IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

BAD RIVER BAND OF THE LAKE SUPERIOR TRIBE OF CHIPPEWA INDIANS OF THE BAD RIVER RESERVATION,

Plaintiff,

v.

ENBRIDGE ENERGY COMPANY, INC., and ENBRIDGE ENERGY, L.P.,

Defendants.

Case No. 3:19-cv-00602-wmc

Judge William M. Conley
Magistrate Judge Stephen L. Crocker

ENBRIDGE ENERGY COMPANY, INC., and ENBRIDGE ENERGY, L.P.,

Counter-Plaintiffs,

v.

BAD RIVER BAND OF THE LAKE SUPERIOR TRIBE OF CHIPPEWA INDIANS OF THE BAD RIVER RESERVATION and NAOMI TILLISON, in her official capacity,

Counter-Defendants.

BAD RIVER BAND OF THE LAKE SUPERIOR TRIBE OF CHIPPEWA INDIANS' EMERGENCY MOTION FOR INJUNCTIVE RELIEF

The Bad River Band of the Lake Superior Tribe of Chippewa Indians of the Bad River Reservation (the "Band") respectfully moves, on an emergency basis, for injunctive relief requiring Defendants Enbridge Energy Company, Inc., and Enbridge Energy, L.P. (collectively

"Enbridge"), to purge and shut down the Line 5 pipeline on the Bad River Reservation given the alarming amount and rate of erosion experienced at the Bad River meander in the last month.

In the past four weeks, bank erosion at the meander has proceeded at a staggering pace. At four locations the river is less than 15 feet from the pipeline, and only 11 feet of bank remains at the E series of monuments. At three of these locations, more bank has been lost in the past few weeks than presently stands between the pipeline and the river. For instance, at the M3 series of monuments, 34 feet of bank stood between the pipeline and the river before the second week of April. Even as of the filing of the parties' Joint Status Report on May 1, 23–24 feet of bank remained. *See* Dkt. 627 at 4 (fig. 2). Now, just one week later, 12.5 feet remain. Significant erosion is continuing as of the filing of this Motion, and the evidence strongly suggests that further bank loss could be substantial and result in exposure and rupture of the pipeline. The accompanying Memorandum of Law and Declaration of Ian Paton discuss these facts in detail.

Because of the proximity of the river to the pipeline at the meander, the Band requests a decision on this Motion by this Friday, May 12, 2023, and accordingly asks that the Court issue a schedule for Enbridge's briefing (and for argument, if the Court desires it) to reach a resolution by that date.

Dated: May 9, 2023

Respectfully submitted,

/s/ Riyaz A. Kanji

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CERTIFICATE OF SERVICE

I certify that on May 9, 2023, this document was served on all parties or their counsel of record through the CM/ECF system if they are registered users or, if they are not, by placing a true and correct copy in the United States mail, postage prepaid, to their address of record.

/s/ Riyaz A. Kanji
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Case No. 3:19-cv-00602-wmc

Judge William M. Conley
Magistrate Judge Stephen L. Crocker

BAD RIVER BAND OF THE LAKE SUPERIOR TRIBE OF CHIPPEWA INDIANS' MEMORANDUM OF LAW IN SUPPORT OF EMERGENCY MOTION FOR INJUNCTIVE RELIEF

INTRODUCTION

In recent weeks, riverbank erosion at the Bad River meander has proceeded at an alarming pace. There presently exist four locations at which less than 15 feet of bank remains between the Bad River and Line 5. At the E series of monuments, that figure is 11 feet. A staggering amount of bank has been lost at these locations. At the M3 series of monuments, for example, 34 feet of bank existed between the pipeline and the river prior to flows increasing in the second week of April. Now only 12.5 feet remain. This means that far more bank has been lost at this location in a month than presently stands between the pipeline and the river. Indeed, in one week alone (between April 29 and May 5), 10.5–11.5 feet of bank was lost there, or nearly the same amount as still exists. Erosion continues to progress at a number of series, and important factors suggest that further bank loss could be significant, resulting in the exposure and rupture of the pipeline. These circumstances present an imminent threat to the Bad River watershed and Lake Superior, and hence to the rights of the Band and the public, and they warrant immediate action by this Court. While the Band is sensitive to the Court's economic concerns about enjoining the pipeline, the far graver threat at present is of a rupture that not only would shut down Line 5 but would devastate the Bad River watershed and Lake Superior in the process.

I. An Imminent Risk of Pipeline Rupture Exists.

A. Substantial Bank Loss Has Taken Place with Alarming Rapidity.

In its Opinion and Order of November 28, 2022 ("November Order"), Dkt. 612, this Court held that "[n]ot only is there an actual risk of a significant rupture [of Line 5 at the meander], but the negative impact in this area on the Bad River watershed and even Lake Superior itself could be catastrophic. Thus, the court finds that a rupture of Line 5 at the

meander would be a substantial and unreasonable interference with the Band's and the public's rights." *Id.* at 3.

The Court further noted, however, that to qualify as a public nuisance, the threatened interference must be "imminent," *id.* at 2, which the Seventh Circuit has characterized as "sufficiently close to occurring" as to warrant judicial action, *id.* at 2 (quoting *Michigan v. U.S. Army Corps of Eng'rs*, 667 F.3d 765, 781–82 (7th Cir. 2011) ("*Asian Carp I*")). The Court stated that "whether a rupture of Line 5 is 'imminent' … remains open to reasonable debate, as illustrated by much of the evidence at trial," *id.* at 4, and that "the risk of a catastrophic failure of the pipeline at the meander remains thankfully at least a year away," *id.* at 7. In so stating, the Court observed "there still remains approximately 26 or 27 feet of riverbank between the Bad River shoreline and Line 5 at its nearest point, a distance that, although alarmingly significant given annual average erosion, has remained stable for three straight years as a result of below average flooding and the serendipitous formation of a small gathering of fallen trees directly upstream." *Id*. at 5–6. The Court further noted "the evidence at trial showing that no more than erosion of 6 or 7 feet at the river's shoreline is likely to occur by next spring[.]" *Id*. at 11.

These observations have been upended by developments in recent weeks. Rapid erosion has taken place since flows began to increase in the Bad River on April 9, and that erosion remains ongoing. The 26–27-foot minimum distance figure cited by the Court is now obsolete. At the E series, just 11 feet of bank remains. Decl. of Ian B. Paton (Paton Decl.) ¶ 4; Proposed Finding of Fact ("PFF") ¶ 1. At other locations the river and pipeline are nearly as close: 12.5 feet at the M3 series; 13.5 feet at a point between the E and F series; 14.5 feet at the D series; and 16.5 feet at the F series. Paton Decl. ¶¶ 4, 6.e; PFF ¶ 2.

Equally startling is the amount and pace of bank loss at these junctures. At the M3 series, the distance between the bank and pipeline was measured at 34 feet in February 2023, Paton Decl. ¶ 6.b, PFF ¶ 3, meaning that *21.5 feet* of bank has been lost in the past few weeks. In one week alone—from April 29 to May 5—the bank decreased by 10.5–11.5 feet, eroding by nearly half from 23–24 feet to 12.5 feet. Paton Decl. ¶ 6.b; PFF ¶ 4. Other stark examples include losses of 14.5 feet at the E series, more than 12 feet between the E and F series, and 9 feet at the F series, all in less than a month. Paton Decl. ¶ 6.c-e; PFF ¶ 5. At the D series, *19.5 feet* has been lost in the last month. Paton Decl. ¶ 6.a; PFF ¶ 6. Here, Enbridge Camera 4—itself now within 4 feet of the top of the bank—captured images showing 3-4 feet of bank loss at both the D and the E series in a single 24-hour period between May 3 and May 4, this at a time when flows in the river were only 6,000 cfs. Paton Decl. ¶¶ 10, 7 (Figure 3); PFF ¶ 6.

In the Parties' May 1, 2023 Joint Status Report Regarding Meander Conditions (Dkt. 627), four monuments had been lost at the M3 and F series, but just a week later, another four monuments have been lost all along the bank, including two much closer to the pipeline at the D and E series. *Compare* Dkt. 627 at 4 (Figure 2) & 6 (Figure 3) *with* Paton Decl. at 6 (Figure 1) & 9 (Figure 4); PFF ¶ 7. And all this erosion and monument loss has taken place in conjunction with flow levels that are far from extreme. Flows have peaked three times: on April 13 at 13,900 cubic feet per second (cfs), or less than a 10-year event; on April 21 at 10,400 cfs; and on May 1 at 10,900 cfs, with the latter two being less than a 5-year event. Dkt. 627 at 3; Paton Decl. ¶ 12 & Figure 7; PFF ¶ 8. While these flows are significant, none comes remotely close to the flows of record for this stretch of the Bad River. Paton Decl. ¶ 14.c (pp. 14-15); PFF ¶ 9.

B. Substantial Bank Loss Is Likely to Continue.

A significant likelihood of further bank erosion exists at the meander in the weeks to

come. Several key points underpin this conclusion.

Ongoing bank erosion is evident from both aerial drone imagery and photographs from site visits conducted by the Band on Friday, May 5, and by the Band and Enbridge on Monday, May 8. Drone imagery from May 6 shows a block of channel bank with a tree collapsing into the Bad River immediately downstream from the narrowest portion of the meander neck. Paton Decl. ¶ 8 & Figure 5; PFF ¶ 10. This bank failure occurred while the flow rate of the river was less than 4,000 cfs, or between a 1- to 2-year event. Paton Decl. ¶ 8; PFF ¶ 10.

Site visit photographs show signs that more bank erosion is to come. Along much of the bank, including in the areas where the river is now closest to the pipeline, there are undercut areas where roots are visible and exposed. Paton Decl. ¶ 14.a & Figure 8; PFF ¶ 11. Undercut areas are prone to collapse and bank loss. Paton Decl. ¶ 14.a; PFF ¶ 12. Moreover, on top of the bank, cracks have formed that indicate locations where the bank is more susceptible to large slope failures into the river. Paton Decl. ¶ 9 & Figure 6; PFF ¶ 13.

That there is evidence of additional bank loss to come is not surprising. The higher water levels in the river have provided some measure of support for the saturated and unstable bank. Paton Decl. ¶ 14.b (p. 14); PFF ¶ 14. As the waters recede, the lower levels of bank are losing that support, with additional sloughing as a result. Paton Decl. ¶ 14.b (p. 14); PFF ¶ 15. This is a familiar and predictable pattern, and it is one that is not dependent on further storm events at the meander. Paton Decl.; PFF ¶ 16.

In addition, as the bank moves ever closer to Line 5, the rate of erosion will become even more unpredictable. The soil and vegetation adjacent to the pipeline may be different than the conditions near the current edge of the bank. Paton Decl. ¶ 14.e (p. 15); PFF ¶ 17. If the soil in the pipeline trench is less compact (having already been disturbed once) or if there is less root

mass to provide stability to the soil in the right of way as a result of periodic clearing of trees and brush, this could accentuate the rate of erosion. Paton Decl. ¶ 14.e (p. 15); PFF ¶ 17.

Additional rainfall events, even if relatively small, could also contribute to further erosion. Paton Decl. ¶ 14.c-d (pp. 14-15); PFF ¶ 18. Since 2014, precipitation events causing heightened flows have occurred in the months of May, June, July, August, September, and October, with July 2016 being the flood of record. Paton Decl. ¶ 14.c (pp. 14-15); Dkt. 268-1 at PDF 65 (Table 3); PFF ¶ 19. Heightened flows from such events do not have to be extraordinary to cause bank loss. In April 2020, 5 feet of erosion was observed in a one-week period associated with a peak flow of less than 8,000 cfs, which corresponds to a 2-year event. Paton Decl. ¶ 14.d (p. 15); Dkt. 268-1 at PDF 70-73; PFF ¶ 20. And there is no more dramatic evidence of this point than the events of the past few weeks, where 21.5 feet and 19.5 feet of bank loss has been observed at the M3 and D series, respectively, in the aftermath of 5–10 year flows. Paton Decl. ¶ 6.a-b; PFF ¶ 20.

C. A Significant Risk Exists that the Pipeline Could Be Undermined and Rupture in the Same Event.

In its November Order, the Court suggested that a flood or series of floods that would have been necessary to erode the 26 feet of bank that remained at that point "is still unlikely to then scour suddenly and immediately an additional span of 65 to 100 feet of unsupported pipe necessary to raise legitimate, imminent concerns about its structural integrity." Dkt. 612 at 7. While the Band disagreed that the record supported that conclusion, Dkt. 618 at 4–6, there can be little doubt now that the small amount of remaining bank could be eroded and the pipeline undermined and breached in short order. The record establishes that initial exposure, undermining of support, and pipeline rupture all too often go hand in hand when flooding is involved. Paton Decl. ¶ 14.f; PFF ¶ 21. Indeed, in response to questioning from the Court,

Enbridge expert Hamish Weatherly testified that he had personally "worked on pipelines that have become exposed and unsupported in a single event" and that one could not "rule out" that "a single flood could result in both an initial pipeline exposure and a free span of greater than 90 feet if the bank started at five feet from the pipeline," just as he did not rule out "that there's a potential for exposure right now with the 26 feet to the pipe," the bank remaining at the time of trial. Dkt. 608 at 17:7–18:4, 18:21–23; *see* PFF ¶ 21.

Examples of such rapid progression abound. In 2011, the Silvertip pipeline became exposed and undermined and ruptured into the Yellowstone River during an episode of prolonged flooding. PFF ¶ 22. In 2015, a 24-inch pipeline on the Arkansas River in North Little Rock, Arkansas, failed after its critical span length was exceeded when high water levels eroded the ground cover and exposed the pipeline to the river's flow. PFF ¶ 23. The exposure and rupture happened during the same flood. *Id.* In 2011, a natural gas pipeline on the Missouri River in Iowa ruptured when the pipeline was exposed, exceeded its critical span, and failed during a single bout of flooding. PFF ¶ 24. In 2012, a 12-inch crude oil pipeline operated by Plains Midstream Canada ruptured after reaching its critical span, likely failing in the same flood that exposed it. PFF ¶ 25. And in 1994, four pipelines were exposed and ruptured during a single flood event on the San Jacinto River in Texas when the river cut a new channel through a meander where the pipelines were located. PFF ¶ 26. All these ruptures resulted in significant releases of oil.

