

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

GEORGIA-PACIFIC CONSUMER
PRODUCTS LP, FORT JAMES
CORPORATION, and
GEORGIA-PACIFIC LLC,

Plaintiffs,

v.

NCR CORPORATION,
INTERNATIONAL PAPER CO., and
WEYERHAEUSER CO.

Defendants.

CASE NO. 1:11-CV-483

HON. ROBERT J. JONKER

PHASE II BENCH TRIAL OPINION & ORDER

I. INTRODUCTION

This case addresses responsibility under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (“CERCLA”) for clean up of the Kalamazoo River and Portage Creek in Southwest Michigan among four parties: Georgia Pacific, International Paper, and Weyerhaeuser, all paper companies with mills on the river—and NCR, the developer and a manufacturer of carbonless copy paper (“CCP”).

The river area is contaminated with polychlorinated biphenyls (“PCBs”), a hazardous substance under CERCLA. It is contaminated because the paper mills in the Kalamazoo River Valley discharged PCBs as part of their waste streams in the mid to late 20th century. The PCBs were in the mills’ waste streams because they recycled wastepaper as a source of pulp, and some of that wastepaper was NCR’s CCP which contained PCBs. More specifically, from 1954 to 1971 (“the

production period”), NCR’s CCP was made using Aroclor 1242, a source of PCBs. To address the potential harm of PCBs in the environment, the U.S. Environmental Protection Agency (“EPA”) has declared 80 miles of the river and portions of the surrounding area a Superfund Site under CERCLA.

The case involves complex legal and factual questions, and the Court bifurcated the trial. In Phase I, the Court determined that all of the parties are potentially responsible parties under CERCLA. (ECF No. 432). Georgia Pacific, Weyerhaeuser, and International Paper are liable as owners or operators of mills. 42 U.S.C. § 9607(a)(1)-(2). NCR is liable as an arranger. 42 U.S.C. § 9607(a)(3). In Phase II, the parties ask the Court to determine the scope of costs at issue, whether the costs are divisible, and how to allocate costs among the parties. It was not a short task; 20 days of trial and thousands of exhibits were used to present the parties’ positions on the issues. Based on the parties’ presentations, the post-trial briefs, and all other matters of record, the Court renders its decision as to the parties’ share of responsibility below. The Court concludes each party has an equitable share of responsibility for past costs and allocates those costs in the following overall percentages: Georgia Pacific 40%; NCR 40%; International Paper 15%; and Weyerhaeuser 5%. The Court determines there is too much uncertainty about the allocation of appropriate future costs at this time, though a declaratory judgment regarding liability for these costs will enter as required by statute.

II. FACTUAL BACKGROUND

A. Overview of Operational History

The events at the heart of this case date back several decades. Much of the information from the production period is no longer readily available. Many potential witnesses, such as employees and officers of the mills, are no longer around to share memories of long-ago events. Many

operational records have been lost or discarded in the intervening years of mergers, bankruptcies, and general business practices. The parties presented a plethora of documents, experts, and mathematical models in an effort to fill in the blanks. The trial testimony and exhibits provide exhaustive background on many topics, but a streamlined narrative is more fitting to describe the basis of the Court's decision. Ultimately, the finder-of-fact must draw inferences from the available evidentiary data points to present a coherent basis for decision.

1. The Mills

a. The De-Inking Process in General

The paper mills in this case were all engaged, at one time or another, in the business of recycling NCR's CCP. During the production period these mills operated de-inking mills, which meant that instead of using virgin wood as its feedstock, the mills used recycled paper as their primary source of fiber. Though the exact recycling process differed slightly from mill to mill, Dr. Woodard explained that generally the wastepaper was put through a de-inking process that used a combination of heat, chemicals, and agitation to remove inks from the paper fibers. (ECF No. 839, PageID.28479-28482). The resulting de-inked paper fibers provided the basis for new paper, much of it fine paper like what this opinion is likely printed on. (*Id.*).

Dr. Wolfe testified that not all of the inputs to the papermaking process at the de-inking mills ended up as sellable paper products. Instead, the de-inking process resulted in two "streams." (ECF No. 838, PageID.28228-28229). One stream contained the paper fibers that ultimately went on to become new paper. The other stream contained the sizeable amount of waste discharge from the recycling process. This effluent contained a mix of unusable paper fibers, ink, clay, caustic soda, and trace metals. Testimony at trial established that the paper mills sometimes discharged the waste

directly to the Kalamazoo River or to Portage Creek, but that the mills also used primary, and then secondary, treatments for its effluent. Throughout the production period the effluent sometimes contained PCBs from NCR's CCP.

Dr. Wolfe also testified that during the de-inking process gelatin capsules containing the PCBs could rupture and release PCBs. He explained that PCBs are hydrophobic, and would primarily attach to the surface area of solids within the effluent. The PCBs could be released at several different points. The capsules could rupture during the de-inking process, or the capsules could remain intact but release PCBs through diffusion. Some of the capsules could also remain intact, but degrade after being discharged in the effluent. When the capsules degraded in the environment, they would release PCBs into the river water and sediment. (ECF No. 838, PageID.28228-28229).

b. The Kalamazoo River Valley Mills Connected to this Case

There were a little over a dozen paper mills in the Kalamazoo River Valley that operated at least for some time during the production period. Below, the Court highlights those mills that are at the center of the case.

i. The Kalamazoo Paper Company Mill

The Kalamazoo Paper Company ("KPC") operated a large mill along the Kalamazoo River during the production period. Georgia Pacific later acquired KPC, so Georgia Pacific is a responsible party in this case as the owner and operator of the KPC mill. The KPC mill was one of the largest de-inking mills on the Kalamazoo River. Until 1954, the waste from the mill was

discharged directly into the river. (*See* Tx. 11464).¹ At that time, KPC started operating a clarifier, which is a form of primary treatment that allowed residual solids in the mill's effluent to settle. The settled residual solids were then removed to settling ponds and, ultimately, to nearby landfills adjacent to the Kalamazoo River. (Tx. 4691 at -046). In 1967, the mill connected to the Kalamazoo Water Reclamation Plant for secondary treatment of its wastewater. Secondary treatment typically involves using oxygenation to encourage biological breakdown of the compounds that remain in wastewater after primary treatment.

ii. The King Mill

A second major de-inking paper mill, the King mill, was located across the Kalamazoo River from the KPC mill. The King mill produced similar products in similar quantities to the KPC mill. It therefore had a similar output of wastes, both to the Kalamazoo River and to nearby landfills. Prior to 1955, wastewater from the King mill was discharged directly to the Kalamazoo River. (Tx. 4877 at -691). Thereafter the mill operated a clarifier. (*Id.* at -696). The mill ceased its de-inking operations in 1965 and shut down completely in 1971. (*Id.* at -732). The King mill was owned and operated by Allied Paper Company, which has since gone bankrupt.

iii. The Bryant Mill

The Bryant mill was the third large de-inking mill in the area. The Bryant mill was owned by the St. Regis Company, which was later acquired by International Paper. St. Regis owned and operated the Bryant mill until 1956, when it leased the mill to the Allied Paper Company. Allied

¹ "Tx" refers to the trial exhibits in this case. Where possible the Court refers to the specific page of the exhibit using the last three digits of the Bates number appearing on the exhibit or, if no Bates number is provided, the sequential pdf page.

then purchased the mill from St. Regis in 1966. International Paper is a responsible party in this litigation as owner of the mill while substantial PCB discharges were being made.

Unlike the KPC and King mills that sit on the banks of the Kalamazoo River, Bryant mill sits next to Portage Creek, a tributary to the Kalamazoo River. During the production period Portage Creek was dammed at Alcott Street which created a pond approximately 29 acres in size. (Tx. 6574 at -315). The pond was colloquially known as the Bryant mill pond. A large portion of the discharges from the Bryant mill, including many of the discharges from the de-inking facility, were made into the mill pond. The pond had relatively tranquil water which meant that some of the suspended solids in the mill's effluent settled in the pond. Those solids that did not settle flowed down Portage Creek and into the Kalamazoo River, approximately three miles away. In a sense, the Bryant mill pond worked as a clarifier. The dam was sometimes lowered for various reasons, which meant that settled solids were sometimes stirred up and released downstream. After St. Regis had transferred ownership of the mill to Allied, the dam was lowered for a time in 1972 and then permanently in 1976, which meant that settled sediment, and PCBs, were scoured from the pond. The remaining contents of the pond were removed in a remedial action in 1998. (Tx. 6765).

Bryant mill added an actual primary treatment system in 1954, and connected to the Kalamazoo public sewage treatment system for secondary treatment in 1969. Settled residual solids from Bryant mill clarifiers were disposed of in nearby landfills.

iv. Plainwell Mill

The fourth mill in this case is the Plainwell mill, which is located downstream of the KPC and King mills on the Kalamazoo River, and downstream of the confluence of Kalamazoo River and Portage Creek. The Plainwell mill, also called the Simpson-Plainwell or the Hamilton mill, was a

de-inking mill until 1963, when it switched to using virgin pulp as its primary feed source. (ECF No. 840, PageID.28546). In 1954, the Plainwell mill began operating a primary treatment system for its effluent and thereafter experimented with secondary treatment over different time periods. Although the Plainwell mill had similar operations to the three mills discussed above, the mill operated at a smaller scale and produced substantially less paper as compared to the KPC, King, or Bryant mills.

The Plainwell mill was owned and operated between 1954 and 1970 either by Weyerhaeuser or by companies for which Weyerhaeuser has assumed liabilities. Accordingly, Weyerhaeuser is also a responsible party.

2. NCR and Carbonless Copy Paper

NCR is a multifaceted corporation that was based in Dayton, Ohio during the production period. In the early 1950s, NCR developed specialty paper that allowed people to write or type in duplicate without messy carbon sheets. NCR started selling this carbonless copy paper in 1954, and it became a profitable product line. NCR created CCP by creating an emulsion with tiny capsules of colorless ink. That emulsion was coated on the back of a sheet of paper. A second sheet of paper was coated on its front with a clay compound, then the two sheets of paper were put together. When a person wrote or typed on the paper, the pressure broke the tiny capsules and released the dye, which reacted with the clay to become dark and reproduce what was being written. Chris Wittenbrink testified at trial that the transfer solvent in the emulsion was made of PCBs, namely Aroclor 1242, that were purchased from the Monsanto company. (ECF No. 852, PageID.29783). NCR would pay independent coating companies to put the emulsion on paper, and then buy the

resulting paper that was then used to create finished products such as forms, receipts, and tickets. (*Id.*)

In the CCP production process, a sizeable portion of the paper did not become finished product because it was trimmed away, had manufacturing defects, or was otherwise unusable. Spent forms were also included in waste streams after end users were finished with them. The unused or discarded material, called broke and trim, was sold to brokers of recycled paper, who would sell it to the de-inking mills to use as feedstock to produce new paper. Broke and trim CCP was used by mills as one component in mixes of different feedstock.

At first, CCP was not a good candidate for use as a feedstock because the de-inking process would rupture many of the tiny capsules and the ink inside would react with clays in the mixture. This tended to give the recycled paper produced from it a bluish tint. In response, NCR developed a process that allowed de-inking mills to wash away most of the capsules before they ruptured. The capsules containing PCBs were therefore mostly washed out with the wastewater. At the end of the production period, in 1971, NCR switched to a different emulsion to coat its CCP that did not contain PCBs.

3. The Kalamazoo River's Contaminants

PCBs were not the only substances the mills discharged in their waste effluents. Over the years, measurements of Total Suspended Solids (TSS) and Biochemical Oxygen Demand (BODs) demonstrated significant loading to, and burden on, the Kalamazoo River and Portage Creek. Witnesses at the Phase II trial testified that during the production period both the Kalamazoo River and Portage Creek were heavily polluted. For example John Hesse described the surveys of Portage Creek he conducted as part of his work for the State of Michigan. He testified the creek appeared

turbid, and had a consistency and color of a blueberry milkshake. (ECF No. 829, PageID.27581). For purposes of this litigation the Court concludes that PCBs are the contaminant of concern for this CERCLA site. (ECF No. 806, PageID.24937). NCR contends the TSS and BOD loading is at least relevant, both as it relates to determining the mills' relative contribution of PCBs to the Superfund Site and to the mills' culpability. The Court acknowledges these, and many other things, may well bear on overall equitable allocation. However, the Court accepts the testimony of the regulatory officials that PCBs are driving the cleanup costs.

Not all PCBs are the same. The Monsanto company produced and sold a range of PCBs in the United States. NCR purchased PCBs in the form of Aroclor 1242 (meaning the product contained an average amount of 42 percent chlorine) from Monsanto and used Aroclor 1242 to manufacture the emulsion for use in its CCP. In his deposition Dr. Vodden, a former Monsanto employee, testified that PCBs with lower chlorine content tend to be more volatile and break down relatively quickly in the environment. Higher chlorinated PCBs, such as Monsanto's Aroclor 1254 and Aroclor 1260, which are used extensively in electrical applications, are more stable. (ECF No. 875-8). Aroclor 1242 was between these two poles. Dr. Vodden testified that once released into the environment, the lower chlorinated components could break down, leaving only the higher chlorinated components. Therefore, PCBs in the environment with a lower chlorine content can be consistent with an original profile of Aroclor 1254. (*Id.* at PageID.31271). Dr. Vodden's testimony is supported by an internal Monsanto study that found Aroclor 1242 residues resembled Aroclor 1254 / 1260. (ECF No. 856, PageID.30164 (citing Tx. 2240 at -379)).

