

KEOUGH + SWEENEY, LTD.

ATTORNEYS AND COUNSELORS AT LAW
41 MENDON AVENUE
PAWTUCKET, RHODE ISLAND 02861
TELEPHONE (401) 724-3600
FACSIMILE (401) 724-9909
www.keoughsweeney.com

RAYNHAM OFFICE:
90 NEW STATE HIGHWAY
RAYNHAM, MA 02109
TEL. (508) 822-2813
FAX (508) 822-2832

JOSEPH A. KEOUGH JR.*
JEROME V. SWEENEY III*

SEAN P. KEOUGH*

JEROME V. SWEENEY II
OF COUNSEL

*ADMITTED TO PRACTICE IN
RHODE ISLAND & MASSACHUSETTS

BOSTON OFFICE:
171 MILK STREET
SUITE 30
BOSTON, MA 02109
TEL. (617) 574-0054
FAX (617) 451-1914

February 2, 2022

Via Overnight Mail

Ms. Luly Massaro, Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

Re: Providence Water Supply Board – Docket 4994

Dear Ms. Massaro:

Enclosed herewith please find an original and nine copies of the following document:

1. The Bristol County Water Authority's Motion In Limine To Exclude The Pare Corporation Hydraulic Model And Cost Of Service Based Rates Using Data From The Pare Corporation Hydraulic Model.

Please be advised that an electronic copy of this document has been sent to the service list. Thank you for your attention to this matter.

Sincerely,



Joseph A. Keough, Jr.

JAK/kf
Enclosures

cc: Service List (via email)

STATE OF RHODE ISLAND PUBLIC UTILITIES COMMISSION

IN RE: PROVIDENCE WATER SUPPLY BOARD:

DOCKET NO. 4994

THE BRISTOL COUNTY WATER AUTHORITY'S MOTION IN LIMINE TO EXCLUDE THE PARE CORPORATION HYDRAULIC MODEL AND COST OF SERVICE BASED RATES USING DATA FROM THE PARE CORPORATION HYDRAULIC MODEL

I. INTRODUCTION

Now comes the Bristol County Water Authority ("BCWA") and hereby files this Motion In Limine to exclude all evidence and data from the hydraulic model performed by the Pare Corporation ("Pare Hydraulic Model") in support of the revised cost of service study ("Revised COSS") submitted by the Providence Water Supply Board ("Providence") in the above captioned Docket. The BCWA also seeks to exclude any cost of service based rates based on the data from the Pare Hydraulic Model and the cost allocation methodologies used by Providence in the Revised COSS.

II. FACTUAL BACKGROUND

1. On December 2, 2019, Providence filed a general rate filing in this Docket that contained a new cost-of-service study, which allocated costs to Providence's different customer classes.
2. This original cost-of-service study set forth a single rate for Providence's wholesale customer class, which includes seven different wholesale customers.
3. During the litigation of Docket 4994, the BCWA advocated for individual wholesale rates, which Providence opposed.
4. After a contested hearing, the Commission ordered the implementation of individual wholesale rates employing the principle of "gradualism." (See Order No. 23928)
5. The individual wholesale rates approved by the Commission were based on a cost-of-service rate model that used the Base-Extra Capacity Methodology, which is one of two generally accepted ratemaking methodologies set forth in

the American Water Works Association (AWWA) Manual M1, Principles of Water Rates, Fees, and Charges (7th Edition) (“M1 Manual”).

6. Specifically, the individual wholesale rates approved by the Commission incorporated each wholesale customer’s individual peaking factors into the Base-Extra Capacity rate model prepared by Providence.
7. The Commission’s Order stated:

