that a more extensive meeting would have prevented the vessel from striking the low overhang of a bridge that was raised to an angle of inclination that represented a latent obstruction”); *In re Mid-S. Towing Co.*, 418 F.3d 526 (5th Cir. 2005) (the *Oregon* Rule, even if applied, is not a presumption regarding “the question of causation”). Similarly, Captain White’s failure to conduct a pre-transit radio check does not strike the Court as either (i) unreasonable, given his delegation of communication duties, or (ii) causally related to the eventual allision. *See Folkstone*, 64 F.3d at 1054 (“The radio pre-sail conference which informed the participating mariners how, as a general manner, the transit would proceed was adequate”). Indeed, after reviewing the correlated audio-visual evidence of the actual transit, the Court agrees with Captain Schropp’s expert testimony in the following exchange:

[Q]. Now, going back to the captains’ meeting on the City of Ottawa for a second. Part of the plan they developed was a communications plan, if you will, correct?

[A]. Correct.

[Q]. Did you listen to the communications coordinating the actual actions of the assist tugs during the transit?

[A]. Yes, I did.

[Q]. What is your opinion about the effectiveness of the communications procedures and plans that the captains came up with on the City of Ottawa?

[A]. They were very effective, as you can see by the boats moving around here and there. They were very effective. And they were clear and concise.

(10/05 Schropp Tr. at 1670-71).

c. Pre-Transit Communications with the Lockhouse

In Captain Kinsey’s opinion, “[t]he transit failed because the dam was not set to what would have been a safe level” due to the fact that “there was no communication between the pilothouse of the Dale Heller and the individual responsible for setting the dam.” (09/22 Kinsey Tr. at 319). In other words, “with better planning, there would have been direct communications between the Dale Heller and Larry Rodriguez,” including “the ability to communicate when the dam had to be set, to verify that it would be set, [and] to verify that the settings would be held.” (*Id.* at 377).

The negligence inquiry in this case, however, does not turn on whether Captain White had the ability to communicate with Lockmaster Rodriguez. The trial record suggests that he did. Instead, the Court must assess whether, under the specific factual circumstances of this case, a prudent mariner would have communicated directly with the lockhouse either before or during the transit. *See Folkstone*, 64 F.3d at 1046; *see also* 33 C.F.R. § 83.02(a) (“Nothing in these Rules shall exonerate any vessel . . . from the consequences . . . of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special

circumstances of the case”). With respect to pre-transit communications in particular, Claimants have failed to prove that Captain White’s conduct was unreasonable under the circumstances.

While a vessel captain typically calls the lockmaster himself to inquire about gate settings, here, the lockmaster had already made a representation as to gate settings – that is, lowered to 16 feet of gate. (09/29 White Tr. at 984-85, 879 (“Usually when I call the lock . . . they will proceed to tell me [the gate setting]. And, then, I go on down in the canal and make the lock, and normally I never hear another word from the lockman at all”). The Corps, in turn, sent Jeff Griffin up on the Creve Coeur and designated him as the intermediary “communicator” between the vessels and the lock. (R.867, Slack Dep. Tr. at 127-28; R.881, Griffin Dep. Tr. at 95-96; R.867, Beckman Dep. Tr. at 49-50 (“I recall talking to both Jeff [Griffin] and Larry [Rodriguez] and ensuring that they were going to be talking to one another as [to] exactly when the dam was going to be going down. And so there was clear communication between the tow and the dam and the operator of the dam”). After the speakerphone participant confirmed the plan to Captain White, he had no reason to question its implementation. Given these dual considerations—that is, (i) the existence of the IRCA Plan, and (ii) the Corps’ active placement of Griffin on the flotilla—the Court is not convinced that Captain White should have overridden or questioned Griffin’s role as point-person for lockhouse communications. In addition, considering the unique circumstances of this navigation attempt—specifically, the unprecedented use of assist boats through a narrow canal approach in fast water—the Court finds no fault in Captain White’s decision to place Griffin within the wheelhouse of an assist boat, allowing him to “keep [his] undivided attention on what was happening with [his] tow.” (09/29 White Tr. at 878-79; *id.* at 993 (“I had no time for distractions in this situation . . . I need to hear what everyone else is saying, not what he’s saying. I need to be hearing everybody”).