NCR argues that up to a quarter of the PCBs in environmental samples have a profile consistent with higher chlorinated PCBs for which its CCP would not be responsible. The Court

acknowledges the possibility of some contributions apart from CCP, but the Court concludes as a matter of fact that the vast majority of the PCBs are linked to CCP. Moreover, the Court is satisfied as a matter of fact and law that there is no proper basis for parsing out the PCBs that may be unrelated to the CCP. The costs of addressing the PCBs linked to CCP would not be materially lower even if there were some way to quantify and then divide any non-CCP sources of PCBs.

B. The Kalamazoo River Superfund Site

The CERCLA site has been studied by the state of Michigan and the federal government for decades. Mr. Hesse testified that in 1965, he worked with Dr. Knight to research the organic loadings in the river and the impact of those loadings on the river's health. (ECF No. 829, PageID.27537). Mr. Hesse returned to the area in the early 1970s to perform biological surveys and narrow down the source of PCBs that were being discharged into Lake Michigan from the Kalamazoo River. (ECF No. 829, PageID.27543).

Studies of the river continued, and on May 5, 1989, the EPA proposed that the Kalamazoo River Superfund Site (the "Superfund Site") be placed on the National Priorities List ("NPL"). The EPA then listed the Site on August 30, 1991. (ECF No. 806, PageID.24937). In his deposition, James Saric, an EPA remedial project manager at the Superfund Site, testified that PCBs were the toxic substances used to evaluate whether the area should be placed on the NPL. When the area ultimately was listed, PCBs were in fact the substances that justified the listing. (ECF No. 875-10, PageID.31310-31311). The EPA further determined that the major historical source of PCBs in the Kalamazoo River were wastewater discharges from the paper industries. (ECF No. 875-10, PageID.31322; *see also* Tx. 2461 at -953).

The Superfund Site in total includes approximately eighty miles of the Kalamazoo River (from Morrow Dam to Lake Michigan) and roughly three miles of Portage Creek running up from its confluence with the Kalamazoo River past the Bryant and Monarch mills. It further includes disposal areas, adjacent river banks and contiguous flood plains, all of which are contaminated with PCBs. The EPA has divided the Superfund Site into several current or former operable units (“OUs”) to manage, study, and cleanup the Superfund Site. The river itself is OU5, and is divided into seven separate work areas tied mostly to current or former dams. The EPA has provided a detailed description of each operable unit (Tx. 2175) and this Section provides a short summary of those units. An overview map of the superfund site is attached as Exhibit A.

1. Unit Associated Mostly with International Paper: Operable Unit 1

OU1 covers 89 acres along Portage Creek. The unit includes the Bryant mill pond and former operational areas for the Bryant mill and the Monarch mill.² The former operational areas include dewatering lagoons, a landfill, and 19-acre disposal area that received dewatered paper mill residuals from the dewatering lagoons. (Tx. 5683 at 17-20). OU1 received paper mill waste from the Bryant and Monarch mills until the late 1980s. The EPA performed a Time-Critical Removal Action (“TCRA”) in 1998 to remove PCB contaminated sediments from the Bryant mill pond portion of OU1. (Tx. 6419 at -768). Other actions include the collection of groundwater, which is sent to the Kalamazoo Wastewater Treatment Plant. (Tx. 2175 at 20). The EPA released a feasibility study for OU1 in January 2015, and in September 2015 the EPA issued a proposed remedial action plan. (Tx. 9853). A final remedy has not yet been selected.

² The Monarch mill was a de-inking mill operated by Allied and located along Portage Creek. (Tx. 6334 at -691 & -692). Like the Bryant mill, effluent from its clarifier was discharged above the Bryant mill pond. The mill ceased de-inking in 1957.

2. Units Associated Mostly with Georgia Pacific

a. *Operable Unit 2*

OU2 involves approximately 32 acres consisting of two inactive disposal areas, and is contaminated with PCBs from the recycling of NCR's CCP. OU2 is located on the south side of the Kalamazoo River and is upstream from the confluence of the Kalamazoo River and Portage Creek. The operable unit includes the Willow Boulevard and A-Site Landfills that were used to dispose of dewatered papermaking residuals from the King and KPC mills. (Tx. 4691 at -046). Those landfills received paper waste from the mills during the 1960s, '70s and '80s. Over the years PCBs from the landfills have eroded into the soil and sediment either adjacent to or in the Kalamazoo River.

Remedial action at OU2 began in May 2011 and was completed in June 2014. (Tx. 9431 at 27). Garry Griffith, a Georgia Pacific environmental engineer, testified that the history of remedial work at OU2 included excavation of materials containing PCBs, construction of a cover system, stabilization of banks and berms, installation of a groundwater monitoring network, establishment of erosion controls, and establishment of procedures for long-term monitoring programs. (ECF No. 831, PageID. 28011-28013). Future activities in the unit include operation, maintenance, and continued monitoring.

b. *Operable Unit 3*

OU3 covers roughly 23 total acres of the Superfund Site and includes the King Highway Landfill, approximately 7 acres of former dewatering lagoons on the former KPC mill site, and the King Street storm sewer. The King Highway lagoons received paper mill waste from the KPC Mill from the late 1950s until 1977. KPC continued to deposit paper mill waste at the landfill from 1977

through 1997. Like the disposal areas in OU2, PCBs have migrated via erosion or surface water runoff from the landfills into adjacent areas and the Kalamazoo River. (Tx. 2175 at 28-29). Erosion of the landfills, in general, was discussed at trial by Mr. Hesse. Mr. Hesse testified that he observed the landfills during his study with Dr. Knight and saw that they extended down to the water. (ECF No. 829, PageID.27610).

A record of decision, or ROD, for OU3 was issued in 1998. (Tx. 6410). Georgia Pacific conducted remedial response activities at OU3 from 1996 to 2003. The response activities included the installation of sheetpiling, removal of PCB-contaminated soils, sediment, and paper residuals, and the construction of a final cover system at the Landfill. (Tx. 2175, at 41-43). Georgia-Pacific completed the final remedy for OU3 in 2003.

c. Operable Unit 6

There is currently no OU6 in the Superfund Site. The former OU6 was located north of OU2, across the Kalamazoo River. It included the former KPC and Hawthorne Mill properties.³ Mr. Griffith testified that between 2000 and 2009 a removal action was conducted that removed residual solids from the mill lagoons. After the completion of the work, Georgia Pacific petitioned the EPA to have the mill property delisted from the Superfund Site. (ECF No. 831, PageID.28024-28025). The petition was granted on June 30, 2009, after the EPA determined the mill property was no longer a source of PCBs to the river. (Tx. 2175 at 7). Accordingly the EPA does not currently have an OU6 at the Superfund Site. (*Id.*) If, however, investigations at any of the remaining paper mill

³ The Hawthorne mill was located along the Kalamazoo River between the Morrow Dam and the river's confluence with Portage Creek. The mill was a fine paper mill, but its owners state it did not recycle NCR's CCP. (Tx. 11786). The EPA has stated it is unclear whether de-inking occurred at the mill. (Tx. 4118 at -668). PCBs were detected in a waste sludge discharge pipe at the mill. (*Id.*). Georgia Pacific purchased the former mill property in 1978.

properties result in a determination that those properties are a source of PCB contamination, the EPA will designate that property as OU6. (*Id.*)

3. Units Associated Mostly with Weyerhaeuser

a. *Operable Unit 4*

OU4 is located on the west side of the Kalamazoo River immediately downstream from the Plainwell Dam. OU4 includes the 12th Street Landfill, which is approximately 6.8 acres in size, and other associated areas, all of which were contaminated by PCBs from NCR's CCP. The landfill is bordered by the Kalamazoo River and wetlands to the North. OU4 received paper mill waste, some of which contained PCBs, from the Plainwell mill from approximately 1955 until 1981.⁴ The landfill was closed in 1984. (Tx. 7821 at -991). Mr. Gross testified Weyerhaeuser Company completed the remedial actions in OU4 in 2012, subject to ongoing operations and maintenance. (ECF No. 846, PageID.29096; *see also* Tx. 7821 at -972).

b. *Operable Unit 7*

OU7 encompasses 35 total acres and includes the former Plainwell mill property which is located on the west side of the Kalamazoo River and upstream from the Plainwell dam. The unit is further divided into three historical operational areas including the mill buildings and dewatering lagoons that contained residual solids contaminated by PCBs. (Tx. 7815 at -001). Weyerhaeuser has completed a Remedial Investigation / Feasibility Study for OU7 (*Id.*) and the EPA has issued a Record of Decision (Tx. 8015). Mr. Gross testified Weyerhaeuser has already implemented some of these remedial actions and will continue that work. (ECF No. 846, PageID.29097).

⁴ After the production period, residual solids from the lagoons were removed and placed in the landfill.

4. The Unit Associated With all Parties: Operable Unit 5

OU5 is the river portion of the site. It includes the 80 miles of the Kalamazoo river and a 3 mile stretch of Portage Creek. OU5 is contaminated with NCR's PCBs from the paper mills' effluents.

For purposes of its removal and remediation activity, the EPA subdivided OU5 into seven work areas. (Tx. 2175 at 76). Area 1 covers the lower portion of Portage Creek as well as a portion of the Kalamazoo River from Morrow dam downstream to the Plainwell dam. Work Area 1 is further subdivided into Area 1A for the stretch of Portage Creek from below the Bryant Mill dam to Portage Creek's confluence with the Kalamazoo River; Area 1B for the stretch of Kalamazoo River between the Morrow dam and the confluence of Portage Creek with the Kalamazoo River; and Area 1C for the stretch of the Kalamazoo River between the confluence of Portage Creek with the Kalamazoo River down to the Plainwell dam. The EPA has approved the remedial investigation report and feasibility study for Area 1.

The other areas are: Area 2 for the Kalamazoo River from Plainwell dam downstream to the Otsego City dam; Area 3 for the Kalamazoo River from Otsego City dam downstream to Otsego dam; Area 4 for the Kalamazoo River from Otsego dam downstream to Trowbridge dam; Area 5 for the Kalamazoo River from Trowbridge dam downstream to Allegan City dam; Area 6 for Lake Allegan; and Area 7 for the Kalamazoo River from Allegan dam downstream to Lake Michigan.

There have been several TCRA's conducted in order to remove PCB-impacted sediments and flood plain soils from the river unit. (ECF No. 806, PageID.24939). Two TCRA's involved the former Plainwell impoundment and Plainwell dam No. 2 impoundment. The Plainwell impoundment TCRA was funded by Georgia Pacific and Millennium Holdings LLC. Work began

in 2007 and was completed in 2009. The Plainwell dam No. 2 area TCRA began work in 2009 and was completed in 2010. (*Id.*) Work on the third TCRA was completed in 2013 and covered PCB-impacted sediment in Portage Creek between the Bryant mill dam and the creek's confluence with the Kalamazoo River. A fourth TCRA removed contaminated solids from the Bryant mill pond. (ECF No. 875-10, PageID.31324).

Except for Area 1, the EPA has not finalized a remedy for any portion of OU5. Chase Fortenberry, a project manager for the Superfund Site, testified that the EPA issued a ROD for Area 1 on September 28, 2015. (ECF No. 831, PageID.28057). The approved remedy includes removing contaminated sediment and flood plain soils in the work area, engineering and institutional controls, and monitored natural recovery. (Tx. 9881).

III. PROCEDURAL HISTORY

In 2010, Georgia Pacific brought this CERCLA action seeking recovery from International Paper, NCR, and Weyerhaeuser for its past and future costs related to its investigation and cleanup activities. The parties engaged in extensive factual and expert discovery over the next three years. Given the size and complexity of the case, the Court bifurcated the trial into two phases. The Court devoted Phase I to the determination of the parties' liability under CERCLA. Phase II, which is at issue here, focused on the allocation of damages among the responsible parties.

After a bench trial, the Court resolved Phase I by issuing an Opinion and Order on September 26, 2013. In that decision, the Court found all the parties were liable under CERCLA. (ECF No. 432). Both Georgia Pacific and Weyerhaeuser had acknowledged their responsibility as owners and operators of de-inking mills during the production period, so the focus there was on the remaining

two parties. In the Phase I decision, the Court determined that both NCR and International Paper were also liable: NCR as an arranger and International Paper as an owner or operator (or both). *Id.*

The Court held that NCR is liable as an arranger in this case because it supplied CCP broke and trim to the de-inking mills, and the broke and trim contained PCBs. As a result, the mills used the broke and trim as part of their repulping operations and released PCBs to the river. At least some of the broke generated by NCR and its coaters reached the Superfund Site. (ECF No. 432, PageID.12746-12747). Of course all, or virtually all, of the PCB-containing wastepaper is ultimately traceable back to NCR because NCR developed and controlled the proprietary process for the PCB-containing CCP.

The Court held that the PCB-containing waste was, at least originally, a product the paper mills were willing to pay for as feed for their recycling businesses. But by no later than 1969, NCR knew that the CCP scrap was not useful for a fully informed buyer. Rather, it was a worthless waste product at best, and a serious environmental hazard and liability at worst. (*Id.* at PageID.12743-12744). NCR did not disclose this knowledge to the paper industry. Instead it continued to sell CCP broke and trim to brokers and recyclers even though it knew that the wastepaper was an environmental and economic liability. More than that, NCR actively attempted to conceal the hazards associated with CCP wastepaper from recyclers, the public, and the government by delaying public announcement and minimizing the significance of what it was learning. (*See id.* at PageID.12745). Even after an NCR-affiliate in the UK stopped circulating the waste in the UK, NCR continued feeding the market in the U.S.