“Specifically, Providence Water shall move to individual wholesale rates in two steps. The first step occurs in year one, followed by a second step for year two. In year one, individual wholesale rates shall be calculated by allocating costs to each wholesale customer based upon the individual peaking factors used in the Amended Settlement. However, the rate shall be established by moving only one-third of the way from the Amended Settlement rates, using the first-year revenue requirement as established by the Commission by this order.” (See Order No. 23928)
8. In addition to the employment of “gradualism” and the wholesale customers’ peaking factors, the Commission ordered Providence to submit a revised cost-of-service study that:
 - a. Addressed the Transmission & Distribution Labor, Central Operations and Non-Revenue Water Allocations with data that firmly supports the allocators chosen.
 - b. Applied cost allocations for pumping and unidirectional flushing costs based upon the benefits received by each wholesale customer.
9. On April 1, 2020, Providence submitted its Revised COSS, which was supported by pre-filed direct testimony provided by Harold Smith of Raftelis Financial Consultants, Inc.
10. In his testimony, Mr. Smith stated that the Revised COSS “allocates T&D labor costs based on the proportion of Providence Water’s pipe network that each individual wholesale customer uses.” (Smith Compliance Direct, p. 5, ll. 22-23)
11. Mr. Smith further testified that the data he used to support this allocation “was developed by Pare Corporation (Pare), an engineering consultant retained by Providence Water. Pare used Providence Water’s hydraulic model to determine the pipe (by length and diameter) used by each wholesale customer under normal operating conditions. The details of the hydraulic model analysis are described in a memorandum developed by Pare dated March 4, 2021, attached hereto.” (Id., pp 5, l. 27 to p. 6. l. 2)

12. The stated purpose of the Pare Memorandum attached to Mr. Smith's testimony was to provide "a summary of the hydraulic modeling performed by Pare Corporation (Pare) in support of Providence Water's recent wholesale cost of service study." (Smith Compliance Direct, attached memorandum, p. 1)
13. The Pare memorandum also provided "a summary of the results" in four attached tables.
14. However, Providence did not submit any pre-filed direct testimony from anyone at Pare who was involved in the hydraulic modelling.
15. In fact, the only direct testimony Providence submitted was from Harold Smith.
16. On October 8, 2021, five of Providence's wholesale customers – the BCWA; Greenville Water District ("Greenville"); Lincoln Water Commission ("Lincoln"); Smithfield Water Supply Board ("Smithfield"); and, the Kent County Water Authority – filed direct testimony.
17. The testimony filed by the BCWA, Greenville/Lincoln and Smithfield specifically questioned the use of data from the Pare Hydraulic Model.
18. Michael Maker's testimony on behalf of the BCWA questioned whether the data produced by the Pare Hydraulic Model was flawed. (Maker Compliance Direct, pp. 27-28)
19. Mr. Maker also questioned the data produced because the Pare Hydraulic Model was only run on two days that do not reflect the average day, maximum day and maximum hour usage of each wholesale customer. (Maker Compliance Direct, pp. 20-24)
20. Dr. Ivor Ellul, who testified for Lincoln/Greenville, took issue with accuracy of the Pare Hydraulic Model as well:

"Pare elected to perform steady state simulations of Providence's water transmission and distribution ("T&D") network that calculate the flow of water in each leg of the network. The network, as modeled, comprises 37,344 pipe segments. To cover the wide range of behavior of the network, Pare adopted an approach wherein they selected three steady-state demand scenarios, Average Day Demand, ("ADD"), Maximum Day Demand, ("MDD"), and Peak Hour Demand, ("PH").

Whether modeling these three steady state scenarios accurately captures the behavior of the T&D network is unclear and can only be fully ascertained if the

changing state of the pipeline network system is taken into account during the analysis. Thus the approach taken by Pare represents, at best, an approximation of the manner in which the pipeline network actually behaves. Pipeline networks tend to operate in a highly dynamic manner. As Pare showed during its demonstration at the technical session in this docket, in a situation with multiple pumps running, the demand pattern for a customer can change from 40% to 170% in a time span of 6 hours. This calls into question the accuracy of the steady-state approach Pare undertook.” (Ellul Compliance Direct, p. 2, ll. 20-22 and p. 3, ll. 1-4 and 7-16)

21. Dr. Ellul also testified that:

“Q. Do you have any concerns with the back-tracing approach performed by Pare?”

A. Yes.

Q. What are those concerns?”

A. The approach hinges on the arbitrary assignment of the flows to the branches of the splits in the T&D network based on the assumption that the network is operating in steady state. As discussed, pipeline T&D systems do not generally operate in steady state, which, therefore, raises a question as to the validity of the approach taken by Pare.” (Ellul Compliance Direct, p. 4, ll. 14-22)

“Q. Do you have any concerns with Pare’s inch-mile analysis?”

