



September 10, 2021

Mrs. Luly Massaro
Commission Clerk
RI Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

The Hon. Jorge O. Elorza
Mayor

Ricky Caruolo
General Manager

RE: Dk 4994; New Cost of Service Study Data Requests

Dear Mrs. Massaro:

Enclosed, please find Providence Water's responses to the second (2nd) set of data requests from Greenville Water District and Lincoln Water Commission.

Thank you for your attention to this matter.

Sincerely,

Mary L. Deignan-White

Mary L. Deignan-White
Division Manager-Finance

cc: service list(via email)

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RIPUC DK. 4994
Greenville-Lincoln Set 2
NEW COST OF SERVICE STUDY

(Issued August 20, 2021)

Greenville-Lincoln 2-1 Referring to the file named “wholesale eval summary v8.xlsx” and to the Tab labeled as “GWD ADD,” please explain how the values in Column Q (% Greenville) are determined. In responding to this question, please describe in detail the factors that Providence Water used to determine the “% Greenville” for ID No. 4436 (From Column A).

RESPONSE: Percent in Column Q is calculated as amount of flow attributed to one customer divided by the total flow in the pipe. For ID No. 4436 (which is pipe segment 8109 in the hydraulic model), the total flow in that pipe segment is 53.77 gpm, of which 18.40 gpm (or 34%) belongs to GWD. Therefore 34% of that pipe, in terms of inch-miles, is assigned to GWD.

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NEW COST OF SERVICE STUDY

(Issued August 20, 2021)

Greenville-Lincoln 2-2: Referring again to the file named “wholesale eval summary v8.xlsx”, please explain how individual wholesale customer’s demands were measured for the purposes of determining their “draw rate” on the Maximum Daily Demand (“MDD”) and Maximum Hour Demand (“MHD”) levels.

a. Were these values measured coincidentally with the system wide MDD and MHD, or did Providence Water use some other timeframe?

RESPONSE: For the purpose of establishing draw rates, hourly meter records and daily SCADA graphs were reviewed for each wholesale meter. Meter records and SCADA graphs were reviewed for timeframes that were coincident to Providence Water’s MDD and PH timeframes. Please note that the excel file “wholesale eval summary v8.xlsx” uses the term Peak Hour (PH) while the question above uses the term Maximum Hour. For this study, Peak Hour and Max Hour are used interchangeably and mean the same thing.

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Greenville-Lincoln Set 2
NEW COST OF SERVICE STUDY

(Issued August 20, 2021)

Greenville-Lincoln 2-3

Referring again to “wholesale eval summary v8.xlsx” and to the Tab labeled “Summary,” the first table from A6:P17 provides Average Daily Demand (“ADD”), MDD, and Peak Hour Demand (“PHD”) for each wholesale customer. These values imply peaking factors that are inconsistent with those shown in HJS-16A from the NEW COSS. For each wholesale customer, please explain why there is a discrepancy between the two factors.

RESPONSE:

There is no discrepancy between the data. The two sets of information are measuring different things and are used for different purposes. The information on “wholesale eval summary v8.xlsx” is based on the demand of each wholesale customer on representative days for Providence Water’s system as a whole (i.e., wholesale demand, by customer, on representative system average days, max days and max hours). This is used to allocate the total flow in each pipe segment between retail customers and each wholesale customer under these three demand scenarios. This allocation is ultimately used to attribute the cost of Providence Water’s pipe network to each wholesale customer and the retail customers.

The information on HJS-16A is based on the individual demands of each wholesale customer for base, max day and max hour, when those demands occurred for each customer (irrespective of the system demand in total). This information was used to allocate the costs associated with the treatment plant, reservoirs and pump stations.

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(Issued August 20, 2021)

Greenville-Lincoln 2-4

Referring to the file named “DIV 8-3 New COSS Macros Free, No Links.xlsx,” when comparing HSJ-16a from Providence Water’s original filing in December 2019 to the New COSS, there is a discrepancy in the total MDD factor for the wholesale class. Please explain why the total peak factor for wholesale customers increased.

- a. Comparing the same two files, please also explain the discrepancy in the MHD factors.

RESPONSE:

The values are different because Providence Water’s original filing included a peaking factor for wholesale customers as one class based on the daily demands of the group as a whole. The New COSS includes a factor for each individual customer based on the daily demands of that customer. If all wholesale customers peaked on the same day the total for the group (the original filing), would match the sum of the individual parts (the New COSS). Wholesale customers, as a group, peak less because the diversity of the group flattens the peak demand relative to the average. The benefit of this diversity is lost when the factors are calculated individually because each customer stands on its own. This is also true of maximum hour demand.

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Greenville-Lincoln 2-5

Referring to the file named “2021-05-04 PUC Technical Session Presentation #1 60959490.PDF”, page thirteen (13) of this file states that “understanding how each customer draws its water through Providence Water’s pipe network allows us to be more precise in our analysis of the pipe infrastructure.” If the draw rate is more precise, then please explain why the values from the draw rate analysis are not used in the NEW COSS HJS-16a?

RESPONSE:

While schedule HJS-16a itself does not include the results of the draw rate analysis, this analysis is used to allocate the cost of Providence Water’s pipe infrastructure. It is shown on HJS-16b and HJS-16d. It is ultimately used to allocate transmission and distribution system costs as indicated on HJS-17 and 18.

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NEW COST OF SERVICE STUDY

(Issued August 20, 2021)

Greenville-Lincoln 2-6

Referring again to the file named “wholesale eval summary v8.xlsx”, please explain how Providence Water arrived at an ADD value of 9.30 MGD for East Providence?

- a. How does this reconcile with the 1,910,247 HCF (which results in an ADD of approximately 3.91 MGD) in total Base demand shown in the NEW COSS at Schedule HJS-16a?

RESPONSE:

9.30 is used as East Providence’s ADD, MDD, and PH draw rate. When East Providence draws water from Providence Water (during and ADD, MDD, or PH scenario), they do so at a relatively fixed rate that is independent of their actual system demand. Providence Water doesn’t feed East Providence’s demand directly, rather they send water directly to East Providence’s storage tank. When the tank calls for water, a valve opens and water flows from Providence at a relatively fixed rate. When the tank is full, the same valve closes and the water stops flowing (flow rate = 0 gpm). While the flow rate may vary slightly based on East Providence’s tank level, they never draw water at a rate of 3.91 MGD.