The Phase I decision also determined that International Paper is liable as an owner or operator because it is the successor-in-interest to St. Regis, who was the owner of the Bryant Mill at a time

when the Mill was recycling CCP and thereby disposing of PCBs at the Superfund Site. (*Id.* at PageID.12756). None of the ownership and disposal facts were seriously contested. Rather, International Paper argued that St. Regis's ownership fell within a statutory exception to ownership held primarily to secure a loan. The Court found the exception inapplicable. (*Id.* at PageID.12755-12756). As such, International Paper, as the successor-in-interest to St. Regis, qualified as the owner of the Bryant mill for purposes of CERCLA liability. (*Id.* at PageID.12756).

Having determined liability, the matter proceeded to Phase II. There Georgia Pacific asked the Court to determine the parties' share of responsibility for its past costs as well as to allocate the parties' responsibility for future costs.

IV. Claimed Costs & Statute of Limitations

Before proceeding with the Phase II analysis, the Court will first discuss the total amount in past costs Georgia Pacific avers it has spent before the Phase II trial. Then the Court will determine the total approximate costs it concludes are not time-barred, are proper claimed costs under CERCLA, and are consistent with the National Contingency Plan.

A. Georgia Pacific's Initial Claimed Costs

At trial, Roger Hilarides testified that Georgia Pacific was seeking to recover approximately 105.5 million dollars in response costs spent at the Superfund Site. (ECF No. 831, PageID.278986). The chart below provides an overview by operable unit of the amounts Georgia Pacific claims to have spent through September of 2014 and is seeking to recover in Phase II. (Tx. 2617).⁵

⁵ During Phase II, Mr. Hilarides testified that Georgia Pacific has spent an additional two to three million dollars since September 2014 (ECF No. 831, PageID.27897). In filings after trial, Georgia Pacific avers it has spent several million dollars more.

Cost Category	Order	Location	Costs	Credits	Net Total
Georgia-Pacific's OU5 Costs	1990 AOC	OU5-Central	\$293,113.28	-	\$293,113.28
	1990 AOC	OU5-East	\$406,860.72	\$3,542.70	\$403,318.02
	1990 AOC	OU5-General	\$12,316,472.68	(\$395,165.46)	\$11,921,307.22
	1990 AOC	OU5-Portage Creek	\$8,814.81	-	\$8,814.81
	1990 AOC	OU5-West	\$2,895,276.57	(\$6,200.54)	\$2,889,076.03
	2007 Plainwell TCRA	OU5-West	\$18,850,746.76	(\$1,025,000.00)	\$17,825,746.76
	2007 SRI/FS AOC	OU5-Central	\$7,377,526.38	-	\$7,377,526.38
	2007 SRI/FS AOC	OU5-East	\$8,524.61	-	\$8,524.61
	2007 SRI/FS AOC	OU5-General	\$8,487,789.11	(\$89,357.02)	\$8,398,432.09
	2007 SRI/FS AOC	OU5-Portage Creek	\$38,570.03	-	\$38,570.03
	2007 SRI/FS AOC	OU5-West	\$5,704,008.43	-	\$5,704,008.43
	2007 Termination AOC	OU5-General	\$167,817.10	(\$94,001.36)	\$73,815.74
	2008 Response Cost AOC	OU5-General	\$1,845,000.00	-	\$1,845,000.00
	2009 Plainwell No. 2 TCRA	OU5-Central	\$8,828,123.79	(\$1,999,496.75)	\$6,828,627.04
	N/A (Mead . Rock-Tenn)	OU5-General	-	(\$1,581,250.00)	(\$1,581,250.00)
				SUBTOTAL	\$62,034,630.44

Cost Category	Order	Location	Costs	Credits	Net Total
Georgia-Pacific's OU2 Costs	1990 AOC	OU2	\$4,434,433.48	-	\$4,434,433.48
	N/A (2007-2009 Costs)	OU2	\$598,857.68	-	\$598,857.68
	2007 Termination AOC	OU2	\$953.93	-	\$953.93
	2009 Consent Decree	OU2	\$15,628,975.64	-	\$15,628,975.64
					SUBTOTAL

Cost Category	Order	Location	Costs	Credits	Net Total
Georgia-Pacific's OU3 Costs	1990 AOC	OU3	\$5,960,703.58	-	\$5,960,703.58
	2000 AOC	OU3	\$5,985,341.70	-	\$5,985,341.70
					SUBTOTAL

Cost Category	Order	Location	Costs	Credits	Net Total
Georgia-Pacific's Mill Property (OU6) Costs	1990 AOC	GP Mill Property	\$1,778,538.82	(\$2,259.55)	\$1,776,279.27
	2006 GP Mill Property TCRA	GP Mill Property	\$3,611,485.47	-	\$3,611,485.47
	2007 Termination AOC	GP Mill Property	\$3,017.18	-	\$3,017.18
	N/A (Gould Paper Corp. Settlement)	GP Mill Property	-	(\$100,000.00)	(\$100,000.00)
				SUBTOTAL	\$5,290,781.92

Cost Category	Order	Location	Costs	Credits	Net Total
Ft. James's Costs	1990 AOC	Ft. James Mill Property	\$13,369.32	-	\$13,369.32
	1990 AOC	OU5-Central	\$94,349.59	-	\$94,349.59
	1990 AOC	OU5-East	\$103,254.21	(\$1,518.30)	\$101,735.91
	1990 AOC	OU5-General	\$4,309,939.58	(\$9,636.49)	\$4,300,303.09
	1990 AOC	OU5-Portage Creek	\$670.86	-	\$670.86
	1990 AOC	OU5-West	\$1,099,968.95	(\$2,657.37)	\$1,097,311.58
	N/A (Rock-Tenn Settlement)	OU5-General	-	(\$81,250.00)	(\$81,250.00)
				SUBTOTAL	\$5,526,490.35

TOTAL COSTS CLAIMED: \$110,852,504.26
TOTAL CREDITS CLAIMED: (\$5,391,335.54)
NET TOTAL CLAIMED: \$105,461,168.72

B. Statute of Limitations

In 2014, on the eve of the Phase II trial, the Sixth Circuit clarified the relevant statute of limitations for filing an action for contribution under Section 113(f). In *Hobart Corp. v. Waste Management of Ohio, Inc.*, the Sixth Circuit held that:

Actions for contribution under § 113(f) must be filed within three years of“(A) the date of judgment in any action under [CERCLA] for recovery of such costs or damages, or (B) the date of an administrative order under [§ 122(g)] (relating to de minimis settlements) or [§ 122(h)] (relating to cost recovery settlements) or

entry of a judicially approved settlement with respect to such costs or damages.”

758 F.3d 757, 763 (6th Cir. 2014) *cert. denied*, 135 S. Ct. 1161 (2015). Moreover, the Sixth Circuit held that responsible parties must seek reimbursement in the form of a contribution action under Section 113(f), rather than a direct cost recovery under Section 107 if they met one of Section 113’s statutory triggers. *Id.* at 767.

Based on the Sixth Circuit’s holding in *Hobart*, the Defendants moved for summary judgment. The Defendants argued that prior litigation in 2010, to which Georgia Pacific was a party, triggered the company’s obligation to assert Section 113(f) contribution claims against Defendants within three years of that date. Therefore, Defendants argued all of Georgia Pacific’s claims were now time-barred. In the alternative, Defendants claimed that several administrative agreements entered into by Georgia Pacific (1990 AOC, 2006 ASAOC, 2007 ASAOC for RI/FS, and the 2007 ASAOC for Plainwell) triggered the statute of limitations period, resulting in at least some of the contribution claims being time-barred.

On August 12, 2015, this Court issued its Order on Defendants’ motions for summary judgment. (ECF No. 787). The Court held that the 2010 litigation did not trigger Georgia Pacific’s duty to assert its claims under Section 113(f), and that its claims were therefore not time-barred in their entirety. As to the costs associated with the administrative agreements, the Court held that the 1990 AOC by itself, and even when read in conjunction with the 2007 Order by Consent, did not constitute “administrative settlements” for purposes of triggering the Section 113 three-year statute of limitations. As such, the Court denied Defendants’ motion for summary judgment relating to Georgia Pacific’s costs under the 1990 AOC for removal actions in OU5, OU2, and OU6. These costs were not time-barred in a Section 107 cost-recovery action. Similarly, the expenses related to

OU3 were not time-barred under Section 113 because the contribution statute did not trigger them. However, under the timing rules for Section 107, the OU3 costs were time-barred, as even Georgia Pacific conceded, so the Court entered summary judgment on those costs.

As to the costs associated with the 2006 ASAOC, 2007 ASAOC for RI/FS, and the 2007 ASAOC for Plainwell, the Court held that those agreements constituted “administrative orders” for purposes of Section 113’s statute of limitations under the Sixth Circuit’s holding in *Hobart*. Therefore, the statute of limitations on Georgia Pacific’s claims under these agreements had run, and the Court granted summary judgment for costs falling under those agreements to the Defendants.

C. Claimed Costs After the Statute of Limitations Ruling

After the Phase II trial, Georgia Pacific amended its cost calculations. Per Georgia Pacific’s post-trial briefing, the Court’s Order on Defendants’ motions for summary judgment resulted in the following costs (net of credits) being time-barred (ECF No. 882, PageID.31888):

Category	Cost
2007 Plainwell TCRA	\$17,825,746.76
2007 SRI/FS	\$21,523,518
2006 GP Mill Property TCRA	\$3,511,486
OU3 Costs	\$11,946,045
Total:	\$54,806,796.35

The chart below updates the earlier chart of the amounts Georgia Pacific claims it has spent by operable unit by adding in those costs that are now time-barred:

Cost Category	Order	Location	Costs	Credits	Net Claim	Time Barred	Net Recoverable
Georgia-Pacific's OU5 Costs	1990 AOC	OU5-Central	\$293,113.28	-	\$293,113.28	-	\$293,113.28
	1990 AOC	OU5-East	\$406,860.72	(\$3,542.70)	\$403,318.02	-	\$403,318.02
	1990 AOC	OU5-General	\$12,316,472.68	(\$395,165.46)	\$11,921,307.22	-	\$11,921,307.22
	1990 AOC	OU5-Portage Creek	\$8,814.81	-	\$8,814.81	-	\$8,814.81
	1990 AOC	OU5-West	\$2,895,276.57	(\$6,200.54)	\$2,889,076.03	-	\$2,889,076.03
	2007 Plainwell TCRA	OU5-West	\$18,850,746.76	(\$1,025,000.00)	\$17,825,746.76	(\$17,825,746.76)	\$0.00
	2007 SRI/FS AOC	OU5-Central	\$7,377,526.38	-	\$7,377,526.38	(\$7,377,526.38)	\$0.00
	2007 SRI/FS AOC	OU5-East	\$8,524.61	-	\$8,524.61	(\$8,524.61)	\$0.00
	2007 SRI/FS AOC	OU5-General	\$8,487,789.11	(\$89,357.02)	\$8,398,432.09	(\$8,398,432.09)	\$0.00
	2007 SRI/FS AOC	OU5-Portage Creek	\$38,570.03	-	\$38,570.03	(\$38,570.03)	\$0.00
	2007 SRI/FS AOC	OU5-West	\$5,704,008.43	-	\$5,704,008.43	(\$5,704,008.43)	\$0.00
	2007 Termination AOC	OU5-General	\$167,817.10	(\$94,001.36)	\$73,815.74	-	\$73,815.74
	2008 Response Cost AOC	OU5-General	\$1,845,000.00	-	\$1,845,000.00	-	\$1,845,000.00
	2009 Plainwell No. 2 TCRA	OU5-Central	\$8,828,123.79	(\$1,999,496.75)	\$6,828,627.04	-	\$6,828,627.04
	N/A (Mead/Rock- Tenn	OU5-General	-	(\$1,581,250.00)	(\$1,581,250.00)	-	\$1,581,250.00
				SUBTOTAL	\$62,034,630.44	(\$39,352,808.30)	\$22,681,822.14

Cost Category	Order	Location	Costs	Credits	Net Claim	Time Barred	Net Recoverable
Georgia Pacific's OU2 Costs	1990 AOC	OU2	\$4,434,433.48	-	\$4,434,433.48	-	\$4,434,433.48
	NA (2007 - 2009 Costs)	OU2	\$598,857.68	-	\$598,857.68	-	\$598,857.68
	2007 Termination AOC	OU2	\$953.93	-	\$953.93	-	\$953.93
	2009 Consent Decree	OU2	\$15,628,975.64	-	\$15,628,975.64	-	\$15,628,975.64

				SUBTOTAL	\$20,663,220.73	(\$0)	\$20,663,220.73
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Cost Category	Order	Location	Costs	Credits	Net Claim	Time Barred	Net Recoverable
Georgia Pacific's OU3 Costs	1990 AOC	OU3	\$5,960,703.58	-	\$5,960,703.58	(\$5,960,703.58)	\$0
	2000 AOC	OU3	\$5,985,341.70	-	\$5,985,341.70	(\$5,985,341.70)	\$0
				SUBTOTAL	\$11,946,045.28	(\$11,946,045.28)	\$0