A. Yes.

Q. What are those concerns?”

A. Although as a general matter, the inch-mile approach appears to be a reasonable basis to normalize the usage of wholesale customers, it creates a bias in favor of customers using larger and longer pipes. Additionally, the inch-mile value for each pipe segment is pro-rated by the percentage of flow that can be attributed to each wholesale customer. Because that attribution arises from the back-tracing work discussed previously, and which derived from the steady-state modeling performed, there is reason to believe that the inch-mile calculations do not accurately portray the actual usage of the T&D infrastructure by the wholesale customers, thus giving a sense of false precision to the overall analysis.” (Id., p. 5, ll. 8-19)

“Q. Do you have any concerns about the use of draw rate as opposed to demand?”

A. Yes.

Q. What are those concerns?”

A. In their development of the ADD, MDD, and PH scenarios, Pare differentiated

between Demand Rate and Draw Rate in that Demand Rate is the actual rate at which water is extracted off the pipeline distribution system. When modeling the system in steady state, a constant rate must be used as input to the model. This rate would, typically, represent the average of the Demand Rate over 24 hours. Pare postulate that in the case where customers utilize one or multiple pumps, the actual Draw Rate should be used in the steady state modeling with the rate being a calculated average.

In Pare's illustrative presentation, it is unclear as to what data were used to establish a suitable Draw Rate and wherefrom they were derived. The actual, somewhat arbitrary, choice of Draw Rate will have a significant impact on the eventual analysis. I have approximately calculated the areas under the various curves (generally representing volumes) for the illustrative case Pare presented, and I have determined that, although the average demand approximates the demand pattern well, both are much higher than the Draw Rate shown with the two pumps running. So, choosing a higher Draw Rate than the Average Demand will significantly overestimate the flows through the system.

Additionally, this approach appears to unduly penalize the higher service area customers that employ pumping systems on their lines." (Id., p. 5, l. 20 to p. 6, l. 21)

22. Dr. Ellul also testified that Providence should run an Extended Period Simulation Model (EPS), rather the steady state scenarios Pare ran in its hydraulic model.
23. John Guastella, who testified for Smithfield, objected because the Pare Hydraulic Model did not allocate any mains to fire service demands. (Guastella Compliance Direct, p. 6, l. 19 to p. 7, l. 4)
24. On December 3, 2021, Providence filed rebuttal testimony from Harold Smith and Gregg M. Giasson, P.E., Providence's Deputy General Manager of Operations/Executive Engineer, who had not provided direct testimony.
25. However, once again Providence did not provide any testimony from anyone at Pare to address the issues raised by the BCWA, Greenville/Lincoln and Smithfield regarding Pare's hydraulic model.
26. Rather, Mr. Giasson provided limited testimony addressing Dr. Ellul's suggestion that Providence have Pare run an EPS Model.
27. Mr. Giasson's testimony did not fully address all the issues raised by the BCWA, Greenville/Lincoln and Smithfield.
28. As Dr. Ellul noted in his surrebuttal testimony:

“Q. In your opinion is the hydraulic model sufficiently accurate for the task of delineating system usage by the wholesale and retail customers?”

A. Mr. Giasson claims that the hydraulic model is utilized frequently to verify system operations. He further claims that the hydraulic model is often field verified to ensure accuracy. It is encouraging to see that such use is made of the hydraulic model and underscores the importance of hydraulic modeling in the operations management process deployed by Providence Water Authority. Be that as it may, Mr. Giasson’s description of how the hydraulic model is used in meeting the operational and planning needs of Providence Water mostly addresses analysis focused on determining capacity under predominantly steady-state conditions.

The task at hand is different in that it requires the analysis of the pipeline network under conditions that are changing, often rapidly.

I am, therefore, of the opinion that the task of delineating system usage by the wholesale and retail customers should be undertaken with a model that is closer to dynamic in nature which, in this case, would be an Extended Period Simulation (EPS) model.” (Ellul Surrebuttal, p. 1, l. 11 to p. 2, l. 6)

29. In addition to the Pare Hydraulic Model data itself, the BCWA questioned its use in the Revised COSS.

30. In particular, the BCWA raised three issues:

- a. The use of hydraulic modelling data to allocate T&D unit costs is not supported by the M1 Manual and is not a generally accepted ratemaking principle.
- b. Providence’s use of two cost allocation methodologies in the Revised COSS – the Base-Extra Capacity method to allocate most costs and the use of hydraulic modeling data to allocate T&D unit costs – is not a generally accepted ratemaking principle.
- c. The use of hydraulic modelling data to allocate T&D costs and the use of two allocation methodologies in the same cost of service study has never been used in this jurisdiction or any other jurisdiction and Mr. Smith has never previously employed such methodologies.

