STATE OF RHODE ISLAND
PUBLIC UTILITIES COMMISSION
DOCKET NO. 4355
Response Of The City Of Newport,
Utilities Division, Water Department
To The United States Department of the Navy's
Data Requests
Set 2

Navy 2-1: Referring to HJS Schedule D-3 Update, specifically the electronic spreadsheet COSS model tab "Production," please provide the following information:

a. Please provide a narrative explaining how the Max Day Production in rows 47 through 62 and the Peak Hourly Flow in rows 76 through 91 for Station #1 and Lawton Valley were derived. Please provide all backup data supporting the derivations and all workpapers in electronic format with all formulas intact.

b. For Lawton Valley, please provide a detailed explanation as to why the Peak Hourly Flow decreased from 8.0 MGD for FY07 through FY09 to 6.0 MGD for FY10 through FY12.

c. Was there any physical change to Lawton Valley's infrastructure that caused the peak hourly flow to decrease by 25%, from 8.0 MGD to 6.0 MGD? If yes, please explain in detail.

d. Was there any operational change for Lawton Valley that caused the peak hourly flow to decrease by 25%, from 8.0 MGD to 6.0 MGD? If yes, please explain in detail.

e. The Lawton Valley Max Day Production for FY10 is shown as 6.169 MGD, however, the Lawton Valley Peak Hourly Flow for the same time period (FY10) is 6.0 MGD. Please describe in detail the circumstances that result in these numbers for Lawton Valley and explain in detail why the Max Day Production is higher than the Peak Hourly Flow. Please provide all backup data supporting the derivations and all workpapers in electronic format with all formulas intact.

Response:

a. <u>Lawton Valley</u>

At Lawton Valley, peak hourly flow is based on the rating of the largest capacity finished water pump (or combination of pumps running together) during the course of any given day.

Maximum daily production has traditionally been based on totalized readings from the beginning to the end of the day, from an effluent flow totalizer (original equipment) that we believe is inaccurate for the following reasons:

- The effluent flow totalizer reading, (which is recorded on the monthly sheet as Plant production) when compared to the Plant influent flow totalizer, and the plant effluent flow signal (which shows current Plant effluent flow at any given time) are inconsistent. This effluent flow totalizer reading, when compared to the other two, would have the Plant producing more finished water than raw water brought in for treatment.

- The effluent flow totalizer indicates that the finished water pumps, which are between 47 and 69 years old, are producing an effluent flow in excess of anywhere between 10 to 25 percent higher than their designed rating. In our experience split case centrifugal pumps tend to lose efficiency in time, not gain it.

Although the effluent flow totalizer is inaccurate, we do not believe it is grossly inaccurate, and it should have no material impact on the demand factors used to allocate costs. Mr. Smith will send the electronic versions of the backup data directly to the experts for the Navy, Division and Portsmouth.

Station One

At Station One, the effluent flow is determined by a magnetic flow meter (mag meter) which is capable of being accurately calibrated, (and is calibrated yearly by a factory trained technician) and flow rates are recorded every fifteen minutes within the Plant SCADA program. Flow rates are also recorded hourly by the operators.

Max Day Production is determined by the effluent flow totalizer, which takes the signal from the mag meter, totalizes it at the end of the day, and that total is recorded within the SCADA program, and also recorded by the operators at the end of every day.

b. Peak Hourly Flow decreased at Lawton Valley in FY 2010 because customer demand was such that the plant was not required to operate at a higher

hourly rate. Lawton Valley has three finished water pumps, a 2 MGD pump, a 4 MGD pump and a 6 MGD pump. Beginning in FY 2010, Newport met peak demands by only using the 6 MGD pump and therefore peak hourly demand is considered to be 6 MGD. In previous years, customer demands required that both the 6 MGD and 2 MGD be operated simultaneously and therefore peak hour demand was considered to be 8 MGD.

c. No.

d. Please see response to 2-1 b.

e. As described in the response to 2-1 a. the equipment used to measure effluent at the Lawton Valley plant is original to the plant and appears to be overstating the volume of water produced at the plant. However, Newport does not believe the effluent flow meter or the inflow flow meter and totalizer are grossly inaccurate. Newport has attempted to repair and recalibrate the equipment, but since this equipment will be taken out of service when the new Lawton Valley plant is complete, it does not make sense to replace this equipment at this time.

Prepared by: Harold J. Smith

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CERTIFICATION

I hereby certify that on January 16, 2012, 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 regular mail.

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