There is no reason to think things would be any different at the meander. To the contrary, as WWE has explained:

> As water impacts the pipeline at the juncture where the pipeline intersects with intact soil, some of the water's force will be redirected toward the soil, producing rapid erosion. As the silty-sandy floodplain deposits are exposed to the erosive impacts of the Bad River, the cross section for water flow will become larger.

> While the precise rate of the progression of the pipeline exposure cannot be accurately predicted, it is foreseeable that a substantial length of pipeline could be exposed in a single high flow event, or over the course of several high flow events occurring within a short period of time.

WWE Report, Dkt. 268-2, at PDF p. 12; Paton Decl. ¶ 14.f; PFF 21.

D. A Rupture Is Sufficiently Close to Occurring as To Necessitate Action by This Court.

The line separating imminent from less-than-imminent eventualities may not always be clear, but it undoubtedly has been crossed here. It is simply not possible to proclaim with any certainty that further significant erosion and undermining of the pipeline will not take place over the next several months. While recent events have confirmed what the Band and its experts stated to the Court regarding the episodic nature of erosion at the meander and the potential for large losses of bank in short periods of time, no one would have predicted just how dramatic the bank loss would be this spring. Enbridge certainly did not. To the extent its denies that further significant erosion or undermining of the pipeline will take place now, there is no reason to think its predictive powers have improved.

There exist at least three different locations where less bank remains than has been lost in the last month, in some cases by a substantial margin. Paton Decl. ¶ 6.a-c (D series where 19.5 feet lost and 14.5 feet remain; M3 series where 21.5 feet lost and 12.5 feet remain; and E series where 14.5 feet lost and 11 feet remain); PFF ¶ 27. The pace and breadth of erosion has been dramatic, with as many as 3–4 feet of bank being lost in a single day and 10.5–11.5 feet in a single week. Paton Decl. ¶¶ 6.b, 7 (Figure 3); PFF ¶ 27. The erosion remains ongoing and for numerous reasons outlined above could continue for some time. And it will not require further high flows for that to happen. *Supra* p. 5.

Very little margin for error remains. This is especially so in light of the time required to effectuate a purge and shutdown of the pipeline. Even once all necessary materials have been acquired and staged at the necessary locations and the decision has been made to go ahead, purging the line of oil will take 45 to 48 hours. PFF ¶¶ 28–30. Since purging requires the pipeline to remain operational, that means a corresponding shutdown would likewise take several days to accomplish. PFF ¶ 31. The pipeline cannot simply be turned off with the flick of a switch in the face of further bank loss, and this fact must be fully accounted for in determining imminence, especially when multiple locations have seen bank loss of 3–4 feet in a 24-hour period this spring.

The consequences of failing to take sufficiently protective action would be catastrophic. The Seventh Circuit has instructed that that the imminency determination turns on "not only the probability of harm, but also the magnitude of the harm if the probability materializes." *Asian Carp I*, 667 F.3d at 785 (citation omitted). Given the rapid pace of erosion and the immense and lasting damage that would result from a Line 5 rupture, the imminency requirement is amply satisfied here.

E. The Present Nuisance Results from Enbridge's Actions and Warrants an Injunction.

In its November Order, the Court questioned whether the threat of a rupture is attributable to Enbridge's actions or rather stems from the Band's reluctance to acquiesce in Enbridge's remediation proposals and to engage with Enbridge in other ways. Dkt. 612 at 10–12. The Court weighed this factor heavily against the Band "in balancing the relevant equities." *Id.* at 10. While the proper application of the four-factor injunction test is addressed in the next section, a critical factual issue bears underscoring here. The Band's acquiescence or not in Enbridge's remediation proposals is presently beside the point. Enbridge has acknowledged that any

remediation project must take place in low-flow conditions—that is, in late summer or fall. PFF ¶ 32. Thus, even if the Band were to determine that a particular project meets its water quality standards, that would not alleviate the present threat. The threat instead results directly from Enbridge's insistence on continuing to pump oil through the Reservation despite the circumstances at the meander.

Moreover, while the Court faulted the Band in November (and at trial) for not engaging with Enbridge on issues including valves and erosion control, Dkt. 612 at 10, the Parties recently reported that they "are continuing discussion of the issues raised in the Court's order," Dkt. 627 at 8. Substantial progress has been made on at least one of those issues, as discussions regarding valves (the specifics of which are confidential) have yielded an application by Enbridge to install a check valve on the Reservation and continued engagement, the details of which the parties remain actively engaged on. Decl. of Naomi Tillison ¶ 3; PFF ¶ 33.

II. The Four-Factor Injunction Test Overwhelmingly Favors an Injunction.

Not only have factual developments rendered the Band's position with respect to Enbridge's remediation projects beside the point, but the Court's prior, heavy focus on that issue does not square with the four-factor injunction test. To be entitled to an injunction, the Band must demonstrate (1) irreparable harm; (2) inadequate remedies at law; (3) that the balance of hardships weighs in its favor; and (4) that the public interest will not be disserved by an injunction. *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391 (2006). All four factors strongly favor the issuance of an injunction on the Band's nuisance claim under current circumstances.

A. The Band Faces Irreparable Harm from a Pipeline Rupture and Would Have No Adequate Remedy at Law.

Environmental harm is presumptively irreparable and not susceptible to relief through monetary damages. *See Asian Carp I*, 667 F.3d at 788 ("Environmental injury, by its nature, can seldom be adequately remedied by money damages and is often permanent or at least of long duration, *i.e.,* irreparable." (citation omitted)); *see also Sierra Club v. Franklin Cty. Power of Ill., LLC*, 546 F.3d 918, 936 (7th Cir. 2008). That certainly is the case here, where the Court has recognized that a rupture of the pipeline would be "catastrophic." November Order, Dkt. 612 at 3; *see also id*. at 4 n.2 ("[O]ne need look no further to appreciate the potential damage than the spill of over one million gallons into the Kalamazoo River in 2010, after the failure of another of Enbridge's pipelines[.]").

B. The Court Should Not Balance the Equities.

In its Order, the Court engaged in "balancing the relevant equities," *id.* at 10, and suggested (without making any final determination) that those equities could weigh against the issuance of injunctive relief on the Band's nuisance claim. However, the Seventh Circuit has stated that "the denial of injunctive relief after a district court has found a risk of imminent and substantial danger to public health or to the environment should be rare." *LAJIM, LLC v. Gen. Elec. Co.*, 917 F.3d 933, 942 (7th Cir. 2019), and that "[w]here the plaintiff is a sovereign and where the activity may endanger the public health, injunctive relief is proper, without resort to balancing [of harms]." *U.S. EPA v. Envtl. Waste Control, Inc.*, 917 F.2d 327, 332 (7th Cir. 1990) (citation and quotation marks omitted); *see also United States v. Bethlehem Steel Corp.*, 38 F.3d 862, 868 (7th Cir. 1994). The Band and its members have long relied on fishing, wild rice, medicines, and other plants and animals from the Bad River and Lake Superior. PFF ¶¶ 51-52. Fish harvest occurs year-round, with many tribal members fishing in the spring as migratory fish

enter the Bad River to spawn. PFF ¶ 52. A rupture at Line 5 will endanger the Band's commercial and subsistence fisheries, wild rice harvest, and other cultural activities, as well as the health of tribal members and other members of the public. PFF ¶¶ 51-53. Because a pipeline rupture would carry with it dire environmental and public health consequences through the contamination of the fisheries, wild rice sloughs, and innumerable other species of flora and fauna, along with the devastation of critical surface waters and potentially groundwater aquifers, an injunction should issue. Moreover, even if the Court balances the equities and considers the public interest, those factors now weigh heavily in favor of such relief regardless of what the situation was last November.

C. The Equities Weigh Overwhelmingly in Favor of the Injunction.

The Parties' relative hardships strongly counsel for issuance of an injunction. At stake for the Band is its very way of life and the preservation of its homeland and the resources it has fought so hard to maintain in the face of repeated breaches of the promises contained in solemn treaties. As this Court has found, "there is no reasonable dispute that a rupture would cause significant environmental damage to the Bad River and its surrounding natural resources, including wild rice beds and fisheries on which the Band depends." Opinion and Order ("Summ. J. Op."), Dkt. 360, at 47. The courts have consistently found threats to treaty-protected natural resources to be a compelling factor in the equitable balance. *See*, *e.g.*, *United States v. Washington*, 853 F.3d 946, 977 (9th Cir. 2017), *aff'd by equally divided court*, 138 S. Ct. 1832 (2018).

On Enbridge's side of the ledger, *no hardship exists that is cognizable in equity*. This Court implicitly recognized this in its November Order, which omitted any reference to hardship for Enbridge in its balance-of-equities discussion, *see* Dkt. 612 at 12 (rendering decision "after

balancing all the interests of the Band and the public"), and appropriately so. Enbridge's injury from an injunction would be financial, but since Enbridge has no legal right to operate its pipeline on the Reservation given that it is in conscious trespass, Summ. J. Op., Dkt. 360, at 28, that factor does not weigh in the balance. *See*, *e.g.*, *Ute Indian Tribe of the Uintah & Ouray Reservation v. Utah*, 790 F.3d 1000, 1007 (10th Cir. 2015) (Gorsuch, J.) (upholding injunction against activity on tribal land that defendant had "no legal entitlement to do" and stating that "[i]n this light, the defendants' claims to injury should an injunction issue shrink to all but the vanishing point" (quotation marks omitted)); *S.C. Johnson & Son, Inc. v. Minigrip, LLC*, 16-cv-244-jdp, 2017 WL 8727853, at *4 (W.D. Wis. Oct. 16, 2017) ("If a party engages in unlawful conduct 'in spite of warnings,' that party does so 'at its own risk and cannot ... be heard to complain that it will be severely injured' by an injunction." (ellipsis in original) (quoting *Helene Curtis Indus., Inc. v. Church & Dwight Co.*, 560 F.2d 1325, 1333–34 (7th Cir. 1977))).

D. The Band Should Not Be Penalized for Its Reluctance To Adopt Enbridge's Erosion Mitigation Proposals.

Nor should the Band's application of its water quality standards weigh against it in the Court's equitable analysis. This Court discussed the issue at some length in its Order and at trial, and it indicated an inclination to hold the Band's application of its water quality standards to Enbridge's projects against the Band. Following through on that inclination would constitute a serious error of law.

In its Order, the Court suggested a potential equivalence between the Band's application of its water quality standards to Enbridge's erosion control proposals and the plaintiffs in *Asian Carp I*. However, those plaintiffs sought to have projects implemented on waters and lands scores of miles from their own and declined to contribute to their costs. *See* November Order, Dkt. 612, at 10. Here, by contrast, the projects would take place on the Band's lands—lands with

respect to which Enbridge is in trespass. Indeed, as the Court recognized, the projects would involve an intensification of Enbridge's trespass on those lands. *Id.* at 9. And even if Enbridge paid for the projects, their regulation and oversight would require the Band's Mashkiiziibii Natural Resources Department ("MNRD") to expend substantial time, on top of the thousands of hours the MNRD has already spent on Enbridge issues. Accordingly, the Band is not being "insouciant," *id.* at 10 (quoting *Asian Carp I*, 667 F.3d at 794), in its approach to the Enbridge projects. It has already borne the burdens associated with Enbridge's trespass for many years, and whether the projects are forced on it directly by court order (which this Court has appropriately recognized it does not have the authority to do, Dkt. 612 at 15), or indirectly because the Court refuses to issue an injunction, the Band would bear those burdens for many years more.

Nor is the Band being insouciant with regard to the economic implications of shutting down the pipeline. The Band has a keen awareness of the Court's concerns in that regard. That is why, prior to the recent developments at the meander, the Band had expressed its willingness to acquiesce in the company's continued trespass on the Reservation for a finite (though far from insignificant) period—and this was *after* the Court had ruled Enbridge to be in deliberate and irreparable violation of the Band's sovereignty, treaty, and property rights and in violation of unambiguous federal statutes and regulations flatly prohibiting the very sort of trespass perpetrated by Enbridge on the Band's Reservation. But circumstances have changed dramatically, and the threat of ongoing operations has become too significant to tolerate. There exists not a single case in this country holding that a party has an obligation—cognizable in either law or equity—to allow further, ever more intrusive trespasses on its property so that the trespasser can continue trespassing, let alone where the trespass threatens catastrophe.

There accordingly is no appropriate analogy between the Band and plaintiffs in *Asian Carp I*, and the Band strongly disputes that it should shoulder a portion of the blame for any economic impacts of a shutdown (which, as explained in the next section, will not be nearly as significant as Enbridge contends). To the contrary, any hardship posited here—for the Band, the environment, Enbridge, and the public—has one author: Enbridge. Enbridge has known it was trespassing since June 2013, PFF ¶ 34, yet it did not pursue a viable reroute. As early as 2015, Enbridge officials acknowledged internally that the company needed to make plans to reroute the pipeline. PFF ¶ 35. In the ensuing years, they continued to discuss the need for a reroute, PFF ¶ 36, yet even after the Band passed a resolution in January 2017 insisting that Enbridge leave its land, PFF ¶ 37, the company did not begin the regulatory approval process. Enbridge, in fact, did not file the permit applications for the reroute until *February 2020*, PFF ¶ 38, three years after the Band's resolution and nearly seven years after the company began its conscious trespass. And when it did so, it proposed a reroute that would hew as closely as possible to the Reservation's borders, PFF ¶ 39, which it knew would prompt opposition from the Band, PFF ¶ 40. At trial, Enbridge's explanation for not having pursued a reroute earlier was that it would have looked "insincere" to take steps toward one while engaged in mediation with the Band from May 2017 to July 2019, PFF ¶ 41—an excuse that surpasses ludicrous given that the Band's desire *for Enbridge to leave its land* is what gave rise to the mediation.