31. As Michael Maker testified:

“Essentially, to calculate T&D unit rates, Providence replaced the Retail and Wholesale customer units of volume of water (HCF) and peaking factors with “draw rates” and “inch miles” of pipes used from the hydraulic model.” (Maker Compliance Direct, p. 5, ll. 4-7)

“As explained in more detail below, the use of hydraulic modelling data is not specifically set forth in the American Water Works Association (AWWA) Manual M1, Principles of Water Rates, Fees, and Charges (7th Edition) (“M1 Manual”) as a means to calculate T&D unit costs in the manner Providence has used this data. Furthermore, it does not appear that hydraulic modeling data has ever been used to calculate T&D unit costs in this jurisdiction. As such, the BCWA continues to advocate for individual wholesale rates using the Base-Extra Capacity methodology set forth in the M1 manual based on readily available and undisputed peaking factors.” (Id., ll. 9-16)

32. Mr. Maker further testified:

“Q. Does the M1 Manual support the use of hydraulic modeling data for the allocation of T&D unit costs?”

A. No. Within the M1 Manual, the phrase “draw rate” does not appear at all, and the word “hydraulic” appears exactly once:

“Another approach to determining distribution versus transmission mains, though less common in practice and more complex to perform, is to use system hydraulic analyses to determine which water mains, by size diameter and location, function as transmission mains.” (P. 303)

Nothing in the M1 Manual suggests that T&D unit costs should be calculated based on hydraulic modelling data derived from days that may not be a wholesale customer’s average or max day and from hours that may not be a wholesale customer’s max hour. The peaking data that the Commission approved in the ASA COSS is more targeted to each individual wholesale customer. It should not be substituted with hydraulic modeling data for the calculation of T&D unit costs.” (Maker Compliance Direct, p. 24, ll. 8-23)

III. ARGUMENT

In this Docket, Providence seeks to set rates based on a novel, untested and unsupported ratemaking methodology. Providence seeks to use data from a hydraulic model run by Pare on two days over a two-year period that does not reflect the average day, max day or max hour usage of each individual wholesale customer to allocate T&D costs. Furthermore, Providence seeks to use two different allocation methodologies – Base-Extra Capacity and Hydraulic Modeling – to allocate costs in the same cost-of-

service study. This is an entirely new way of allocating costs, which will surely set precedent if accepted. Thus, this new methodology must be subjected to rigorous analysis, and Providence must show that it is supported by the proper foundational testimony and that it is valid and admissible as a generally accepted ratemaking principle. As examined herein, Providence cannot make either of these showings.

A. The Pare Hydraulic Model Data Should Be Excluded Because It Is Not Supported By Any Testimony In This Docket

Rule 1.21 of the Commission’s Rules of Practice and Procedure requires all direct and rebuttal testimonies to be presented in writing. In addition, Rule 1.22.B. governing expert witnesses also requires written testimony. Pursuant to Rule 1.17, the Commission established a procedural schedule in this Docket that set deadlines by which written testimony was due. These deadlines were known by all the parties, and there was nothing that prevented Providence from submitting written testimony from Pare in its original filing or its rebuttal testimony. Providence failed to do so. As a result, any data from Pare should be excluded for two reasons.

First, there is no evidentiary foundation in the record through witness testimony to support the admission of the Pare Hydraulic Model data. Rule 1.23 of Commission’s Rules provides “that the rules of evidence as applied in civil cases in the Superior Courts of this state shall be followed to the extent practicable...” The rule goes on to state that “...the Commission shall not be bound by technical evidentiary rules, and, when necessary to ascertain facts not reasonably susceptible of proof under the rules, evidence not otherwise admissible may be submitted, unless precluded by statute, **if it is of a type commonly relied upon by reasonably prudent persons in the conduct of**

their affairs.” (emphasis added) Hydraulic modeling does not fall into the category of facts or evidence “commonly relied upon by reasonably prudent persons in the conduct of their affairs.” Rather, hydraulic modeling and the data it produces must be presented through an expert witness.

