ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

ALOHA UTILITIES, INC.

DOCKET NO. 991643-SU

REBUTTAL TESTIMONY OF DAVID W. PORTER, P.E., C.O.

Q. Please state your name and professional address.

A. David W. Porter, P.E., C.O., Water/Wastewater System Consulting Engineer, 3197 Ryans Court, Green Cove Springs, Florida, 32043

Q. Have you previously provided testimony in this proceeding?

A. Yes, I prefiled direct testimony.

Q. What is the purpose of this rebuttal testimony?

A. I wish to respond to a number of statements made, and issues raised, by Mr. Ted L. Biddy, P.E. in his prefiled direct testimony.

Q. Have you read the prefiled direct testimony of Mr. Ted L. Biddy, P.E. which he prefiled in this proceeding?

A. Yes.

Q. Do you agree with Mr. Biddy's methodology that he developed to assess the used and useful percentage for the Seven Springs Wastewater Collection and Transmission System?

A. No.

Q Please state why you do not agree.

A. First, with the exception of required line relocations and upgrades to the occur in the test year, the vast majority of the collection system is 100% contributed and therefore, is

100% used and useful. Therefore, no used and useful adjustment is appropriate under any scenario. Mr. Nixon has discussed this aspect of the issue in his rebuttal testimony. Mr. Biddy based his used and useful determination on a factor derived by calculating the ratio of residential lots presently occupied in the entire service area and the total number of residential lots available for development. It appears that Mr. Biddy believes that the collection system lines and wastewater pumping stations are not 100% used and useful if there were still undeveloped lots to be connected in the future in the area served by the facilities in question. This used and useful determination methodology is totally incorrect as it assumes that one can technically and cost effectively construct wastewater collection systems in a piecemeal fashion by constructing a small sewer line to accommodate the small number of initial customers that will used the water and wastewater facilities and then, as more customers are added to the system, add a parallel sewer line to carry the increased flow. This method of constructing sewer lines and wastewater pump stations could not be accomplished in compliance with Florida Department of Environmental Protection (FDEP) rules. FDPE rules prohibit the construction of sewer lines smaller than eight inches in diameter for wastewater collection systems. An eight inch sewer line can carry the wastewater generated by many

hundreds of customers. The majority of Aloha's sewer lines are eight inch diameter (the minimum size allowable by FDEP rule) and could not have been constructed any smaller. Even if the FDEP did not specify a minimum line size, it would not be cost effective to install line sizes below the size needed to serve the entire number of customers that may be served in the subject area during the expected life of the sewer itself. This is because the cost of increasing the size of a new sewer line from one size to the next larger size (say from eight inch diameter to 10 inch diameter) is very small, approximately $1.05, for materials. However, the wastewater flow capacity of the 10 inch diameter sewer, laid at minimum slope, is 1.8 times greater. The eight inch diameter PVC line laid at minimum slope could carry approximately 475,000 gallons of wastewater per day. The 10 inch diameter PVC line laid at minimum slope could carry approximately 864,000 gallons of wastewater per day. At 150 gallons per day per connection this means that the eight inch diameter line could carry the wastewater from 3,166 customers each day and the 10 inch diameter line could carry the wastewater from 5,760 customers each day. The cost to increase the size of the pipeline from 8 inch diameter to 10 inch diameter would not be materially different, approximately $1.00 to $1.50 per foot of length as the only real cost difference is in the cost of the materials as the

construction cost of installing an eight inch line is essentially the same as for a 10 inch line. If however, the smaller line was originally installed as Mr. Biddy suggests, and a new line must be added later to carry the sewage flow from the additional 2,594 customers, the cost of adding another parallel sewer line to the first line would be very large, perhaps in the area of $12.00 to $20.00 per foot plus the cost of additional manholes and appurtenances. As you see, since the minimum size of a gravity sewer line is eight inch diameter and since the cost of up sizing to a 10 inch diameter line is inconsequential, it would be imprudent to attempt to build sewer lines for anything less than the total expected number of customers in any given part of the service area. The marginal cost of increasing the size of the pipeline initially is so small as compared to the total cost of installing the sewer line that is becomes inconsequential. Even if a used and useful adjustment were to be made for the collection system, it should be made on the marginal cost of supplying larger sized piping material only as the construction related costs are not affected. The same situation exists for wastewater pumping stations, the major costs associated with constructing a wastewater pumping station is the cost of the property it resides on, the cost of the concrete pump station wet well, and the cost of the piping and controls. Although the pumps are costly,