The actual reason Enbridge delayed any genuine effort toward a reroute is obvious: profit. Enbridge knew that the reroute would cost at least $450 million, PFF ¶ 42, and, in light of the time value of money, Enbridge benefited to the tune of about $25 million each year that it delayed the expense, PFF ¶ 43. In fact, even *after* Enbridge submitted its permit request and publicly announced its intent to reroute the pipeline, its executives were analyzing the financial

benefits to be gained from further delays. PFF ¶ 44. Enbridge pursued this course betting that the Band would never have the determination to seek to vindicate its rights or, if it did, that a court would not dare hold the company accountable if Enbridge screamed loudly enough about regional economic consequences.

In sum, any economic impacts that may follow from a shutdown of Line 5 are not the product of the Band's lawful unwillingness to acquiesce in further trampling of its sovereignty, resources, and property rights. They are the result of Enbridge's conscious determination to maximize its profits for as long as possible by remaining in trespass on the Bad River Reservation. "[E]quity follows the law." *Hedges v. Dixon Cnty.*, 150 U.S. 182, 192 (1893); *Michigan v. U.S. Army Corps of Engineers*, 758 F.3d 892, 906 (7th Cir. 2014) (citing *Hedges* for same principle). Favoring Enbridge's insistence on maintaining its trespass over the Band's lawful insistence on protecting its lands and waters would do anything but that.

E. The Public Interest Will Be Served by an Injunction.

1. The Interests of the Band and the Public are Aligned.

In its Order, the Court appeared to view the Band's interests and those of the public as opposed. But they are in fact fully aligned, as amply confirmed by the events of recent weeks. The rapid progression of erosion at the meander has created the very real prospect that, unless Enbridge decides to shut down the pipeline itself given the imminent threats presented, there will be a shutdown of Line 5 in one of two ways: either because the Court acts on the grave interference with the rights of the Band and the public that the devastation of the Bad River watershed and Lake Superior will pose, or because the pipeline ruptures. In the first scenario, the public will bear the economic impacts associated with a shutdown that, as explained below (and without any intent to be cavalier), will not remotely approach Enbridge's alarmist rhetoric.

In the second scenario, the public will bear those same impacts, *plus* the devastation of a crude oil spill into a direct tributary of Lake Superior.

This latter threat to the public interest has continued to increase dramatically given the rapid progression of the river towards the pipeline at the meander. And as with the risk to the Band itself, that threat to the broader public is potentially of catastrophic magnitude. *E.g.*, PFF ¶ 50. A full-bore rupture of Line 5 would send 21,974 barrels—nearly *one million gallons*[1]—of crude oil coursing down the Bad River toward Lake Superior. PFF ¶ 45. Such a spill would be on the scale of Enbridge's 2010 Kalamazoo River catastrophe. PFF ¶ 47. Even a smaller spill would be disastrous. Under the spill scenarios evaluated by both Parties' experts ranging from roughly 2,000 to 22,000 barrels, a spill at the meander would rapidly spread downstream, devastating not only the Bad River watershed but also large swaths of the Kakagon-Bad River Slough complex *and* Lake Superior. PFF ¶ 48. Both Parties' experts have developed animated modeling confirming that crude oil would contaminate long stretches of Lake Superior's pristine shoreline. PFF ¶ 49. Lake Superior is of course a critical freshwater resource relied on by the public for recreation, fisheries, navigation, and myriad other purposes—including drinking water. As the Court rightly acknowledged, "there isn't really any dispute … that the effects [of an oil spill] would be catastrophic[.]" Dkt. 599 at 32:7–10 (Trial Tr. 10/24 a.m.); *see also* Dkt. 606 at 128:12–16 (Trial Tr. 10/24 p.m.) ("If there's a major oil spill, there's going to be tremendous dispersion in Lake Superior. [Enbridge's] own expert says so. And even with evaporation, it's

[1] This full-bore rupture volume assumes 13 minutes of additional pumping before valves would be shut in the event of a spill. PFF ¶ 45. However, even if Line 5 were shut down at the time of rupture but not purged (a 45-hour process), a devastating amount of oil would still be released. PFF ¶ 46. Trent Wetmore, Enbridge's project director and former operations director for the Midwest region, agreed at trial that at any given time, there is a volume of approximately 20,000 barrels—or 840,000 gallons—of oil in Line 5 between the two safety valves, which are set 14 miles apart on either side of the Bad River Reservation. PFF ¶ 46.

going to do substantial damage to the shoreline that it reaches."); PFF ¶ 50. The threat to the public interest should an injunction not issue, then, is grave.

2. Even in the Context of an Emergency Order, the Economic Consequences of Shutting Down the Pipeline Would Not Be Substantial.

The Band is highly sensitive to the concerns the Court has expressed about the economic implications of shutting down the pipeline, and has consistently considered those implications in its decisionmaking. It is for this reason that the Band suggested at and after trial that, so long as ongoing operation of the pipeline did not pose a dire threat of rupture and release, it would be amenable to a 12–18-month transition period in order to provide the market with ample notice of the need to shift to alternative modes of energy supply. The situation at the meander has shifted so significantly that this is no longer feasible: The choice that the Court, the Band, Enbridge, and the market face is that of a shutdown with or without a rupture. Enbridge will undoubtedly claim that an immediate shutdown will cause substantial economic harm, but a number of important factors ensure that this will not be so.

a) Crude Oil

Even an immediate shutdown of Line 5 will not have a significant effect on consumer prices for refined gasoline products, as refined product pipelines serve the market area and can supply any needed product until there is a transition in crude oil supply. History bears this out. In July 2010, Enbridge's Line 6B (now known as Line 78) ruptured and spilled into the Kalamazoo River system, resulting in a shutdown lasting several months. PFF ¶ 54. While Line 6B conveyed up to 240,000 barrels of crude oil daily to the same refineries served by Line 5, *see* PFF ¶ 55, Enbridge expert Neil Earnest testified that the shutdown did not have "sizable price impacts for refined product in the Detroit/Toledo area" because refined product pipelines filled the gap. He further testified that the lack of a price impact from the Line 6B shutdown is

"consistent with [his] analysis here regarding a Line 5 shutdown." PFF ¶ 56. That analysis projects a price increase in Michigan, Wisconsin, and Ohio of *less than one cent per gallon of gasoline*. PFF ¶ 57. For Ontario, he projects a price increase of 4 to 6 cents per gallon, PFF ¶ 58, an amount that would register as noise among normal weekly fluctuations in price.

Refineries would also be able to absorb the effects of shutdown, and for the most part very quickly. Ten refineries receive between 400,000 and 450,000 barrels per day (bpd) of crude oil from Line 5, PFF ¶ 59, but within a few months, the shortfall resulting from a Line 5 shutdown will be reduced to under 80,000 bpd by using other available means of transportation. Mr. Earnest testified that Line 78 presently operates at about 100,000 bpd below capacity and that if Line 5 were to shut down, the excess capacity would be utilized almost immediately to convey oil to the same refineries already receiving oil from one or both pipelines. PFF ¶¶ 60–61. The two Quebec refineries, which receive about 200,000 bpd of crude oil from Enbridge, PFF ¶ 62, can revert to the pre-2016 status quo of obtaining their deliveries from alternative sources, primarily waterborne tankers—a method of delivery that is already cost-competitive with Line 5, PFF ¶¶ 63–64. Indeed, the refineries already have contingency plans they could set into action immediately, PFF ¶ 65, and Mr. Earnest acknowledged that doing so would be commercially viable, PFF ¶ 66. And several of the refineries served by Line 5 also have rail terminals that can be reactivated quickly and that are capable of unloading modest amounts of crude oil in that fashion. PFF ¶¶ 67–68.

If the Quebec refineries do take these steps, then, under Mr. Earnest's calculations, the shortfall from a Line 5 shutdown would, within a short period of time, be less than 80,000 bpd, PFF ¶ 71, almost all of which would be concentrated in Ontario, PFF ¶ 72. The four Ontario refineries have among the highest profit margins in North America and have weathered far more

significant events, including internal fires that have caused substantial reductions in output for lengthy periods of time, as well as the Line 6B rupture. PFF ¶¶ 69, 70, 73. Ontario's new fuel requirements will yield a reduction in refining demand of 15,000 bbd in any event (Quebec demand will likewise be reduced by 10,000 bbd), *see* PFF ¶ 70, and in the medium term Enbridge could more than offset the small remaining shortfall by adding pumping equipment to Line 78A, which would take less than two years and would increase Line 78's capacity by 110,000 bpd, PFF ¶¶ 74–77.

b) Propane

Fortuitously, a shutdown of the pipeline now will avoid the period of substantial propane usage for residential purposes. The winter heating season is over and will not begin again until October. PFF ¶ 78. Multiple options exist for promptly adding propane-delivery capacity in the Line 5 delivery area before then, with the principal solutions centering on rail, which is the most common means by which propane and butane are transported from Canada to the United States. PFF ¶ 79. Northern Wisconsin and the Upper Peninsula of Michigan could fully offset Line 5-produced propane with rail deliveries within a few months by setting up a handful of mobile transloaders. PFF ¶¶ 80-82. As for the area served by the Sarnia fractionator, there exists over one billion gallons (23 million barrels) of storage capacity, *see* PFF ¶ 83, and there are rail terminals throughout the area—including several with direct pipeline connections to the petrochemical and refining complex in Sarnia. PFF ¶ 84. Thus, while it is possible that propane-offloading racks will need to be added to some of those rail terminals or that portable transloaders will need to be used to fully offset the loss of propane produced by the Sarnia

fractionator, much of the infrastructure needed to quickly increase propane-by-rail deliveries already exists in the Sarnia area.[2]

Propane consumers will not be affected by the switch from pipeline deliveries to rail deliveries. This is confirmed by experiences in Wisconsin and Michigan. Wisconsin relies far more heavily on rail for its propane deliveries than Michigan, and Michigan relies more heavily on Line 5—yet Wisconsin has consistently had lower propane prices for more than a decade. PFF ¶ 85. Hence, Enbridge's experts did not opine that switching from pipeline deliveries to rail deliveries would cause an increase in the consumer price of propane.[3] PFF ¶ 86.

* * *

In sum, the economic effects of a Line 5 shutdown will be modest—nothing like what Enbridge warns of. The Band is sensitive to even that modest impact, which is why, in discussing a trespass remedy, it was willing to accept an 18-month transition period before a shutdown, which would have given enough time for refineries to fully replace every drop of Line 5 oil and to ensure that every gallon of replacement propane could be delivered without any long-distance trucking. That is, the Band was willing to acquiesce in further conscious trespass on its sovereign land to help the businesses and employees impacted by a shutdown. But the

[2] Furthermore, it may also be possible for the Sarnia fractionator to be reconfigured so that it can receive and fractionate the type of NGLs produced in the nearby Marcellus Shale. *See* PFF ¶ 90.
[3] Mr. Earnest does project that a switch to propane deliveries by long-distance *trucking* would cause an increase in the consumer price of propane of more than 8 cents in each of the affected markets of the Line 5 delivery area. PFF ¶ 87. But even if trucks *were* used to ship propane and butane into the Line 5 delivery area, the price impact would not match some of Enbridge's alarmist rhetoric. The impact of transportation costs on the price of propane is swamped by other economic factors influencing the price. One need look no further than the example that two Enbridge experts gave of a "propane supply emergency"—the winter of 2019–2020, when demand for propane in Wisconsin exceeded the normal modes of supply, which led to deliveries by trucks carrying propane from Kansas and Texas. PFF ¶ 88. As one of those experts acknowledged at trial, the residential price of propane during this period was not in fact any higher than in other years. PFF ¶ 89.

threat of calamity for both the Band and the public more generally is now far too great. The continued operation of the pipeline under the circumstances present at the meander should be enjoined.

Dated: May 9, 2023

Respectfully submitted,

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CERTIFICATE OF SERVICE

I certify that on May 9, 2023, this document was served on all parties or their counsel of record through the CM/ECF system if they are registered users or, if they are not, by placing a true and correct copy in the United States mail, postage prepaid, to their address of record.

/s/ Riyaz A. Kanji
Riyaz A. Kanji

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

BAD RIVER BAND OF THE LAKE SUPERIOR TRIBE OF CHIPPEWA INDIANS OF THE BAD RIVER RESERVATION,

Plaintiff,

v.

ENBRIDGE ENERGY COMPANY, INC., and ENBRIDGE ENERGY, L.P.,

Defendants.

Case No. 3:19-cv-00602-wmc

Judge William M. Conley
Magistrate Judge Stephen L. Crocker

ENBRIDGE ENERGY COMPANY, INC., and ENBRIDGE ENERGY, L.P.,

Counter-Plaintiffs,

v.

BAD RIVER BAND OF THE LAKE SUPERIOR TRIBE OF CHIPPEWA INDIANS OF THE BAD RIVER RESERVATION and NAOMI TILLISON, in her official capacity,

Counter-Defendants.

DECLARATION OF IAN B. PATON

ATTORNEY-CLIENT PRIVILEGED INFORMATION

I, Ian B. Paton, declare the following on the basis of personal knowledge to which I am competent to testify:

1. I am a consulting engineer with nearly 30 years of experience in the field of civil engineering, have worked for nearly 23 years at Wright Water Engineers, Inc. ("WWE"), a Denver-based water resources consulting firm and am licensed as a Professional Engineer in the State of Wisconsin.

