



Chesterfield County, Virginia Internal Audit

9901 Lori Road, Room 142 – P.O. Box 40 – Chesterfield, VA 23832
Phone: (804) 748-1240 – Fax: (804) 768-9346 – Internet: chesterfield.gov

DATE: April 23, 2019

TO: Appomattox River Water Authority Board of Directors
Dr. Robert C. Wichser, Executive Director

FROM: Greg L. Akers
Director of Internal Audit

A handwritten signature in black ink, appearing to read "Greg", is placed to the right of the printed name "Greg L. Akers".

SUBJECT: Appomattox River Water Authority (ARWA) Billing Special Project

The Office of Internal Audit has completed the audit and the final report is attached.

We would like to thank the ARWA Board of Directors Internal Audit subcommittee and ARWA staff for their cooperation and assistance during this audit.

Attachment



Providing a FIRST CHOICE
Community through
Excellence in Public Service

Chesterfield County
Internal Audit
Department

Greg L. Akers, Director
Steve Sanderson, Audit Manager
Khara Lounsbury, Technology Audit Manager
Lora Holland, Senior Auditor
Christopher Meade, Senior Auditor
Terry Parker, Senior Auditor
Jim Boudreau, Staff Auditor
Sandra Fuentes, Staff Auditor
Christian Wingfield, Staff Auditor
Annette Stinson, Administrative Analyst

Appomattox River Water Authority Billing Special Project

April 23, 2019

Appomattox River Water Authority



HIGHLIGHTS	1
INTRODUCTION	2
FINDINGS/RECOMMENDATIONS	
Financial Policies & Procedures and Billing	5
Financial Report and Budget Disclosures	9
Cost Allocation True-up Options	12

Appomattox River Water Authority (ARWA) Billing Special Project



Highlights

Financial Policies & Procedures and Billing

ARWA produces an annual budget approved by the Board establishing rate amounts charged to each jurisdiction. Generally, operations and maintenance (Base Rate), and expansion costs (Expansion Rate) budget amounts were consistent with the Service Agreement definitions. However, budgets since FY16 have also included an Allocation Rate component which is not authorized or defined in the Service Agreement.

Recommendation: Establish formal financial policies and procedures for budget development and billing that comply with rates authorized in the Service Agreement.

Financial Report and Budget Disclosures

ARWA's annual budgets and audited financial statements comply with their bylaw requirements. However, ARWA's financial statements do not describe significant service agreement and operational details useful for assessing the entity's financial results.

Recommendation: Define Service Agreement authorized rates for jurisdiction charges in future financial statements and budgets. Expand financial statement operational disclosures for plant capacity, allocation, flow, and revenue by rate type. Consider further strengthening financial reporting and budget disclosures by participating in GFOA award programs.

Cost Allocation True-up Options

ARWA and Chesterfield Utilities provided us their calculations including all categories where the Allocation Rate was used. We evaluated the financial impact calculations and compared them to the budgets, the service agreement rate definitions, and the billings. We noted ARWA's updated calculations used budget amounts, but Chesterfield's estimates used actual amounts billed.

Recommendation: Present a revised true-up to the ARWA Board of Directors using actual amounts billed. The Board should consider acting on the revised true-up to correct jurisdiction billing impacts from using Allocation Rate

Management concurred with 7 of 11 recommendations detailed in the report. We recommend staff periodically update ARWA's Board on their progress for recommendation responses with future implementation dates.

INTRODUCTION

BACKGROUND

Chesterfield County Internal Audit agreed to conduct this audit based on a request from the Chesterfield County Administrator, and an invitation from ARWA's Board of Directors (Board). Audit scope was determined in consultation with the Board's Internal Audit Subcommittee.

ARWA was established in 1960 to provide a water reservoir and distribution system to supply the participating jurisdictions (Cities of Petersburg and Colonial Heights, and the Counties of Prince George, Chesterfield, and Dinwiddie). ARWA was incorporated under the Virginia Water and Sewer Authorities Act (Title 15.2, Chapter 51 of the Code of Virginia) by the Governing Bodies of the five participating jurisdictions. ARWA's Bylaws establish a five-member Board, with each Governing Body appointing one Member to four-year terms that may be reappointed. The Executive Director, appointed by the Board, is responsible for all day to day operations.