the cost of increasing the pumping capacity of a pump from one size to the next is very small, on the order of 10 to 15% in many cases. Here I am specifically talking about the cost of the pumps alone; the cost of the remaining pump station components would not vary appreciably with a one size upsizing of the pumps. However, retrofitting a pump station to accept larger pumps in the future is very costly as modifications to the structure are frequently needed as well as to the piping, controls and appurtenances. In addition, the labor involved in retrofitting a pump station with new pumps can be quite high. One would also loose the value of the pumps first installed before the end of their service life. Construction related costs, that would be duplicated in future upgrades (such as site dewatering; concrete wet-well framing and forming; force main installation; and control system installation) far outweigh the costs associated with upsizing the pumps initially. For these reasons, the methodology Mr. Biddy developed to assess the used and useful percentage for the Seven Springs Wastewater Collection System is not correct. Even if a used and useful adjustment was appropriate (which it is not), it would only be made t the marginal cost of the larger pipe (for lines) and the marginal cost of the pumps themselves (for pump stations) which are both wholly immaterial to the total cost. This system is 100% used and useful.

Q. Do you agree with Mr. Biddy's statement that the Seven Springs Wastewater Collection and Transmission System is not 100% used and useful?

A. No, for the reasons that I have stated above.

Q. What used and useful percentage would you apply to the Seven Springs Wastewater Collection System?

A. 100% for the reasons stated above.

Q. Mr. Biddy testifies that "the familiar FDEP rule of 200 GPD per inch of pipe diameter per mile of sewer line" should be the benchmark used when the Seven Springs Wastewater Collection System (SSWCS) is evaluated for the presence of excessive I/I. Do you agree?

A. No. The benchmark that Mr. Biddy applies, 200 gal/inch diameter/mile, is quoted in FDEP rules that deal with determining if a newly constructed sewer line has been constructed properly. It is a calculation that the engineer of record must perform prior to certifying that the sewer line is "substantially complete" and ready for FDEP approval to put it into service. The 200 gallons/inch diameter/mile figure that Mr. Biddy quotes is an engineering standard used to determine the integrity of newly constructed PVC lines with high reliability gasket systems before the first customer connection to the new sewer is made. Once the line is put into service and customer connections are made, the line will no longer exhibit the 200 gallon/inch

diameter/mile water infiltration and inflow rate. Nowhere in FDEP rules is there any reference to this number being applied to any existing system to determine if excessive I/I is occurring. In fact, there are a number of locations in the FDEP rules that require utility systems to determine if their system is experiencing excessive I/I. FDEP Rule 62-600.735 F.A.C. specifically states that "The collection system shall not be evaluated unless treatment plant problems result from the operation of collection and transmission facilities (such as excessive infiltration/inflow, septic wastewater, introduction of toxic substances, or lack of controls on industrial wastewater discharges to the collection system)." Aloha submitted just such an Operation and Maintenance Performance Report to FDEP in December 1997 as part of a wastewater permit application package. In that report, Aloha's engineer's did not evaluate the collection system because, in Aloha's opinion and that of their consulting engineer, excessive I/I was not present in the SSWCS. FDEP reviewed and approved the report and issued the permit. Therefore, assuming FDEP was not negligent in their review of the O&M Performance Report, FDEP agreed that the SSWCS was not experiencing excessive I/I. In addition, on March 1, 2000 Aloha submitted a required Capacity Analysis Report to the FDEP for the wastewater treatment plant. In this report,