2. On five separate occasions over the past five years, I have visited the area where Line 5 bisects a meander feature on the Bad River (referred to as "the Bad River meander") to observe the conditions of the bank and river there, including a visit most recently on February 8, 2023. Since then, I have continued to carefully monitor the conditions at the meander including river flow rates and weather and flood forecasts. I have done so through detailed review of photographs collected from ground-level cameras and aerial images collected by drones of the channel banks, as well as detailed review of the images and data collected during field visits to the site by representatives of the Bad River Band's Natural Resources Department (NRD) on May 5, 2023, and the Band's NRD, Enbridge and the Environmental Protection Agency on May 8, 2023. In recent weeks my review of meander conditions has occurred with increasing frequency and at least on a daily basis.

3. I have included in this declaration true and correct copies of images of the meander and the Bad River, which I have annotated at times to indicate the position of the pipeline and various other features. I have indicated under each of these images the source of the image.

4. As of Monday, May 8, 2023, less than 15 feet remains between the the Line 5 pipeline and the top of the Bad River channel bank at four separate locations, listed in order from downstream to upstream (see Figure 1 and Figure 2), with all values rounded up to the nearest half foot):

    - D series monuments: 14.5 feet
    - M3 series monuments: 12.5 feet
    - E series monuments: 11 feet

- Between the E and F series monuments: 13.5 feet

5. At the M3 monument series, the amount of channel bank currently remaining between the top of the bank and the Line 5 pipeline (approximately 12.5 feet) is just over 1 foot more than was lost in the 6 days between April 29 and May 5 (approximately 11 feet).

6. The recently observed erosion has been distributed spatially across multiple series of monitoring monuments (see Figure 1), and at a number of those series has occurred at a rapid pace. The estimated remaining distance between Line 5 and the top of the channel bank for different dates in 2023 is summarized below for five locations, which are described in order from downstream to upstream along the neck of the meander:

   a. D monument series:

Date (2023)	**Distance from top of channel bank to Line 5**
April 10	Greater than 34 feet (Based on February 2023 measurements at M3 monuments and alignment of channel bank)
April 29	Greater than 23 feet (Based on estimates at M3 monuments and alignment of channel bank)
May 8	14.5 feet
Total bank loss (Spring 2023)	Greater than 19.5 feet

   More bank was lost along the D monuments from April 10 to May 8 (over 19.5 feet) than currently remains between the Line 5 pipeline and the top of the channel bank (14.5 feet).

b. M3 monument series:

Date (2023)	**Distance from top of channel bank to Line 5**
April 10	34 feet remaining (Based on February 2023 measurement)
April 29	23-24 feet remaining (see Dkt. 627, Fig. 2)
May 5	12.5 feet remaining
Total bank loss (Spring 2023)	21.5 feet

More bank was lost along the M3 monuments from April 10 to May 5 (over 21 feet) than currently remains between the Line 5 pipeline and the top of the channel bank (12.5 feet).

c. E series monuments:

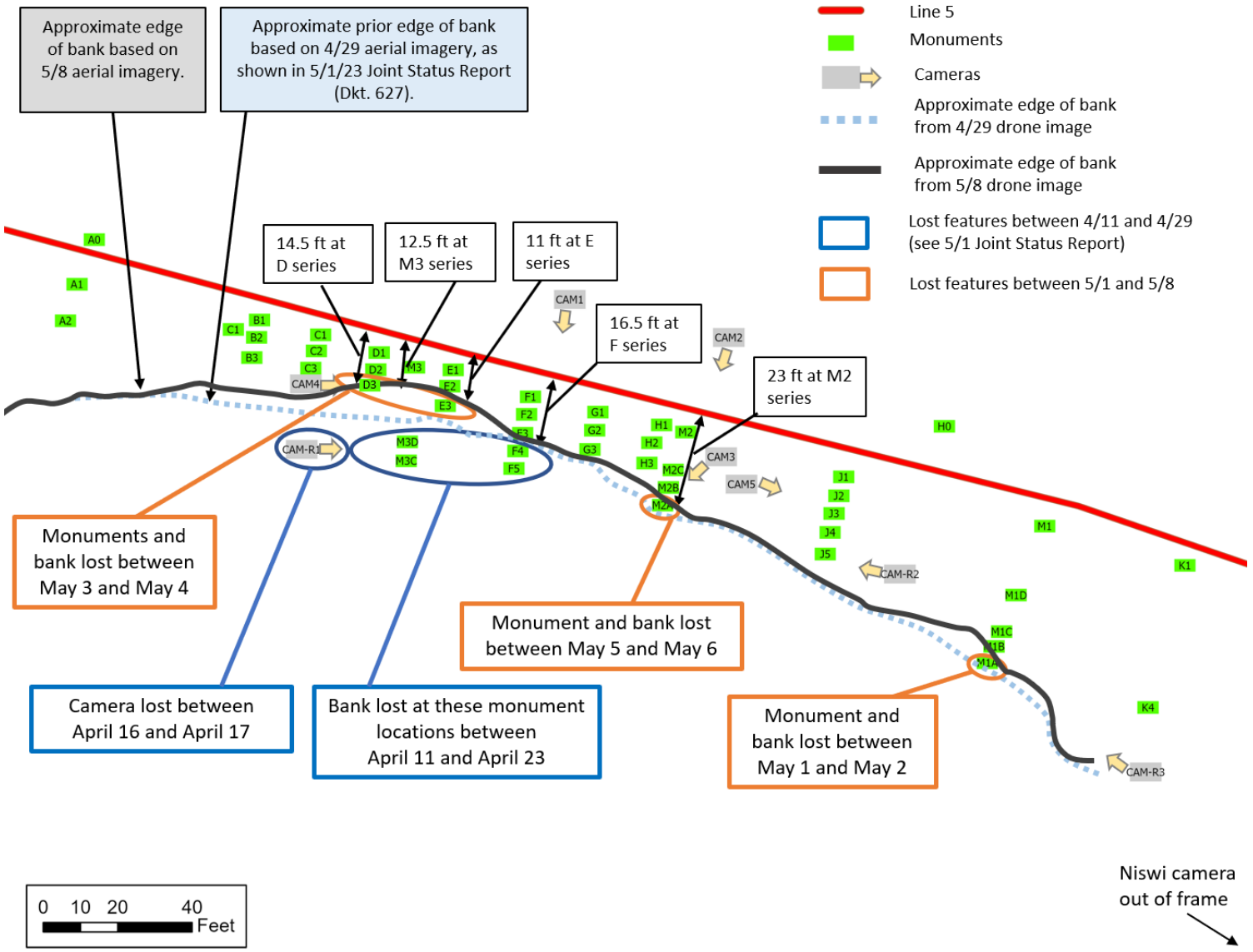
Date (2023)	**Distance from top of channel bank to Line 5**
April 10	Greater than 25.5 feet remaining (Based on F series measurement in February 2023 and curve of bank)
April 29	No estimate
May 5	13.5 feet remaining
May 8	11 feet remaining
Total bank loss (Spring 2023)	Greater than 14.5 feet

d. Location between the E and F series of monuments:

Date (2023)	**Distance from top of channel bank to Line 5**
April 10	Greater than 25.5 feet remaining (Based on F series measurement in February 2023 and curve of bank)
April 29	No estimate
May 5	13.5 feet remaining
Total bank loss (Spring 2023)	Greater than 12 feet

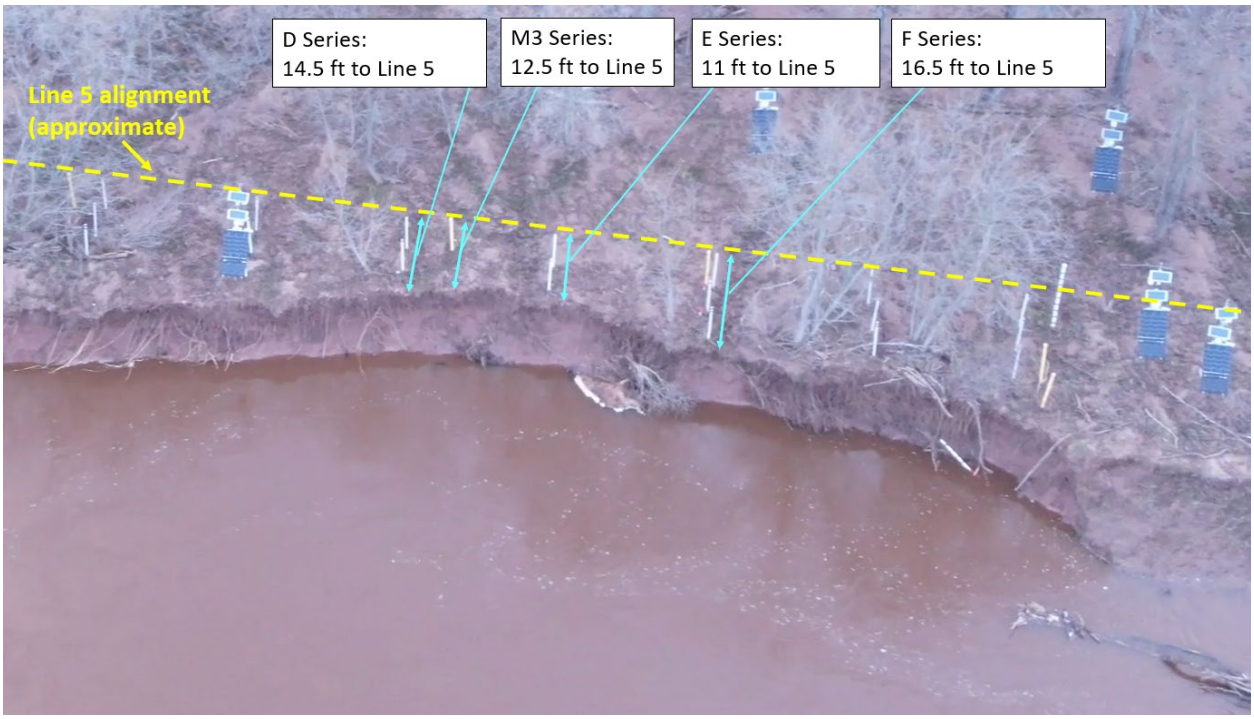
e. F series monuments:

Date (2023)	**Distance from top of channel bank to Line 5**
April 10	25.5 feet remaining (Based on February 2023 measurement)
April 29	17-18 feet remaining (see Dkt. 627, Fig. 2)
May 5	17 feet remaining
May 8	16.5 feet remaining
Total bank loss (Spring 2023)	9 feet



Note: Monuments lost to bank erosion in April and May 2023 include Monument D3, M3C, M3D, E3, F4, F5, M2A, and M1A.

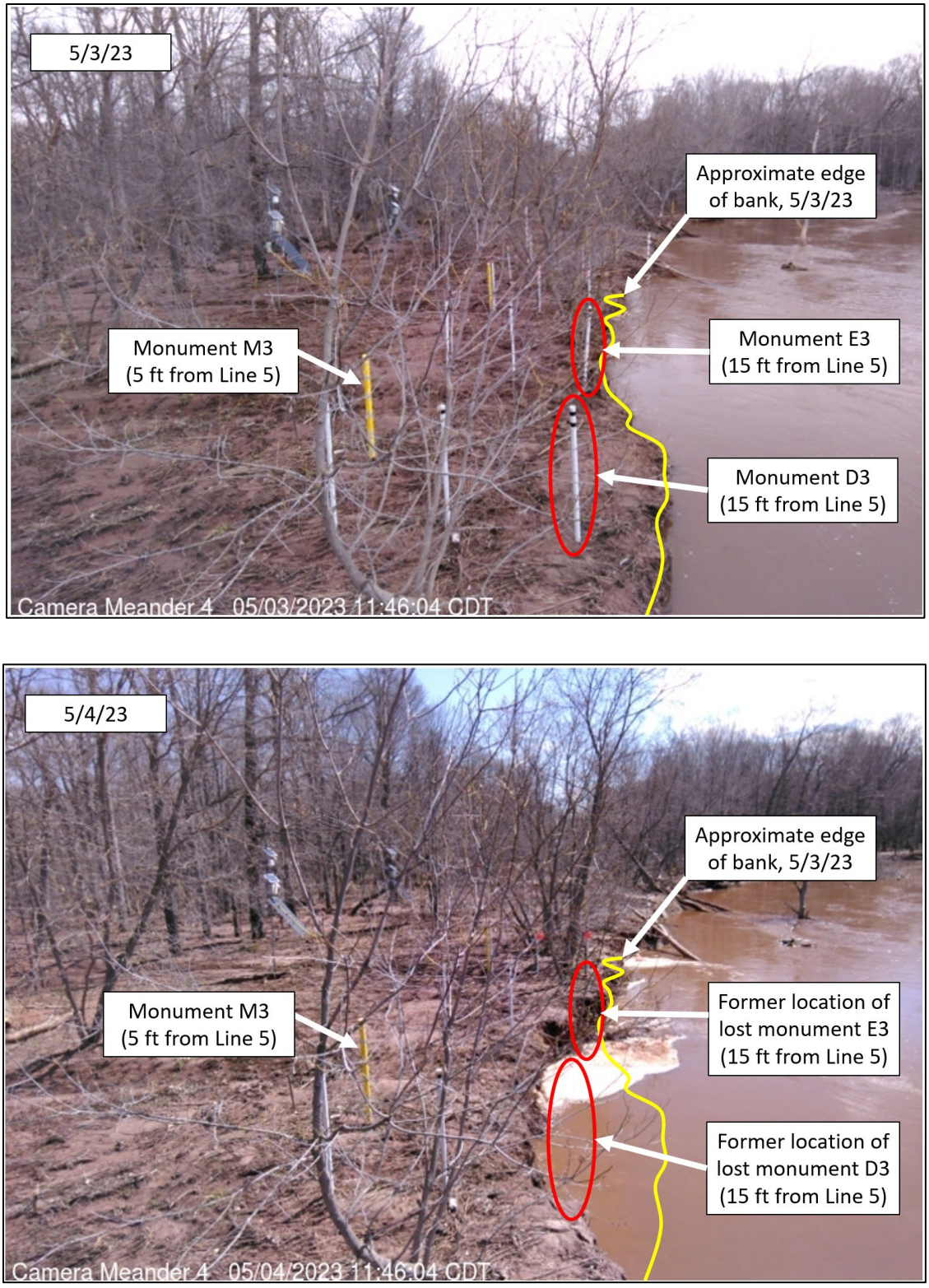
Figure 1. Schematic of monuments and distance from Line 5 to bank.