When the Authority was established, the Board adopted a Service Agreement outlining the service area, facilities, estimated project cost, and rates charged to the participating jurisdictions. Amendments or modifications to the Service Agreement requires consent of the governing bodies of the Authority and all participating jurisdictions. Service Agreement Amendments and Modifications establish funding mechanisms to increase plant capacity and adjust each jurisdiction's allocation. Jurisdictions may fund their expansion cost share directly or through ARWA's debt service.

ARWA bills jurisdictions quarterly using two rate types set in the annual budget:

- **Base Rate** provides for the full system operations and maintenance costs using a uniform per 1,000-gallon rate applied equally to all jurisdictions.
- **Expansion Rate** funds ARWA's expansion debt service using a per 1,000-gallon rate proportionate to each jurisdiction's expansion share.

In Fall 2018, Chesterfield County noted that the jurisdictions were being billed for their share of non-expansion debt service and other items based on a different rate than the Base Rate. At the October 2018 Board Meeting, the Authority acknowledged the use of an alternate rate and proposed a "true-up" to match the jurisdiction's past billings to the proper rates. The Board discussion led to the request for an independent evaluation of the Authority's compliance with the established rate structures prior to the Board voting on the proposed "true-up." The Board established an Internal Audit subcommittee to develop the audit scope. The Subcommittee shared the proposed audit plan at the November Board meeting, and the Board allowed the Subcommittee to finalize objectives and scope.

OBJECTIVES

Objectives of the audit were to evaluate:

- Service agreement requirements with billing policy and procedures.
- Jurisdiction billing calculation and support.
- Support from any participant jurisdictions questioning billing accuracy.
- Disclosure of ARWA’s governance structure and service agreements in the audited annual financial report and the annual proposed budget.
- Billing allocation method of the 2012 and 2017 debt service, in-plant engineering, reserve, and capital program plan costs in comparison with bond requirements and/or ARWA Board policy.
- Calculations for cost allocation true-up options.

SCOPE

Our audit work covered July 1, 2015 through December 31, 2018 and the current operating environment. We considered the following code, policies, and procedures during our audit:

<i>Virginia Water and Waste Authorities Act, Title 15.2 Chapter 51, Code of Virginia</i>	<i>ARWA Articles of Incorporation</i>
<i>ARWA Bylaws</i>	<i>ARWA Bond Transcript Documents, for outstanding Series 2017, 2012, and 2010</i>
<i>ARWA Service Agreement with Jurisdictions (1964); First Amendment (1982); Modification Agreement (1983); Second Amendment (1986); and Third Amendment (2001)</i>	

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Chris Meade, Senior Auditor, performed the audit work. Chesterfield County Internal Audit is a department within the organization of Chesterfield County/Schools.

Since ARWA is a separate legal entity from Chesterfield County and Schools, we made certain adjustments to our routine audit reporting process. To be independent in fact and appearance, auditors must be free from conflicts of interest and free from interference in how the work is conducted and reported. Government Auditing Standards require we identify, safeguard against, or report threats to independence. Chesterfield County is one of the five ARWA member jurisdictions. Each jurisdiction has one representative on ARWA’s Board of Directors. To safeguard against threats to independence, we established our audit scope and provided a draft report for management responses to audit recommendations to ARWA’s Internal Audit subcommittee (Colonial Heights and Dinwiddie Board members) and the Executive Director. Our final report, including management responses to recommendations, is addressed to the ARWA Board of Directors. Our audit information requests were made through the Executive Director, with copy to the Internal Audit subcommittee.