Rule 702 of the Rhode Island Rules of Evidence states: “If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of fact or opinion.” Expert testimony is required “to establish any matter that is not obvious to a lay person and thus lies beyond common knowledge.” Mills v. State Sales, Inc., 824 A.2d 461 (RI 2003) Courts consider the admissibility of expert testimony by determining whether “an expert's proffered testimony both rests on a reliable foundation and is relevant to the task at hand.” Carozza v. CVS Pharmacy, Inc., 992 F.3d 44 (1st. Cir. 2021) There are three factors underlying this admissibility determination:

1. Whether the proposed expert is qualified by knowledge, skill, experience, training, or education;
2. Whether the subject matter of the proposed testimony properly concerns scientific, technical, or other specialized knowledge; and,
3. Whether the testimony [will be] helpful to the trier of fact, i.e., **whether it rests on a reliable foundation** and is relevant to the facts of the case.” (Id. at 56, emphasis added)

In most cases, a dispute arises over whether a witness satisfies these requirements. In this case, Providence did not even proffer a witness to satisfy these requirements as to the type of hydraulic modelling performed by Pare or the data it produced. As noted

above, the BCWA, Greenville/Lincoln and Smithfield raised issues regarding the type of modeling Pare performed and the data it produced. Even if Providence did not offer testimony from Pare in its original filing, it certainly could have provided rebuttal testimony from Pare to address these issues. It did not.

The Pare Hydraulic Model is not entitled to automatic admission into evidence, especially given the testimony from the interveners regarding Pare's choice of a steady state modelling; its limitation to two days that do not represent each wholesale customer's average day, peak day and peak hour usage; its failure to allocate mains to fire service; and, the potentially flawed data it produced. This evidence can only be admitted through expert testimony that lays a proper foundation. In this case, there is no such testimony or foundation. As such, the evidence must be excluded.

B. Cost of Service Based Rates Should Not Be Implemented Using The Pare Hydraulic Model And The Methodologies Used By Providence

Providence's calculation of rates in the Revised COSS suffers from two fatal infirmities: (1) As set forth above, the rates are based on the Pare Hydraulic Model data, which is not supported by any expert testimony; and, (2) The rates were not calculated using generally accepted ratemaking principles.

Rule 702 of the Rhode Island Rules of Evidence allows a party to introduce expert testimony in certain instances:

Rule 702 – Testimony By Experts - If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of fact or opinion.

However, the admission of expert testimony “necessitates an inquiry into the methodology and the basis for an expert’s opinion.” Lawes v. CSA Architects and Engineers LLP, 963 F.3d 72 (1st Cir. 2020)

Rule 104 of the Rhode Island Rules of Evidence allows a party to raise preliminary questions concerning the admission of expert testimony regarding novel or unvalidated topics concerning scientific, technical or specialized knowledge. DiPetrillo v. Dow Chemical Co., 729 A.2d 677 (R.I. 1999) This rule provides a “gatekeeper” process by which scientific, technical or other specialized knowledge is evaluated before it is admitted into evidence. Id. at 685. This preliminary gatekeeping analysis allows for an examination of whether “an expert’s testimony both rests on a reliable foundation and is relevant to the task at hand.” Id. Specifically, it provides for an assessment “of whether the reasoning or methodology underlying the testimony is scientifically valid and whether the reasoning or methodology properly can be applied to the facts in issue.” Id. at 687 (citing Daubert v. Merrell Dow Pharmaceuticals, 509 U.S. 579, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993)) As the United States Supreme Court stated, this gatekeeping analysis is necessary because “Expert evidence can be both powerful and quite misleading because of the difficulty in evaluating it.” Daubert, 509 U.S. at 595, 113 S.Ct. at 2798, 125 L.Ed.2d at 484.