Aloha's consulting engineer did not address I/I again because Aloha and its consultant both believe that excessive I/I do not exist in the SSWCS. The FDEP also approved this report. Again, assuming that the FDEP reviewers were diligent in their duty, the FDEP also agreed that there were no excessive I/I problems with the SSWCS. Contrary to what Mr. Biddy stated in his prefiled testimony, Aloha's SSWCS is not mainly constructed of PVC pipe with gaskets. A substantial portion of the sewer lines that make up the system are constructed of clay tile pipe. Also, much of the PVC pipe that was constructed over 15 years ago (before the newer, more reliable, PVC pipe and gasket materials that are used today were developed) are prone to higher leakage rates. The clay tile pipe, of the age found in Aloha's system, is easily cracked and broken and often develops leaks as it ages. Standard sewer system evaluation and design manuals (from the USEPA and professional trade groups such as the Water Environment Federation, etc.) provide a wide range of allowable expected I/I values based on pipe type, age and depth of bury of the pipe. Nowhere in any manual of this type is it stated that one should apply a 200 gallon per day per inch diameter per mile I/I standard to clay tile pipe or PVC pipe as soon as it is put into service. The 200 gallons/inch diameter/mile figure that Mr. Biddy quotes is an engineering standard used to determine

the integrity of newly constructed PVC lines with high reliability gasket systems before the first customer connection to the new sewer is made. Once the line is put into service and customer connections are made, the line will no longer exhibit the 200 gallon/inch diameter/mile water infiltration and inflow rate. Expected I/I values provided in the standard manuals of practice for this industry vary between 10,000 and 40,000 gallons per day per mile of sewer length for the type of pipe, age and depth of bury for the SSWCS. Given that there are approximately 35 miles of sewer pipelines in the SSWCS, then the expected I/I contribution to the total wastewater flow rate would be between 350,000 and 1,400,000 gallons per day. Within the last 12 months, Aloha has competed a total, sub-system by sub-system, flow isolation study for the SSWCS. This study was undertaken to comply with the requirements of the Amended and Restated Consent Final Judgement imposed by the FDEP. This study, and the resultant sewer line repair work, were designed to allow Aloha to swap allowable I/I flow reductions for increased new customer connection capability without first further expanding the wastewater treatment facilities. In effect, Aloha was required by FDEP to remove I/I water from the system (even though the I/I is not considered excessive) in order to make room for additional new home connections at the existing wastewater treatment

plant. This agreement with the FDEP was prudent from the Utility management standpoint not only because it allowed Aloha to more efficiently service new sewer customers, without constructing additional treatment facilities, but because I/I analysis and reduction is a normal, necessary and prudent part of operating a wastewater collection system, especially as that system ages. The flow isolation study showed that the majority of the I/I identified system-wide could be removed by concentrating on one sub-system. This sub-system, serving the Seven Springs Boulevard and Veterans Village area (not surprisingly) has sewer lines constructed of clay tile pipe that are some of the oldest in the system and are deeply buried. The remaining sub-systems showed that a potential additional 30,000 gallons per day of I/I could be removed, but at a higher cost as the defects would be spread out over a much larger area requiring much more detailed investigation to locate them. Therefore, the 138,000 gallons of I/I found in the Seven Springs and Veterans Village area was targeted to receive detailed television inspection and defect repair work first. This work has been completed and Aloha has requested that the FDPE issue new connection credit for the 138,000 gallon per day allowable I/I removed to date. Therefore, there is now approximately 30,000 gallons per day of remaining I/I that has been identified in the remainder of the system. This

quantity of I/I is comparatively small and well below the anticipated I/I flow rates expected in a system of this age and type according to the standard manuals of practice for this industry.

However, even though the 30,000 gallons of remaining I/I identified is quite small, it represents defects in the piping and manhole systems that must be found and corrected as part of an ongoing sewer system maintenance program. These defects, if not corrected, can lead to serious damage to the roadways which are located over the sewer line and manhole defects. Should the sewer line defect not be corrected, the soil in the area surrounding the pipeline defect is gradually washed into the sewer line. This causes an ever expanding soil void to open up near the defect location. After enough of the soil is removed and the void becomes large enough so as to no longer provide the necessary support for the roadway above, the roadway will collapse when a large vehicle (such as a school bus or truck) pass over. The collapse of a roadway causes not only damage to the vehicle and its passengers, but also causes massive damage to the pipeline below. The repairs needed after a roadway collapse are orders of magnitude larger than the cost of repairing the pipeline and manhole defects before the problems expand. This is why Aloha has, as do all properly managed sewer utility systems, a program to inspect

and repair sewer line and manhole defects on an ongoing basis.