METHODOLOGY

Detailed information regarding the methodology can be found in the individual findings listed in the report. Our methodology included the following:

- Analyzing governing documents for rate establishment authority and billing requirements, to evaluate compliance with billing policies and procedures.
- Evaluate governance and billing structure disclosures in the annual financial statements and budget.
- Review billing accuracy questions from participant jurisdictions and evaluate cost allocation true-up options from ARWA staff.

INTERNAL CONTROL CONCLUSION

According to Government Auditing Standards, internal controls, in the broadest sense, encompass the agency's plan, policies, procedures, methods, and processes adopted by management to meet its mission, goals, and objectives. Internal controls include the processes for planning, organizing, directing, and controlling program operations. It also includes systems for measuring, reporting, and monitoring program performance. An effective control structure is one that provides reasonable assurance regarding:

- efficiency and effectiveness of operations;
- accurate financial reporting; and
- compliance with laws and regulations.

Based on the results and findings of the audit test work, auditors concluded that there are several opportunities for improvement to internal control procedures to better provide reasonable assurance to assist management in meeting its missions, goals, and objectives. Recommendations specific to improving these controls can be found in detail further in the audit report.

CLOSING

We would like to thank ARWA staff and management for their cooperation and assistance during this audit.

FINDINGS, RECOMMENDATIONS, RESPONSES
Financial Policies & Procedures and Billings
(Point Sheet 1)

CRITERIA:

The Virginia Water and Waste Authorities Act authorizes the governing bodies of Virginia localities to create a water authority with powers outlined in Section 15.2 Chapter 51 of the Code of Virginia.

The Appomattox River Water Authority (ARWA), created pursuant to this Act, adopted Bylaws outlining the role of the Executive Director of the Authority. The Executive Director shall be responsible for payment of bills, receipt of monies, and records or revenues and expenses. He or she shall prepare an annual budget for Board consideration and shall be responsible for the administration of the approved budget. The budget sets the rates charged to the participating jurisdictions.

The Service Agreement and subsequent Amendments to the Service Agreement (“Service Agreement”) provides the Authority with two billing rates:

- **Base Rate** (per 1,000 gallons) - Applied equally to each participating jurisdiction’s water purchases and provides fully for operations and maintenance.
- **Expansion Rate** (per 1,000 gallons) - Applied to each participating jurisdiction proportionally in accordance with debt funded expansion percentages.

The Government Finance Officers Association (GFOA) best practices recommend formally adopting financial policies and procedures. This includes budget development, charges, fees, and billing.

CONDITION(S):

The Authority produces an annual budget approved by the Board establishing rate amounts charged to each jurisdiction. Generally, operations and maintenance (Base Rate), and expansion costs (Expansion Rate) budget amounts were consistent with the Service Agreement definitions. However, budgets since FY16 have also included an **Allocation Rate** component which is not authorized or defined in the Service Agreement.

- **Allocation Rate** (per 1,000 gallons) – Applied to each participating jurisdiction based on their share of total capacity (Chesterfield 69.31%, Colonial Heights 4.39%, Dinwiddie 6.75%, Petersburg 16.69% and Prince George 2.86%).

Instead of using the Base Rate as required by the Service Agreement, this Allocation Rate has been applied to the 2012 and 2017 debt service (non-expansion), general reserve, and capital plan contributions in the budget since FY16.

Quarterly billings are based on water usage by jurisdiction. We selected bills for testing water use to monthly flow reports (i.e. jurisdiction meter readings) and that rates agreed with the approved budget. No exceptions were noted. However, the quarterly bills since FY16 have incorporated the Allocation Rate noted above that was not defined in the Service Agreement.

FINDINGS, RECOMMENDATIONS, RESPONSES
Financial Policies & Procedures and Billings
(Point Sheet 1)

The Expansion Rate is used to bill jurisdictions for their share of additional capacity. The Service Agreement applies this rate to water usage, which requires a billing “true-up” at fiscal year-end to equal budgeted debt service payments. A more efficient policy would charge jurisdictions for their expansion debt service share independent of water usage.