(Source: Bad River Band drone video, May 8, 2023, Flight 1, screenshot from time 08:11. Annotated by WWE.)

Figure 2. Annotated aerial image of meander monuments and distance to Line 5.

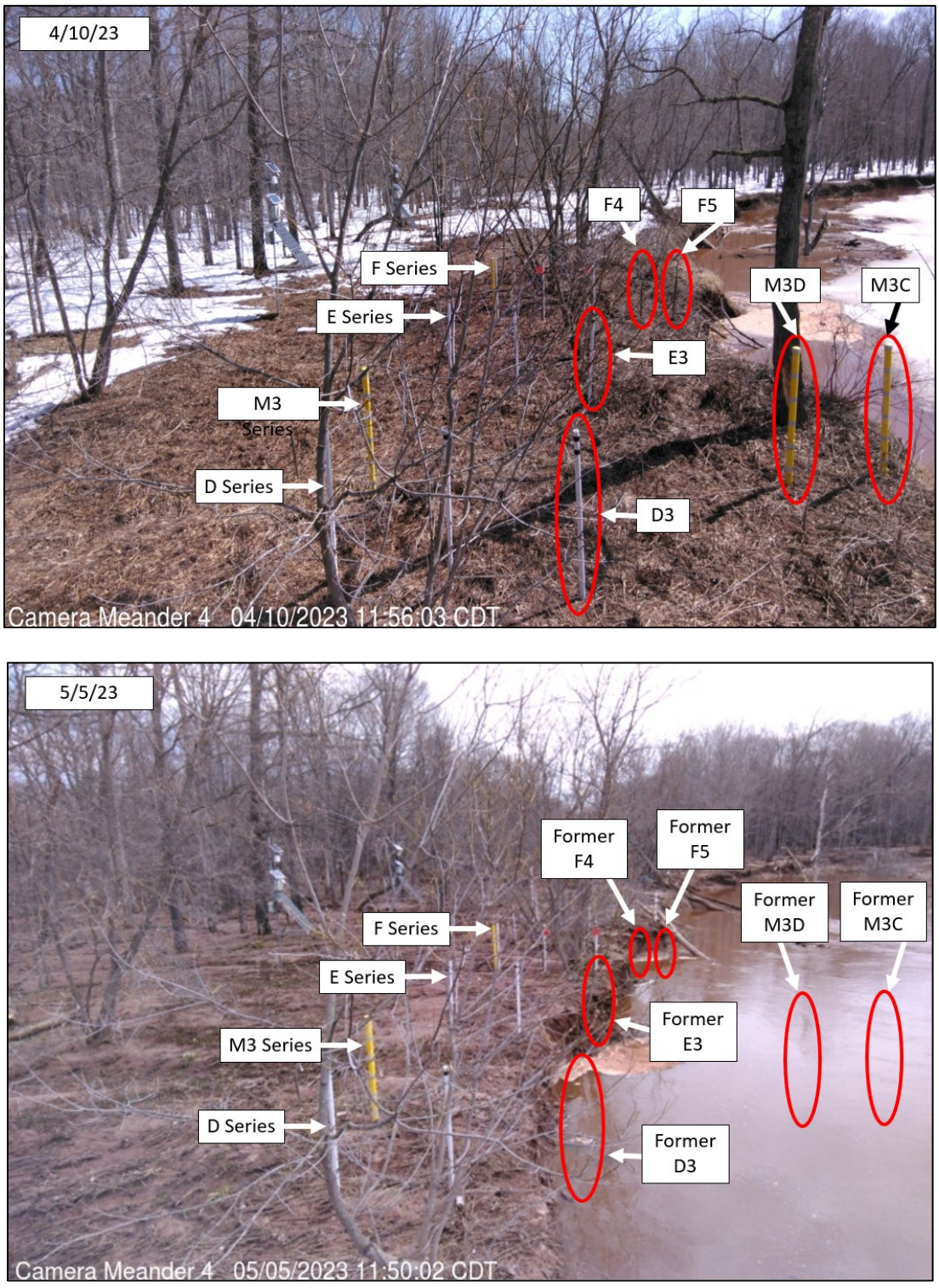
7. The rate of erosion during April and the first week of May 2023 has been particularly rapid at certain places along the bank. For instance, in one 24-hour period, from May 3 to May 4, 2023, an estimated 3 to 4 feet of bank erosion occurred at both the D and E-series of monuments (see Figure 3). The highest flow rate in the Bad River during this time period, measured at the United States Geological Survey (USGS) gage 04027000 near Odanah, Wisconsin at Elmhoist Road (and adjusting for the distance to the meander neck) was approximately 6,000 cfs; that flow rate is less than a 2-year event and corresponds with the rate when flow begins to spill out of the Bad River's main channel and through overflow channels across the meander neck as described in WWE's affirmative report (Section 3.2.2.2, page 76). (Note: All subsequent references in this declaration to USGS flow measurement data are for this gage).



(Source: Enbridge Meander Camera 4. Annotated by WWE.)

Figure 3. Comparison of Bad River bank in 24-hour period between May 3 and May 4, 2023 at D, M3, and E monument series.

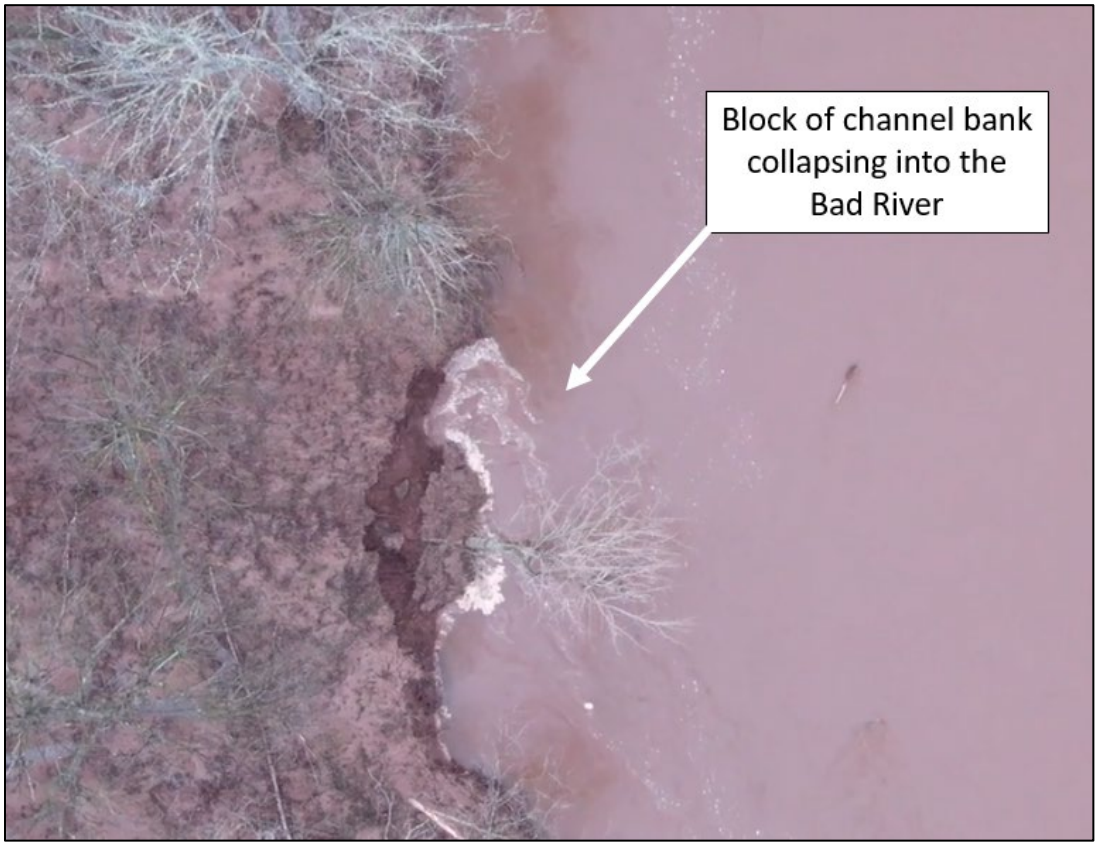
ATTORNEY-CLIENT PRIVILEGED INFORMATION



(Source: Enbridge Meander Camera 4. Annotated by WWE.)

Figure 4. Comparison of Bad River channel bank between April 10 and May 5, 2023 at D, M3, E, and F monument series.

8. The recent erosion has left large segments of the channel bank in an unstable condition. An image clipped from drone video collected on May 6, 2023 shows a block of channel bank with a tree collapsing into the Bad River immediately downstream from the narrowest portion of the meander neck (see Figure 5). This bank failure occurred while the flow rate in the river was less than 4,000 cfs, measured at the USGS gage, or between a 1- to 2-year event.



(Source: Bad River Band drone video, May 6, 2023, Flight 2, screenshot from time 03:30)

Figure 5. Drone image from May 6, 2023 of tree with channel bank collapsing into the river.

9. Photographs taken by the Band's Natural Resources Department during a May 5 field visit to the meander show cracks in the channel bank that indicate locations where the bank is more susceptible to large slope failures into the river (see Figure 6).

(Source: Bad River Band)

Figure 6. Photograph of cracks in channel bank at upstream end of meander neck taken on May 5, 2023.

10. In addition to the loss of soil, the erosion has resulted in the loss of a monitoring camera owned by the Band (shown as "CAM-R1" on Figure 1, located downstream from the M3 monument series). Another of the Band's monitoring cameras was moved to prevent it from being lost to erosion. Enbridge Camera 4 (used to observe an area with active bank erosion as shown on Figure 3 and Figure 4) was approximately 4 feet from the top of the channel bank as of May 5, 2023; this is

within the estimated amount of channel bank that has been lost within one day (see Figure 3).

11. The erosion observed during the past month was caused by elevated flows in the Bad River as a result of snowmelt and rainfall in the watershed. The flow rates from April 5 to May 5 measured at the USGS gage are shown on a hydrograph (see Figure 7).

12. The peak flow rates from April 5 to May 5, 2023, as measured at the USGS gage and shown on Figure 7 are:

- 13,900 cubic feet per second (cfs) on April 13, 2023
  (less than the 10-year event calculated value of 14,800 cfs; meaning there is a more than 10 percent probability of occurrence each year)
- 10,400 cubic feet per second (cfs) on April 21, 2023
  (less than the 5-year event calculated value of 11,600 cfs; meaning there is a more than 20 percent probability of occurrence each year)
- 10,900 cubic feet per second (cfs) on May 1, 2023
  (less than the 5-year event calculated value of 11,600 cfs; meaning there is a more than 20 percent probability of occurrence each year).

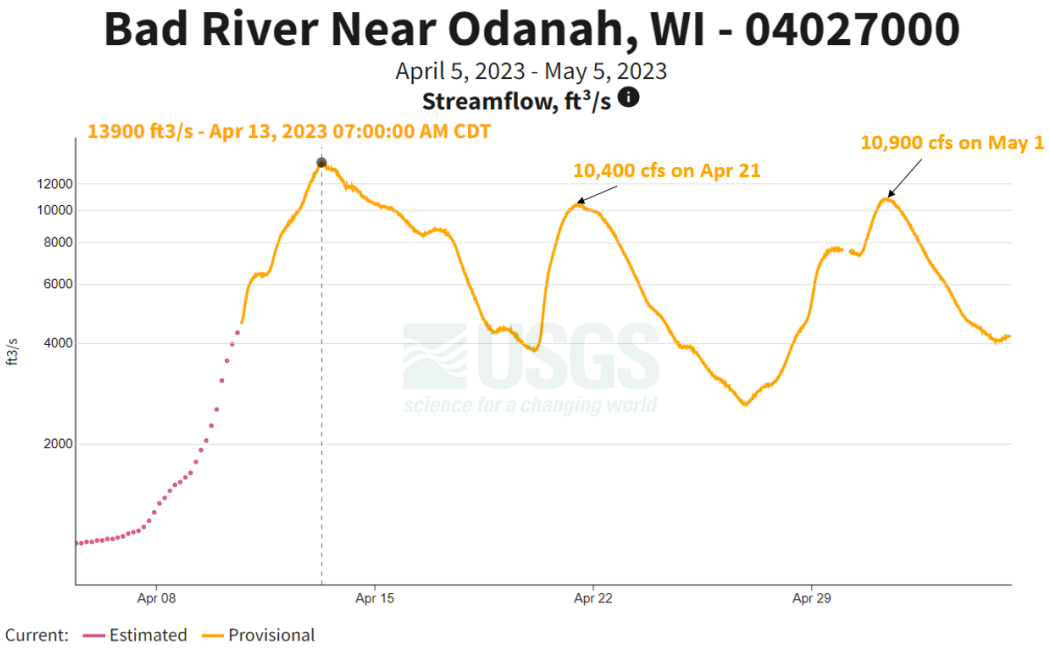


Figure 7. Hydrograph of Flows in the Bad River from April 5-May 5, 2023

13. Currently, there is less than 15 feet remaining between Line 5 and the top of the channel bank at four locations (from downstream to upstream):

    a. D series: 14.5 feet of bank remaining
    b. M3 series: 12.5 feet of bank remaining
    c. E series: 11 feet of bank remaining
    d. Between E and F series: 13.5 feet of bank remaining

14. Given the conditions that have been observed, there is an ongoing threat that Line 5 could become exposed and unsupported by ongoing bank erosion via multiple scenarios of runoff events and bank erosion:

    a. Based on review of ground camera imagery and aerial drone videos, undercut sections of the bank presently exist. There are also undercut areas where roots are visible and exposed (Figure 8). Undercut areas are prone to collapse and bank loss. If large vegetation with exposed roots loses support and falls into the river, several feet of bank can be lost. Such an event was recorded by a drone while it was occurring on May 6, 2023 (see Figure 5) and has also been observed previously at the Bad River meander (see Figure 9).