Another indicator that proves that the SSWCS is not receiving excessive I/I flows is that the average per connection flow contribution for the system is less than 150 gallons per connection per day. The national average for per connection wastewater generation flow rates is approximately 250 to 300 depending on the source of the data. This would indicate that Aloha's wastewater generation rate is low because its I/I flow contribution is lower than average. FDEP witness MacColeman also states that the FDEP finds the 150 gallons per day per connection "normal." For all the reasons stated herein, it is my opinion that the SSWCS does not exhibit excessive I/I and is therefore 100% used and useful.

Q. Mr. Biddy estimates that there is approximately 280,000 gallons per day of I/I flow entering the SSWCS. Do you agree?

A. No. Mr. Biddy states that since approximately 140,000 gallons per day of I/I have been found to date by Aloha, and since that I/I reduction was accomplished in a small part of the total system, then a proportional amount of I/I must exist in the remainder of the system. This totally ignores the fact that the reason that the approximate 140,000 gallon I/I reduction took place in the small sub-system is that

this is the sub-system that one would expect to find higher I/I rates in. This part of the system was one of the first areas to be added to the SSWCS and its sewers are constructed of clay tile pipe buried deeply under heavily traveled highways. Also, Mr. Biddy's statements totally ignore the fact that total system I/I estimates based on total system flow isolation studies show that a maximum of approximately 30,000 gallons per day of I/I may exist in the remainder of the system. Also, Mr. Biddy fails to note that the 140,000 I/I flow identified has been removed from the system and no longer exists. As the I/I flows have been reduced over the last year, the flow of wastewater to the system from new connections (and from areas with higher sewer use customers) has increased making the reduction in I/I less apparent. However, it must be kept in mind that had the allowable I/I reductions not been realized, the actual wastewater plant flows would be higher then now being experienced or projected for the test year. Mr. Biddy states that the Capacity Analysis report prepared by me in March of this year indicated excess I/I in the collection system. This is not correct. I state that in 1998, regional flooding occurred in much of Florida that caused flood water inflow into the sewer lines. This problem occurred all over Florida and was not related to the condition of Aloha's sewer lines but to street and surrounding land area flooding causing

water to flow into the tops of manholes and pump station entrance hatches. In my Capacity Analysis Report I reported that these flows were not characteristic of the SSWCS and that they should be removed from the analysis for system capacity as they were flood related. The FDEP agreed and system flow projections were based on "normalized" 1998 flows and not the flows that were flood water induced inflow based. This fact is clearly described in the Capacity Analysis Report and I have no idea why Mr. Biddy would state that my report indicated that excessive I/I was present. The actual estimated quantity of I/I remaining in the SSWCS at this time is 30,000 gallons per day which is far below expected normal I/I values for the type, age and depth of bury of the pipe located throughout the service area.

Q. Mr. Biddy states that the operating expenses for the wastewater treatment plant should be adjusted for the presence of excessive I/I. Do you agree.

A. No. Since no excessive I/I exists there is no basis for adjusting operating expenses. In addition, Mr. Biddy states that he believes that the maintenance budget amount is excessive as the equipment manufacturer's of the new equipment must warrantee their equipment for one year after startup. Manufacturer's warrantees apply only to the repair of defects in materials and workmanship, they do not apply to normal operations, preventative maintenance, the purchase

of necessary spare parts, equipment repair due to normal operation, updates to the process computer controller programming, electronic control equipment service contracts, master computer system software upgrades, replacement of controls and equipment damaged by lightning, electric generator diesel motor maintenance, electric generator power system maintenance contracts, etc. This system must be 100% reliable as required by FDEP Rule 62-610 and therefore, requires a great deal of preventative maintenance to maintain that 100% reliability. The cost estimate for maintenance is appropriate; none of these costs will be diminished by manufacturer's warrantee provisions.

Q. Mr. Biddy also states that the used and useful percentage for the wastewater treatment plant should be reduced based on excess I/I being present in the system. Do you agree?

A. No. First of all, all the process units and equipment associated with this project are part of the reuse system so each and every component is 100% used and useful, secondly, no excessive I/I is present, therefore, any proposed reduction in used and useful percentage based on the assumption that excessive I/I is present is incorrect. Thirdly, each and every process unit provided at the wastewater treatment plant is sized to provide Class-One Reliability as required by FDEP rules for systems providing Part III reuse water (unrestricted access) to customers. Mr.