Cost Category	Order	Location	Costs	Credits	Net Claim	Time Barred	Net Recoverable
Georgia Pacific's Mill Property (OU6) Costs	1990 AOC	GP Mill Property	\$ 1,778,538.82	(\$2,259.55)	\$1,776,279.27	-	\$1,776,279.27
	2006 GP Mill Property TCRA	GP Mill Property	\$3,611,485.47	-	\$3,611,485.47	(\$3,611,485.47)	\$0
	2007 Termination AOC	GP Mill Property	\$3,017.18	-	\$3,017.18	-	\$3,017.18
	N/A/ (Gould Paper Corp. Settlement)	GP Mill Property	-	(\$100,000.00)	(\$100,000.00)	-	(\$100,000.00)
				SUBTOTAL	5,290,781.92	(\$3,611,485.47)	\$1,679,296.45

Cost Category	Order	Location	Costs	Credits	Net Claim	Time Barred	Net Recoverable
Fort James's Costs	1990 AOC	Ft. James Mill Property	\$13,369.32	-	\$13,369.32	-	\$13,369.32
	1990 AOC	OU5-Central	\$94,349.59	-	\$94,349.59	-	\$94,349.59
	1990 AOC	OU5-East	\$103,254.21	(\$1,518.30)	\$101,735.91	-	\$101,735.91
	1990 AOC	OU5-General	\$4,309,939.58	(\$9,636.49)	\$4,300,303.09	-	\$4,300,303.09
	1990 AOC	OU5-Portage Creek	\$670.86	-	\$670.86	-	\$670.86
	1990 AOC	OU5-West	\$1,099,968.95	(\$2,657.37)	\$1,097,311.58	-	\$1,097,311.58
	N/A (Rock-Tenn Settlement)	OU5-General	-	(\$81,250.00)	(\$81,250.00)	-	(\$81,250.00)
				SUBTOTAL	\$5,526,490.35	(\$81,250.00)	-\$81,250.00

TOTAL COSTS CLAIMED	\$110,852,504.26
TOTAL CREDITS CLAIMED	(\$5,391,335.54)
NET CLAIMED	\$105,461,168.72
TIME BARRED	(\$54,910,339.05)
NET RECOVERABLE	\$50,550,829.67

Based on its amended cost calculations, The Court finds Georgia Pacific currently seeks a net recovery of approximately \$50,650,829.67 in non-time-barred past costs.⁶

D. Consistency with NCP

Having determined the amount of non time-barred past costs that Georgia Pacific seeks to recover, the Court moves on to determine whether all those past costs may be recovered under CERCLA. Specifically, in order to recover under CERCLA, a private plaintiff bears the burden of showing by a preponderance of the evidence that the costs it seeks are necessary and consistent with the EPA’s National Contingency Plan. *See* 42 U.S.C. § 9607(a)(4)(B). “A cleanup will be consistent . . . if, taken as a whole, it is in ‘substantial compliance’ with 40 C.F.R. § 300.700(c)(5)-(6), and results in a “CERCLA-quality cleanup.” *Franklin Cty. Convention Facilities Auth. v. Am. Premier Underwriters, Inc.*, 240 F.3d 534, 543 (6th Cir. 2001).

A “CERCLA-quality cleanup” is a response action that (1) protects human health and the environment, (2) utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable, (3) is cost-effective, (4) satisfies Applicable and Relevant or Appropriate

⁶ The Court’s calculation of the time-barred costs relating to the 2007 SRI/FS AOC differs slightly from the costs that Georgia Pacific provided in its Post Phase II Trial Brief (ECF No. 882, PageID.31888) and in its proposed findings of fact (ECF No. 883, PageID.32089). The Court uses the numbers as provided by Georgia Pacific in its Proposed Findings of Fact (ECF No. 801) and applies the statute of limitations consistent with its ruling. There are a lot of moving parts, and some amounts may be misclassified. As stated below, the Court will require the parties to submit a Proposed Judgment consistent with its allocation ruling, which may clarify and correct—or at least frame disputes—over any necessary adjustments.

Requirements (“ARARS”) for the site, and (5) provides opportunity for meaningful public participation.

Id.

Several witness for Georgia Pacific, such as Roger Hilarides, described the costs incurred and how those were handled and documented. Mr. Hilarides testified that Georgia Pacific began tracking its costs in 1990 with the formation of the Kalamazoo River Study Group and that Georgia Pacific regularly made entries in its databases to record and preserve the response costs it incurred at the Superfund Site. (ECF No. 831, PageID.27890). Mr. Hilarides testimony is supported by the testimony of Garry Griffith, who stated he would review invoices from Georgia Pacific’s contractors to make sure they were consistent with the agreement that applied to the work, and then submit the invoice to his supervisor. Once the invoice was approved by the supervisor, it was submitted for payment, which would be recorded in Georgia Pacific’s databases. (ECF No. 831, PageID.28001-28002). Mr. Saric also testified the EPA approved several cleanup actions and that the EPA believed each of them was reasonable and necessary. (ECF No. 875, PageID.31320-21).

The Court finds that Georgia Pacific has established by a preponderance of the evidence that it incurred reasonable costs that were consistent with the NCP. In fact, nearly all of the non time-barred past costs incurred by Georgia Pacific at the Superfund Site are necessary and consistent with NCP. The costs are well documented and are in substantial compliance with the regulations. There are two exceptions. At trial, Dr. David Johns, a witness for Weyerhaeuser, identified \$643,889 in costs Georgia Pacific incurred to study natural resource damages. (ECF No. 849, PageID.29530-29532; *see also* Tx. 8054). This amount was “essentially the same” as that found by NCR’s witness, Jeffrey Zelikson. (ECF No. 861, PageID.30614). The Court has held

that natural resource damages are outside the scope of this case. (ECF No. 547, PageID.15191). The Court credits Dr. Johns and Mr. Zelikson's testimony on this point and so approximately \$643,889 in general costs for Operating Unit 5 are removed from what Georgia Pacific can recover from other parties in this action. Mr. Zelikson also identified \$340,059 in costs that are more properly described as advocacy than response costs. (ECF No. 861, PageID.30615). The Court credits this testimony as well and therefore a further amount of \$340,059 in general costs are also removed from what Georgia Pacific may recover.

Both Dr. Johns and Mr. Zelikson, as well as other witnesses for the Defendants such as Raymond Dovell and Robert Rock, identified additional response costs that the Defendants contend were not adequately documented and /or are not necessary and consistent with NCP. The Court is not persuaded by this testimony. NCP is not a high bar, and the burden on Georgia Pacific to show consistency with NCP is simply a preponderance of the evidence. The argument Georgia Pacific advanced on cross with these witnesses was that there was enough information documenting its incurred costs from the context of the materials and invoices submitted and maintained, and the Court agrees. Furthermore, once consistency with NCP is established, CERCLA defendants are usually subject to joint and several liability. Thus to the extent the parties seek further detail of allocation by area, it is up to the defendants to carve up the costs and establish divisibility, if they can.

Finally, Georgia Pacific has received insurance payments to help cover liability costs at 23 sites, including the Kalamazoo River. The other parties would have that amount taken away from what Georgia Pacific can seek in reimbursement to avoid a possible double recovery by Georgia Pacific. NCR offered the testimony of Professor Ken Abraham who stated that Georgia Pacific

received a total of \$69,852,000 in insurance proceeds associated with its settlements. Professor Abraham provided information on how insurance payments worked, and the role that offsets play to prevent double recovery. (ECF No. 861, PageID.30633-30634). The Court does not see the concern of double recovery present in this case. There is no risk of double payment because: 1) Georgia Pacific has incurred costs that, by operation of the Court's statute of limitations ruling, it is not able to recover from the parties in sums that would amount to double payment; and 2) the insurance settlement involved over 20 sites that are not part of this case. Furthermore, Georgia Pacific paid insurance premiums to help cover events like this, and it encourages prudent insurance coverage to allow the company to receive at least some benefit from the coverage it paid for.

Accordingly the Court finds a total of approximately \$983,948 in claimed costs are not necessary and consistent with NCP. Accounting for the previous calculations, the Court finds a total past cost amount of approximately \$49,666,881.67 that is non-time-barred and consistent with NCP. With the total amount of recoverable past costs established, the Court moves on to the parties' arguments on whether that amount is divisible, and how it should be allocated.

V. SUMMARY OF THE PARTIES' CONTENTIONS

Georgia Pacific acknowledges that the paper mills appropriately bear some responsibility for cleanup, but insists the most culpable wrongdoer is NCR. NCR developed the PCB-containing paper and fed it into the repulping stream. It continued to do this even after it learned of the risks, and the mills did not. In fact, Georgia Pacific believes NCR concealed what it knew and this makes NCR uniquely culpable (and principally responsible) for its costs. Georgia Pacific further contends the mills' responsibility should be apportioned principally on volume estimates because precise calculations, such as year by year discharge calculations, are not possible. Finally, Georgia

Pacific suggests that any allocation to Georgia Pacific should reflect credit for its proactive and constructive engagement with the authorities, and its overall efforts to address PCB contamination at the Superfund Site.

NCR disputes the basis for arranger liability. But even assuming it is an arranger, NCR says its share of responsibility must be limited to the factual premises of its liability and apportioned accordingly. In NCR's view, only a small fraction of CCP can even arguably be traced from NCR to the Kalamazoo Valley, and the majority of NCR's broke and trim was recycled at the Fox River. Applying layers of mathematical analysis, NCR isolates its maximum exposure to 2% of the total PCB load in the Superfund Site. And even as to this load, NCR contends that the paper mills are more culpable than NCR because the mills were the parties that actually put the waste into the river. Finally NCR contends that any allocation must take into account the operational decisions of the paper mills, and the fact that the mills benefitted from recycling CCP.

International Paper also contests the basis for its liability as successor to St. Regis. But even assuming it's liable, International Paper says it is not an actively culpable party. Rather, it is simply a technical legal successor to a mill operation that discharged to a tributary creek and to the Bryant mill pond where most of the solids settled. According to International Paper, the operation of the mill pond meant that most of the PCBs International Paper is responsible for never reached the Kalamazoo River. Moreover, International Paper says its predecessor's loading was nowhere near as high as other parties suggest. And International Paper further argues Georgia Pacific's laches uniquely harmed it. Based on all these considerations, and more, International Paper argues it should receive only a minimal allocation.

Weyerhaeuser admits liability, but says it has already contributed more than it could possibly be responsible for based on any rational allocation of past costs because it is accountable only for the Plainwell mill's discharges, and all parties agree the mill discharged significantly less effluent than the other mills. Weyerhaeuser states it has already paid over \$10 million to clean up the area by the Plainwell operation. This is more than enough, it says, to cover whatever allocation could fairly be made against it.

VI. PHASE II ANALYSIS

A. Legal Standards

1. CERCLA Cost Recovery and Contribution

CERCLA has two cost-shifting provisions that have been invoked in this case. Section 107 provides a mechanism for recovery of costs incurred by either the government or a private party. 42 U.S.C. § 9607(a). In cost recovery actions, defendants are usually subject to joint and several liability if the plaintiff has shown that reasonable costs incurred were consistent with the National Contingency Plan of the U.S. Environmental Protection Agency ("EPA"). However, if a defendant shows that a harm is divisible or capable of apportionment, the defendant is only severally liable for its share of the harm. To show divisibility, a defendant must show that: 1) a harm is theoretically capable of apportionment; and 2) the record supports a reasonable basis for apportionment in that particular case. *Burlington Northern and Santa Fe Ry. Co. v. United States*, 556 U.S. 599, 615 (2009).

Section 113 provides for equitable contribution of costs from one party to another "using such equitable factors as the court determines are appropriate." 42 U.S.C. § 9613(f)(1). Contribution can be sought by a person liable under Section 107 or a person who has entered an

administrative or judicially approved settlement. 42 U.S.C. § 9613(f). CERCLA was intended to “facilitate the prompt cleanup of hazardous waste sites by placing the ultimate financial responsibility for cleanup on those responsible for hazardous wastes.” *Kalamazoo River Study Grp. v. Menasha Corp.*, 228 F.3d 648, 652 (6th Cir. 2000). Courts use equitable factors to encourage those goals by allocating costs appropriately among liable parties. *Id.* at 656.

Courts in the Sixth Circuit have sometimes turned to non-exhaustive lists of equitable factors to help in this exercise. For example, the Gore factors direct a court to look at:

- The ability of the parties to demonstrate that their contribution to a discharge, release, or disposal of a hazardous waste can be distinguished;
- The amount of the hazardous waste involved;
- The degree of involvement by the parties in the generation, transportation, treatment, storage, or disposal of the hazardous waste;
- The degree of care exercised by the parties with respect to the hazardous waste concerned, taking into account the characteristics of such hazardous waste; and
- The degree of cooperation by the parties with the Federal, State, or local officials to prevent any harm to the public health or environment.

Centerior Serv. Co. v. Acme Scrap Iron & Metal, 153 F.3d 344, 354 (6th Cir. 1998). Similarly, the Torres factors focus the analysis on:

- The extent that clean-up costs are attributable to a specific party;
- The party’s level of culpability;
- The degree to which the party benefitted from the disposal of the waste; and
- The party’s ability to pay its share of the cost.