(Source: Bad River Band)

Figure 8. Photo from May 8 showing undercut bank and overhanging roots.

Figure 9. Example of bank loss caused by trees falling into river, April 16, 2019, from WWE's January 2022 affirmative report, Appendix O.

b. Additional high flows in the Bad River are not required for additional bank loss to occur. While the water levels in the Bad River have been near or above the bankfull level during the past month, the water provided pressure which supported the channel bank. As water levels recede to lower levels, bank sloughing can occur (as has been observed in the past week), further reducing the distance from the edge of bank to Line 5.

c. Additional rainfall events, even if relatively small, can cause additional erosion. Precipitation events causing heightened flows have occurred in late spring, summer, and fall in the Bad River watershed. As shown in Table 3 of WWE's affirmative report, since 2014 there have been events with flows greater than 6,000 cfs that occurred in May, June, July, August, September, and October. The flood of record, approximately 40,000 cfs, occurred in July

2016. It is not possible to predict the magnitude of future storm events that will occur during the remainder of 2023.

d. In addition to the possibility of a major flood event (such as a 100-year event) with significant associated erosion, smaller flows can also cause significant erosion. This has been observed recently, with an estimated 3 to 4 feet of bank loss at the D and E monument series in one day (see Figure 3) occurring when the flow in the Bad River was approximately 6,000 cfs, which is less than a 2-year event. In April 2020, 5 feet of erosion was observed in a one-week period associated with a flow event that had a peak flow less than 8,000 cfs (approximately a 2-year event) as described in Section 3.3.8.1 of WWE's January 2022 affirmative report.

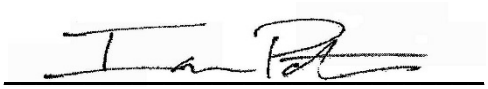
e. The conditions of the soil and vegetation adjacent to the pipeline may be different than the conditions near the current edge of bank. In the area immediately adjacent to the pipeline where the soil was disturbed to excavate a trench and bury the pipeline, the type of material and level of compaction may differ from the characteristics closer to the current edge of bank. In addition, vegetation clearing that has been done in the Line 5 Right of Way means there may be less root mass to provide stability to the soil. These factors create uncertainty with the soil conditions that may affect the rate of erosion.

f. Once Line 5 is exposed, the exposure of additional length of pipeline could occur rapidly and unpredictably. This process is documented in WWE's affirmative report, Section 4.1.8, page 107. In "Mechanics of local scour around submarine pipelines" in the Journal of Hydraulic Engineering, 1990, Chiew describes that piping—the process of subsurface erosion around a pipeline and an important mechanism through which pipeline scour occurs—is a progressive and self-perpetuating process. Multiple case studies from engineering articles and engineering periodicals show significant pipeline exposure and undermining occurring in single flood events. See, for example,

Samchek et al., "Case Studies of Scour and Erosion at Water Crossings" published by American Society of Civil Engineers (ASCE) in Pipelines, 2001, proceedings of ASCE Pipeline Division Specialty Conference. In addition, there are several examples of pipelines that became exposed, unsupported, and failed in a single flood event while a pipeline was being heavily monitored, including the Silvertip Pipeline crossing of the Yellowstone River in 2011.

I declare under penalty of perjury that the foregoing is true and correct.

Dated: May 9, 2023



Ian B. Paton

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

BAD RIVER BAND OF THE LAKE SUPERIOR TRIBE OF CHIPPEWA INDIANS OF THE BAD RIVER RESERVATION,

Plaintiff,

v.

ENBRIDGE ENERGY COMPANY, INC., and ENBRIDGE ENERGY, L.P.,

Defendants.

ENBRIDGE ENERGY COMPANY, INC., and ENBRIDGE ENERGY, L.P.,

Counter-Plaintiffs,

v.

BAD RIVER BAND OF THE LAKE SUPERIOR TRIBE OF CHIPPEWA INDIANS OF THE BAD RIVER RESERVATION and NAOMI TILLISON, in her official capacity,

Counter-Defendants.

Case No. 3:19-cv-00602-wmc

Judge William M. Conley
Magistrate Judge Stephen L. Crocker

BAD RIVER BAND OF THE LAKE SUPERIOR TRIBE OF CHIPPEWA INDIANS' STATEMENT OF PROPOSED FINDINGS OF FACT IN SUPPORT OF ITS EMERGENCY MOTION FOR INJUNCTIVE RELIEF

Plaintiff Bad River Band of the Lake Superior Tribe of Chippewa Indians submits its Statement of Proposed Findings of Fact in support of its Emergency Motion for Injunctive Relief as follows:

A. Substantial Bank Loss Has Taken Place with Alarming Rapidity.

1. At the E series of monuments, just 11 feet of bank remains between the Bad River and Line 5. Decl. of Ian B. Paton (Paton Decl.) ¶ 4.

2. At the M3 series, 12.5 feet remains; at a point between the E and F series, 13.5 feet of bank remains; at the D series, 14.5 feet remains; and at the F series, the figure is 16.5 feet. *Id.* ¶¶ 4, 6.d., 6.e.

3. At the M3 series, the distance between bank and pipeline was measured at 34 feet in February 2023. *Id.* ¶ 6.b.

4. In one week alone—from April 29 to May 5—the bank decreased by 10.5–11.5 feet, eroding by nearly half from 23–24 feet to 12.5 feet. *Id.* ¶ 6.b.

5. There have been losses of 14.5 feet at the E series, more than 12 feet between the E and F series, and 9 feet at the F series, all in less than a month. *Id.* ¶ 6.c.–e.

6. At the D series, 19.5 feet has been lost in the last month. *Id.* ¶ 6.a. Here, Enbridge Camera 4—itself now within 4 feet of the top of the bank—captured images showing 3–4 feet of bank loss at both the D and the E series in a single 24-hour period between May 3 and May 4, this at a time when flows in the river were only 6,000 cfs. *Id.* ¶¶ 7, 10 (Figure 3).

7. In the Parties' May 1, 2023 Joint Status Report Regarding Meander Conditions ("Joint Status Report"), Dkt. 627, four monuments had been lost at the M3 and F series, but just a week later, another four monuments have been lost all along the bank, including two much closer to the pipeline at the D and E series. *Compare id.* at 4 (Figure 2) & 6 (Figure 3) *with* Paton Decl. at 6 (Figure 1) & 9 (Figure 4).

8. All this erosion and monument loss has taken place in conjunction with flow levels that are far from extreme. Flows have peaked three times: on April 13 at 13,900 cubic feet per second (cfs), or less than a 10-year event; on April 21 at 10,400 cfs; and on May 1 at 10,900 cfs, with the latter two being less than a 5-year event. Joint Status Report, Dkt. 627 at 3; Paton Decl. ¶ 12 & Figure 7.

9. While these flows are significant, none comes remotely close to the flows of record for this stretch of the Bad River. Paton Decl. ¶ 14.c. (pp. 14–15).

B. Substantial Bank Loss is Likely to Continue.

10. Drone imagery from May 6 shows a block of channel bank with a tree collapsing into the Bad River immediately downstream from the narrowest portion of the meander neck. *Id.* ¶ 8 & Figure 5. This bank failure occurred while the flow rate of the river was less than 4,000 cfs, or a 1- to 2-year event. *Id.* ¶ 8.

11. Site visit photographs show signs that more bank erosion is to come. Along much of the bank, including in the areas where the river is now closest to the pipeline, there are undercut areas where roots are visible and exposed. *Id.* ¶ 14.a. & Figure 8.

12. Undercut areas are prone to collapse and bank loss. *Id.* ¶ 14.a.

13. On top of the bank, cracks have formed that indicate locations where the bank is more susceptible to large slope failures into the river. *Id.* ¶ 9 & Figure 6.

14. The higher water levels in the river have provided some measure of support for the saturated and unstable bank. *Id.* ¶ 14.b.

15. As the waters recede, the lower levels of bank are losing that support, with additional sloughing as a result. *Id.* ¶ 14.b.

16. This is a familiar and predictable pattern, one not dependent on further storm events at the meander. *Id.* ¶ 14.b.

17. As the bank moves ever closer to Line 5, the rate of erosion will become ever more unpredictable. The soil and vegetation adjacent to the pipeline may be different than the conditions near the current edge of the bank. *Id.* ¶ 14.e. If the soil in the pipeline trench is less compact (having already been disturbed once) or if there is less root mass to provide stability to the soil in the right of way as a result of historic clearing, this could accentuate the rate of erosion. *Id.* ¶ 14.e.

18. Additional rainfall events, even if relatively small, could lead to further erosion as well. *Id.* ¶ 14.c.–d.

19. Since 2014, precipitation events causing heightened flows have occurred in the months of May, June, July, August, September, and October, with July 2016 being the flood of record. *Id.* ¶ 14.c.; WWE Report, Dkt. 268-1, at PDF p. 65 (Table 3).

20. Heightened flows from such events do not have to be extraordinary to cause bank movement. In April 2020, 5 feet of erosion was observed in a one-week period associated with a peak flow of less than 8,000 cfs, which corresponds to a 2-year event. Paton Decl. ¶ 14.d.; WWE Report, Dkt. 268-1, at pp. PDF 70–73. And there is no more dramatic evidence of this point than the events of the past few

weeks, where 21.5 feet and 19.5 feet of bank loss has been observed at the M3 and D series, respectively, in the aftermath of 5–10 year flows. Paton Decl. ¶ 6.a-b.

C. A Significant Risks Exists that the Pipeline Could Be Undermined and Rupture in the Same Event.

21. Once Line 5 is exposed at the meander neck, the length of exposed pipeline could expand rapidly and unpredictably, resulting in pipeline failure and the release of oil in as little as one storm event. Testimony of Hamish Weatherly (Enbridge expert), Dkt. 608, at 17:7–18:11, 18:21–23; Dkt. 617 at 7–8 (¶7.c.–e.) (describing piping, WWE experience with buried pipelines becoming completely exposed and unsupported for distances of 100 feet or more during single flood events, engineering literature and case studies showing examples of exposure and rupture of pipelines in single flood event, and risk of smaller flood events resulting in significant erosion in short time); WWE Report, Dkt. 268, at PDF p. 39 ("Once a portion of the pipeline becomes exposed, the length of exposure will continue to expand, unpredictably and potentially quite rapidly. A substantial length of pipeline could become exposed in a single high flow event, or over the course of several high flow events within a short period of time."); WWE Report, Dkt. 268-2, at PDF p. 12 ("As water impacts the pipeline at the juncture where the pipeline intersects with intact soil, some of the water's force will be redirected toward the soil, producing rapid erosion. As the silty-sandy floodplain deposits are exposed to the erosive impacts of the Bad River, the cross section for water flow will become larger. While the precise rate of the progression of the pipeline exposure cannot be accurately predicted, it is foreseeable that a substantial length of pipeline could be exposed in a single high flow event, or over the course of several high flow events occurring within a short period of time."); Paton Decl. ¶ 14.f.

22. In 2011, the Silvertip pipeline became exposed and undermined and ruptured into the Yellowstone River during an episode of prolonged flooding. Gerald E. Davis Expert Report, Dkt. 251-1, at PDF p. 10 ("The exposure, damage, and rupture all happened over the course of a single prolonged flood event."); Paton Decl. ¶ 14.f.

23. In 2015, a 24-inch pipeline on the Arkansas River in North Little Rock, Arkansas, failed after its critical span length was exceeded when high water levels eroded the ground cover and exposed the pipeline to the river's flow. WWE Report App. I, Dkt. 484-12, at PDF p. 4.

24. In 2011, a natural gas pipeline on the Missouri River in Iowa ruptured when the pipeline was exposed, exceeded its critical span, and failed during a single bout of flooding. WWE Report App. I, Dkt. 484-12, at PDF p. 5.

25. In 2012, a 12-inch crude pipeline operated by Plains Midstream Canada ruptured after reaching its critical span, likely failing in the same flood that exposed it. WWE Report App. I, Dkt. 484-12, at PDF p. 6.

26. And in 1994, four pipelines were exposed and ruptured during a single flood event on the San Jacinto River in Texas when the river cut a new channel through a meander where the pipelines were located. WWE Report App. I, Dkt. 484-12, at PDF p. 7.

D. A Rupture is Sufficiently Close to Occurring as to Necessitate Action by this Court.

27. There exist at least three different locations where less bank remains than has been lost in the last month, in some cases by a substantial margin. Paton Decl. ¶ 6.a.-c. (D series where 19.5 feet lost and 14.5 feet remains; M3 series where 21.5 feet lost and 12.5 feet remains; E series where 14.5 feet lost and 11 feet remains). The pace and breadth of erosion has been dramatic, with as many as 3–4 feet of bank being lost in a single day and 10.5–11.5 feet in a single week. Paton Decl. ¶¶ 6.b., 7 (Figure 3).

28. Enbridge's former director of operations for the Midwest region, who would oversee any purge of Line 5 on the Bad River Reservation, testified at trial that it would take 48 hours to physically execute a purge of the pipeline segment that crosses the Bad River. Testimony of Trent Wetmore ("Wetmore Testimony") (Enbridge witness), Dkt. 608, at 73:1–2 ("roughly 48-hour process").

29. Enbridge's has elsewhere similarly represented that it would take 45 hours to physically execute the purge. Trial Ex. 70 at PDF p. 10 ("[redacted]").

