NOT FOR PUBLICATION

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

RARITAN BAYKEEPER, INC., et al., Plaintiffs, v. NL INDUSTRIES, INC., et al., Defendants.	Civil Action No. 09-4117 (MAS) (DEA) **MEMORANDUM OPINION**

SHIPP, District Judge

This matter comes before the Court on Defendants NL Environmental Management Services, Inc. and NL Industries, Inc.'s (collectively, "NL Defendants") Motion to Strike the testimony of Dr. Bruce Bell ("Dr. Bell") pursuant to Federal Rule of Evidence 702 ("Rule 702") and the portion of Dr. Bell's testimony in which he relied on maps generated through the use of a geographic information systems program (the "GIS Maps"). (ECF No. 472-1.) Plaintiffs Raritan Baykeeper, Inc. and Edison Wetlands Association, Inc. (collectively, "Plaintiffs") filed opposition (ECF No. 482), and NL Defendants replied (ECF No. 484). In addition, NL Defendants filed a Motion to Strike the testimony of Dr. George Flowers ("Dr. Flowers") pursuant to Rule 702. (ECF No. 473-1.) Plaintiffs filed opposition (ECF No. 483), and NL Defendants replied (ECF No. 485). The Court has carefully considered the parties' submissions and decides the matter without oral argument pursuant to Local Civil Rule 78.1. For the reasons stated below, NL Defendants' Motions to Strike are GRANTED in part and DENIED in part.

I. Background

"Plaintiffs seek to hold the former owner and operator of the titanium dioxide plant, NL Industries Inc., . . . liable for contributing to the alleged sediment contamination" of arsenic, zinc, nickel, lead, and copper in the Raritan River. (July 29, 2016 Mem. Op. 1, 3, ECF No. 412.) On April 7, 2016, NL Defendants moved to preclude the testimony of Plaintiffs' expert witnesses, Dr. Bell and Dr. Flowers. (ECF Nos. 384, 386.) The Court denied the motions without prejudice, finding that there were genuine disputes of material fact which prevented a decision on the "threshold jurisdictional question of standing." (July 29, 2016 Mem. Op. 15-16.) The Court scheduled a preliminary evidentiary hearing with respect to the standing issue only. (*Id.* at 15.)

From May 8, 2017 to May 12, 2017, the Court held a preliminary evidentiary hearing to address the threshold jurisdictional question of standing, at which Dr. Bell and Dr. Flowers testified. (ECF Nos. 474-78.) During his testimony, Dr. Bell relied on several reports obtained through discovery, including the Lower Raritan River Sediment Assessment Report (the "Princeton Hydro Report").[1] (May 10, 2017 Tr. 161:22-162:19, ECF No. 476.) NL Defendants objected to the qualifications of Dr. Bell at the evidentiary hearing (*Id.* at 128:25-131:7), and subsequently moved to strike Dr. Bell's testimony (Defs.' Mot. to Exclude Bell, ECF No. 472-1). During the preliminary evidentiary hearing, Dr. Flowers testified that he reviewed records of NL Defendants' operations, particularly records prior to 1950, and that NL Defendants contributed to arsenic, zinc, nickel, lead, and copper entering the Raritan River. (May 10, 2017 Tr. 17:2-3, 30:2-5.) NL Defendants objected to Dr. Flowers's qualifications at the hearing (*id.* at 14:21-15:19),

[1] The Court adopts the naming conventions provided in the Updated Joint Exhibit List submitted by the parties. (P125, ECF No. 479-1.) The Princeton Hydro Report is also referred to as the Chapin Report by the parties. (Defs.' Mot. to Exclude Bell 6; Pls.' Opp'n Flowers Br. 8 n.9, ECF No. 482.)

and subsequently moved to strike Dr. Flowers's testimony (Defs.' Mot. to Exclude Flowers, ECF No. 473-1).