Based on the foregoing analysis, the Court declines to find fault against Ingram arising from the development of its transit plan. Accordingly, the Court holds that Claimants have failed to establish a violation of Inland Navigation Rule 2 under the *Pennsylvania* Rule.

ii. Lookout (Inland Navigation Rule 5)

Claimants next argue that Ingram violated Inland Navigation Rule 5 by failing to post a proper lookout to observe the dam gates and the outdraft during the transit. This rule provides: “Every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision.” *See* 33 C.F.R. § 83.05.

As Ingram’s maritime expert explained, a towboat operator satisfies Inland Navigation Rule 5 if he has “a 360-degree unobstructed view” during transit. (10/05 Schropp Tr. at 1665). A vessel captain, in other words, can be the lookout. (*Id.*; 09/29 White Tr. at 995 (“There is a lookout rule, but the Coast Guard says I can be that lookout. I don’t put people out on the head of my tow and put them in danger”)). In Captain Schropp’s expert opinion, “the bridge team, Shrader and White, were both working together, which would make Shrader a supplement to White’s lookout. So they were in compliance with Rule 5.” (10/05 Schropp Tr. at 1665). Absent expert testimony to the contrary—and Claimants have submitted none—the Court agrees that Captain White did not err in failing to designate a specific, additional lookout for the transit. *See Grelewicz v. Kuchta*, No. 04 C 2282, 2006 WL 2632071, at *4 (N.D. Ill. Sept. 6, 2006) (“The rule . . . does not require that the captain or other individual in charge must designate a specific person”).

Claimants now suggest that Ingram violated Inland Navigation Rule 5 because the Dale Heller’s tow consisted of cover-top barges, such that Captain White could not see the outdraft

“until such a time when [he] was down on top of it.” (09/29 White Tr. 995-96). According to Claimants, “prudence required that the captain assign a lookout, if not on the [Dale] Heller then on one of the assist boats, to observe the water ahead of the tow which could not be seen from the pilothouse and which provided a plain view of the outdraft.” (R.924, Claimant Post-Trial Br. at 29-30). Outdraft, however, is not unique to the Marseilles Lock and Dam. As Captain White testified, “[t]he potential for loss of equipment and property damage . . . is at every lock on the Illinois River when there’s outdraft. Not only just this lock, but every lock.” (09/29 White Tr. at 940; R.867, Hughes Dep. Tr. at 76-77). Claimants offer no expert testimony on Inland Navigation Rule 5, let alone testimony that establishes that an inland mariner must post a lookout to “observe the outdraft” while entering a river canal. In addition, Claimants ignore that, per the IRCA Plan, Captain White operated his tow under the impression that he would encounter an outdraft associated with a 16-foot gate setting, not an 88-foot gate setting. In other words, there would have been no reason, *ex ante*, to post a lookout for the specific purpose of observing cross-current strength. The “mere presence of a blind spot[,]” moreover, does not “serve as a condition automatically requiring an additional lookout.” *Vulcan Materials Co. v. Massiah*, 645 F.3d 249, 258 (4th Cir. 2011). Accordingly, the Court is not convinced that this failure amounts to negligence or a violation of Inland Navigation Rule 5.

After weighing the evidence, moreover, the Court is not convinced by Claimants’ argument concerning the “visibility” of the gate setting. In particular, Claimants argue that, because Captain White and Pilot Shrader failed to see the physical position of the gates until it was “too late,” they failed to perform their lookout duties. (R.924, Claimant Post-Trial Br. at 30-31). Under maritime law, a court may deny exoneration where the vessel had “ample opportunity” to “see what they ought to have seen.” *See Rautbord v. Ehmman*, 190 F.2d 533, 538

(7th Cir. 1951) (“It was daylight, with nothing to obstruct his vision, and it is no excuse that he looked and did not see what was before him and plainly visible”); *The N.Y.*, 175 U.S. 187, 204 (1899) (“No reason is given why the signals of the Conemaugh were not heard . . . [the New York’s] inability to hear them is inexplicable, except upon the theory that no sufficient lookout was maintained . . . Her officers failed conspicuously to see what they ought to have seen or to hear what they ought to have heard. This, unexplained, is conclusive evidence of a defective lookout”). Under Claimants’ theory, a proper lookout would have revealed a discrepancy between the actual gate setting and the gate setting contemplated under the IRCA Plan.