United States v. Consol. Coal Co., 345 F.3d 409, 413 (6th Cir. 2003). In summary, a court has broad discretion to promote the goals of CERCLA when handling contribution claims. *Id.*

2. Disentangling Cost Recovery and Contribution

Courts have long struggled to disentangle claims under Sections 107 and 113 of CERCLA. *See Hobart Corp. v. Waste Management of Ohio, Inc.*, 758 F.3d 757, 766-67 (6th Cir. 2014). The Sixth Circuit has said that the two avenues are mutually exclusive, and that contribution under Section 113 is the appropriate mechanism when it is available. *Id.* at 767. Courts have cautioned against “slicing and dicing” costs between cost recovery and contribution. *NCR Corp. v. George A. Whiting Paper Co.*, 768 F.3d 682, 692 (7th Cir. 2014); *Ford Motor Co. v. Michigan Cons. Gas Co.*, No. 08-13503, 2015 WL 540253 at *12 (E.D. Mich. Feb. 10, 2015). Although Section 107 and Section 113 are both at play in this case, the ultimate outcome is driven by the equitable allocation among the parties, so the Court focuses on the facts relevant to that analysis.⁷

B. Overview of the Court’s Phase II Ruling

These are the Court’s Phase II findings and conclusions, in summary form:

1. The contaminant of concern in the Kalamazoo River is PCBs. PCB loads are what drive the need to remediate the river, and the costs of investigation and cleanup to date.
2. As found in Phase I, all of the parties before the Court are liable parties under CERCLA. The record in Phase II has reinforced that finding.
3. No party is uniquely culpable for PCBs in the Kalamazoo River that have required a massive and ongoing cleanup effort. Each party played a significant role in creating and perpetuating the PCB pollution at the Superfund Site.
4. The Court finds no convincing basis for divisibility of harm in the river system. In particular the Court rejects NCR’s attempt to mathematically segment its responsibility to a tiny fraction of the PCB loading. To the extent a party’s geographic activity in the river system—International Paper in the Portage Creek

⁷ To the extent cross or counter claims for contribution have not been adequately pled, the Court would exercise its discretion under FED. R. CIV. P. 15(a)(2) to allow amendment of the pleadings.

tributary, and Weyerhaeuser downstream in Plainwell—affect equitable responsibility for costs, the Court’s allocation of the past costs accounts for it.

5. The Court’s allocation is for past costs only. The allocation may well inform allocation of future costs, but the Court finds the present record insufficient to provide any reasonable and equitable basis for apportioning costs yet to be incurred. The Court will enter a declaratory judgment holding all parties liable, but leave for future proceedings determination and allocation of the future costs.

C. Explanation of Findings and Conclusions

1. The contaminant of concern in the Kalamazoo River is PCBs. PCB loads are what drive the need to remediate the river, and the costs of investigation and cleanup to date.

In a sense, it is easy to reach the conclusion that PCBs are the contaminant of concern at the Superfund Site. The parties in fact agree on this point (ECF No. 806, PageID.24937) and this admission was reinforced by the testimony of several witnesses including James Saric of the EPA (ECF No. 875-10, PageID.31310), Paul Bucholtz of the MDEQ (ECF No. 875-11, PageID.31345), Garry Griffith, a former Georgia Pacific project manager (ECF 831, PageID.28010), and Scott Cornelius, who also worked as a project manager at the Superfund Site. (ECF No. 852, PageID.29656). Exhibits introduced at trial similarly establish PCBs are the contaminant of concern. (*See, e.g.*, Tx. 2463). Clearly PCB pollution is what is driving remedial efforts at the Superfund Site. Furthermore, the presentations during Phase II established the major source of PCBs at the Site is the effluent from the de-inking mills that recycled NCR’s CCP. (*See* Tx. 2464 at -953). Mr. Saric testified that the EPA agrees wastewater from the paper mills that recycled CCP was the “major historical source” of PCBs. (ECF No. 875-10, PageID.3122).

But in another sense the issue is more complicated because not all PCBs are the same. NCR argues that more than a nominal amount of PCBs in the river—up to 25%—did not come from NCR’s CCP emulsion. And NCR contends that other pollutants in the paper mills’ effluents are

very much relevant in apportioning responsibility. The Court is satisfied that NCR's CCP accounts for by far the greatest volume of PCBs in the Kalamazoo River, and that any PCB contribution from other sources has had a negligible impact on investigation and cleanup costs to date. There has been no reliable showing that there was any significant contributor of PCBs to the Superfund Site other than from the paper mills. NCR witness, John Butler, admitted as much when he testified at trial he had not seen documentation of any other source of PCBs to the river other than from the paper mills. (ECF No. 965, PageID.30984-30985). Therefore, regardless of how ubiquitous PCBs may have been during the production period, at this Superfund Site, the paper mills are the only known source of PCBs.

Accordingly, the PCBs from the paper mills' effluent are a hazardous substance and possible carcinogen. They are what led the EPA to place the Kalamazoo River on the National Priority List and are driving the investigation and cleanup costs.

2. As found in Phase I, all of the parties before the Court are liable parties under CERCLA. The record in Phase II has reinforced that finding.

In Phase I, the Court concluded all of the parties are liable under CERCLA as an arranger or as owners, operators, or both. Nothing in the presentations in Phase II cause the Court to question that conclusion. The evidence presented at Phase II in fact buttresses the Phase I ruling that all parties are liable under CERCLA. Since Georgia Pacific and Weyerhaeuser admitted they were liable in Phase I, here it is only necessary to discuss NCR and International Paper.

a. NCR

In its earlier decision, the Court concluded NCR had a hand in all of the CCP that was responsible for the PCB contamination at the Kalamazoo River Superfund Site, and that NCR knew "no later than March of 1969" that the PCBs in its CCP had dangerous properties. At least

by that point, no fully informed paper mill would elect to purchase CCP broke and trim as a useful product. (ECF No. 432, PageID.12746).

In Phase II, NCR tried to move this date forward by offering evidence to try to show that Monsanto, the manufacturer of PCBs, was still insisting during the production period that PCBs did not threaten the environment or human health. For example, at trial NCR pointed to a letter dated near the end of the production period—February 9, 1970—from Monsanto to its customers. Monsanto’s letter acknowledged the then recent press reports about studies that had discovered PCBs in the environment. (Tx. 4424 at -733). Monsanto admitted that the PCBs in these reports “strongly resemble[d]” its Aroclors 1254 and 1260. But Monsanto went on to assure its customers that PCBs with a chlorine content of less than 54 percent, which implicitly includes Aroclor 1242, had not been found in the environment and did not appear to present a potential problem to the environment. (*Id.*) NCR also called several experts whose testimony largely overlapped with the Court’s Phase I evidence. Marcia Williams’ testimony, for example, was that PCB use during the production period was ubiquitous, and that it would not have been reasonable to conclude during this period that Aroclor 1242 posed a material risk of environmental harm to water bodies. (ECF No. 854, PageID.29940; *see also* Tx. 12572). The other parties, and especially, Georgia Pacific, responded by citing several communications within NCR and Monsanto, and calling witnesses such as Dr. Joe Rodricks, Dr. Vodden, Dr. Paton, and Dr. James Kittrell, all in an attempt to show that NCR dragged its feet about switching from PCBs to a more expensive alternative even as it was increasingly aware that its PCBs were toxic.

In accord with the Phase I Opinion, the Court finds that NCR knew at least by the late 1960s that its CCP broke was, at best, not a useful product for a fully informed paper mill and, at

worst, a serious environmental hazard. Georgia Pacific laid out a time line that helps place the Monsanto letter in context and provides a solid foundation that reinforces NCR's liability as an arranger. For example, Dr. Vodden testified at his deposition about his communications with NCR and that the concerns with PCBs at the time were not driven by their toxicity, but rather by the uncertainty of what might happen if PCBs were allowed to continue to accumulate in the environment. (ECF No. 875-8, PageID.31284; *see also* Tx. 2286, 2983). Dr. Kittrell also testified that NCR knew as early as 1954 that "free" Aroclor 1242, that is PCBs that were not encapsulated, could be toxic and that NCR knew that the capsules were ruptured in the repulping process. (ECF No. 830, PageID.27709-27710 (citing Tx. 1357)). All this strengthens the Court's Phase I conclusion.

By reaching this determination, the Court necessarily rejects any attempt to relitigate Phase I.

In the Court's mind Phase II must build off of the factual findings and conclusions from Phase I. Any overlap from Phase I must be read in that context. Phase II is not an opportunity to relitigate Phase I. Ms. William's testimony focused on re-weighing the evidence and performing a retrospective analysis that at least implicitly undermined, or tried to undermine, Phase I conclusions. The matter at hand, however, is on the current problem of PCBs in the Superfund Site and the only question now is how to divide the cost. The Court remains satisfied that NCR is liable as an arranger in this case.

b. International Paper

In Phase I, the Court found that Georgia Pacific had not shown by a preponderance of the evidence that PCBs were discharged by the Bryant mill between 1946 and June 30, 1956, the

period when International Paper's predecessor actually operated the mill. (ECF No. 432, PageID.12749-12750). But the Court concluded there was no question that Georgia Pacific met its burden of showing that PCBs were discharged by the Bryant mill between July 1956 and 1966, the period when the mill was operating under International Paper's predecessor. The Phase II presentations reinforced this conclusion. Witnesses such as Mr. Hesse and Dr. Woodard described the pollution from the Bryant Mill that entered Portage Creek and the Kalamazoo River. Thus International Paper is responsible for its predecessor, who owned one of the large mills while thousands of pounds of PCBs were being released to the site.⁸

3. No party is uniquely culpable for PCBs in the Kalamazoo River that have required a massive and ongoing cleanup effort. Each party played a significant role in creating and perpetuating the PCB pollution at the Superfund Site.

The three paper mills largely agree that NCR should be found uniquely culpable in this action because NCR developed the CCP emulsion containing Aroclor 1242. They believe NCR is also uniquely culpable because NCR encouraged the paper mills to continue recycling its CCP while NCR was hiding the growing body of evidence that Aroclor 1242 was toxic. NCR employees admitted as much, Georgia Pacific argues, in an October 24, 1975, memo that stated the paper mill "recycling companies are the innocent victims of circumstances created by" CCP manufacturers. (Tx. 1625).

⁸Much of the evidence of releases in the case is based, at least in part, on mediation questionnaires filled out in earlier litigation, and later certified and submitted to regulators as Section 104(e) responses. Experts for each party relied on these questionnaires. International Paper objects to admission of the questionnaires on hearsay grounds. The Court finds that the questionnaires are the type of facts or data "experts in a particular field would reasonably rely on . . . in forming an opinion on the subject." FED. R. EVID. 703. They properly come into evidence under Rule 703 to assist in evaluating the strength of the opinion testimony on loading.

According to Georgia Pacific, NCR accumulated knowledge about the hazards of PCBs throughout the production period and that knowledge is sufficient to find NCR uniquely culpable for the PCBs at the Superfund Site. Georgia Pacific's time line begins in 1960. By this point, Georgia Pacific argues that NCR should have been aware of the toxicity of free PCBs and that recycling NCR broke would contaminate food. Five years later, in 1965, Georgia Pacific contends NCR continued to sell its CCP broke, despite "definitely" being aware, according to Dr. Rodricks, that there was a risk of contaminating paper that could be used in food contact. (ECF No. 828, PageID.27386-28387). A year later, Dr. Sören Jensen discovered that PCBs persisted in the environment (Tx. 1458) and in 1967 Monsanto sent a copy of Dr. Jensen's lecture to NCR. (Tx. 1466). Scott Tucker, a former Monsanto employee, testified at his deposition that he was asked to review Jensen's work and found it to be valid and the information produced to be real. (ECF No. 875-12, PageID.31358). Then, by October 28, 1969, Monsanto began to consider effluents from re-pulping mills as a source of PCBs in the environment. (Tx. 1521).

In the following years, Georgia Pacific contends NCR continued to promote its broke despite growing press and governmental inquiries. NCR in fact urged Monsanto to delay any disclosures and align the parties' stories. (ECF No. 882). According to Georgia Pacific, Monsanto resisted NCR's efforts and on April 13th, 1970, Monsanto finally suggested sending a warning about its Aroclors, including Aroclor 1242, to Monsanto customers. (Tx. 4828). The warning stated studies had found PCBs were an environmental contaminant and that extreme care should be taken to prevent entry of the product into the environment. (Tx. 1644). Notwithstanding that warning, Georgia Pacific argues NCR continued to supply its CCP emulsion to its coaters until May 25, 1971. (ECF No. 432, PageID.12745).

For its part NCR, through the testimony of witnesses like Scott Cornelius, contends that it never hid its knowledge about PCBs to the mills. Furthermore, NCR avers it would not have mattered how much of the available information was shared with the mills because their behavior throughout this period indicates the mills would have discharged PCBs to the river regardless of what the mills knew. This is because the mills discharged other pollutants they knew to be toxic, and because the mills benefitted economically from delaying implementation of treatment systems.

According to NCR, the mills treated the Kalamazoo River and Portage Creek as open sewers throughout the production period with little regard for the environment. (ECF No. 885, PageID.32677 (citing ECF No. 840, PageID.28654)). Dr. Allen, one of NCR's witnesses, testified that the paper mills in the Kalamazoo River Valley discharged roughly 800 million pounds of total suspended solids to the Superfund Site. (ECF No. 861, PageID.30510). NCR's briefing also references an article from Professor Frank Emerson who wrote that in the mid 20th century the paper mills "were, in effect, using the [Kalamazoo] River as a free sewer for the disposal of wastewaters bearing a large load of inorganic and biodegradable materials." (Tx. 4350 at 188). Professor Emerson went on to write that "there was much evidence of septic action. Gas eruptions from the water gave the appearance of splashes of raindrops all about. Chunks of sludge, varying in size up to that of a platter, were raised from the bottom of the river by gases." (*Id.* at 191). During trial, NCR called other witnesses like James Pope, who described the Kalamazoo River as a "dead river." Mr. Pope testified the river was "virtually totally white from the titanium dioxide used in the paper mill process." Furthermore "there was evidence of sludge building up, breaking up from the bottom of the river." (*See* ECF No. 854, PageID.29868).