On May 31, 2017, NL Defendants filed a Renewed Motion to Strike the testimony of Dr. Bell, and to exclude the testimony in which Dr. Bell relied on the GIS Maps contained in the Princeton Hydro Report. (ECF No. 472.) NL Defendants also filed a Renewed Motion to Strike Dr. Flowers's testimony on the same day. (ECF No. 473.)

II. Discussion

A. Motions to Exclude Expert Testimony

1. Legal Standard

Rule 702 governs the admissibility of testimony by an expert witness. Fed. R. Evid. 702. Pursuant to Rule 702, a witness, who qualifies as an expert, may provide testimony if the expert's scientific, technical, or specialized knowledge will assist the trier of fact and "the testimony is based on sufficient facts or data . . . , [and] testimony is the product of reliable principles and methods . . . , and the expert has reliably applied the principles and methods to the facts of the case." *Id.* The Third Circuit has found "that Rule 702 embodies a trilogy of restrictions on expert testimony: qualification, reliability[,] and fit." *Schneider ex rel. Estate of Schneider v. Fried*, 320 F.3d 396, 404 (3d Cir. 2003) (citation omitted). The qualification requirement is interpreted broadly and means that the witness possesses a specialized expertise. *Id.* To be reliable, "the expert's opinion must be based on the 'methods and procedures of science' rather than on 'subjective belief or unsupported speculation'; [and] the expert must have 'good grounds' for his or her belief." *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 742 (3d Cir. 1994) (quoting *Daubert v. Merrell Dow Pharms.*, 509 U.S. 579, 589 (1993)). Finally, the expert's opinion must "fit the issues in the case" and help the trier of fact. *Schneider*, 320 F.3d at 404. "Rule 702's 'helpfulness'

standard requires a valid scientific connection to the pertinent inquiry as a precondition to admissibility." *Daubert*, 509 U.S. at 591-92.

"[T]he district court acts as a gatekeeper, preventing opinion testimony that does not meet the requirements of qualification, reliability[,] and fit from reaching the jury." *Schneider*, 320 F.3d at 404. The party offering the expert testimony bears the burden of establishing the existence of each factor by a preponderance of the evidence. *See In re TMI Litig.*, 193 F.3d 613, 663 (3d Cir. 1999), *amended by* 199 F.3d 158 (3d Cir. 2000). Rule 702, however, "has a liberal policy of admissibility." *Kannankeril v. Terminix Int'l, Inc.*, 128 F.3d 802, 806 (3d Cir. 1997) (citation omitted). "If the expert meets [these] liberal minimum qualifications, then the level of the expert's expertise goes to credibility and weight, not admissibility." *Id.* at 809. In the context of an evidentiary hearing, however, "it is not necessary to apply the *Daubert* standard with full force in advance of trial." *Alco Indus., Inc. v. Wachovia Corp.*, 527 F. Supp. 2d 399, 405 (E.D. Pa. 2007) (citing *In re Salem*, 465 F.3d 767, 777 (7th Cir. 2006) ("Where the gatekeeper and the factfinder are one and the same—that is, the judge—the need to make such decisions prior to hearing the testimony is lessened.")).

2. Expert Testimony of Dr. Bruce Bell

NL Defendants move to exclude the testimony of Plaintiffs' designated expert, Dr. Bell, pursuant to Rule 702. (Defs.' Mot. to Exclude Bell 1.) Plaintiffs retained Dr. Bell, an environmental engineer, to provide an opinion regarding the sediment dynamics of the Raritan River, and whether NL Defendants contributed to the contamination of the Raritan River. (*See* Bell's Seventh Aff. ¶ 1, ECF No. 482-1.) NL Defendants argue that Dr. Bell's testimony should be precluded because: (1) his testimony "adopted unreliable" GIS Maps; (2) he lacks the relevant

expertise to testify regarding sediment fate and transport; and (3) he lacks the relevant expertise to testify regarding New Jersey's ecological screening criteria. (Defs.' Mot. to Exclude Bell 1.)