CAUSE(S):

- The Authority has not formally adopted financial policies and procedures, including budgeting and billing.
- In late 2013, the Authority and the participating jurisdictions considered a new Service Agreement that introduced the Allocation Rate. During FY16 budget development, the 2012 Bond debt service billings were changed from the Base to the Allocation Rate. Authority staff and counsel have not been able to confirm exactly when or how the staff was directed to prepare the FY16 budget using the allocation rate, but at the time it appeared reasonably likely that the proposed Service Agreement would be approved.
- The service agreement requires a per 1000-gallon rate for expansion debt service charges to jurisdictions.

EFFECT(S):

- Certain charges to the participating jurisdictions since FY16 use a rate basis (i.e. Allocation Rate) not approved in the Service Agreement.
- The use of a per 1000-gallon rate for expansion debt service billing requires a “true-up” to equal expansion debt service cost.

RECOMMENDATION(S):

We recommend ARWA:

1. Establish formal financial policies and procedures for budget development and billing, that comply with rates authorized in the Service Agreement.
2. Develop budgets and jurisdiction billings using authorized rates.
3. Consider obtaining an independent certification of billing rates in the annual budget.
4. Consider updating the Service Agreement to allow billing expansion debt service costs independent of water usage.

FINDINGS, RECOMMENDATIONS, RESPONSES
Financial Policies & Procedures and Billings
(Point Sheet 1)

Auditor comment: ARWA's Internal Audit Subcommittee meet on April 15, 2019 with Authority staff to consider Management responses to our DRAFT report. Management's responses were provided by ARWA's Executive Director and are included after each recommendation throughout the report. Auditor comment was added with clarification after certain Management responses. We recommend staff periodically update ARWA's Board on their progress for recommendation responses with planned future implementation dates.

MANAGEMENT'S RESPONSE(S):

1. Concur. The Authority's financial policy and procedure including method and means for budgeting is presented in the Authority's Service Agreement and Section 601 of ARWA's Agreement of Trust, and in the operating budget and capital improvement budget provision of ARWA's Financial Policies adopted May 21, 2015. The Authority has strictly followed these financial requirements except as noted with respect to the Allocation Rate. ARWA's financial advisor, Davenport, prepared financial policies (including policies for developing the operating and capital improvement budgets), and the ARWA Board adopted the policies on May 21, 2015.

We concur that financial policies and procedures for budget development and billing need to be recorded by written documentation (Standard Operating Procedures). This action will provide guidance to current and future management staff and can be developed in-house in a timely manner.

2. Concur. This recommendation has been followed by the Authority except as noted with respect to the Allocation Rate and will continue to be followed.

3. Do not concur. We discussed this recommendation with our outside financial Accountant and Auditor. Both of these firms service a multitude of Virginia Cities, Counties, and Towns along with water & wastewater Authorities. Neither were familiar with this recommendation nor knew of any clients that were bringing in an outside individual to provide for independent certification of billing rates in an annual budget. Based on our outside financial experts, we do not choose to move forward with this recommendation.

4. Do not concur. ARWA has facilitated this effort to the maximum extent possible. The recommendation cannot be implemented without amending the Service Agreement, which requires the approval of the governing bodies of ARWA and each of the participating jurisdictions.

In late 2013 the ARWA Board directed staff and legal counsel to update and consolidate the 1964 service agreements. As understood by ARWA counsel, the primary purpose of the effort was to establish for each member jurisdiction a fixed property right in the capacity of the ARWA system that could be sold to other member jurisdictions. Currently, allocations of capacity are made to the member jurisdictions only as the basis for apportioning the obligation

FINDINGS, RECOMMENDATIONS, RESPONSES
Financial Policies & Procedures and Billings
(Point Sheet 1)

to pay certain capital costs and are subject to change based on water demand. Additional goals for the updated service agreement were stated by various stakeholders or became apparent over time including adding more stringent water quality standards, more clarity regarding capital cost sharing and annual rate setting, and a more formalized water supply planning process.