As lock personnel acknowledged, upriver mariners cannot “see the gate setting” at the Marseilles Dam. (09/28 Rodriguez Tr. at 634-35). The Corps’ Chief of Locks and Dams for the Illinois Waterway confirmed this fact, recognizing that “there are no tick marks or slash marks on the side of the dam [to] tell how high the gates were lifted. And without knowing the actual elevation, too, of the water, there’s no way to discern how high the gates were.” (09/28 Hess Tr. at 739). Industry personnel testified similarly. (10/05 Schropp Tr. at 1671-72 (“I can’t tell what the gates are set at just by looking”); R.867, Hughes Dep. Tr. at 76; R.867, Daniel Dep. Tr. at 142-43; R.867, Deaton Dep. Tr. at 130-31 (“[Q]. You would never try to calculate that [gate setting] for yourself, would you? [A]. No. [Q]. By looking at the gates? [A]. No. [Q]. Would it be possible for you to do that? [A]. No”)). On the other hand, witness testimony indicates that it is “pretty obvious” when the dam gates are wide open. (R.881, Cox Dep. Tr. at 221; R.881, Cutler Dep. Tr. at 76-77, 231-32; R.867, Stunkel Dep. Tr. at 95). In other words, an 88-foot gate setting—with all eight tainter gates out of the water—looks different than a 16-foot gate setting.

After reviewing cell phone photographs featuring the dam gates at various points on the transit (TREX 2077, TREX 51), the Court is not convinced that their position was “plainly

visible” throughout the transit. *See Rautbord*, 190 F.2d at 538; *see also* R.881, Griffin Dep. Tr. at 123 (“It’s hard to see them gates move”). Even assuming that they were visible, moreover, Claimants have not established by a preponderance of the evidence that Ingram “ought to have seen” them. *The N.Y.*, 175 U.S. at 204. In particular, given (i) the existence of the IRCA Plan and (ii) the lockmaster’s representation that he could “lower it very quickly” to a 16-foot gate, the Court cannot conclude that Ingram acted unreasonably in failing to observe the gates during the transit. Relatedly, while the testimony of Joseph Jakupcak indicates that a casual observer could see “dark rectangles” close in time to the allision, (R.867, Jakupcak Tr. at 64-68, 74, 80, 89, 91, 94), the visibility of an 88-foot gate setting by 5:27PM does not tell the Court that—with a proper lookout—a prudent mariner would have stopped the transit minutes before, having deduced that the lockhouse could not get back to a 16-foot gate setting in time for the tow to avoid a powerful outdraft. *See Folkstone*, 64 F.3d at 1055 (“Navigators are not to be charged with negligence unless they make a decision which nautical experience and good seamanship would condemn as unjustifiable at the time and under the circumstances shown”) (citation omitted). For these reasons, the Court declines to find a violation of Inland Navigation Rule 5.

iii. Deviation from the IRCA Plan (Inland Navigation Rule 7)

Finally, Claimants argue that Ingram negligently misapprehended or ignored evidence that the IRCA Plan was no longer in place, violating Inland Navigation Rule 7. This rule provides, in part, that “[e]very vessel shall use all available means appropriate to the prevailing circumstances and conditions to determine if risk of collision exists.” *See* 33 C.F.R. § 83.07(a). It further cautions that “[a]ssumptions shall not be made on the basis of scanty information, especially scanty radar information.” *See* 33 C.F.R. § 83.07(c). In support of this argument, Claimants point to three radio transmissions, as well as the physical position of the gates, as

“ample evidence that the Corps was not acting according to Ingram’s understanding of the plan.” (R.924, Claimant Post-Trial Br. at 31-36). After weighing the evidence, the Court disagrees.