Biddy specifically states that two new plant components, the headworks and the equalization tank, were sized to accommodate the anticipated build-out flow rate of 2.4 MGD. While these units can and will be used throughout the useful life of the facility, they were designed as part of this interim upgrade with Class-One Reliability features as required by FDEP rule. In addition, all of the interim modifications, from the master wastewater pumping station to the headworks, to the flow equalization system, to the intermediate pumping system upgrade, to the new reuse pumping station to the plant water system to the electric generator system were required to provide FDEP with "reasonable assurance" that the wastewater plant would produce Part III reuse water. I am not an attorney, however, I have read the PSC and FDEP Rules and they state that reuse projects are to be deemed 100% used and useful. The FDEP required all the interim modifications prior to allowing Aloha to begin selling Part III reuse water to customers. Therefore, all the interim upgrades should be found to be 100% used and useful as they are an integral and required part of the reuse system. Mr. Biddy also states that two existing components, the reuse chlorine contact chamber and the effluent filter, have been sized for the ultimate flow rate of 2.4 MGD. This statement is also not correct, the filter is not sized for the ultimate capacity and has never

been permitted by FDEP as such. In fact, the permit application documents for the interim upgrades state that a filter upgrade will be required when the next facility upgrade is permitted. The chlorine contact chamber is sized to provide the proper CT (concentration and time) values with Class-One Reliability allowances, for the 1.6 MGD interim flow rate. The chlorine contact chamber may be capable of properly disinfecting a higher flow rate after the filter system is upgraded as the influent fecal coliform levels may be reduced allowing a lower CT value to be utilized in the future. This will allow the same tank to treat additional flows. However, it must be noted that a new filter backwash water supply tank may be necessary if the existing chlorine contact tank is used to disinfect higher flow rate in the future as the chlorine contact tank now is used for dual purposes. The backwash water holding capacity of the existing chlorine contract tank will be needed to provide CT value. A number of the process units, such as the headworks are constructed of concrete. Because of land availability, economy of scale and future operational considerations, the large concrete structures must be designed to accommodate the full anticipated flow rate of the facility. The plant site is much to small to accommodate two headworks structures, one large one constructed now and a smaller one added to handle the future flows later. In

addition, the total cost of constructing two headworks structures would be at least twice as expensive as building one unit to handle the anticipated build out flows now. Also, the cost of providing flow splitting facilities to provide flow, in the proper ratios, to each unit would be excessive and complicated to operate. This type of system would be inherently less reliable as well requiring additional reliability features be built into the system to provide FDEP with "reasonable assurance" that the system will function 100% of the time. The flow equalization system constructed as part of the interim modifications were sized to provide high level equalization for 1.6 MGD average daily flow rate plus back-up units as required to meet FDEP Class-One Reliability required for Part III wastewater reuse systems. High level equalization (peak flow rate emanating from the equalization system of 1.3:1 or less) is required at this time due to the limited size of the existing activated sludge reactors and clarifiers if FDEP Class-One Reliability is to be met. In the future, when new larger activated sludge reactors and clarifiers are added to the facility that are sized to meet the FDEP Class-One Reliability requirement without high-level equalization, this same system will provide that lessor level of equalization for a higher flow rate.

Q. Mr. Biddy states that he believes that a used and useful adjustment should be made to he reuse system. Do you agree.

A. No. Mr. Biddy again bases his need for an adjustment on his belief that there are excessive I/I flows being experienced in the SSWCS. This is a false assumption for the reasons I outlined previously. In addition, Mr. Biddy states that he believes that the reuse system can provide reuse water for a 2.5 MGD future flow rate. Mr. Biddy has based his assumptions on influent average daily flow of the wastewater into the treatment plant. However, reuse systems are designed based on reuse water demand, much like potable water systems. The influent flow rate to the wastewater plant has little to do with the design of the reuse system components. This is because reuse systems see a highly variable demand for reuse water. The demand is based on many factors such as the season of the year, the types of uses the reuse water is provided for, any local regulatory imposed lawn watering restrictions (limiting number of times lawns can be watered each week), the lack or abundance of rainfall, etc. Therefore, a reuse system must be designed for the maximum demand anticipated while still maintaining system pressures at useable levels. Since the purpose of a reuse system is irrigation and not potable supply, the pressure reserve of the system must be much greater than a