30. This 45- to 48-hour timeline does not include the time required to acquire and stage nitrogen and other necessary equipment. Testimony of Deb Tetteh-Wayoe ("Tetteh-Wayoe Testimony") (Enbridge witness), Dkt. 608, at 3:23–4:18 ("Q: Does that include the time necessary for ordering nitrogen and allowing it to get to the site? A: Nope. That was just for the purge."); *id.* at 5:8–14 ("Q: So am I correct that the actual purge process would require 24 hours notice plus 36 to 46 hours to get the nitrogen on site in addition to the 45 hours that's represented in your plan? A: Yes, there's a few days of prework. Q: So up to about five days? A: Could be. Yeah, usually three—three to five days maybe of prep work."); Wetmore Testimony (Enbridge witness), Dkt. 608, at 72:21–73:2 (explaining that, after "we make the decision [and] we have everything prepared there.… then we would launch—launch those pigs and start that roughly 48-hour process.").

31. Purging requires the pipeline to remain operational. Wetmore Testimony (Enbridge witness), Dkt. 608, at 69:13–71:9 (describing need to continue running oil through the pipeline to transport pigs from launch site at Superior to valve near Reservation where nitrogen would be injected); *see also* Trial Ex. 70 at PDF p. 10 ([redacted]

[redacted]").

E. The Present Nuisance Results from Enbridge's Actions and Warrants an Injunction.

32. Enbridge's applications for its revetment proposals uniformly state that construction must take place during low-flow conditions in late summer or fall. *See* Trial Ex. 131 at 5 (Apr. 2, 2020 tree revetment application) ("Enbridge plans to begin work as soon as conditions are appropriate in the late summer or fall … (low-flow conditions are needed)…. Activities will occur outside the time period from April 1 to June 1 to minimize adverse impacts on fish movement, fish spawning, egg incubation periods and high stream flows."); Trial Ex. 133 at 21 (Dec. 9, 2020 tree revetment application) ("Enbridge plans to begin work as soon as conditions are appropriate (low-flow) in the late summer or fall …."); *id.* at 585 (Mar. 9, 2021 tree revetment application) (same); Trial Ex. 138 at 19 (July 23, 2021 rip rap revetment application) (same); Trial Ex. 140 at 21 (May 27, 2022 rip rap revetment application) (same).

33. Discussions regarding valves (the details of which are confidential) have yielded an application by Enbridge to install a check valve on the Reservation, the details of which the parties remain actively engaged on. Decl. of Naomi Tillison ¶ 3.

F. The Band Should Not Be Penalized for its Reluctance to Adopt Enbridge's Erosion Mitigation Proposals.

34. The Court has found that Enbridge has known it was trespassing since it began doing so in June 2013. *See* Summary Judgment Order and Opinion, Dkt. 360, at 32 ("[O]n this record, a reasonable jury would have to find that Enbridge was a conscious trespasser[.]"); *id.* at 33–34 (rejecting Enbridge's excuses for having continued trespassing after 2013, finding that "Enbridge was well-aware that it lacked a valid easement over the parcels, and it knew or should have known that federal law required both the Band's and BIA's approval."); *see also* Dkt. 168 at PDF pp. 38–39 & n. 11 (quoting over a dozen internal Enbridge communications acknowledging trespass starting in 2013)

35. As early as 2015, Enbridge officials acknowledged internally that the company needed to make plans to reroute the pipeline. *See* Wetmore Testimony, Dkt. 610, at 8:7–9:11 (testifying about Exhibit 363, an internal email stating that "[w]e're in the middle of some negotiations with the Tribal Band in Wisconsin over an expired easement renewal along 5. We're hopeful we'll be successful in our renewal, but I also want to be working on a relocation and alternative in parallel."); *see also* Trial Ex. 334 (summary exhibit depicting Enbridge internal reroute timeline) (admitted into evidence, *see* Joint Stipulated List of Exs. Admitted at Trial ("Trial Ex. List"), Dkt. 597, at 14).

36. In the ensuing years, Enbridge employees continued to discuss the need for a reroute. *See* Trial Ex. 334 (summary exhibit depicting timeline of Enbridge internal reroute deliberations from 2015 through 2020) (admitted into evidence, *see* Trial Ex. List, Dkt. 597, at 14); *see also* Wetmore Testimony, Dkt. 610, at 9:16–12:16 (testifying about Exhibit 369, a September 5, 2017 internal Enbridge email about a status update on the Line 5 reroute project).

37. In January 2017, the Band passed a resolution insisting that Enbridge leave its land. *See* Trial Ex. 400 (01/04/17 Bad River Band Tribal Council Resolution No. 1-4-17-738); *see also* Wetmore Testimony, Dkt. 610, at 44:25–45:3 (acknowledging that in January 2017, the Band passed a resolution declaring that it would not renew Enbridge's easements).

38. Enbridge did not file the permit applications for the reroute until February 2020. *See* Wetmore Testimony, Dkt. 610, at 47:4–15 ("February of 2020 is when we actually filed our permit."); *see also* Trial Ex. 334 (summary exhibit depicting timeline of Enbridge internal reroute deliberations from 2015 through 2020) (admitted into evidence, *see* Trial Ex. List, Dkt. 597, at 14).

39. In mid-2019, Enbridge executives choosing between an inner reroute barely skirting the Reservation and more expensive reroutes further from the Reservation expressed a preference for the inner reroute but, knowing that it would "trigger staunch opposition" from the Band, they did not inform the Band of their intent to pursue the inner route. *See* Trial Ex. 334 (summary exhibit depicting timeline of Enbridge internal reroute deliberations from 2015 through 2020) (admitted into evidence, *see* Trial Ex. List., Dkt. 597, at 14); *see also* Trial Ex. 371 at p. 6 (PowerPoint slide with notes conveying the inner and outer Line 5 Potential Reroute Options).

40. Internally, some Enbridge employees expressed concern that Enbridge was misleading the public by messaging that the company was considering other reroute paths despite intending to pursue the reroute path that barely skirted the Bad River Reservation. *See, e.g.*, Designated Dep. Testimony of Sara Ploetz, Dkt. 564,[1] at 108:22–109:3 (testifying about internal communication in which Ms. Ploetz had written, "Does it seem disingenuous if we go public this Thursday or Friday with very general messaging on evaluating different alternatives and turn around a week and a half later with boots on the ground survey of a specific route?").

41. At trial, Enbridge's excuse for not having pursued a reroute earlier was that it would have looked "insincere" to take steps toward a reroute while engaged in mediation with the Band from May 2017 to July 2019. *See* Wetmore Testimony,

[1] This particular docket entry was filed under seal, but redactions have not been made on this citation because there is a publicly accessible version of the same transcript available at Dkt. 438.

Dkt. 610, at 45:12–46:13 (testifying that mediation lasted from around May 2017 to July 2019); *id.* at 45:22–46:9, 54:7–11 (testifying that Enbridge's goal in the mediation was to obtain a renewal of the easement and that it would have seemed "insincere" to pursue reroute permits at the same time).

42. Enbridge knew that the reroute would cost at least $450 million. *See* Expert Report of Dan Leistra-Jones ("Leistra-Jones Report"), Dkt. 583, at PDF p. 23 (depicting proposed inner reroute and quoting Enbridge-commissioned report from 2021 stating that the reroute was estimated to cost $450 million); *see also* Narrative Summary of Dep. of Enbridge 30(b)(6) Witness Robert Yaremko, Dkt. 542, at 5 (quoting 30(b)(6) witness as responding in his August 2022 deposition to a question about the current estimated cost of the "inner reroute" by saying, "I believe Enbridge has publicly disclosed an estimated cost of 450 million").

43. Enbridge benefited to the tune of about $25 million each year that it delayed construction of the reroute. *See* Leistra-Jones Report, Dkt. 583, at PDF p. 27 (calculating that, based on Enbridge's time value of money, Enbridge will have gained $296,234,750 by delaying its $450 million expenditure from 2013 until 2025, or $272,070,977 by delaying the expenditure from 2013 until 2024).

44. After Enbridge submitted its permit request and publicly announced its intent to reroute the pipeline, internally Enbridge executives were analyzing the financial benefits to be gained from further delays. *See* Wetmore Testimony, Dkt. 610, at 19:21–23:18 (testifying about Exhibit 376, a March 24, 2020 email that stated that "[w]hether to go to the board with the reroute in May, [President of Liquid Pipelines Vern Yu] does not want to take the project to board in May, given the status of the tunnel and fluidity of the drivers across both projects," and that "[t]he project team is working on analysis of leavers [sic] to defer, slash, optimize spend without relaxing schedule in addition to assessing cost-savings benefits through possible delay scenarios"); *id.* at 23:15–18 ("Q: [D]o you have any reason to doubt that the instruction had been given to assess the potential benefit to potentially delaying the reroute? A: It looks to me like there was a request for that.").

G. A Rupture Poses a Catastrophic Threat to the Broader Public.

45. A full-bore rupture (FBR) of Line 5 at the Bad River meander would result in 21,974 barrels (922,908 gallons) of oil entering the Bad River, which is located 16 miles upstream of Lake Superior. *See* Expert Rebuttal Report of Matthew Horn, Dkt. 478, at PDF p. 18 (Enbridge FBR scenarios use 21,974 barrels (922,908 gallons)); *id*. at PDF p. 53 ("FBR volumes for each hypothetical release location along the pipeline were provided to RPS by Enbridge on August 4, 2020 and depended on pipeline flow rate, shutdown time, the type of product being released, and the elevation profile of the pipeline. FBR release volumes were calculated to include active pump out during a 13-minute identification of the

rupture, analysis of the pipeline condition, pipeline shutdown and full valve closure in the affected pipeline section, as well as the gravitational drain down once the valves were closed."); WWE Report, Dkt. 268, at PDF p. 27 ("The meander in question is located approximately 16 miles upstream (south) of Lake Superior on the Bad River (Figure ES-1).").

46. If Line 5 were shut down but not purged at the time of a rupture at the meander, 20,000 barrels (840,000 gallons) of oil would be released into the Bad River. *See* Wetmore Testimony, Dkt. 608, at 65:2–9 (valves used to shut down portion of Line 5 that transects Bad River Reservation are located 14 miles apart on either side of the Reservation); *id.* at 85:4–86:23 (Line 5's maximum volume between those two valves is approximately 20,000 barrels (840,000 gallons)); Tetteh-Wayoe Testimony, Dkt. 608, at 4:5–8 (purge time).

47. The 2010 spill at Enbridge's Line 6B resulted in 20,080 barrels (873,600 gallons) of crude oil entering Talmage Creek and the Kalamazoo River. *See* WWE Report App. D, Dkt. 484-7, at PDF p. 45; WWE Report App. I, Dkt. 484-12, at PDF pp. 12–14.

48. Under the spill scenarios evaluated by both Parties' experts ranging from roughly 2,000 to 22,000 barrels, a spill at the meander would rapidly spread downstream, devastating not only the Bad River watershed but also large swaths of the Kakagon-Bad River Slough complex *and* Lake Superior. *E.g.*, WWE Report, Dkt. 268, at PDF p. 40; WWE Report, Dkt. 268-2, at PDF pp. 18, 23, 63, 64, 75; Expert Report of Joshua Anderson, Dkt. 487-2, at PDF pp. 6–8, 10–12 (figures showing results of oil spill scenario modeling in Lake Superior); *id*. at PDF p. 16; Expert Rebuttal Report of Matthew Horn, Dkt. 299, at PDF pp. 23–26 (figures depicting the time and contact probability); *id.* at PDF pp. 8–9; Horn Rebuttal Report App. A, Dkt. 299-1, at PDF p. 11; *id.* at PDF p. 14; Dep. Testimony of Matthew Horn, Dkt. 348, at 65:1–4.

49. Both Parties' experts developed animated modeling confirming that crude oil would contaminate long stretches of Lake Superior's pristine shoreline. Dkt. 299-2 (Enbridge expert Horn's modeling video of "Surface Oil Concentration and Total Hydrocarbons on the Shoreline," https://www.dropbox.com/s/oqqakgd93xlo0xo/RPS_L5_Lake_Superior_FBR%20%282%29.mp4?dl=0); Dkt. 487-3 (Band expert Anderson's modeling video, https://www.dropbox.com/scl/fo/e3c6zy34xe5izlp7l3lcc/h?dl=0&rlkey=fcpwq9yrvcej6v76lbh1c08ii).

50. A rupture of Line 5 at the Bad River meander poses a catastrophic threat to the public. PFF ¶¶ 45–49, 51–53.

51. A pipeline rupture will endanger the Band's commercial and subsistence fisheries, wild rice harvest, and other cultural activities. WWE Report, Dkt. 268-2, at PDF pp. 46–47, 64, 66; Trial Ex. 8 at 5 (maps of Band's hunting and fishing areas).

52. The Band and its members have long relied on fishing, wild rice, medicines, and other plants and animals from the Bad River and Lake Superior. Fish harvest occurs year-round, with many tribal members fishing in the spring and fall as migratory fish enter the Bad River to spawn. Testimony of Dylan Jennings, Dkt. 599, at 71:2–22; Testimony of Joe Dan Rose, Dkt. 599, at 113:1–9, 119:20–121:15.

53. A pipeline rupture poses grave human health consequences. WWE Report, Dkt. 268-2, at PDF pp. 63, 66.

H. The Market Will Adjust in Response to a Line 5 Shutdown.

I. Crude Oil

54. When Line 6B spilled into the Kalamazoo River in 2010, it caused a shutdown of Line 6B (now Line 78) that lasted "several months." Testimony of Neil Earnest ("Earnest Testimony"), Dkt. 610, at 116:3–15.

