STATE OF RHODE ISLAND PUBLIC UTILITIES COMMISSION

IN RE: PROVIDENCE WATER SUPPLY BOARD: **DOCKET NO. 4994**

THE BRISTOL COUNTY WATER AUTHORITY'S REPLY TO THE GREENVILLE WATER DISTRICT'S AND THE LINCOLN WATER COMMISSION'S POST-HEARING BRIEF

This reply memorandum addresses a single issue raised by the Greenville Water District and the Lincoln Water Commission ("Greenville/Lincoln") – that individual wholesale rates should be calculated using peaking factors from the Pare Hydraulic Model. This recommendation is contradicted by the argument of counsel in Greenville/Lincoln's Post-Hearing Brief and Greenville/Lincoln's own witnesses.

At the outset, the Bristol County Water Authority notes that there seems to be a concerted effort by certain parties in this Docket to unnecessarily recreate the wheel when it comes to setting rates. In the original litigation of this Docket, the Providence Water Supply Board ("Providence") submitted a cost-of-service model based on the Base Extra Capacity Method, which is one of two generally accepted rate making methodologies set forth in the AWWA's Manual M-1, Principles of Water Rates, Fees, and Charges (7th Edition) ("M1 Manual"). Mr. Smith described Providence's original cost-of-service model as a "really good model" and a "great cost of service study" in his testimony during the original litigation of this Docket. (Docket 4994 Hearing Transcript July 15, 2020, p. 124, l. 5, p. 234, l. 24 – p. 235, l. 1) This model, and the rates it produced, was approved by the Commission with one change – the undisputed peaking factors for each wholesale customer were plugged into the model to calculate individual wholesale rates.

As part of its Order approving individual wholesale rates, the Commission only set these individual wholesale rates one-third of the way toward true cost of service. In doing so, the Commission granted Providence's request to further study "nuances" in the way it serves the wholesale customers. Merriam-Webster defines nuance as "subtle distinction or variation" or a "subtle quality." Yet, Providence submitted a revised cost-of-service study that completely changed the method for allocating T&D costs, and Providence's method of allocating these costs has not been used by any other utility in the country that anyone can identify. This is completely unnecessary, especially considering that the "nuances" in how Providence serves its wholesale customers were addressed through revisions to five cost allocations the Commission specifically identified in its original Docket 4994 Order:(1) Central Operations Facility Costs; (2) Non-Revenue Water Allocations; (3) Transmission & Distribution Labor Costs; (4) Unidirectional Flushing Costs; and, (5) Pumping Costs. Providence's original rate model, with the inclusion of individual wholesale peaking factors, and adjustments for the five allocations set forth above, is a perfectly good "mousetrap" that completely conforms to generally accepted ratemaking principles and there is no need to build another.

Greenville/Lincoln also seek to unnecessarily deviate from a proven methodology for calculating rates. This deviation is all the more confounding because it is contradicted by Greenville/Lincoln's counsel and its witnesses. In particular, Greenville/Lincoln asks that the Commission use peaking factors that result from the Pare Hydraulic Model rather than the peaking factors previously approved by the Commission. This makes no sense because there is not a single witness in this

compliance filing who challenged the validity and accuracy of the previously approved

peaking factors.

This request makes even less sense because Greenville/Lincoln has argued that

the data from the Pare Hydraulic Model is not accurate. Greenville/Lincoln's Post-

Hearing Brief requests that the hydraulic model peaking factors be used to calculate

rates because they are more "precise":

> "Alternatively, if the PUC accepts the hydraulic model as a reliable basis for the development of the COSS in this proceeding, it should direct Providence to establish rates based on the peaking factors generated by that hydraulic model. Providence used two different peaking factors in the same COSS: one to allocate T&D costs and another to allocate all other costs. See Greenville/Lincoln Exhibit 2 at 8:4-5. Providence asserts that the "draw rate" is more precise but then uses the less precise values measured using noncoincidental peaks to allocate the remaining two-thirds of the system's costs. Id. at 8:7-9. Had Providence used the more precise peaking factors for all cost allocations, the wholesale class would realize a $1.4 million reduction of costs. Id. at 8:11-13." (Greenville/Lincoln Post-Hearing Brief, p. 8)

Yet, Greenville/Lincoln also argues that Providence's claim that the hydraulic

modelling data is more precise is "illusory":

> "The hydraulic modeling, back-tracing, and inch-mile calculations thus purport to precisely calculate the percentage of each pipe that should be assigned to each wholesale customer. This alleged precision, however, is illusory. It results from data derived from an estimate (of the operation of the system) multiplied by an estimate (of the specific pipes used), and then multiplied by yet another estimate (of the inch-miles of pipe) to develop these "precise" assignments of cost responsibility." (Id. p. 5)