Status of Updated Service Agreement: The first draft of the updated Service Agreement was sent to the member jurisdictions in late October 2013. Over the next three years, eighteen drafts of the Agreement were produced, commented upon, and discussed and negotiated in meetings. However, the document never reached the point at which the parties thought it was ready to present to the ARWA Board for approval. ARWA counsel believes that the main obstacle was (and is) the fact that the ARWA-owned transmission system is incapable of providing to each of the member jurisdictions the capacity in the water treatment plant that they have paid for and would "own" under the updated Service Agreement. The focus was the Branders Bridge project and the dispute over which member jurisdictions would pay for it and how much each would pay. ARWA engaged Judge Gamble as mediator to break the Branders Bridge impasse and held a formal mediation session in November 2016. For the reasons outlined in Judge Gamble's summary, the mediation effort failed. By the winter of 2016-2017, any serious effort to pursue a full-scale update of the 1964 service agreements had ceased.

Status of Fourth Amendment: However, the primary purpose for the updated Service Agreement, the creation of fixed, saleable allocations of the ARWA system, remains as vital as ever. In response, ARWA's Executive Director and counsel developed the Fourth Amendment to the 1964 Service Agreements (the "Fourth Amendment") as a way to achieve this purpose without a complete rewrite. The Fourth Amendment freezes the "Allocations of Total Capacity" where they stand today and provides that the allocations can no longer be changed through increases or decreases in water demand. It further provides that the member jurisdictions can sell portions of their allocations to each other on a permanent or a temporary basis. Finally, it imposes a limit on how much capacity can be purchased in each five-year time period. On May 18, 2017, the ARWA Board approved the Fourth Amendment by a 3-2 vote. ARWA then forwarded the Fourth Amendment to the member jurisdictions' governing bodies for consideration. On June 6, the Petersburg City Council approved the Fourth Amendment. On June 13 and July 11, respectively, the governing bodies of Prince George County and Colonial Heights followed suit. To date, Chesterfield and Dinwiddie have taken no action on the Fourth Amendment. This item falls under the purview of the Board of Directors.

***Auditor comment:** We can appreciate that the effort to modify the Service Agreement for expansion debt service billing could outweigh the benefit. An alternative approach could be for ARWA to apply known adjustments for expansion debt service billing, currently done annually, to the quarterly billings throughout the year.*

FINDINGS, RECOMMENDATIONS, RESPONSES
Financial Report and Budget Disclosures
(Point Sheet 2)

CRITERIA:

Virginia Code § 30-140 requires government authorities, such as ARWA, to have a fiscal year audit performed according to the specifications of the Auditor of Public Accounts. ARWA's Bylaws also require an annual audit by an independent Certified Public Accountant with results reported to the Board.

ARWA's Bylaws require the Authority's budget comply with publication, notice, and public hearing procedures set forth in Virginia Code § 15.2-2506, as if the Authority were a county, city, or town.

Audit reports in financial statements provide assurance that management is reporting results in accordance with generally accepted accounting principles. Financial statements typically present a basic fiscal overview of a governmental unit. A Comprehensive Annual Financial Report (CAFR), by contrast, presents a wider variety of important information intended to help the reader properly understand the basic statements. In addition to the basic financial statements, a CAFR includes a transmittal letter with additional background and future plans, and a statistical section to illustrate trends over the past ten years.

GFOA's Best practices include:

- Certificate of Achievement for Excellence in Financial Reporting Program - recognizes individual governments' CAFRs that go beyond the minimum requirements of generally accepted accounting principles. The program's goal is to ensure that financial statement users have the information needed to assess the financial health of participating governments.
- Distinguished Budget Presentation Award Program - recognizes governments meeting program criteria for communicating policies, operations, and financial plans in their budget documents.

CONDITION(S):

ARWA's annual budgets and audited financial statements comply with their bylaw requirements. However, ARWA's financial statements do not describe significant service agreement and operational details useful for assessing the entity's financial results such as:

- overall plant capacity;
- participating jurisdiction plant allocation;
- annual flow by jurisdiction;
- service agreement authorized rates and definitions;
- annual budgeted amounts for Base Rate and Expansion Rate;
- revenue by jurisdiction and rate type; and
- historical trend information.