First, Claimants point to the 4:23PM Slack Transmission, advising, “It takes them 4 minutes to shut the gates and 4 minutes to open them. So, they, they’re going to shut four on the, uh, left side and that’s all.” While Claimants construe this statement as “it takes 4 minutes to lower the gates four feet,” (*id.* at 32), Captain Slack himself testified that what he “intended to communicate is that the four gates closest to the canal would be shut.” (R.867, Slack Dep. Tr. at 163). He did not communicate how *much* those particular gates would be shut. (*Id.* (“All I said was how long it would take to open and shut them”)). Pilot Shrader heard this transmission and interpreted it as “just them discussing how long it takes for them to get the gates down and up.” (10/03 Shrader Tr. at 1347; *see also* 10/03 Ice Tr. at 1243-44). Absent evidence that Pilot Shrader knew or should have known that the tainter gates moved in increments of one foot per minute—and Claimants identify none—the Court cannot conclude that the 4:23PM Slack Transmission made it clear that the lockhouse would lower particular gates *by* four feet each.⁴³ To the contrary, Captain White thought that it only took the lockmaster “four minutes to get these gates down to a 16-foot gate.” (09/29 White Tr. at 897, 899, 979; *see also* 10/04, Henleben Tr. at 1472-73 (recalling that Rodriguez had represented on the IRCA call, “I can lower it very quickly to 16 gate feet”). Similarly, the evidence does not support a finding that—in hearing the phrase, “shut four on the . . . left side and that’s all”—Pilot Shrader should have questioned whether the lockmaster could achieve a 16-foot gate setting in the first instance. Claimants

⁴³ Although it is undisputed that the Marseilles Dam tainter gates move at this rate (R.846-1, Stmt. of Uncontested Facts ¶ 9), there is no evidence reflecting that Pilot Shrader, Captain White, or any other river mariner knew that fact during the April 18, 2013 transit. (*Compare* TREX 18 and 19 (Moore and Koeller handwritten notes reflecting gate speed (“1 minute per foot” and “1 min / 1 foot”) *with* 09/29 Moore Tr. at 1048, 09/29 Koeller Tr. at 1073 (neither communicated with the Dale Heller after the IRCA call)). During closing arguments, Claimants’ counsel did not argue that any river mariner knew this fact, even after the Court asked Ingram’s counsel about this issue and allowed Claimants’ counsel additional argument time. (10/06 Tr. at 1790-91 (“I don’t think any captains know the intricacies of gate operation”)).

identify no evidence that inland river mariners have (or should have) such insight into tainter gate manipulation. (10/04, Henleben Tr. at 1482-83 (“[Q]. Do Ingram boat operators and other pilots and captains have experience, to your knowledge, in operating dam gates? [A]. No”). Accordingly, the Court does not view Ingram’s failure to “react” to the 4:23PM Slack Transmission as unreasonable under the circumstances.

Next, Claimants point to the 76 to 55 Transmission, advising at 5:02PM, “They’re putting the dam down right now . . . They’re at 76 right now he said, going down to 55.” In addition, Claimants point to the Open More Gate Transmission, advising at 5:17PM, “I’m telling him to open up a little bit more gate because they’re starting to flood up into them houses already,” to which Captain White responded, “Okay.” (R.924, Claimant Post-Trial Br. at 32-34). Prior to the collision, these two radio transmissions were the last ones that Ingram heard concerning the (i) gate setting, and (ii) the direction of the gates. (09/29 White Tr. at 982-83; 10/03 Shrader Tr. at 1380). Neither Captain White nor Pilot Shrader verified that the gates would, in fact, continue to go down to 16 feet of total gate opening.

While these two radio transmissions raise a question regarding Captain White’s mid-transit inaction—specifically, his failure to radio the lockhouse to confirm the gate setting—in determining liability, the Court must consider “the specific factual circumstances under which the accident took place.” *Folkstone*, 64 F.3d at 1046. Here, Captain White piloted his tow under the impression—based on the IRCA Plan, the Captains’ Meeting, and his 35 years of pilothouse experience—that the gates would be lowered to 16 feet by the time he “got to a certain point down [there], particularly where the crosscurrent is.” (09/28 White Tr. at 876). He thus viewed the 76 to 55 Transmission as communicating an interim gate setting, and the Open More Gate Transmission as communicating a gate direction which would change as the flotilla continued

southbound, given his belief that the lockmaster could achieve a 16-foot gate setting quickly. (*Id.* at 897-99, 979). In Captain White's estimation, he only needed "five minutes, six minutes at the very most, because I would have pushed it full ahead to get on down in the canal." (*Id.* at 890-92). Post-allision, pilothouse audio captured Captain White affirming his good-faith belief that the Corps had agreed to lower the gates to 16 feet. (TREX 5000, White Clips 22-25, 27-28 ("They were supposed to hold it to 16 foot. They didn't do it . . .")).