This contradiction can also be seen in the testimony of Greenville/Lincoln's

witnesses. On pages 7 through 10 of Mr. Mumm's direct testimony, he points out that

Providence used two different peaking factors – one to allocate T&D costs and another

to allocate all other costs. Mr. Mumm refers to the coincidental peaking factors for the

wholesale customers derived from the hydraulic study as "more precise" than the non-coincidental peaking factors previously approved by the Commission. Included in that section of his testimony, he states that "Providence's decision to use coincidental peaks to allocate some costs and noncoincidental to allocate others is both irrational and inconsistent" and that "Providence could address these issues by choosing one method of calculating peak demand and then applying it the same way throughout the cost allocation process, much like it had done in its original filing." (Mumm Compliance Direct, p. 8, l.22 to p. 9, l. 1 and p. 9, ll. 11-13) Mr. Mumm then suggests that Providence should align all peaking factors with the Pare analysis. (Id. p. 9, ll. 13-18) Yet, Mr. Mumm states that the "Pare analysis almost certainly misallocates the costs of the T&D network." (Id. p. 13, l. 18) Furthermore, in response to BCWA Data Request 1-4, Mr. Mumm made clear that he referred to the Pare Hydraulic Model peaking factors as "more precise" because that is how Pare and Providence referred to them. Mr. Mumm did not claim they were actually more precise.

In addition, Greenville/Lincoln's witness, Dr. Ellul, testified that:

"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. 3, ll. 10-16)

Dr. Ellul also testified that:

"…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." (Ellul Compliance Direct, p. 5, ll. 17-19)

Finally, Greenville/Lincoln seeks to use the peaking factors from the Pare Hydraulic Model even though they are "coincidental" and do not reflect how each wholesale customer actually uses the system on their actual average day, maximum day and maximum hour:

> "Thus, if the PUC is going to credit the hydraulic analysis and set individual wholesale rates based in its results, it should apply the coincidental peaking factors derived from that analysis across the COSS..." (Greenville/Lincoln Post-Hearing Brief, p. 8)

Greenville/Lincoln's argument is contradicted by the person who conducted the hydraulic model – Tim Theis. As Mr. Theis acknowledged, the hydraulic model does not provide data on each wholesale customer's average day, maximum day and maximum hour. Furthermore, Mr. Theis testified that the wholesale customers' maximum days (and by implication maximum hours) are _not_ coincident:

> "MR. THIES: We looked at a couple of different scenarios where they had high draw rates and we used -- we used the highest of the ones that we looked at.
>
> MR. KEOUGH: When you say what you looked at, did you look at every day during a year?
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> MR. THIES: No. We looked at days where Providence Water was using either their -- dates where they were using, like, their average day demand or they were using their max day demand or they were -- we selected a handful of days, we didn't look at every single day for every single wholesaler. We selected a handful of days based on Providence's production and we looked at those dates.
>
> MR. KEOUGH: So you looked at individual dates for wholesale customers, but that was sort of limited by what was going on in Providence's entire system, is that right?
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> MR. THIES: Correct. So for example, their max day -- Providence Water's max day was a day in July 2016, right? So on that day they -- Providence Water, their entire system, including their wholesalers, used the max amount of water that they had used over that three-year period. So we looked at that day for the

wholesalers. We said what are those wholesalers doing on that day. Now, that might not be the wholesaler's max day because they're not always coincident, but there's a day where the wholesaler is using a lot of water. It might not be the absolute max that they ever used, but there's a day that they are using a lot of water.

MR. KEOUGH: I guess that's my point. So that may not reflect each individual wholesale customer's max day or max hour throughout the year.

MR. THIES: Correct. Yes." (Technical Session Transcript p.48, l. 3 to p. 49, l. 17)

There was nothing wrong with Providence's original cost-of-service model itself.

It used the Base Extra Cost Method, which is a long-standing and generally accepted

rate making methodology set forth in the M1 Manual. The model only needed certain

tweaks. First, it required the input of each individual wholesale customer's peaking

factors, which have never been disputed by any party in the original litigation or the

compliance filing litigation. The Commission's original Order fixed this issue. Second,

Providence needed to re-examine five separate allocations within its original model,

which it did. Currently, the only party that has adopted Providence's original model,

with these tweaks, is the BCWA, and the rates it produces are fair and reasonable. Thus,

as the old saying goes, if it ain't broke, don't fix it. Or put another way, if it ain't broke,

don't break it. Adopting Providence's methodology and/or Greenville/Lincoln's

suggestion regarding peaking factors will only serve to break what Mr. Smith described

as a "really good model" and a "great cost of service study" that has already been

suitably fixed.

The Bristol County Water Authority,
By Its Attorney,

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CERTIFICATION

I hereby certify that on March 18, 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 hand delivery.

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