potable water system to insure that sufficient pressure will be available for the utilization of yard sprinklers. In potable water systems, minimum allowable pressures are such that yard sprinklers frequently do not function well during peak water use periods. Therefore, reuse system piping and pumps must be sized much larger than those used in an equivalent flow rate sized potable water system. The reused pumping station includes four pumps. Two of the pumps were existing pumps relocated to the new reuse pump station. Two new pumps were provided. Each pump is capable of pumping 1750 GPM at 210' total dynamic head. One pump is provided for back-up service to meet Class-One Reliability requirements. Therefore, the station has a maximum capacity of 7.5 MGD at peak reuse flow demand. Reuse water demands can peak at rates much higher than the average daily reuse flow use anticipated. For an average reuse demand of 1.6 MGD the peak demand, assuming all residential watering is completed in 6 hours each day plus the Mitchell reuse sites and the Fox Hollow point demands can occur simultaneously, can exceed a factor of 4 which would be 6.4 MGD. This peak flow rate would require a minimum of 2.5 pumps or 3 pumps plus one spare for a total of 4 pumps. The 24 inch reuse mains (trunk lines to service areas) were sized to carry the 7.5 MGD peak reuse flow demand while maximizing energy efficiency of the pumping systems. The 16 inch line was

sized to accommodate the peak demands of the portion of the service area served by that portion of the line (approximately 6.0 MGD). The 12 inch line was sized to accommodate the peak demands of the service area served by that portion of the distribution system (approximately 4.5 MGD). In addition, PSC and FDEP statutes both state that reuse system components are 100% used and useful. Based on all the statements that I made here, it is my opinion that the reuse system is 100% used and useful and that no adjustments are appropriate.

Q. Mr. Biddy states that he believes that Chapter 367.0817, which discusses used and useful determinations for reuse systems, does not apply to the elements of this project. Do you agree?

A. No. I believe that Chapter 367.0817 specifically applies to all elements of this project because all project components were provided specifically to enable Aloha to provide Part III reuse water to its customers. I am not an attorney, however, the language in this statute is clear, reuse related plant components shall be considered 100% used and useful. In addition, the FDEP also has a statute that states that the reuse facilities, and those plant components provided to meet Class-One reliability needed to support the reuse facilities, shall be considered 100% used and useful. Failure to recognize all of these reuse components would be

plainly contrary to these statutes. If Mr. Biddy's interpretation of the Statute was correct, the two new statutes and their strong wording serve no purpose because reuse system components would be treated like all other wastewater system components, thus rendering these statutes meaningless. This is not a reasonable interpretation. I do not believe that the statutes could be more clear. In my opinion, the elements of this project all fall under these statutes and therefore, are 100% used and useful.

Q. Mr. Biddy prepared an exhibit, TLB-3. What are your comments regarding that exhibit.

A. Mr. Biddy's exhibit TLB-3 is totally useless as the basis for all of his calculations are that excessive I/I exist in the SSWCS. There are no excessive I/I flows being contributed to the SSWCS.

Q. Can you tell us your opinion regarding the proper amount of reuse income that should be recognized for the test year based on the Utility's ability to sell its reuse water.

A. Yes. In my opinion, the $47,359 income from the sale of reuse water reported in the MFRs is at best, a very optimistic number. Due to a number of technical and regulatory factors, reuse systems are not able to sell 100% of the reuse water they produce on an annual basis. First, in central Florida, it is not uncommon that 50 inches of rainfall is experienced each year. A substantial portion of

this rainfall frequently occurs in a seasonal pattern. During the heavy rainfall seasons, the reuse customers utilize very little reuse water. Since the utilities have limited ability to store reuse water, this reuse water is disposed of in non-revenue generating percolation ponds or by some other alternative non-revenue generating disposal method. Also, FDEP rules prohibit applying reuse water to areas that may "pond" or where reuse water may runoff to the surface waters of the State. This rule further limits the disposal of reuse water during rainy periods. The last data that I have seen, related to the use of reuse water in the Pasco County system, showed that their system, which is quite well managed and much more mature a system that Aloha's, was only able to utilize approximately 50% of the annual quantity of reuse water they produced; and, much of that water was provided to customers at no cost. Other factors that affect the ability of a reuse system to sell their reuse water include: wastewater facility breakdowns or major maintenance work preventing the distribution of reuse water, golf course customer maintenance of their fairways and greens preventing the application of reuse water, major reuse system distribution system maintenance and/or repair, etc. To expect Aloha to be able to sell any major portion of its reuse water at this time would not be reasonable, especially since its system is still very young and many of