FINDINGS, RECOMMENDATIONS, RESPONSES
Financial Report and Budget Disclosures
(Point Sheet 2)

ARWA's budget details revenue by jurisdiction; however, the rate types used (O&M, Reserve Policy, and Debt Service) are not defined and do not match the rate types used in the Service Agreement (Base and Expansion). Project descriptions and additional details are not provided for capital projects listed for the Construction Fund.

CAUSE(S):

- ARWA has not pursued GFOA best practices in developing their annual report or budget document.

EFFECT(S):

- It is difficult for financial statement and budget users to evaluate compliance with service agreement requirements.
- Financial statement and budget users have limited operational, policy, and trend information to help interpret activity, results, and future plans.

RECOMMENDATION(S):

We recommend ARWA:

5. Define Service Agreement authorized rates for jurisdiction charges in future financial statements and budgets.
6. Expand financial statement operational disclosures by jurisdiction for plant capacity, allocation, flow, and revenue by rate type.
7. Consider adding necessary information to transition the current annual financial report to a CAFR and participating in GFOA's Certificate of Achievement for Excellence in Financial Reporting Program.
8. Consider expanding budget information to participate in the GFOA's Distinguished Budget Presentation Award Program.

MANAGEMENT'S RESPONSE(S):

5. *Concur. This recommendation has been and continues to be followed by the Authority. The cited Bylaws provision may be overridden by applicable law, and in 2013 the Virginia General Assembly amended the notice and public hearing provision of 15.2-5136 to cover the setting of water rates which ARWA has been following as required.*

Presently ARWA's practices conform to the original 1964 Water Service Agreements and the First Amendment to the 1964 Water Service Agreements (1982) as follows:

- *Uses fiscal basis for setting rates;*
- *Rates have two components - Base Rate and Expansion Rate;*
- *Base Rate is to provide enough money to pay the original bonds, System O&M, the First Improvement Cost and all Future Improvement Costs;*

FINDINGS, RECOMMENDATIONS, RESPONSES
Financial Report and Budget Disclosures
(Point Sheet 2)

- *Base Rate is to be a uniform rate per 1,000 gallons and is developed based on usage projections and adjustment as necessary throughout the year;*
 - *The Expansion Rate is a non-uniform per 1,000 gallon rate necessary to provide for the First Expansion Cost and all Future Expansion Costs;*
 - *The Expansion Rate is determined every July 1 based on projected actual water usage (not from capacity allocation) so that each Participating Jurisdiction covers its share of the Expansion Costs (an Expansion Share);*
 - *Participating Jurisdictions to pay quarterly for the water consumed;*
 - *Late payments bear interest at 5%;*
 - *Participating Jurisdictions agree to set their retail rates at levels sufficient to pay ARWA's charges.*
6. *Concur. The recommended information can be added into the Authority's annual financial report beginning in 2019.*
7. *Do not concur. After discussing this recommendation with both our outside Accountant and Auditor, we understand that water and wastewater utilities that have a large in-house accounting and financial staff generally participate in this item. Based on this discussion, we understand that much of the additional information would need to be handled in house. The financial information would remain the same but additional work would be required from the Authority Auditor to meet the GFOA requirements. The additional cost we would incur if we were to pursue this item, and also considering the fact that we have very limited inside staff handling the annual financial report were taken into consideration. We could expect that one to two years would be needed to adopt this recommendation. The benefit from following this recommendation appears to be limited to an annual award plaque from the GFOA and possibly some recognition if and when the Authority would seek to borrow from a bank or other lender, or to sell bonds on the open market.*

***Auditor Comment:** In addition to use by certain third parties, the extra policy and financial trend disclosures required by GFOA's financial reporting certificate program improves reference material available to Management and jurisdiction customers.*