After reviewing the evidence, the Court finds that Captain White's belief was not only held in good faith, but was also reasonable. Against the backdrop of the IRCA Plan, and after receiving the assurances of the speakerphone participant at the Captains' Meeting, Captain White reasonably relied on the lockmaster's representation concerning the gate setting. He also heard these transmissions during an unpracticed navigation attempt, in which he purposefully delegated duties in order to reduce pilothouse distractions. The Corps, meanwhile, (i) actively placed a Corps representative on the flotilla to coordinate lockhouse communications, (ii) monitored the flotilla's movement in real-time, and (iii) alone controlled, altered, and measured, the gate setting during the transit. These realities undercut Claimants' theory that Captain White should have deduced from these radio transmissions that the IRCA Plan was no longer in place, and should have undertaken to call the lockhouse to confirm. (*See* 10/05 Schropp Tr. at 1734 ("[Q]. So you're saying that it would not be important for someone to check while the [Dale] Heller is in transit and approaching the critical point where the gates have to be lowered, is that your opinion? [A]. No, my opinion has been all along not that it's not important, but that it was unnecessary, that that was being taken care of by Corps personnel on the Loyd Murphy))). Based on the trial record, the Court declines to assign fault to Ingram for failing to implement an action based on "20/20 hindsight." (*Id.* at 1735).

Claimants’ remaining argument—that the “clear view of the gates” should have given Captain White sufficient pause to stop and confirm the IRCA Plan—fares no better, for the reasons explained above with respect to Inland Navigation Rule 5. (R.924, Claimant Post-Trial Br. at 34). Based on the foregoing analysis, the Court declines to find fault against Ingram arising from its failure to question, mid-transit, whether the IRCA Plan was still in place. The Court, accordingly, holds that Claimants have failed to establish a violation of Inland Navigation Rule 7 under the *Pennsylvania* Rule.

e. Claimants’ Negligence Theories

For the foregoing reasons, the Court finds that Claimants have failed to prove Ingram’s negligence by a preponderance of the evidence. *See M/V Morgan*, 375 F.3d at 572-73. In addition, Claimants have failed to meet their burden with respect to proving an applicable regulatory violation under the *Pennsylvania* Rule. *See Folkstone*, 64 F.3d at 1046-47. Accordingly, Ingram is entitled to exoneration under the general maritime law, and the Court finds for Ingram against Claimants.

2. Ingram’s Case – The Sole Fault of Lockmaster Rodriguez

Even applying the *Oregon* Rule and the *Pennsylvania* Rule, moreover, the Court finds that Ingram is exonerated from liability on the basis that the allision was the sole fault of the personnel at the Marseilles Dam. *See M/V Morgan*, 375 F.3d at 574; *Folkstone*, 64 F.3d at 1047 (“a violator of a navigational statute may not be held liable by application of the *Pennsylvania* Rule if the other party to the accident is found to be the sole cause of the accident”).

a. Captain White

As noted above, expert testimony and correlated audio-visual evidence—including the contemporaneous video feed from Dam Camera 6—confirm that Captain White led a licensed

crew, captained a seaworthy vessel, and piloted his tow in accordance with prudent seamanship and reasonable care. *See Folkstone*, 64 F.3d at 1046. After reviewing this evidence, the Court agrees with Captain Schropp’s expert opinion that, during the transit, the Dale Heller and its tow maintained good position and complied with navigational rules. (10/05 Schropp Tr. at 1663-73).