This gatekeeping analysis is governed by four factors:

1. Whether the theory or technique has gained general acceptance in the relevant scientific field;
2. Whether the theory or technique has been subjected to peer review and publication;

3. Whether the proffered knowledge can be or has been tested; and,
4. The known or potential rate of error. (*DiPetrillo*, 729 A.2d at 689, citing *Daubert*, 509 U.S. at 593–94, 113 S.Ct. at 2796–97, 125 L.Ed.2d at 482–83)

These factors cannot be met by an expert’s “assertion that his conclusions were derived by the scientific method”; rather, “the party presenting the expert must show that the expert’s findings are based on sound science, and this will require some objective, independent validation of the expert’s methodology.” *Lawes*, 963 F.3d at 98 (citing *Daubert v. Merrell Dow Pharm.*, 43 F.3d 1311, 1317-90 (9th Cir. 1995)).

In the instant case, Providence’s allocation of T&D unit costs using data from the Pare Hydraulic Model, and Providence’s use of two different allocation methodologies in the same cost-of-service study, does not meet the four factors set forth in *Dipetrillo* and *Daubert* for admission of expert testimony.

1. General Acceptance In The Ratemaking Field

First, Providence has not demonstrated that the use of hydraulic modelling data and the use of two different allocation methodologies in the same cost-of-service study has gained general acceptance in the field of ratemaking. As set forth in Michael Maker’s testimony, the M1 Manual sets the industry standard for generally accepted ratemaking principles. (Maker Compliance Direct, p. 7, ll. 1-5) The two most generally accepted ratemaking methodologies set forth in the M1 Manual are the Base-Extra Capacity and Commodity-Demand methodologies. (*Id.*) As Mr. Smith acknowledged “Transmission and distribution (T&D) costs were allocated using data from a hydraulic analysis performed by PARE. The remaining costs were allocated using the Base-Extra Capacity method.” (Smith Compliance Rebuttal, p. 4, ll. 20-21) However, as Mr. Maker pointed

out, the M1 Manual does not recognize the use of hydraulic modelling to allocate T&D costs (or any costs for that matter), especially based on data that may not reflect the actual average day, max day, and max hour usage of wholesale customers. (Maker Compliance Surrebuttal, p. 7, ll. 12)

Mr. Maker also pointed out that, to calculate T&D unit rates, Providence replaced the Retail and Wholesale customer units of volume of water (HCF) and peaking factors, which are used in the Base-Extra Capacity method, with “draw rates” and “inch miles” of pipes used from the Pare Hydraulic Model. However, as Mr. Maker testified:

“Q. Does the M1 Manual support the use of hydraulic modeling data for the allocation of T&D unit costs?”

A. No. Within the M1 Manual, the phrase “draw rate” does not appear at all, and the word “hydraulic” appears exactly once:

“Another approach to determining distribution versus transmission mains, though less common in practice and more complex to perform, is to use system hydraulic analyses to determine which water mains, by size diameter and location, function as transmission mains.” (P. 303)

Nothing in the M1 Manual suggests that T&D unit costs should be calculated based on hydraulic modelling data derived from days that may not be a wholesale customer’s average or max day and from hours that may not be a wholesale customer’s max hour. The peaking data that the Commission approved in the ASA COSS is more targeted to each individual wholesale customer. It should not be substituted with hydraulic modeling data for the calculation of T&D unit costs.” (Maker Compliance Direct, p. 24, ll. 8-23)

Providence seizes on this single mention of “hydraulic analyses” in the M1 Manual to justify its use in the Revised COSS. However, a close reading of this passage reveals the limited use of hydraulic analyses in a Base-Extra Capacity cost-of-service study. As the M1 Manual makes clear, a hydraulic analysis is limited to determining which mains function as transmission and distribution mains within a water system, but this is as far

as the M1 Manual goes. As the BCWA has acknowledged, this is a more accurate way to distinguish between transmission and distribution mains than Providence's previous methodology of labeling all mains greater than 12 inches as transmission and all mains less than 12 inches as distribution. This in turn assists in allocating a cost such as unidirectional flushing because Providence only flushes mains 12 inches and smaller.

However, Providence has gone far beyond using the Pare Hydraulic Model to distinguish between transmission and distribution pipes. Providence is using the Pare Hydraulic Model data – developed on two days that are not the average day, max day and max hour for each individual wholesale customer – to determine each wholesale customer's proportionate share of T&D costs. The M1 Manual does not endorse this use of hydraulic modelling data.