i. Qualification

"[I]t is an abuse of discretion to exclude testimony simply because the trial court does not deem the proposed expert to be the best qualified or because the proposed expert does not have the specialization that the court considers most appropriate." *Holbrook v. Lykes Bros. S.S. Co.*, 80 F.3d 777, 782 (3d Cir. 1996); *see Pineda v. Ford Motor Co.*, 520 F.3d 237, 245 (3d Cir. 2008). "While [] background, education, and training may provide an expert with general knowledge to testify about general matters, more specific knowledge is required to support more specific opinions." *Calhoun v. Yamaha Motor Corp., U.S.A.*, 350 F.3d 316, 322 (3d Cir. 2003). Here, Dr. Bell has training as a civil engineer and an environmental engineer, and has specialized experience in "wastewater, stormwater, water quality management, facility evaluations, National Pollutant Discharge Elimination System ('NPDES') Permitting, [and] Resource Conservation and Recovery Act ('RCRA') corrective measures." (Bell's First Aff. 5, ECF No. 200-1.) Dr. Bell has worked as an environmental engineer for over forty years and has directed numerous projects involving site evaluation and remediation, many of which involved sediment fate and transport and applying ecological screening criteria. (*Id.* at 6.) Accordingly, the Court finds that Dr. Bell is qualified to offer testimony on sediment fate and transport and the significance of exceeding ecological screening criteria.

ii. Reliability

"[A]n expert's testimony is admissible so long as the process or technique [that] the expert used in formulating the opinion is reliable." *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d at 742. The purported expert's testimony "must be based on the 'methods and procedures of science' rather

than on 'subjective belief or unsupported speculation'; [and] the expert must have 'good grounds' for his [or] her belief." *Schneider*, 320 F.3d at 404 (citation omitted). "[T]he inquiry envisioned by Rule 702 is . . . a flexible one." *Daubert*, 509 U.S. at 594. In evaluating technical testimony, indicia of reliability can include the expert's identification and discussion of design and performance standards, support in relevant literature, discussion of industry practice, review of previous product design and accident history, use of charts or diagrams to explain conclusions for the trier of fact, and support with scientific testing. *See Milanowicz v. Raymond Corp.*, 148 F. Supp. 2d 525, 532-35 (D.N.J. 2001). In preparing his testimony, Dr. Bell reviewed: "correspondence from NL [Defendants], their consultants, [the New Jersey Department of Environmental Protection ('NJDEP'), and the Environmental Protection Agency ('EPA');] reports on metals in the sediment in the Raritan River[;] . . . [and his] lecture notes [from] pollutant fate and transport courses[.]" (May 10, 2017 Tr. 132:6-11.) Dr. Bell also considered "the distribution of pollutants in the sediment[,] . . . the rate at which deposition took place at [the Sayreville Site] and upriver[,] . . . the mechanisms of pollutant fate and transport[,] . . . [the fact that] there were metals on the [S]ite[,] [a]nd . . . the screening levels for metals used by [the NJDEP] for sediments." (*Id.* at 131:19-132:1.) Accordingly, the Court finds that Dr. Bell's testimony is reliable.

iii. Fit

An expert's testimony must be relevant for the purposes of the case and must assist the trier of fact. *Schneider*, 320 F.3d at 404. "Rule 702's 'helpfulness' standard requires a valid scientific connection to the pertinent inquiry as a precondition to admissibility." *Daubert*, 509 U.S. at 591-92. The testimony "must in fact assist the [trier of fact], by providing it with relevant information, necessary for a reasoned decision of the case." *Yarchak v. Trek Bicycle Corp.*, 208 F. Supp. 2d 470, 496 (D.N.J. 2002). The Third Circuit has also instructed that:

> [A] judge frequently should find an expert's methodology helpful even when the judge thinks that the expert's technique has flaws sufficient to render the conclusions inaccurate. He or she will often still believe that hearing the expert's testimony and assessing its flaws was an important part of assessing what conclusion was correct.