In a footnote, Claimants suggest that Captain White improperly operated the Dale Heller by maintaining a slow speed and stopping near the canal entrance. (R.924, Claimant Post-Trial Br. at 35 n.1 (citing Captain Cutler’s deposition testimony)). Ingram, however, has submitted evidence sufficient to demonstrate that (i) the Dale Heller *had* to move slowly in order to use its assist boats, and (ii) Captain White stopped because he was afraid of pinning the City of Ottawa against the canal wall. At that point, “there wasn’t a doubt in [his] mind. It was going to hit that wall . . . the outdraft was just too strong.” (09/29 White Tr. at 909; *see also* 10/03 Ice Tr. at 1273 (“[Q]. Was there anything that the Heller or any of the assist boats could do to overcome that outdraft once the head was within about 200 feet? [A]. No, there was nothing. It was too strong”)). Given this demonstration, and viewing the trial record as a whole, the Court finds that Captain White did not commit pilotage error in operating the Dale Heller on April 18, 2013. To the contrary, “looking at the videos, and looking at the position of the boats and the position of the tow, if the gates had been anywhere close to 16 feet, they would have gone into the canal with no trouble.” (10/05 Schropp Tr. at 1674).

b. Lockmaster Rodriguez

As both maritime experts recognized, “the setting of the dam was critical to the success of the transit.” (09/22 Kinsey Tr. at 314, 319 (“The transit failed because the dam was not set to what would have been a safe level”); 10/05 Schropp Tr. at 1679 (“The cause of this accident was the failure of the lockmaster to reduce the flow through the dam”)). In addition, the parties’

hydraulic engineering experts agreed that, by raising the gates to a mid-transit setting of 88 feet, Rodriguez created an outdraft at least 11 times greater than what the Dale Heller would have encountered at a 16-foot gate setting. This outdraft would have been significantly weaker, moreover, had Rodriguez instead (i) lowered the gates to 16 feet, and then raised them back to 70 feet during the transit, or (ii) simply held the gates at 60 feet for the tow's southbound approach.

At trial, Rodriguez testified that he had never “practiced any maneuver like this” before. (09/28 Rodriguez Tr. at 708-11). His role was “just to open and close the gates. That was it.” (*Id.* at 722 (“[Q]. It was to do what [industry] asked, correct? [A]. Correct”). The fact that this was an emergency situation in which Lockmaster Rodriguez played an assist role and exercised discretion, however, does not negate his responsibility to use due care in operating the dam gates. Lockmaster Rodriguez—with 27 years of experience in dam operations—did not follow the IRCA Plan, did not inform the vessel operators of the gate setting as he observed them entering the approach area, did not use his own judgment in raising the gates to 88 feet, and did not offer any principled reason for such conduct, other than blind obedience to an unexplained order from a Crane Operator Supervisor who was outside of his chain-of-command and who did not have any responsibility for raising or lowering the gates. As expert analysis confirmed, such conduct resulted in an extremely powerful outdraft which, in turn, caused the allision at the Marseilles Dam. *See Folkstone*, 64 F.3d at 1048-50, 1055 (affirming district court finding that “the Bridge was improperly elevated to 67° on the day of the accident, and that this improper elevation was the sole and proximate cause of the allision”). This sole proximate cause determination exonerates Ingram from all liability arising from the April 18, 2013 allision at the Marseilles Dam. *See id.* at 1047; *M/V Morgan*, 375 F.3d at 573-74. In light of this disposition, the Court

need not reach Ingram’s arguments concerning the application of (i) the “inevitable accident” doctrine, or (ii) the *in extremis* doctrine. See *M/V Morgan*, 375 F.3d at 575-77.

II. Limitation of Liability

Even if the Court had found contributory fault on the part of Ingram, Ingram is still entitled to limit its liability pursuant to the Limitation of Liability Act, 46 U.S.C. § 30505. This Act provides, in relevant part:

(a) In general. -- Except as provided in section 30506 of this title, the liability of the owner of a vessel for any claim, debt, or liability described in subsection (b) shall not exceed the value of the vessel and pending freight. If the vessel has more than one owner, the proportionate share of the liability of any one owner shall not exceed that owner’s proportionate interest in the vessel and pending freight.

(b) Claims subject to limitation. -- Unless otherwise excluded by law, claims, debts, and liabilities subject to limitation under subsection (a) are those arising from any embezzlement, loss, or destruction of any property, goods, or merchandise shipped or put on board the vessel, any loss, damage, or injury by collision, or any act, matter, or thing, loss, damage, or forfeiture, done, occasioned, or incurred, without the privity or knowledge of the owner.