55. In 2010, Line 6B had a capacity of 240,000 barrels per day (bpd) of crude oil. *See* Trial Ex. 198 at p. 34 (2014 Q4 Enbridge Energy, L.P. FERC Financial Report FERC Form No. 6: Annual Report of Oil Pipeline Companies and Supplemental Form 6-Q: Quarterly Financial Report) (admitted as Trial Ex. 198) (describing 2012 project to increase capacity of Line 6B from 240,000 bpd to 500,000 bpd).

56. According to Enbridge's expert Neil Earnest, the pipeline shutdown resulting from the Kalamazoo River did not have "sizable price impacts for refined product in the Detroit/Toledo area," which is "consistent with [his] analysis here regarding a Line 5 shutdown." Earnest Testimony, Dkt. 610, at 116:3–15.

57. Mr. Earnest has opined that a shutdown of Line 5 would cause gasoline prices to rise by less than 1 cent per gallon in Michigan and Wisconsin. Expert Report of Neil Earnest ("Earnest Report"), Dkt. 495, at PDF pp. 72–73.[2]

58. Mr. Earnest has opined that a shutdown of Line 5 would cause gasoline prices to rise by 4 to 6 cents per gallon in Ontario. Earnest Report, Dkt. 495, at PDF p. 74.

59. In a typical year, Line 5 transports between 400,000 and 450,000 bpd of crude oil to as many as ten refineries—three in the Detroit-Toledo area, four in Ontario,

[2] This version of Mr. Earnest's report was admitted as part of the trial record per Dkt. 575 (Joint Stipulation as to Exhibits Admitted with Expert Reports) and was filed under seal. However, a redacted public version of Mr. Earnest's report is available at Dkt. 262. All the information for which his sealed report is cited in this Proposed Findings of Fact is visible in the redacted public version, so redactions to information in the report have not been made in this Proposed Findings of Fact.

two in Quebec, and one in Pennsylvania—that constitutes up to 37% of the total volume of crude oil delivered to them. *See* Expert Report of Sarah Emerson ("ESAI Report"), Dkt. 265-1, at PDF pp. 15, 17.

60. Line 78 delivers crude oil to the same refineries as Line 5. *See* Earnest Report, Dkt. 495, at PDF p. 49; ESAI Report, Dkt. 265-1, at PDF p. 17.

61. Mr. Earnest testified that Line 78 presently operates at about 100,000 bpd below capacity and that, if Line 5 were to shut down, that available capacity would be utilized to convey oil to the same refineries already receiving oil from one or both pipelines. *See* Earnest Testimony, Dkt. 610, at 99:11–20.

62. Currently, the Montreal Suncor and the Quebec Valero refineries together receive about 201,000 bpd of crude oil from Enbridge and about 107,000 from waterborne deliveries. *See* ESAI Report, Dkt. 265-1, at PDF pp. 20, 38; *see also* Earnest Testimony, Dkt. 610, at 101:14–17 (agreeing that "the Valero refinery continues to take a substantial amount of oil from waterborne sources as well as from the Enbridge system.").

63. Before December 2015, when Enbridge's Line 9 flowed from east to west, the Quebec refineries received all their oil from sources other than Enbridge: waterborne vessels unloading crude oil directly at the refineries; the Portland Pipeline, which moved crude oil from waterborne tankers unloaded in South Portland, Maine, directly to the Suncor Montreal refinery; and rail terminals at each of the refineries. *See* Earnest Testimony, Dkt. 610, at 100:23–101:13; ESAI Report, Dkt. 265-1, at PDF pp. 38–39 & n. 40.

64. Transporting crude oil by tanker from the Gulf Coast or the North Sea to Quebec is already cost-competitive with receiving crude oil on the Enbridge system. *See* Expert Rebuttal Report of Sarah Emerson ("ESAI Rebuttal Report"), Dkt. 265-2, at PDF pp. 21–23.

65. The Quebec refineries receiving Line 5 oil have contingency plans to replace that oil by using direct waterborne deliveries and deliveries from the Portland Pipeline (which itself is fed by waterborne tankers). *See* ESAI Report, Dkt. 265-1, at PDF pp. 38–39.

66. Mr. Earnest acknowledged that reverting to full waterborne deliveries would be commercially viable for the Quebec refineries. *See* Earnest Testimony, Dkt. 610, at 101:18–102:2, 130:6–11 (testifying that the Quebec refineries could "viably" "convert to a fully waterborne supply" and that the "probability of [that conversion resulting] in a Quebec refinery closure is remote").

67. The refineries served by Line 5 have rail terminals with capacity to unload between 110,000 bpd and 159,500 bpd of crude oil. *See* ESAI Rebuttal Report,

Dkt. 265-2, at PDF pp. 19–20 & fig. 2 (opining that the refineries collectively have 159,500 bpd of crude oil-by-rail unloading capacity); *see id.* at PDF p. 20 fig. 2 (showing calculation by Mr. Earnest that the refineries have 110,000 bpd of unloading capacity).

68. Mr. Earnest acknowledged that reactivation of rail and tanker unloading facilities could be done "in a relatively short period of time," acknowledging, for example, that Suncor currently "has the capability to restart its rail facility and the Portland Pipeline." Earnest Report, Dkt. 495, at pp. 64–65.

69. In 2019, the crude oil run rates at the Imperial Sarnia and Nanticoke refineries dropped by about 20%—or about 43,000 bpd—below normal rates, due to fire damage at the Sarnia refinery. *See* Earnest Report, Dkt. 495, at p. 65.

70. Ethanol blending requirements in Ontario are expected to reduce demand for refinery-based gasoline in Ontario by 15,000 bpd relative to the 2019 demand figures used by Mr. Earnest, and similar requirements in Quebec are expected to reduce demand by 10,000 bpd. *See* ESAI Report, Dkt. 265-1, at PDF p. 44.

71. Mr. Earnest calculated that by increasing Line 78 usage, reactivating rail facilities, and partially increasing waterborne deliveries by the Quebec refineries, the shortfall would be reduced from about 440,000 bpd to 226,700 bpd, *see* Earnest Testimony, Dkt. 610, at 99:3–100:3, but "[i]f the Quebec refineries were, in fact, to go back to waterborne sources of crude oil, then the shortfall in the Line 5 delivery area would be reduced to 79,000 barrels a day," *id.* at 103:3–8.

72. According to Mr. Earnest's calculations, 68,100 bpd of that 79,000-bpd shortfall would be concentrated in Ontario, *see* Earnest Testimony, Dkt. 610, at 105:22–106:1, and one would "end up with no shortfall in the Detroit/Toledo region," *id.* at 105:16–21.

73. Refineries in Ontario have higher profit margins than refineries in other parts of North America. *See, e.g.*, ESAI Rebuttal Report, Dkt. 265-2, at PDF pp. 25–27; Testimony of Chris Barber, Dkt. 604, at 35:1–20.

74. According to Enbridge, it "would take approximately two to three years and potentially longer" to expand *both* portions of Line 78—Line 78A and Line 78B. *See* Defs.' Objs. and Resps. to Pls.' Fourth Set of Interrogs., Dkt. 399-4, at 5 (admitted as Trial Ex. 421).

75. Whereas expanding Line 78B would require installing new pipe under the St. Clair River, expanding Line 78A alone does not involve laying new pipe but would instead require adding pumping stations. *See id.* (describing actions needed to expand both segments of Line 78, including laying pipeline under St. Clair River but not mentioning the need to lay new pipeline elsewhere); Expert

Report of Graham Brisben ("Brisben Report"), Dkt. 440,[3] at PDF p. 62 ("The Line 78 expansion would mostly involve increasing the pressure of the pipeline by adding compression (vs. replacing with bigger pipe or twinning the pipeline).").

76. Line 78A, the first leg of Line 78, currently has a maximum capacity of 570,000 bpd, and it feeds three smaller lines collectively capable of transporting 680,000 bpd—Line 17 to Toledo (100,000 bpd), Line 79 to Detroit (80,000 bpd), and Line 78B to Sarnia (502,000 bpd, a substantial portion of which can be redirected by other pipelines to Toledo and Detroit). Brisben Report, Dkt. 440, at PDF pp. 61–62.

77. Expanding Line 78A to a capacity of 680,000 bpd or higher would allow Enbridge to use all the available capacity on the pipelines fed by Line 78A, which would increase supply to the Line 78 delivery area by about 110,000 bpd (from 570,000 bpd, which is limited by the current capacity Line 78A, to 680,000 bpd, which would be limited by the capacity of the lines fed by Line 78A). *See* Brisben Report, Dkt. 440, at PDF pp. 61–62.

II. Propane

78. The winter heating season during which the Energy Information Administration tracks residential propane prices is from October to March. *See* Expert Rebuttal Report of Jill Steiner ("Steiner Report"), Dkt. 439,[4] at PDF p. 42 & n.53.

79. Rail is the most common means by which propane and butane are transported from Canada to the United States. *See* Brisben Report, Dkt. 440, at PDF pp. 21–22; Earnest Testimony, Dkt. 610, at 107:22–108:1 (agreeing that "there is a substantial volume of propane that is exported by rail from Canada to the United States").

80. The Superior, Wisconsin area and the Upper Peninsula of Michigan already receive a portion of their propane by rail. *See* Brisben Report, Dkt. 440, at PDF pp. 50, 67; Earnest Report, Dkt. 495, at PDF p. 34 (showing propane-by-rail terminals near Superior and in the Upper Peninsula of Michigan).

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[3] As with Mr. Earnest's report, this version of Mr. Brisben's report was entered as part of the trial record and filed under seal, but there is a public version—Dkt. 255-1—providing all the information for which this report is cited in these Proposed Findings of Fact. Accordingly, no redactions have been made to the citations to Mr. Brisben's report in these Proposed Findings of Facts.

[4] As with Mr. Earnest and Mr. Brisben's reports, this version of Ms. Steiner's report was entered as part of the trial record and filed under seal, but there is a public version—Dkt. 254-1—providing all the information for which this report is cited in these Proposed Findings of Fact. Accordingly, no redactions have been made to the citations to Ms. Steiner's report in these Proposed Findings of Facts.

81. Mr. Earnest acknowledged that enough mobile transloaders to replace the propane supply in the Upper Peninsula of Michigan and the Superior, Wisconsin area can be set up in less than six months. *See* Earnest Testimony, Dkt. 610, at 110:8–12; *see also* Steiner Report, Dkt. 439, at PDF p. 57 (explaining how mobile transloaders are used).

82. To replace the entire amount of propane produced by the Rapid River and Superior fractionators, only 4–6 mobile transloaders would be needed. *See* Testimony of Jill Steiner, Dkt. 603, at 95:6–19, 99:10–14 (testifying that the Rapid River area would need to receive 3–4 rail cars per day to make up for propane lost from the Rapid River fractionator and that a portable transloader requires about 4 hours to unload a rail car, in which case 1–2 transloaders running 8–12 hours would be needed to offset the propane production of the Rapid River fractionator); *see id.* at 98:3–7 (testifying that there would need to be 2,100 bpd of propane delivered to the Rapid River area and 3,700 bpd delivered to the Superior area to make up for the loss of fractionator output, in which case the Superior area would require about twice the 1–2 transloaders required by Rapid River to offset the loss of fractionator propane).

83. There exists close to one billion gallons (23 million barrels) of propane- and butane-storage capacity in the Sarnia area. *See* Brisben Report, Dkt. 440, at PDF p. 51.

84. There are several rail facilities with propane- and butane-storage capacity that are either in Sarnia or are near Sarnia and connected to it by a short pipeline. *See* Brisben Report, Dkt. 440, at PDF pp. 25, 67 (describing 336 million gallons—or 8 million barrels—of storage capacity at rail facility in Marysville, Michigan, which is connected by a short pipeline to the Sarnia petrochemical and refining complex); *id.* at PDF p. 26 (describing rail facility in St. Clair, Michigan, with 84 million gallons—or 2 million barrels—of storage capacity that is connected by a short pipeline to Sarnia); Testimony of Graham Brisben, Dkt. 611, at 88:5–21 (explaining that the Sarnia fractionator has rail capacity and a large storage cavern).

85. Michigan relies more heavily on Line 5 and less on rail than Wisconsin, but Wisconsin has had significantly *lower* propane prices than Michigan for over a decade. *See* Steiner Report, Dkt. 439, at PDF p. 43 (comparing prices in Wisconsin and Michigan); Earnest Report, Dkt. 495, at PDF p. 34 (showing propane-by-rail terminals in Wisconsin and Michigan).

86. Mr. Earnest's calculations of propane price increases are premised on the assumption that, instead of replacing Line 5 propane by increasing nearby propane-by-rail unloading capacity, the market will rely on delivering propane by truck from distant locations. *See* Earnest Report, Dkt. 495, at PDF pp. 43–44, 46–47, 104–05.

87. Mr. Earnest projects that a switch to propane deliveries by long-distance trucking would cause an increase in the consumer price of propane of more than 8 cents in each of the affected markets of the Line 5 delivery area. *See* Earnest Report, Dkt. 495, at PDF pp. 104–06.

88. Mr. Earnest and Enbridge's expert Corbett Grainger both opined that there was a propane supply emergency in the winter of 2019–2020, which led to the need for propane deliveries by trucks traveling all the way from Kansas and Texas. *See* Earnest Report, Dkt. 495, at PDF p. 38; Testimony of Corbett Grainger ("Grainger Testimony"), Dkt. 604, at 122:24–124:13.

89. Mr. Grainger acknowledged that the residential price of propane during the period he described as a propane supply emergency was not in fact any higher than in other years. *See* Grainger Testimony, Dkt. 604, at 126:3–9.

90. It may also be possible for the Sarnia fractionator to be reconfigured so that it can receive and fractionate the type of NGLs produced in the nearby Marcellus Shale. *See* Steiner Report, Dkt. 439, at PDF pp. 48–49.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I certify that on May 9, 2023, this document was served on all parties or their counsel of record through the CM/ECF system if they are registered users or, if they are not, by placing a true and correct copy in the United States mail, postage prepaid, to their address of record.

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