In re Paoli R.R. Yard PCB Litig., 35 F.3d at 744-45; *see also Heller v. Shaw Indus. Inc.*, 167 F.3d 146, 152-53 (3d Cir. 1999) (finding the trial court should admit expert testimony "if there are 'good grounds' for the expert's conclusion," even if the court believes "there are better grounds for some alternative conclusion").

Dr. Bell testified that NL Defendants contributed to the sediment contamination at the Sayreville Site. (May 10, 2017 Tr. 131:14-16.) Dr. Bell's testimony assessed how stormwater runoff from the Sayreville Site contained solid waste particles from NL Defendants' production of titanium pigments. (*Id.* at 134:20-135:21.) Dr. Bell presented slides depicting various areas of the Raritan River surrounding the Sayreville Site and testified that the contaminant particles that entered the Raritan River via stormwater runoff had the ability to transport to various other areas by means of pollutant fate and transport. (*Id.* at 142:6-25.) Dr. Bell then testified as to how particles that entered the Raritan River through stormwater runoff were able to settle into the sediment. (*Id.* at 143:1-25.) Dr. Bell noted that in estuarine environments, smaller particles tend to band together and become heavier, thus settling into the sediment. (*Id.* at 144:7-18.) Accordingly, the Court finds that Dr. Bell's testimony relates to whether NL Defendants contributed to the Raritan River sediment contamination and the possibility that pollutants from the Sayreville Site could have dispersed throughout the Raritan River. Given the relaxed application of Rule 702 in the context of an evidentiary hearing, Dr. Bell's testimony meets the threshold of fit. The Court, accordingly, denies NL Defendants' Motion to Strike Dr. Bell's testimony.

2. Expert Testimony of Dr. George Flowers[2]

NL Defendants move to exclude the testimony of Plaintiffs' designated expert, Dr. Flowers, pursuant to Rule 702. (Defs.' Mot. to Exclude Flowers 1.) Plaintiffs retained Dr. Flowers to provide an opinion regarding "whether or not [] NL [Defendants'] titanium manufacturing facility on the Raritan River released metals into the river." (May 10, 2017 Tr. 5:4-6.) Dr. Flowers is a trained geologist, geochemist, environmental engineer, and a professor in the Department of Earth and Environmental Sciences at Tulane University in Louisiana. (*Id.* at 5:9-23.) NL Defendants argue that: (1) Dr. Flowers's testimony concerning "the metals content of wastewater allegedly discharged to the Raritan River by NL Defendants" should be precluded because he is not qualified to offer such an opinion; and (2) Dr. Flowers's opinion on "potential" pathways for metal to reach the Raritan River should be precluded because "he did not conduct any evaluations of such 'potential' pathways to determine whether metals [were] actually being contributed to the River." (Defs.' Mot. to Exclude Flowers 1-2.)

i. Qualification

Dr. Flowers is trained as a geologist, geochemist, and environmental engineer, and has specialized experience in aqueous solution chemistry. (May 10, 2017 Tr. 5:9-16.) Dr. Flowers has worked as an environmental consultant for approximately twenty-five years, with the majority of his consultant experience involving the evaluation of environmental contamination by historical industrial operations. (*Id.* at 6:3-4, 10:1-5.) While Dr. Flowers has never worked in a titanium dioxide plant, he need not have the most specific qualifications to possess the requisite knowledge, skills, and experience to be considered an expert. *See Pineda*, 520 F.3d at 245. Accordingly, the Court finds that Dr. Flowers is qualified to offer testimony on this matter.