46 U.S.C. § 30505. In other words, “a shipowner’s liability is limited to the value of the ship, so long as the owner proves that the acts and losses were done, occasioned, or incurred, without the privity or knowledge of the owner.” *Am. River Transp. Co. v. Ryan*, 579 F.3d 820, 822 (7th Cir. 2009) (citation omitted). The Limitation Act, thus, seeks to shield from liability “innocent shipowners and investors” who had no “personal participation . . . in the fault or negligence which caused or contributed to the loss or injury.” *Great Lakes Dredge & Dock Co. v. City of Chicago*, 3 F.3d 225, 231 (7th Cir. 1993), *aff’d sub nom*, 513 U.S. 527 (1995). With respect to a corporate shipowner such as Ingram, “[i]f a managerial employee is possessed of ‘privity or knowledge,’ i.e., if he or she personally participates in the activity that caused the alleged loss, the corporation is precluded from the benefit of the Limitation Act.” *Id.* Personal participation, however, “is not tantamount to actual knowledge or direct causation. All that is needed to deny

limitation is that the shipowner, by prior action or inaction set[s] into motion a chain of circumstances which may be a contributing cause even though not the immediate or proximate cause of a casualty.” See *Matter of Oil Spill by Amoco Cadiz Off Coast of France on Mar. 16, 1978*, 954 F.2d 1279, 1303 (7th Cir. 1992) (citation and quotation omitted).

The limitation determination involves a two-step process: “First, the claimant has the burden of identifying the vessel’s acts of negligence that proximately caused the injury; if the [claimant] fails to prove negligence or causation, the owner is entitled to exoneration. If, on the other hand, the claimant satisfies this initial step, the burden then shifts to the owner to prove that he did not have knowledge or privity of those same acts of negligence.” *Illinois Constructors Corp. v. Logan Transp., Inc.*, 715 F. Supp. 872, 880 (N.D. Ill. 1989); see also *Hercules Carriers, Inc. v. Claimant State of Fla., Dep’t of Transp.*, 768 F.2d 1558, 1565-66 (11th Cir. 1985) (same). Here, Claimants have failed to satisfy the initial step, entitling Ingram to exoneration. See *id.* Even shifting the burden to Ingram, however, the Court concludes that limitation is warranted.

Claimants’ identified acts of negligence—specifically, Ingram’s conduct in (i) entering the Marseilles Pool on April 16-17, 2013; (ii) staying at Ballards Island until April 18, 2013; (iii) attempting the canal transit on April 18, 2013; and (iv) implementing the IRCA Plan—each involved operational decision-making by Captain White, not by Ingram’s managerial shoreside personnel. Captain White attested to this fact in the following exchange:

[Q]. Now, as a captain of the Dale Heller, can you tell me what your job responsibilities were?

[A]. My responsibilities [are] virtually everything. I’m responsible for everything on the boat, the safety of the boat, the crew, the barges, getting the boat up and down the river as safely as possible.

[Q]. As captain, do you have the final say -- as captain on watch -- regarding navigation decisions?

[A]. Yes, I do.

[Q]. Would that include navigating the boat safely?

[A]. Yes.

[Q]. Would that include making decisions regarding the appropriate tow size that you should take on, given the conditions that exist?

[A]. Yes, sir.

[Q]. Would that include deciding whether the boat should proceed or stop due to river conditions, weather, some other issues?

[A]. Yes, it would.

* * *

[Q]. And [Henleben] provided you with shoreside support. Did he have final authority over navigation decisions?

[A]. No.

[Q]. That was your job?

[A]. That was my responsibility.

[Q]. And was that reflected in Ingram policies?

[A]. Yes, sir.

(09/28 White Tr. at 786-88; *see also id.* at 821, 851-53, 1007). Pilot Shrader and Henleben confirmed this line of authority. (10/03 Shrader Tr. at 1352; 10/04 Henleben Tr. at 1445-46, 1451, 1468, 1475, 1510, 1516, 1518 (“I will never trump a captain on his decision”)).