the potential reuse customers are only beginning to use reuse water for the first time. The largest of the intended reuse customers, Fox Hollow Golf Course, will not pay for reuse water for the first 4 years. The MFRs are in error in assuming that revenue will be derived from this customer. Staff was made aware of this provision of the agreement with this customer. Therefore, the revenue stated in the MFRs are not only overly optimistic by greatly overstated as regards to reuse revenue that should be anticipated. I agree with Staff Witness Merchant that it imputation of revenues is not the proper mechanism to be used to induce Aloha to locate and sigh-up new reuse customers. I also agree with witness Merchant that the proper mechanism is to monitor the number of customers Aloha signs-up and the revenue that generates. It is my opinion that the imputation of any revenues based on Aloha's lack of ability to sell its reuse water would be unfair and counter productive. In my opinion, Aloha is progressing at a very rapid pace in brining new reuse related plant and sites on-line and has made the provision of reuse service to its customers one of its highest priorities.

Q. Have you prepared an exhibit that shows your actual rate case expense and projected rate case expense to complete?

A. Yes. I have prepared a schedule, DWP-1, showing my actual rate case expense to September 1, 2000 and my projected cost

to complete. These are all prudently incurred costs related to this rate case.

Q. Does this conclude your rebuttal testimony?

A. yes.

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ENGINEERING COSTS
ALOHA UTILITIES, INC.
Docket No. 991643-SU
General Rate Increase - Seven Springs
12/31/99-08/31/00

Invoice Number	Invoice Date	Fees	Costs	Total
0419	01/31/00	$ 1,050.00	$ 0.00	$ 1,050.00
0429	03/05/00	1,312.50	0.00	1,312.50
0437	04/05/00	300.00	0.00	300.00
0454	06/02/00	637.50	0.00	637.50
0465	07/05/00	900.00	0.00	900.00
0472	08/06/00	2,552.01	0.00	2,552.01
0478	09/06/00	3,197.34	0.00	3,197.34
Total		9,949.35	0.00	9,949.35

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ALOHA UTILITIES, INC.
PSC Docket No. 991643-SU
Seven Springs Wastewater Rate Increase Case
Engineering Services Estimate to Complete

September 1, 2000 - Prehearing

Work with Utility, accountant and attorney on responses to discovery and audit and preparation for discovery and depositions; meetings with client and attorneys and accountants; telephone conferences with representatives of attorney, client; work on discovery responses; meetings with lawyers re: depositions with other witnesses; attend depositions of staff; discussions with lawyers re: outcome of depositions and exhibits; work on preparation of testimony and exhibits; discussions and revisions of same; review deposition of Larkin and Biddy; review various sources; work on rebuttal testimony; review staff testimony and revise rebuttal testimony and exhibits; finalization of same for submission.

130 hours at $80/hour + $500 in costs

Hearing Preparation to Late-Filed Exhibits

Meetings with clients and attorneys in preparation for hearing; review of notes, testimony and exhibits; attendance at hearings; meetings between hearings with clients; organize additional exhibits; cross-examination notes; participate in two day hearing; correspondence with client, attorney and accountant re: late-filed exhibits and additional information needed; assist in preparation of late-filed exhibits.

80 hours at $80/hour + $500 in costs

Transcript to Final Order

Assist in review of transcript and exhibits; assist in preparation of brief; review of final brief; review of OPC brief; review of staff recommendation; various conversations concerning the staff recommendation and analysis and any concerns re: same; post agenda discussions with attorneys and client; review final order and discussions re: same.

70 hours at $80/hour + $300 in costs

Reconsideration

Review of Final Order; assist in drafting Petition for Reconsideration on relevant issues; conferences with attorney, Utility and accountant re: same; review staff recommendation re: same; correspondence and telephone calls with attorney, client and accountant; review order on reconsideration.

20 hours at $80/hour

Fees	Costs	Total
$24,000	$1,300	$25,300

Total Estimated to Complete: $25,300

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