[2] The Court applies the same legal standard to Dr. Flowers as the Court applied to Dr. Bell.

ii. Reliability

In preparing his testimony, Dr. Flowers reviewed: (1) the Ross and Peters 1957 description of operations at the Sayreville Site, which documented the industrial processes used, the amount of waste generated at the plant, complaints about emissions from the plant, and instances of corrosion of lead, zinc, copper, and nickel equipment (May 10, 2017 Tr. 18:14-15; Pls.' Ex. 68, at 7-10, 18-19, ECF No. 350-9); (2) NL Defendants' sediment sampling information from the Sayreville Site (May 10, 2017 Tr. 16:20-22); (3) NL Defendants' correspondence with the EPA in applying for a discharge permit (Pls.' Ex. 68, at 11); (4) information on the industrial production of titanium dioxide, particularly the sulfate process used for a time at the Sayreville Site (May 10, 2017 Tr. 17:16-19:20; Pls.' Ex. 68, at 3-4); (5) information on the production of sulfuric acid using pyrite (*id.* at 19:21-20:15; Pls.' Ex. 68, at 12-16); (6) information on the arsenic content of pyrite (*id.* at 24:24-25:2; Pls.' Ex. 68, at 12, 15); (7) information on trace elements that can be found in ilmenite ore, such as zinc, nickel, lead, and copper (Pls.' Ex. 68, at 15-16); and (8) information on heavy metal contamination in the presence of acid mine discharge (*id.* at 16-17).

Dr. Flowers applied general principles of chemistry in documenting the chemical reactions occurring at the Sayreville Site, such as the general effects of acid attack on metal and the process of heavy metal transportation in the presence of acid. (*Id.* at 4-5, 13, 15; May 10, 2017 Tr. 16:1-17:3, 29:10-15.) Dr. Flowers cited relevant literature in reaching his conclusions (Pls.' Ex. 68, at 15-16), discussed historical industry practices and practices at the Sayreville Site (May 10, 2017 Tr. 8:1-21), and supported his testimony with charts, diagrams, and illustrations to assist the trier of fact (*id.* at 17:8-14). Accordingly, the Court finds that the portions of Dr. Flowers's testimony that is referenced above is reliable.

As to Dr. Flowers's estimate regarding the amount of arsenic deposited in the Raritan River, Dr. Flowers did not: (1) thoroughly discuss the performance of NL Defendants' waste management procedures (*id.* at 49:24-5; 50:1-21); (2) take samples from the Raritan River or the Sayreville Site (*id.* at 60:5-16); (3) review documentation of plant emissions after the passage of the Clean Water Act (*id.* at 14:6-14); (4) engage in any scientific testing (*id.* at 57:1-25); and (5) offer an opinion on the quantity of metals that are currently in the Raritan River sediment due to NL Defendants' historical activity (*id.* at 57:16-21). Dr. Flowers offered an estimate that nineteen tons of arsenic could have been deposited in the Raritan River per year. (*Id.* at 122:6-11.) This estimate, however, is not based on a thorough review of the entire operation of the Sayreville Site, its emissions, and site-specific sampling of the Raritan River. Accordingly, the Court finds that any testimony from Dr. Flowers about the quantity of metals emitted into the Raritan River or any testimony about the current quantity of metals in the sediment of the Raritan River is not reliable and, therefore, excludes this portion of Dr. Flowers's testimony.

iii. Fit

Dr. Flowers testified that, based on general principles of chemistry and information included in the Ross and Peters Report of the Sayreville Site's history, NL Defendants' emitted arsenic, zinc, nickel, lead, and copper into the Raritan River. (May 10, 2017 Tr. 16:3-12.) Dr. Flowers testified that, at one time, NL Defendants one time produced sulfuric acid using pyrite, which would contain arsenic. (*Id.* at 16:3-12, 68:21-69:11; Pls.' Ex. 68, at 12.) Dr. Flowers further opined on reports that documented the corrosion of equipment at the Sayreville Site. (May 10, 2017 Tr. 24:3-6; Pls.' Ex. 68, at 18-19.) Dr. Flowers also testified that waste acid discharged from the Sayreville Site would carry dissolved metals into the Raritan River where the more neutral Raritan River water would cause the metals to precipitate as solids deposited in the sediment. (May