NCR goes on to argue that the paper mills saved substantial sums by delaying the implementation of primary and secondary treatment systems. (ECF No. 867, PageID.31116-31117). Even when the mills finally installed waste-treatment systems, NCR argues, the mills routinely bypassed those systems. Robert Barrick, for example, testified that bypassing was a considerable issue at the Bryant mill. (ECF No. 863, PageID.30741). Mr. Pope similarly testified that during the 1960s, bypass was a “major problem” at the paper mills. (*Id.* at 29873-29874). Dr. Woodard, on cross examination, agreed that bypasses were a problem at all of the Kalamazoo mills. (ECF No. 840, PageID.28603-28604; *see also* Tx. 4309). Other discharges came through the mills’ landfills that were created near, and sometimes on, the Kalamazoo River. Both Dr. Wolfe and Mr. Hesse testified about erosion from the landfills into the river. (ECF No. 829, PageID.27632; ECF No. 838, PageID.28265). Mr. Hagen expanded on this testimony and testified the landfills released PCBs into the Kalamazoo River. (ECF No. 856, PageID.30191).

NCR claims that this disregard by the mills shows there is little doubt the mills would not have change their recycling practices regardless of whether the paper mills had access to the available knowledge of PCBs. There was little to discourage them from doing so, and not even a 1929 Michigan law that made it a criminal offense “for any person to discharge or permit to be discharged into any of the lakes, rivers, streams, or other waters of this state any waste or pollution of any kind that will tend to destroy fish life or be injurious to public health” (Tx. 12587 at 598) could persuade the mills otherwise. NCR argues the mills admitted they were violating the law, and as an example points to a December 31, 1958 memo from the Allied Paper Corporation which states the King mill was “in flagrant violation of our Michigan Water Resources Commission orders on the amount of waste that we may discharge into the Kalamazoo River.” (Tx. 4323).

None of these arguments convinces the Court that any party is uniquely culpable here. The effort by the paper mills is to show that the combined, accumulated knowledge by NCR about PCBs was sufficient to give NCR all it needed to stop supplying its effusion to the coaters well before it did. The exhibits supporting Georgia Pacific's time line, however, must be read in context. The testimony from Dr. Rodricks for example, is focused on the risk of PCBs in recycled paper used in food packaging. The basic point from this testimony was that PCBs were bad for food and food packaging. But this is only an indirect link, at most, to the paper mills' effluents from the de-inking process that were discharged into the environment. It provides only limited insight on NCR's responsibility, and certainly does not establish unique culpability.

The other documents relied on by Georgia Pacific certainly support NCR's culpability, but not to the extent that the Court can assign NCR unique culpability. The documents show that the wide distribution of information about PCBs took time for NCR to assimilate and process in order to complete the puzzle. It makes sense that NCR would ask Monsanto for a delay of a few weeks, not an indefinite period, to investigate Aroclor 1242. (Tx. 1539). As Dr. Vodden testified, it was the uncertainty regarding the PCBs accumulating in the environment that drove concerns. (ECF No. 875-8, PageID.31284). This was also the thrust of the testimony from Cumming Paton, a former Monsanto specialist, who testified about Monsanto's communications with NCR during the late 1960s. (ECF No. 875-9). And there was conflicting information too. As noted, Monsanto told its customers in 1970 that it did not believe lower chlorinated PCBs were hazardous to the environment. And in November 1969, Monsanto, while recognizing Aroclor was in the effluent of its plants, found no reports of finding Aroclor 1242 in the environment, and stated there was no harmful effect known to man or other mammals after 40 years of production. (Tx. 2585 at -636).

So when NCR concluded in 1975 that the mills were innocent victims, it was not because NCR was admitting to the scheme alleged by Georgia Pacific; rather it was because NCR knew it had supplied PCBs that, in hindsight, it should not have done. This is made clear by a further reading of the same memo that states although NCR “did use PCB there was no evidence at that time that their use would create a future pollution problem.” (Tx. 1625). The memo further mentions that the manufacturers replaced PCBs voluntarily, and based on only limited information. (*Id.*) While this does not absolve NCR of its culpability as an arranger, the Court does find the evidence shows a lot of back and forth and uncertainty, especially in the early going, that viewed overall shows NCR responded to emerging information, rather than engaged in any sort of extended coverup. All that said, it is more than clear that NCR did, as discussed in the Phase I opinion, drag its feet.

NCR’s focus on other pollutants to argue the mills would have continued discharging PCBs no matter how much of the available information they had does not absolve NCR, or make the mills uniquely culpable. The evidence at hand establishes that the entire industry, including NCR, had little concern for the environment by modern reckoning. That’s the problem everyone now has to acknowledge in figuring out how to pay for the cleanup of a mess we wish, in retrospect, had never been made. Pointing out the paper mills’ contribution cannot eliminate NCR’s own responsibility for developing the CCP product that generated the source of the PCBs now driving investigation and cleanup costs. The task now is to remove those PCBs and part of the economic assessment is to share the cost of cleanup amongst the responsible parties. This supports a fair allocation, not zero allocation.

Therefore, based on all the above reasons, the Court does not see a basis for concluding that any party is uniquely culpable in the matter.

4. The Court finds no convincing basis for divisibility of harm in the river system. In particular the Court rejects NCR's attempt to mathematically segment its responsibility to a tiny fraction of the PCB loading. To the extent a party's geographic activity in the river system—International Paper in the Portage Creek tributary, and Weyerhaeuser downstream in Plainwell—affect equitable responsibility for costs, the Court's allocation of the past costs accounts for it.

NCR and the paper mills provide differing theories of divisibility. NCR advances a series of considerations that it argues should lead to a very small apportionment. The paper mills' theory of divisibility is based on the mills' geographic locations in the Superfund Site, and the undisputed fact that their discharges did not travel upstream. The Court briefly addresses both arguments and its reasons for concluding why one overall equitable allocation is a better resolution here for costs to date.

a. NCR's Divisibility Arguments

NCR advances four main premises for divisibility that it claims should cap its responsibility at roughly 2%: 1) NCR had nothing to do with 25% of the PCB contamination at the site; 2) NCR did not own or control most of the potential sources of CCP; 3) only very little of NCR's CCP reached the site because of successful markets elsewhere; and 4) the vast majority of PCBs were discharged prior to 1969, the date when it has been found to be an arranger. (ECF No. 885, PageID.32664). The Court has dealt with the first three elsewhere; they are, in the Court's view, not theoretical or practical bases for divisibility, but simply factors in equitable allocation to the extent the Court finds them factually supported.⁹ In regards to the fourth premise, NCR

⁹ The Court does not find the first factually supported, as noted earlier in the discussion of Mr. Butler's testimony. The second and third factors—even if factually supported—are not as

marshaled a series of experts that assembled the available data and combined it with assumptions to build interlocking layers of mathematical estimates: 1) inputs of CCP combined with discharges of solids in wastewater can give PCB discharge estimates; 2) PCB discharges allow for estimates of how those pollutants made their way through the river system; 3) this, in turn, allows for estimates of which areas will need to be remediated; finally, 4) models can allocate responsibility for certain remediation to discharges from a particular mill in a particular year.

The Court rejects NCR's divisibility theory. At a general level, the NCR divisibility argument fails because it is based on a faulty legal premise. NCR reads the Phase I Opinion to establish the company as liable only for discharges after March 1969. However, Phase I focused on determining whether the parties were liable, and the Court found NCR liable as an arranger. In Phase II, the Court takes the liable parties and determines how to allocate costs among them. NCR's attempt to push the March 1969 date forward is, in the Court's view, largely immaterial to the outcome of the divisibility argument. NCR is liable as an arranger for generating at least some of the PCBs now in an undifferentiated mass in the Kalamazoo River. Moreover it had a hand in all of the PCB discharges from the paper mills, as NCR was the sole producer of CCP paper. Whether paper was coated by NCR or an independent coater (while NCR still held title to the emulsion), NCR was the one who benefitted from selling the useful product. True, some of the CCP broke and trim that reached the site came from coaters other than NCR, but the use of that recycled paper was only viable thanks to a process NCR developed to prevent blueing. The particular timing of when PCB discharges occurred provides no meaningful basis for divisibility. As most, the timing is a factor to consider in equitable allocation.

exonerating as NCR makes them out to be, as noted later in the discussion on equitable allocation.

Eliminating the fallacy of the timing premise erodes the fundamental basis of the interlocking expert theories that NCR tried to advance. Dr. Rausser relied on the flawed assumption in his simulations. (ECF No. 867, PageID.31122). Mr. Butler relied on it in his stand-alone analysis. (ECF No. 865, PageID.31014). Mr. Wittenbrink relied on it in his site nexus analysis. (ECF No. 852, PageID.29825). NCR's expert on cesium dating, Dr. Reible, testified about the date at which PCBs had been deposited into the river. While comparing the years in which PCBs and cesium-137 from thermonuclear testing were released may be an interesting theoretical exercise, it also involved substantial uncertainty. Dr. Reible had to make assumptions about whether deposition rates changed or stayed constant over time, which is not a simple question when impoundments were being removed along the river at the time. In fact, assumptions about deposition rates made by different NCR experts conflicted with each other. More importantly, the entirety of the cesium dating exercise relied on seven core samples from Lake Allegan to determine the timing of PCB releases in the entire Kalamazoo River system. While a small sample size like seven may be justified in some circumstances, it is particularly problematic when there were thirty cores available, including three others in Lake Allegan. One in particular was excluded explicitly because its data did not match the story, showing PCB releases earlier than the other cores. The Court does not find seven hand-selected samples to be an adequate basis for any expert opinion. The Court puts no weight on the cesium-137 analysis.

The substantial uncertainty in Dr. Reible's model applies to the models of NCR's other experts. The Court is satisfied that there is no other mathematically precise way for divisibility in this case. The liability for each of the four parties rests on different bases. In particular, NCR is an arranger, while all others are mill owners or operators. NCR's models rest primarily on

calculated or modeled loadings, which naturally skew responsibility to the mills, and do not take seriously NCR's role as the creator of the CCP in the first place. Moreover, NCR's experts had to piece together loading estimates based on a few data points, uncertain estimates of mill production, and other rough assumptions. The estimates of suspended solids released by each of the mills, which were often used as a proxy for PCB loads, are inherently uncertain. Mills did not conduct regular testing of their effluents, and when they did, records were not always kept. When records were kept, they were not always retained. Other considerations, such as discharges from landfills, mill ponds, overflows, and bypasses, all add to the uncertainty of the suspended solids discharged into the Superfund Site. Loading data, whether from mediation summaries, or otherwise, is not reliable for the type of precise calculations that NCR offers. Moreover, it is not just uncertainty regarding the inputs of PCBs loading that bears on the Court's conclusion there is no other basis for divisibility. There is also uncertainty on the amount of PCBs that have been washed from the Kalamazoo River system and into Lake Michigan. Like all mathematical models, these kinds of uncertainty on both the input and the output cells creates the opportunity for the modeler to manage the uncertainties in a way that generates desired modeling results.

The big unknown variable of PCB loading into the river means NCR's attempts to develop a more specific model are unsuccessful because they are built on unreliable numbers. NCR's experts largely conceded that specific numbers could not be reached. The experts had to make too many assumptions, tried to do too much with too little, and built upon other estimates that did the same. Dr. Scott's mass energy balance model, for example, is based on a cascade of assumptions based on limited data and the model varied widely based on the data used and the updates of the other witnesses to their reports. As Dr. Allen admitted, if the inputs are off, the output of a model

will also be off, regardless of the reliability of the model itself. (ECF No.861, PageID.30557). And the partition coefficient of Dr. Allen's model includes a number of assumptions that leaves room for a lot of flexibility in the math. (ECF No. 861, PageID.30515). Dr. Nairn's model, which builds from Dr. Allen's estimates, includes a plus or minus of 50% change to the PCB loads. That only underscores the uncertainty of his model. (ECF No. 859, PageID.30415). Mr. Butler's stand-alone cost model then teeters atop numbers that are not very stable or reliable.

In sum, there is a basic agreement on the paper mills' relative contribution of PCBs: the Bryant, King, and KPC mills all released comparable amounts of PCBs, with the Plainwell mill releasing a lesser, though more than de minimis, amount. There is too much uncertainty and lack of data to reach much beyond that. Ultimately what occurred in the past, and the experts' diverging opinions on those events, must all be viewed against the reality of the presence of a substantial amount of undifferentiated PCBs at the Superfund Site to which all parties contributed, including NCR.

For all these reasons, the Court rejects NCR's divisibility arguments.

b. The Paper Mills' Geographic Arguments

All of the parties recognize the physical reality that PCBs travel downstream, and not upstream, when they enter the river system. Based on geography, PCBs found in sediment upstream in the Kalamazoo River from the confluence with Portage Creek must be from either the KPC or King mills, unless someone trucked them from a downstream source to an upstream discharge point first, and there is no evidence of that. Likewise, PCBs found in Portage Creek must be from the Bryant mill, and PCBs up river from the Plainwell mill and its landfill were not discharged from the Plainwell mill. On the other hand, PCBs found down river from any particular

point of original discharge could have come from any or all of the upstream sources, and there is no reliable way to sort out what particular source is responsible for any particular downstream PCB.