And it is not just the BCWA that has raised this issue. John Guastella, who testified on behalf Smithfield testified:

“Q. The PWS's response to BCWA 14-1a refers to the Pare hydraulic modeling stating in part that the AWWA M1 rate manual identifies hydraulic modeling as a valid approach to distinguish transmission and distribution costs. Is that approach the same as Pare's inch-foot analysis of the allocation all mains to customer classes?”

A. No. The reference to hydraulic studies in the AWWA M1 manual would be a method, rarely used, to separately identify the costs of transmission mains and distribution mains, which is significantly different from the Pare hydraulic study to determine the allocation of all mains to each all classes of customer. I have never seen the Pare type study used for such cost allocations, and because it did not include an allocation of mains for meeting potential fire demands, it did not adequate serve that purpose.” (Guastella Compliance Surrebuttal, p. 3, l. 15 to p.4, l. 3)

This testimony highlights another factor raised by the BCWA – Providence also cannot show that the use of hydraulic modeling data and the use of two separate

allocation methodologies in the same cost-of-service study has gained general acceptance because these methodologies have never been used in this, or any other, jurisdiction.

2. Peer Review, Testing And Rate Of Error

In response to BCWA Data Request 14, Providence acknowledges there are no treatises, publications and writings that evidence, document, support or memorialize the following:

1. That the methodology Providence used for allocating T&D costs in Providence's compliance filing using the type of data provided by PARE from the type of hydraulic modeling PARE performed is a generally accepted ratemaking principle;
2. That the use of the two different methodologies used by Providence for allocating costs in the same cost of service study is a generally accepted ratemaking principle; and,
3. That the use of the method of hydraulic modeling employed by Pare to allocate T&D unit costs is a generally accepted ratemaking principle.

Providence also acknowledged that none of these methodologies has been subject to peer review. (See Providence response to BCWA Data Request 14) Thus, Providence cannot satisfy the remaining prongs of the expert testimony gatekeeper test – that the theory or technique has been subjected to peer review and publication; that the proffered knowledge can be or has been tested; and, whether the methodology has a known or potential rate of error.

In fact, Providence's logic on this issue exposes its central flaw because it is based on classic *ipse dixit* – i.e. their methodology is sound because they pronounce it as sound.

As Providence stated in response to BCWA 14-2:

“Providence Water used the best available information and approach for each component of the Providence Water system. For treatment the base-extra capacity approach was used to allocate costs. For transmission and distribution costs, the hydraulic model provided more accurate information so it was used in place of the base extra capacity method. The two approaches are different, but together represent an improvement in accuracy over using the base-extra capacity method alone.”

Simply proclaiming that hydraulic modeling data is “more accurate” and that Providence’s methodology represents “an improvement in accuracy over using the base-extra capacity method alone”, does not satisfy the DePetrillo and Daubert requirements. Thus, the Pare Hydraulic Model data and Providence’ methodology in employing the data must be excluded.

IV. CONCLUSION

WHEREFORE, the Bristol County Water Authority hereby prays that the Rhode Island Public Utilities Commission exclude all evidence and data from the hydraulic model performed by the Pare Corporation in support of the revised cost-of-service study submitted by the Providence Water Supply Board in the above captioned Docket, and that the Rhode Island Public Utilities Commission exclude any cost-of-service based rates based on the data from the Pare Hydraulic Model and the cost allocation methodologies used by Providence in its revised cost-of-service study.

The Bristol County Water Authority,
By Its Attorney,



Joseph A. Keough, Jr., Esquire #561593
KEOUGH & SWEENEY, LTD.
41 Mendon Avenue
Pawtucket, RI 02861
(401) 724-3600 (phone)
jkeoughjr@keoughsweeney.com

CERTIFICATION

I hereby certify that on February 2, 2022, I sent a copy of the within to all parties set forth on the attached Service List by electronic mail and copies to Luly Massaro, Commission Clerk, by electronic mail and overnight mail.