10, 2017 Tr. 26:15-29:15.) The Court finds that Dr. Flowers's testimony relates to whether NL Defendants contributed to the Raritan River sediment contamination and the possibility that pollutants from the Sayreville Site could have dispersed throughout the Raritan River. Given the relaxed application of Rule 702 in the context of an evidentiary hearing, Dr. Flowers's testimony meets the threshold of fit for the issues of the case. The Court, accordingly, grants in part and denies in part NL Defendants' Motion to Strike Dr. Flowers's testimony.

III. Motion to Strike Dr. Bell's Testimony on the GIS Maps

A. Admissibility of GIS Maps

NL Defendants argue that Dr. Bell's testimony on the GIS Maps should be excluded under Federal Rule of Civil Procedure Rule 26 ("Rule 26"). (Defs.' Mot. to Exclude Bell 5.) NL Defendants contend that Dr. Bell's seventh affidavit violated Rule 26 because it constituted an untimely "new opinion" that was required to be included in the initial disclosure. (*Id.* at 6.) NL Defendants, therefore, argue that Dr. Bell's reliance on the GIS Maps is prohibited by Rule 26 because it caused unfair surprise. (*Id.* at 7.) In opposition, Plaintiffs argue that "Dr. Bell's expert reports were not 'incomplete or incorrect' [under Rule 26] in any 'material respect.'" (Pls.' Opp'n Bell Br. 18, ECF No. 482-1 (quoting Fed. R. Civ. P. 26).) Plaintiffs argue that there was no duty to supplement the GIS Maps with the Princeton Hydro Report prior to obtaining it, and that any such duty would have been satisfied by Dr. Bell's rebuttal report. (*Id.*) Plaintiffs maintain that they did not have access to the Princeton Hydro Report when Dr. Bell submitted his initial expert disclosure, and obtained it after NL Defendants acquired it through subpoena. (*Id.* at 20 n.15.)

Under Rule 26, an expert witness is required to submit "a written report, prepared and signed by the witness," containing "a complete statement of all opinions the witness will express and the basis and reasons for them." Fed. R. Civ. P. 26(a)(2)(B)(i). "[Rule 26(a)(2)(B)(i)] is

intended to protect opposing parties from unfair surprise and to allow such parties an opportunity to develop evidence to meet the expert testimony being [proffered] by the party that hired the expert." *Vandenbraak v. Alfieri*, No. 01-482, 2005 WL 1242158, at *3 (D. Del. May 25, 2005). "A party who has made a disclosure under Rule 26(a) . . . must supplement or correct its disclosure or response . . . in a timely manner if the party learns that in some material respect the disclosure or response is incomplete or incorrect[.]" Fed. R. Civ. P. 26(e)(1)(A). As such, "[t]he duty to supplement arises when the expert subsequently learns of information that was previously unknown or unavailable, and the new information renders the earlier report incomplete or inaccurate." *Lewis v. FMC Corp.*, 786 F. Supp. 2d 690, 705 (W.D.N.Y. 2011).

"[T]he permissible scope of expert testimony is quite broad, and District Courts are vested with broad discretion in making admissibility determinations. . . . [There is no] bright line rule that every opinion by an expert must be preliminarily stated in the report, or forever be precluded." *Hill v. Reederei F. Laeisz G.M.B.H.*, 435 F.3d 404, 423 (3d Cir. 2006). The Third Circuit has identified four factors to consider in determining whether a non-disclosure in violation of Rule 26 warrants exclusion under Federal Rule of Evidence Rule 37(c)(1) ("Rule 37"):

> (1) the prejudice or surprise of the party against whom the excluded evidence would have been admitted; (2) the ability of the party to cure the prejudice; (3) the extent to which allowing the evidence would disrupt the orderly and efficient trial of the case or other cases in the court; and (4) bad faith or willfulness in failing to comply with a court order or discovery obligation.