In addition, there is no evidence that Ingram’s managerial personnel “by prior action or inaction set into motion a chain of circumstances” resulting in an incompetent crew or an unseaworthy vessel. *See Amoco Cadiz*, 954 F.2d at 1303; *Illinois Constructors*, 715 F. Supp. at 880 (“Such personal participation in the negligent acts can include, among other things, an owner’s failure to hire a competent crew or to provide a seaworthy vessel”). There is no

evidence, for example, of Ingram’s “failure to train the crew properly” in violation of a “non-delegable duty to ensure a seaworthy vessel,” *see Amoco Cadiz*, 954 F.2d at 1304, or of its “unwritten company policies that were violative of the inland rules.” *Hercules*, 768 F.2d at 1577. To the contrary, Claimants’ maritime expert testified that the Dale Heller’s crew on April 18, 2013, was “properly licensed, trained, and experienced,” that Ingram’s policy and procedures manual was “very comprehensive” and RCP-compliant, and that the Dale Heller was “very well-equipped, modern and very powerful,” with “the latest available technological aids . . . far in excess of any statutory requirements.” (09/22 Kinsey Tr. at 326-32). Thus, while Claimants now suggest that Ingram’s managerial personnel failed to provide adequate weather training, the weight of the evidence suggests otherwise. Claimants, in any event, fail to liken this “training” theory to any of their cited authorities.

In short, even if the Court had found contributory fault on the part of Ingram, Ingram has set forth sufficient evidence entitling it to limit its liability pursuant to 46 U.S.C. § 30505.

III. Comparative Fault of IMS

The Court next analyzes whether—had the Court found contributory fault on the part of Ingram—Ingram would be entitled to a credit for IMS’ proportionate share of fault. *See McDermott, Inc. v. AmClyde*, 511 U.S. 202, 217 (1994). In closing arguments, Claimants’ counsel contended that “there should be no proportional reduction in the liability” because “there’s no evidence against the Loyd Murphy or the IMS.” (10/06 Tr. at 1760). Ingram’s counsel generally agreed, but noted that the Court still had to make a factual finding related to Captain Ice’s involvement in the Open More Gate Transmission. (*Id.* at 1801). As discussed above, the Court has already found Captain Ice to be a credible witness, and credited his explanation for the Open More Gate Transmission. In addition, although some witnesses

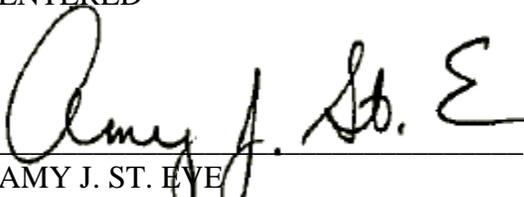
questioned the prudence of wiring the Loyd Murphy's tow alongside the Dale Heller's tow, expert testimony establishes that the Loyd Murphy's extra horsepower benefited the Dale Heller throughout April 17-18, 2013. (*Compare* R.867, Stunkel Dep. Tr. at 77 ("they were blocking too much water . . . that's why they were having such a hard time holding it") *with* R.867, Randall Dep. Tr. at 95-98 ("So you've doubled the horsepower but not doubled the drag"); 10/04 Holly Tr. at 1552-53 (calculating that the Loyd Murphy had excess horsepower beyond that required to hold its own barges); R.881, Orloff Dep. Tr. at 135-39 (same)). After weighing the trial record, thus, the Court finds no negligence on the part of IMS.

CONCLUSION

For the reasons explained above, the Court finds that: (1) Claimants have failed to prove by a preponderance of the evidence Ingram's negligence under the general maritime law, or Ingram's violation of a regulatory mandate triggering the *Pennsylvania Rule*; (2) alternatively, Ingram has exonerated itself from liability by proving that the operator at the Marseilles Dam was the sole proximate cause of the allision; (3) even if the Court had found contributory fault on the part of Ingram, limitation is warranted under 46 U.S.C. § 30505; and (4) even if the Court had found contributory fault on the part of Ingram, IMS did not engage in any negligent conduct entitling Ingram to a proportionate reduction in liability. Accordingly, the Court enters judgment in favor of Ingram against Claimants on its complaint for exoneration from or limitation of liability in connection with the April 18, 2013 incident at the Marseilles Dam.

Dated: November 29, 2016

ENTERED



AMY J. ST. EYE
United States District Court Judge