Parties	E-mail	Phone
Providence Water Supply Board (PWSB) Michael McElroy, Esq. McElroy & Donaldson PO Box 6721 Providence, RI 02940-6721	Michael@McElroyLawOffice.com ;	401-351-4100
	Leah@McElroyLawOffice.com ;	
Ricky Caruolo, General Mgr. Providence Water Supply Board 552 Academy Avenue Providence, RI 02908	RickyC@provwater.com ;	401-521-6300
	Greggg@provwater.com ;	
	Marydw@provwater.com ;	
	NancyP@provwater.com ;	
	PeterP@provwater.com ;	
	STEVEC@provwater.com ;	
Harold Smith Raftelis Financial Consulting, PA 1031 S. Caldwell Street, Suite 100 Charlotte, NC 28203	Hsmith@raftelis.com ;	704-373-1199
Division of Public Utilities (Division) Leo Wold, Esq. Division of Public Utilities and Carriers John Bell, Chief Accountant	Leo.wold@dpuc.ri.gov ;	401-780-2177
	john.bell@dpuc.ri.gov ;	
	Pat.smith@dpuc.ri.gov ;	
	Hakeem.ottun@dpuc.ri.gov ;	
	Margaret.L.Hogan@dpuc.ri.gov ;	
	Robert.Bailey@dpuc.ri.gov ;	
	MFolcarelli@riag.ri.gov ;	
Jerome Mierzwa Exeter Associates, Inc. 10480 Little Patuxent Pkwy, Suite 300 Columbia, MD 21044	jmierzwa@exeterassociates.com ;	410-992-7500
Ralph Smith Larkin & Associates, PLLC 15728 Farmington Road Livonia, Michigan 48154	rsmithla@aol.com ;	734-522-3420
	dawn.bisdorf@gmail.com ;	
	ssdady@gmail.com ;	
	mcranston29@gmail.com ;	

Kent County Water Authority (KCWA) Mary B. Shekarchi, Esq. 33 College hill Rd., Suite 15-E Warwick, RI 02886	marybali@aol.com ;	401-828-5030
David Bebyn, Consultant	dbebyn@gmail.com ;	
David L. Simmons, P.E. Executive Director/Chief Engineer Kent County Water Authority	dsimmons@kentcountywater.org ;	401-821-9300
Bristol County Water Authority (BCWA) Joseph A. Keough, Jr., Esq. Keough & Sweeney 41 Mendon Ave. Pawtucket, RI 02861	jkeoughjr@keoughsweeney.com ;	401-724-3600
Stephen Coutu, General Manager Bristol County Water Authority	scoutu@bcwari.com ;	
Michael Maker, Consultant	mmaker@newgenstrategies.net ;	
City of East Providence Michael Marcello, City Solicitor City of East Providence Legal Department 145 Taunton Avenue East Providence, RI 02914	RLefebvre@CityOfEastProv.com ;	401-435-7523
City of Warwick Michael Ursillo, City Solicitor Gia A. DiCenso, Asst. City Solicitor Ursillo, Teitz & Ritch, Ltd. 2 William St. Providence, RI 02903-2918	mikeursillo@utrlaw.com ;	401-331-2222
	ginadicenso@utrlaw.com ;	
Smithfield Water Supply Board Marisa Desautel, Esq. 55 Pine St. – 4th Floor Providence, RI 02903	marisa@desautelesq.com ;	401-477-0023
Gene Allen Smithfield Water Supply Board	gallen@smithfieldri.com ;	
Greenville Water/Lincoln Water Adam M. Ramos, Esq. Hinckley, Allen & Snyder 100 Westminster St., Suite 1500 Providence, RI 02903	aramos@haslaw.com ;	

File original and nine (9) copies w/: Luly E. Massaro, Commission Clerk Margaret Hogan, Commission Counsel Public Utilities Commission 89 Jefferson Blvd. Warwick, RI 02888	Luly.massaro@puc.ri.gov ;	401-780-2107
	Todd.bianco@puc.ri.gov ;	
	Cynthia.wilsonfrias@puc.ri.gov ;	
	Alan.nault@puc.ri.gov ;	
	Emma.Rodvien@puc.ri.gov ;	
Kathleen Crawley Water Resources Board	Kathleen.Crawley@doa.ri.gov ;	401-222-6696
Nancy Lavin	Lavin@pbn.com ;	

Joseph A. Keough, Jr., Esquire # 4925
KEOUGH + SWEENEY, LTD.
41 Mendon Avenue
Pawtucket, RI 02861
(401) 724-3600 (phone)
jkeoughjr@keoughsweeney.com