How, if at all, should the parties and the Court account for this in apportioning or allocating costs for investigation and cleanup of the river unit itself—OU5? Georgia Pacific has split OU5 into four geographic segments that correspond with the physical conditions of the river and the locations of the mills, much as the EPA has divided the river into several work areas. (ECF No. 831, PageID.27894).¹⁰ At trial, Roger Hilarides testified that OU5-East includes the portion of the Kalamazoo River from the Marrow Dam to the confluence of the Kalamazoo River and Portage Creek. (*Id.* at 27895). OU5-Portage Creek includes the lower portion of Portage Creek up to its confluence with the Kalamazoo River. (*Id.*) OU5-Central begins with the confluence of the Kalamazoo River with Portage Creek and moves downstream to the Plainwell mill location. (*Id.*) OU5-West then includes the remainder of OU5, from the Plainwell mill downstream until Lake Michigan. (*Id.*) Georgia Pacific also created a non-geographic segment, OU5-General, that would cover costs that were not specific to one of the four geographic segments. (*Id.* at PageID.27894). Georgia Pacific then proposes different allocations for each unit.

This is certainly a plausible approach, but not one the Court favors because it too presumes more certainty than is possible at this Site. All parties have a common interest in source removal upstream to the extent it contains PCBs before they spread further downstream. Moreover, the upstream loadings are very uncertain in any event. The Court sees no basis for divisibility or apportionment on this geographic basis. To the extent the geography matters in equitable

¹⁰ A map of Georgia Pacific's geographic segmentation is attached as Exhibit B.

allocation, the Court has taken this into account in its single overall allocation for costs to date. Accordingly, the Court will consider the river segments, that is OU5 East, West Central, and Portage Creek, together and make an overall equitable allocation based on the relevant equitable allocation factors, including the position of the mills along the Kalamazoo River and Portage Creek. For the reasons detailed below the Court's allocation covers the work at OU2 as well.

For these general and specific reasons, the Court finds that the harms in this case are not reasonably capable of apportionment on this record, despite the laudable efforts that certainly made the record longer, richer, and more interesting. Ultimately, however, the Court is not satisfied they establish a basis for divisibility.

5. The Court's allocation is for past costs only.

CERCLA provides that "the court shall enter a declaratory judgment on liability for response costs or damages that will be binding on any subsequent . . . actions to recover further response costs or damages." 42 U.S.C. § 9613(g)(2). Article III of the United States Constitution limits the jurisdiction of courts to cases or controversies. U.S. Const. Art. III, § 2, Cl. 1. To satisfy this requirement, "a party seeking declaratory relief must allege facts to support a likelihood that it will incur future costs recoverable under CERCLA." *GenCorp, Inc. v. Olin Corp.*, 390 F.3d 433, 451 (6th Cir. 2004). There is no doubt future costs will be incurred, so there is a proper basis for entry of a declaratory judgment, and the Court will do so.

But is there a basis for declaratory judgment that includes an advanced equitable allocation? Georgia Pacific urges the Court to allocate future costs of investigation and remediation of PCBs in the Kalamazoo River. Defendants argue the Court should wait to see what costs are actually incurred. The Court sees no basis for an advanced equitable allocation. There

is a high level of uncertainty as to the shape of what remedies will actually apply, and no real basis to assess costs without even knowing the remedy. The only thing that is certain right now about the future costs at the Superfund Site is that it will take decades to complete the work—and it may take that long even to select a remedy. It makes sense to wait until the process is further along and the remediations more concrete before allocating future costs.

The uncertainty of the contour of the remedies was made evident through the testimony of individuals such as James Saric, who testified that although the EPA expects there will be remediation activities, the EPA has not made any final remediation decision for any parts of the Kalamazoo River (ECF No. 875-10, PageID.31321, 31337) and Dr. Martin Lebo, a fact witness and former project manager for the OU5 portion of the Superfund Site. Dr. Lebo testified that hydrology changes from the Plainwell impoundment TCRA changed the erosion pattern downstream. (ECF No. 846, PageID.29153). This testimony only adds to the uncertainty here. Though it appears a ROD has issued since Mr. Saric's testimony, a final decision has not yet been reached for the vast majority of OU5. The allocation assigned for past costs in this case may be a useful starting point for the future, but the Court will not enter a judgment with any fixed future allocation.

D. Equitable Allocation

All of the above considerations lead to the task of determining an equitable allocation for the liable parties, and the application of the Gore and Torres factors. Much of what has previously been discussed is still relevant to determine the equitable allocation of responsibility between Georgia Pacific, International Paper, Weyerhaeuser, and NCR—all of whom have been found liable in this action. Each party proposes their own allocation method based on various considerations,

and each party believes it should be allocated no more than a nominal share. Ultimately, the Court must come up with its own allocation based on all matters of record. Below, the Court briefly summarizes NCR and GP's methodologies and its reasons for rejecting them. Then the Court will discuss its own rationale and present its overall allocation determination that takes into account the arguments of the parties.

1. NCR's Allocation Alternative

NCR contends that an economically sound allocation should take into account several basic factors, many of which overlap with the Gore and Torres factors. These facts include the relative discharges of each of the mills, the parties potentially responsible for the discharges at each mill, the proportional assignment of any discharges made by non-parties, and an equitable division between parties responsible for a single discharge. (ECF No. 867, PageID.31119-31120).

Dr. Rausser testified that the mills benefitted economically by recycling paper rather than creating paper with virgin pulp. He estimated the mills saved a total of \$695,000,000 by recycling paper between 1964 and 1981. When it came to NCR's allocation, Dr. Rausser performed a "simulation analysis" that inputted contribution estimates from several different experts, the assumed arranger period, an assumed amount of NCR CCP that reached the Site, and an equitable division for any of the CCP that reached the Site. (ECF No. 867, PageID.31125). Dr. Rausser then ran his model 100,000 times. (*Id.* at 31129-31130). Based on his model of the experts, Dr. Rausser assigns Georgia Pacific an allocation of 55.1 %, International Paper an allocation of 35.7%, Weyerhaeuser an allocation of 7%, and NCR an allocation of 2.3%. (ECF No. 867, PageID.31134).

2. Georgia Pacific's Allocation Alternative

Georgia Pacific proposes a method of allocating costs based on the geographic segments of the river, the paper mills' contributions to that segment, the parties' connected to the mills, an allocation of responsibility, and then an aggregation of the results. International Paper and Weyerhaeuser tacitly agree with the methodology, to the extent it takes into account the mills' relative discharges, the geographic location of the mills, and NCR's role as the source of the PCBs in the river. Accordingly, the Court will sketch out Georgia Pacific's proposal below, and then explain why it is rejecting it in favor of the overall amalgamation of all factors into a single number.

Georgia Pacific proposes a four step method for allocating costs to OU5 and OU2. (ECF No. 882, PageID.31930). The method begins "by identifying the mills whose PCB discharges are relevant as physical sources of PCBs in that section of the Site and in what proportion." (*Id.*) Second, Georgia Pacific proposes to identify the parties connected to the PCB discharges from each mill. Generally, this means identifying the owner / operator of the mill as well as attaching NCR as an arranger. (*Id.* at 31933). Third, Georgia Pacific contends the Court should allocate responsibility for the PCBs attributable to the mill amongst the parties connected to that mill in step 2. Here, Georgia Pacific argues that NCR should fully indemnify Georgia Pacific at this point. (*Id.*) At the fourth step, Georgia Pacific believes the Court should aggregate steps 1 and 3 and then adjust as necessary, taking into account any non volumetric factors. (*Id.*) The attached appendix provides an example of Georgia Pacific's methodology as applied to the central portion of OU5 as well as OU2.

3. The Court's Reason for Rejecting the Parties' Proposed Methods

In the previous section, the Court rejected NCR's argument that there exists a mathematical basis for divisibility. The same reasoning leads the Court to reject NCR and Georgia Pacific's attempts to demonstrate a mathematically precise equitable allocation as an alternative approach.

The Court was unpersuaded by Dr. Rausser's economic benefit approach. For one thing, it ignores the fact that NCR dragged its feet on sharing knowledge about PCBs with the paper mills. And on cross, Dr. Rausser retreated from his testimony by admitting that, at least for the Plainwell mill, the savings from recycling CCP would not have been meaningful. (ECF No. 867, PageID.31157). Furthermore Dr. Rausser did not include Weyerhaeuser's documents that detailed the actual cost of installing secondary treatment in his analysis. (*Id.* at 31164). But the main flaw with Dr. Rausser's model is that he ignores the fact that NCR greatly benefitted from the sale of its CCP broke and trim. On cross, he admitted that NCR had profit margins of twenty percent and experienced over \$2.1 billion in revenues from the production of its CCP in 1970-1972 alone. (ECF No. 867, PageID.31177, 31179). Thus the attempt to shift the burden nearly entirely to the mills because of their economic benefits from recycling is entirely unpersuasive.

Turning to Georgia Pacific's four-step method, the Court finds it to be too legalistic and more mathematically precise than an allocation in this case can actually be. The approach also needlessly separates out several equitable considerations into separate steps. Considerations such as the parties' relative contributions, a party's connection to a certain mill site, culpability, knowledge of the hazard, and degree of cooperation are all equitable considerations covered by the Gore and Torres factors and are more properly considered together.

As it relates to OU5, the Court reiterates that downstream mills still realize a very real benefit from upstream studies and remedial work that may reduce downstream costs. That said, the Court recognizes the physics of the matter and that a mill or landfill's discharges, in all likelihood, did not move upstream. The Court has factored that reality into its allocation. Accordingly all the mills as well as NCR, are responsible with respect to the entirety of OU5. As for OU2, the physics are more pronounced—removal of solids from an upstream landfill. But even here, all parties benefit from source control, and many uncertainties remain that belie the apparent mathematical neatness of it all. At this stage of the case, a single allocation figure is still better able to account for all equitable factors.

4. The Court's Allocation

a. Summary of the Court's Reasoning

Due to the lack of reliable data from the production period, almost a half century ago, the Court prefers a single overall allocation that accounts for all of the Gore and Torres factors and one that applies across all the costs incurred so far. This allocation reflects the Court's conclusion that all of the parties are responsible for a portion of the costs incurred for investigating and remediating PCB contamination because all of them have a degree of culpability regarding the contamination. NCR had a hand in all of the carbonless copy paper that was responsible for the PCB contamination and, as found in Phase I, knew that there were environmental and human dangers to releasing the wastewater from recycling CCP, even as it encouraged the de-inking mills to continue to recycle its product. Georgia Pacific operated one of the largest paper mills in the area that experts from all the parties agree contributed a large share of the PCB contamination. International Paper owned another one of the largest paper mills in the area that experts agree was

one of the large contributors of PCBs, but International Paper was less actively involved in the release of PCBs because it leased the mill out to another company that ran it. Moreover, the primary discharges were to Portage Creek, which somewhat dampened the flow of PCBs into the river itself. Weyerhaeuser operated a smaller paper mill that nonetheless contributed a non-negligible portion of PCB contamination to the river. Its discharge point was much farther down river than any other mill.

Further all of the mill parties used landfills that had inadequate protections in place to prevent PCBs from eroding into the river.¹¹ Finally although there are some PCB profiles that would be consistent with other Aroclors, and thus with non-papermaking sources, there has been no convincing showing that those other PCBs have affected cleanup of the Superfund Site at this point in such a way that justifies shifting the equitable allocation. These considerations all bear the Gore and Torres factors, including the parties' respective culpability, the ability of the parties to demonstrate their contribution can be distinguished, the degree of the parties' involvement at the Superfund Site, the degree of care and cooperation exercised by the parties, the extent that costs are attributable to a specific parties, and the degree to which the parties benefitted from the disposal of PCBs. *Consol Coal Co.*, 345 F.3d at 413; *Centerior*, 153 F.3d at 354.

¹¹ The Court could have attempted to allocate the river costs—OU5—different from some of the landfill work—such as OU2. The Court considered several different approaches involving different allocations by operating unit. Ultimately, however, the Court opted for one overall allocation to take into account all factors, including the geographical reality of some of the landfill work, such as OU-2. All parties benefit to some extent from the landfill removal work because it reduces loading sources to the river, so all parties may fairly bear a share. On the other hand, downstream mills can persuasively argue they benefit less than the actual operator or former operator of the landfill. Rather than attempt to parse the equities on a unit-by-unit-basis, the Court molded all considerations into a single number.

Therefore, based on an equitable weighing of the many factors in play, the Court determines the following allocation is a just outcome for past costs to date: NCR 40%; Georgia Pacific 40%; International Paper 15%; and Weyerhaeuser 5%. Thus the majority of the allocation—60%—goes to the paper mills, with their differences in volume, location, and approach to the problem reflected in the different percentage for each mill. But NCR, as the creator of the PCB-containing emulsion and the party that encouraged the recycling of its CCP, still takes a significant share that the Court believes fairly reflects its equitable allocation.

b. The Court's Allocation to Each Party

i. NCR

NCR argues its equitable share of response costs is very small. This is because the paper mills, NCR says, were responsible for discharging PCBs, along with other pollutants, and the mills flouted state laws and regulations designed to protect the environment. NCR insists that it, on the other hand, acted in good faith when it chose to replace Aroclor 1242 in its CCP emulsion, and could have arranged for only a small fraction of the CCP recycled at the site. The mills disagree, and contend that a substantial amount, if not the entire amount, of the allocation should go to NCR. Applying the Gore and Torres factors, the Court concludes NCR's allocation is 40%.

Although NCR would like to cabin its responsibility to an “arranger period” starting in 1969, the Court must consider the equitable factor that NCR was involved in the release of PCBs even before then. NCR was more involved in the release of PCBs than the general public. Indeed, NCR was not open with the public about its use of PCBs in CCP, but instead tried to keep its use of PCBs out of the press or regulator cross-hairs until a suitable alternative was found. While NCR's actions were not enough to make it uniquely culpable, there is sufficient information to

show it is culpable here and, as earlier described, was dragging its feet when it came to switching from Aroclor 1242 in its emulsion.