E.M. Sergeant Pulp & Chem. Co. v. Travelers Indem. Co., No. 12-1714, 2015 WL 9413094, at *3 (D.N.J. Dec. 22, 2015) (quoting *Nicholas v. Pa. State Univ.*, 227 F.3d 133, 148 (3d Cir. 2000)).

The Court finds that the alleged violation under Rule 26 does not warrant exclusion under Rule 37(c)(1). *See id.* Here, although the GIS Maps originally attached to the Princeton Hydro Report were not disclosed by Plaintiffs in Dr. Bell's initial expert report, the GIS Maps were

provided in Dr. Bell's rebuttal report. (Pls.' Opp'n Bell Br. Ex. E, at 5.) Experts are permitted to supplement their reports and must do so when previously unknown information is made available to them, which renders the earlier report inaccurate or incomplete. *Emcore Corp. v. Optium Corp.*, No. 06-1202, 2008 WL 3271553, at *4 (W.D. Pa. Aug. 5, 2008). The Court also finds that the remaining factors do not warrant exclusion under Rule 37(c)(1), and the inclusion of the GIS Maps and reference to the GIS Maps in Dr. Bell's seventh affidavit presents no such surprise because NL Defendants had ample notice of the evidence. Accordingly, the Court concludes that the exclusion of the GIS Maps based on Plaintiffs' alleged failure to comply with Rule 26 is not warranted under these circumstances.

B. Dr. Bell's Reliance on the GIS Maps

NL Defendants argue that Dr. Bell's reliance on the GIS Maps violates Rules 702 and 703. (Defs.' Mot. to Exclude Bell 9.) NL Defendants argue that Dr. Bell failed to explain how the GIS Maps are a reliable source for determining "'sources' of sediment contamination in the Raritan River" as "no actual sampling has occurred[.]" (*Id.*) NL Defendants contend that "Dr. Bell offer[ed] no explanation whatsoever as to how Princeton Hydro created the mathematical model depicted in the GIS Maps or what interpolation algorithm, or interpolation software, was used by Princeton Hydro." (*Id.*) Furthermore, NL Defendants argue that Dr. Bell is required to provide testimony as to the "principles and methods" used to construct the GIS Maps to comport with Rule 702 and to establish that "experts may reasonably rely on [them] to form their opinions, as is required to be admissible under [Rule 703.]" (*Id.*)

In opposition, Plaintiffs argue that Dr. Bell's reliance on the GIS Maps is permissible under Rule 703. (Pls.' Opp'n Bell Br. 9.) Plaintiffs assert that Dr. Bell did testify as to the methodology for compiling the GIS Maps. (*Id.* at 12.) Plaintiffs provide two of Dr. Bell's statements in support

of this assertion: (1) "GIS mapping 'takes a database of information and displays it graphically,'" and (2) "[t]his technique is useful because it 'interpolates' between data points 'so that you can make an estimate' of values 'where you don't actually have samples.'" (*Id.* (citing May 10, 2017 Tr. 178:3-7, 180:17-18).) Further, Plaintiffs argue that "Dr. Bell testified that [the Princeton Hydro Report's] sampling and analysis supports his opinion as another 'line of evidence.'" (*Id.* at 14 (citing May 10, 2017 Tr. 184:11-12).) Plaintiffs, therefore, contend that Dr. Bell testified that he assessed the validity of the Princeton Hydro Report and its underlying methodology, which he was qualified to do as an environmental engineer. (*Id.*)

Once a court makes an admissibility determination, it is necessary to determine whether the evidence satisfies the applicable rules of evidence. Because Dr. Bell is submitted as an expert in the instant litigation, it is necessary to determine whether the GIS Maps satisfy Rule 703. Under Rule 703:

> An expert may base an opinion on facts or data in the case that the expert has been made aware of or personally observed. If experts in the particular field would reasonably rely on those kinds of facts or data in forming an opinion on the subject, they need not be admissible for the opinion to be admitted. But if the facts or data would otherwise be inadmissible, the proponent of the opinion may disclose them to the jury only if their probative value in helping the jury evaluate the opinion substantially outweighs their prejudicial effect.