Witnesses such as Chris Wittenbrink, tried to show that NCR should be responsible only for its specific arrangement. This argument fails, first of all, because the Court has declined to adopt NCR's divisibility argument. But it also fails under application of the Gore and Torres factors. Even before NCR had a knowledge and intent that made it an arranger of disposal under Section 107's definition, NCR was still involved in the release of PCBs. NCR created the PCB-containing emulsion, held title to the product as it was converted to usable paper, and then sold that finished product. As Dr. Kittrell testified, NCR developed a process to enable de-inking mills to use CCP as a feedstock, a process that resulted in most of the PCBs being emitted in waste streams. (ECF No. 830, PageID.27700). Furthermore, there has been no reliable showing on how additional PCBs to the Superfund Site should shift the equitable allocation. NCR's argument is largely based on the fact that PCBs were ubiquitous during the production period, and used in a variety of applications across the country. (*See, e.g.*, Tx. 12572). This argument was largely discredited by the testimony of NCR's expert John Butler, who testified that he had not seen any documentation that shows a significant source of PCBs at the Superfund Site other than from the mills. (ECF No. 865, PageID.30984-30985).¹² All these observations justify a substantially higher percentage of responsibility than that asked for by NCR.

¹² The other parties sought to hold Georgia Pacific to its position in previous litigation that up to 25% of PCBs came from non-Aroclor 1242 sources. The argument is largely immaterial based on the fact that the Court has not been convinced that any non-Aroclor 1242 PCBs have affected cleanup costs. To the extent the estoppel argument survives this practical observation, the Court is satisfied there exist sufficient differences between this litigation and earlier litigation that render estoppel inapplicable.

ii. Georgia Pacific

Georgia Pacific owned and operated a sizeable mill that released thousands of pounds of PCBs to the site. Georgia Pacific makes much of being the only party to actively step up and cooperate with regulators to investigate and remediate the site, and the Court does factor in Georgia Pacific's cooperation. However, that positive element is at least partially offset by evidence that Georgia Pacific was not always making good faith efforts to clean up the site in the most efficient and expeditious manner. Some documents submitted to regulators were described as arguments by lawyers instead of findings by scientists. The Court credits Scott Cornelius' testimony about the frustrations the State had with the study group's proposals. (ECF No. 852, PageID.29701-29702; Tx. 4468). There is bound to be some friction between regulators and a company facing a possible ten-figure tab to clean up an eighty mile stretch of river, but the Court finds that the conflict between Georgia Pacific and regulators, particularly Michigan's Department of Environmental Quality, went beyond the normal friction that occurs in these situations.

When it comes to quantity of PCBs at the Superfund Site, Georgia Pacific's main witness on the issue of contaminated sediment fate and transport was Dr. Wolfe. Dr. Wolfe opined that PCBs were released by the paper mills during the de-inking process and tended to settle in the quiescent areas of the Kalamazoo River downstream from the major mills. (ECF No. 838, PageID.28227-28228). Dr. Wolfe further opined that, because of the lack of available data, only a "coarse grouping" of those dischargers was possible. (*Id.* at 28228). Still, Dr. Wolfe found enough information to estimate loads of PCBs at the Superfund Site (*see, e.g.*, Tx. 155), though Dr. Wolfe insisted his model was of limited use and could not, for example, be used to construct an estimate of the mills' yearly discharges. Furthermore Dr. Wolfe clarified that he was not, in

fact, suggesting that the PCB mass provided in his report was actually the amount of PCBs discharged by the mills. (ECF No. 838, PageID.28297).

The Court found the basic mechanics and physical processes, as described by Dr. Wolfe, to largely be undisputed. The parties mostly agree about the movement of particles down the river, and the settlement in the quiet areas. And the Court agrees that, as another witness would testify, an estimate of the relative contribution potential of the mills' discharges can be reached. Beyond that, any attempt to calculate more exact numbers is limited by the uncertainty that Dr. Wolfe himself identified. As Georgia Pacific's counsel suggested, "the specific numbers aren't very important." (ECF No. 838, PageID.28287).

Applying the equitable considerations, the Court concludes Georgia Pacific's allocation is 40%.

iii. International Paper

International Paper also argues it should receive only a very small share of the equitable allocation. International Paper argues that the PCB contributions from the Bryant and Monarch mills, unlike the other mills, can be reasonably quantified, and that the Bryant and Monarch mills were de minimis contributors of PCBs. Furthermore, International Paper argues that, as a passive owner of the Bryant mill, it is less culpable than the other mills who each were more active in contributing PCBs to the Superfund Site; and for that same reason International Paper says it did not benefit from the activities that caused the contamination as much as those active operators did. (ECF No. 881, PageID.31796). Finally, International Paper argues that its share should be reduced because many of its potential witnesses and supporting documents have been lost to time, and

International Paper is relatively new to this case as compared to the other defendants. Thus, it claims Georgia Pacific's laches uniquely hurt the company.

The Court agrees that International Paper's share of responsibility is less than NCR and Georgia Pacific. International Paper was less directly involved in the operation of Bryant mill when the mill was releasing PCBs. Thus, while still culpable as an owner, the culpability consideration weighs differently than as to Georgia Pacific and Weyerhaeuser. But International Paper's efforts to paint its contribution of PCBs to the Kalamazoo River as *de minimis* largely fails. International Paper asked Dr. Franklin Woodard to estimate the amount of PCBs discharged by the paper mills. Using a "solids balance" approach, Dr. Woodard estimated the Bryant and Monarch mill discharged between 13,249 and 22,099 pounds of PCBs from 1954 through 1985. (Tx. 6849). According to his math, the KPC mill was the largest discharger, with the King and Bryant mills following as higher-level dischargers. (ECF No. 840, PageID.28521). Mr. Helgen added to Dr. Woodard's testimony with a mass-balance approach and opined that very few of these PCBs discharged by the Bryant mill found their way to the Kalamazoo River. This was because the Bryant mill pond operated as a sort of super clarifier that trapped the vast majority of PCBs with an efficiency approaching 95%. (ECF No. 843, PageID.28899).

While several experts agreed that the Bryant Mill point did trap PCBs—and this is borne out in the fact that the EPA removed PCBs from the pond in the TCRA—Mr. Helgen's estimates far exceed the others. Furthermore, the estimate is punctured by uncertainty. Mr. Helgen's testimony is based on Dr. Woodard's work. And Dr. Woodard largely depends on the role of the Bryant mill pond. But the mill itself is unpredictable. As Dr. Woodard admitted, the mill was an "uncontrolled settling pond." There were times when the solids would settle, and other times when the solids

would be scoured from the bottom and flow over the dam. (ECF No. 840, PageID.28636). And at one point Mr. Helgen stated that because of uncertainty, his estimate of 95% efficiency was similar to Dr. Annear's estimate of only 71% efficiency. (ECF No. 843, PageID.28909).

Thus reality and uncertainty get in the way of this analysis, as it does for many of the witnesses in this case. Mr. Hesse's testimony about the turbidity of Portage Creek, for example, is inconsistent with International Paper's theory that the vast majority of suspended solids settled before reaching the creek and river. And as was noted in Mr. Helgen's cross, if the mill pond did operate with such a high efficiency in trapping solids, there would have been little reason for the mill to connect to Kalamazoo's treatment system, which would have been comparatively less efficient by trapping only roughly seventy percent of solids. (ECF No. 843, PageID.29068).

So International Paper is in a different position both as its status as an owner while the mill was being operated by Allied and by operation of the Bryant mill pond, which did capture at least some PCBs. But the Court declines to find that the mill's share was only de minimis. As an owner, International Paper's predecessor had contractual rights to inspect the facility and require adequate environmental controls. International Paper was more involved than the general public in the relevant releases. And the releases for the mill contributed an amount of PCBs on par with the King and KPC mills, although some were trapped in the uncontrolled mill pond. Accordingly the Court assigns International Paper an equitable allocation of 15%.

iv. Weyerhaeuser

Weyerhaeuser owned and operated the Plainwell mill while the mill was releasing PCBs. Weyerhaeuser also argued its contribution of PCBs to the river was minimal and that it should be assigned only 0.38% of the allocation. Weyerhaeuser's argument begins with Dr. Neil Ram, who

testified in Phase II about the relative total suspended solid loadings amongst the paper mills in the Kalamazoo River Valley. Dr. Ram looked at both primary and secondary documents containing numbers on total suspended solids and testified that in total, he inputted roughly 50,000 data points. (ECF No. 846, PageID.29213). Another expert, Steven Werner, then converted the data to an annual discharge rate. Mr. Werner agreed there was not enough information for specifics, and instead developed a relative PCB contribution potential of the mills using the relative amount of total suspended solids, the relative amount of CCP available in a given year, and concentration data from waste solids. (ECF No. 848, PageID.29410). Under his method, Mr. Werner concluded the Plainwell mill had a relative PCB contribution of 1.9% to the Superfund Site, while the King, Bryant, and KPC mills all had much higher contributions collectively contributing about 89% of the PCBs that went into the Kalamazoo River. (Tx. 8071). Weyerhaeuser further reduces its share by referencing cases where another party was found to have unique knowledge about the waste being disposed of. Those cases allocate roughly 75% of the response costs to the party with such knowledge. Therefore, after adding in a further 5% shift due to Weyerhaeuser's cooperation with the government, Weyerhaeuser argues its 1.9% share should be split with 80% going to NCR and 20% going to Weyerhaeuser, leaving Weyerhaeuser with only a 0.38% equitable allocation. (ECF No. 876, PageID.31496).

Other experts, like Dr. Wolfe, Dr. Woodard, and Dr Allen, largely agreed with Mr. Werner that the Plainwell mill is responsible for substantially fewer PCBs in the Superfund Site, and the Court agrees that under any analysis the Plainwell dam did discharge a lesser amount of PCBs, and indeed the difference amounts to an order of magnitude. The Court does not believe this amounts to only a 1.9% allocation (before accounting for other factors). Mr. Werner's report depended, in

part, on Dr. Ram's and Dr. Allen's numbers and though Dr. Ram based his report on a large data set, Dr. Ram admitted there were gaps present. Furthermore, the level of Weyerhaeuser's cooperation in cleanup is at least partially offset by the fact that the Plainwell mill, as is true for all of the mills, were the ones releasing PCB with their effluents and depositing residual solids in landfills on the banks of the river. Compounding the issue were the bypasses and leaks of the treatment systems the mill did install. (Tx. 11182). Based on the consideration of the Gore and Torres factors, the Court assigns Weyerhaeuser a 5% allocation.

E. Form of Judgment

Entry of Judgment under Rule 58 will still require consideration of a variety of issues, even with a simplified single allocation approach. The Court will require the parties to submit a Proposed Judgment consistent with the allocation percentages here, and the recoverable costs that have not been time-barred. Accordingly, no later than May 31, 2018, the parties shall file with the Court either a stipulated form of judgment or, alternatively, proposed competing forms of judgment with briefing on disputed issues.

F. Other Matters

There are four pending motions yet to be resolved. In the first, (ECF No. 878) International Paper asked the Court to admit four exhibits (Tx. 5714, 5715, 6740, and 12520) against Georgia Pacific. This include a report from an expert and trial exhibits from earlier litigation. Georgia Pacific opposes the motion. (ECF No. 886). The second motion (ECF No. 887) also seeks to admit several exhibits that NCR objects to (Tx. 2920, 2923, 9857, 9859, 9913, and 9916). (ECF No. 887). In a short filing, NCR states its objections should be well taken, but that it is not necessary for the Court to resolve the objections because none of the exhibits supports the

proposition for which Georgia Pacific seeks to use them. (ECF No. 891, PageID.33113). The Court will grant both of these motions. The Court has factored in the parties' arguments on the weight and persuasiveness of the documents into its equitable allocation.

The remaining motions (ECF Nos. 913 and 917) seek a scheduling conference, specifically on the costs that Georgia Pacific has incurred after the Phase II trial. The motions will be denied without prejudice. The Court intends to hold a scheduling conference, if necessary, after the parties' submissions on the proposed judgment.

VII. CONCLUSION

Georgia Pacific has established by a preponderance that it incurred reasonable costs consistent with the National Contingency Plan. Those costs are not divisible by time and mill because there is too much uncertainty, and the Court does not agree with the assumptions relied upon by experts attempting to establish divisibility. The equitable allocation for costs to date is 40% to NCR, 40% to Georgia Pacific, 15% to International Paper, and 5% to Weyerhaeuser. A declaratory judgment of future liability will be entered against the parties, but no allocation is given for future costs because there is too much uncertainty about the costs and remediation options that may unfold over a period of many years.

No later than **May 31, 2018**, the parties shall file with the Court either a stipulated form of judgment or, alternatively, proposed competing forms of judgment with briefing on disputed issues. The Court will hold a hearing on the matter if necessary.

International Paper and Georgia Pacific's Motions that seek to admit certain exhibits (ECF Nos. 878 and 887) are **GRANTED**. Georgia Pacific's Motions for a Scheduling Conference (ECF Nos. 913 and 917) are **DENIED WITHOUT PREJUDICE**.

IT IS SO ORDERED.

Date: March 29, 2018

/s/ Robert J. Jonker
ROBERT J. JONKER
CHIEF UNITED STATES DISTRICT JUDGE