Fed. R. Evid. 703. The standard for whether facts or data may be reasonably relied on is similar to that of Rule 702. *Stecyk v. Bell Helicopter Textron, Inc.*, 295 F.3d 408, 417 (3d Cir. 2002) (citing *In re TMI Litig.*, 193 F.3d at 697). Rule 703, however, is premised on the data employed in constructing the expert's opinion. *Id.*

In forming an opinion, experts may rely on other experts' opinions. *In re TMI Litig.*, 193 F.3d at 715; *Comm'r of Dep't of Planning & Nat. Res. v. Century Aluminum Co., et al.*, No. 05-

62, 2013 WL 4534742, at *4 (D.V.I. Aug. 26, 2013). Experts, however, must "'assess the validity of the opinions of the experts . . . relied upon' rather than 'unblinking[ly] rel[y] on those experts' opinions.'" *Comm'r of Dep't of Planning & Nat. Res.*, 2013 WL 4534742, at *4 (quoting *In re TMI Litig.*, 193 F.3d at 715). In doing so, however:

> "[A trial judge] should assess whether there are good grounds to rely on this data to draw the conclusion reached by the expert." If the data underlying the expert's opinion are so unreliable that no reasonable expert could base an opinion on them, the opinion resting on that data must be excluded. The key inquiry is reasonable reliance and that inquiry dictates that the "trial judge must conduct an independent evaluation into reasonableness."

In re TMI Litig., 193 F.3d at 697 (alteration in original) (citations omitted) (quoting *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d at 748-49).

Here, although Dr. Bell testified as to geographic information systems mapping technology, his testimony is limited to basic information and does not provide the Court with insight as to whether he has any experience using geographic information systems technology or whether his knowledge is above that of an average layman. *See Waldorf v. Shuta*, 142 F.3d 601, 625 (3d Cir. 1998). Further, Dr. Bell did not testify as to the methodology underlying the GIS Maps and the methodology used in creating the GIS Maps that were included in the Princeton Hydro Report. As such, the Court is unable to determine:

> (1) whether a method consists of a testable hypothesis; (2) whether the method has been subject to peer review; (3) the known or potential rate of error; (4) the existence and maintenance of standards controlling the technique's operation; (5) whether the method is generally accepted; (6) the relationship of the technique to methods which have been established to be reliable; . . . and (8) the non-judicial use to which the method has been put.

See Pineda, 520 F.3d at 247-48. Even though an expert may rely on the opinions of other experts in forming his own expert opinion, the Court finds that Dr. Bell's testimony regarding the GIS

Maps violates Rule 703 and, therefore, is not reliable. *See Comm'r of Dep't of Planning & Nat. Res.*, 2013 WL 4534742, at *4; *see also Pineda*, 520 F.3d at 247-48. With respect to the GIS Maps, the Court concludes that Dr. Bell does not possess the specialized expertise necessary to satisfy Rule 703 and, therefore, strikes Dr. Bell's opinions related to the GIS Maps.

IV. Conclusion

For the reasons set forth above, the Court GRANTS in part and DENIES in part NL Defendants' Motions to Strike the expert testimony of Dr. Bell and Dr. Flowers, and GRANTS NL Defendants' Motion to Strike Dr. Bell's testimony related to the GIS Maps. The Court will issue an order consistent with this Memorandum Opinion.

s/ Michael A. Shipp
MICHAEL A. SHIPP
UNITED STATES DISTRICT JUDGE

Dated: August 16, 2017