8. *Do not concur. We discussed this recommendation with both our outside Accountant and Auditor, and also visited the GFOA's website. We understand that this item is generally adopted by Virginia Cities, Towns and Counties, not smaller water and wastewater Authorities like ARWA. We could expect to comply with the GFOA's standards that our present six to eight-page budgets would need to be expanded to sixty to seventy-five pages, which then becomes more of a luminous presentation rather than the presentation of hard numbers. Overall, our budget numbers would not change, just the budget format, line item information provided and overall budget.*

***Auditor Comment:** In addition to use by certain third parties, the extra policy and financial trend disclosures required by GFOA's budget award program improves reference material available to Management and jurisdiction customers.*

FINDINGS, RECOMMENDATIONS, RESPONSES
Cost Allocation True-up Options
 (Point Sheet 3)

CRITERIA:

We evaluated ARWA’s calculations for cost allocation true-up options and support from participant jurisdiction(s) questioning billing accuracy.

CONDITION(S):

In the October 2018 ARWA Board Meeting, Dr. Wichser and ARWA Counsel A. Anderson presented their review of charge rates used for certain FY16, FY17, and FY18 budget items. Their presentation responded to Chesterfield County Utilities’ questions about using the Allocation Rate (not identified in the service agreement) instead of the Base Rate in the budget and billing process for 2012 Debt Service. However, Chesterfield later questioned the allocation rate impact on 2017 Debt Service, Reserve, and Capital Plan billings.

ARWA and Chesterfield Utilities provided us their calculations including all categories where the Allocation Rate was used. We inquired and there were no other jurisdictions questioning billing accuracy. We evaluated the financial impact calculations and compared them to the budgets, the service agreement rate definitions, and the billings. We did not identify errors and noted ARWA’s updated calculations generally agreed with Chesterfield’s financial impact estimates. The small differences are from ARWA using budget amounts and Chesterfield using actual amounts billed. The financial impact to jurisdictions is best illustrated using actual amounts billed.

	Billing true-up estimates					
	Chesterfield	Colonial Heights	Dinwiddie	Petersburg	Prince George	Total
ARWA Calculation ¹	\$7,726	\$13,890	(\$24,473)	\$4,252	(\$2,940)	(\$1,545)
ARWA Updated Calculation ²	44,197	50,972	(89,361)	14,358	(10,563)	9,603
Chesterfield Calculation ³	48,696	52,855	(79,078)	6,888	(15,316)	14,045
Difference	(\$4,499)	(\$1,883)	(\$10,283)	\$7,470	\$4,753	(\$4,442)

1 – 2012 Debt Service component only – shared at October 2018 Board meeting

2 – 2012 Debt Service, 2017 Debt Service, Reserve Funding, and Capital Plan Funding – *Budget* Amounts

3 – 2012 Debt Service, 2017 Debt Service, Reserve Funding, and Capital Plan Funding – *Actual Billed* Amounts

FINDINGS, RECOMMENDATIONS, RESPONSES
Cost Allocation True-up Options
(Point Sheet 3)

RECOMMENDATION(S):

We recommend ARWA:

9. Propose a cutoff date to begin billing 2012 Debt Service, 2017 Debt Service, Reserve Funding, Capital Plan Funding according to the Base Rate.
10. Present a revised true-up to the ARWA Board of Directors using actual amounts billed through the cutoff date.
11. Consider Board action on the revised true-up to correct jurisdiction billing impacts from using Allocation Rate.

MANAGEMENT'S RESPONSE(S):

9. *Concur. The ARWA agrees with this recommendation. In fact, at the October 18, 2018 ARWA Board Meeting the Executive Director and outside counsel presented a memorandum stating that "Authority staff recommends that Authority Board authorize the publication of notice of public hearing to amend the FY 2019 budget to effect (a) the "true-up" related to the 2012 Bond debt service in FY 2016-2018 and (b) the change in the Base Rate for FY 2019. If approved at the November Board meeting, both the "true-up" and the Base Rate change would be reflected in the second quarter invoices to be issued to the participating jurisdictions in January 2019."*

Additionally, we recommend making adjustments related to the inclusion of the debt service on both the 2012 Bond and the 2017 Bond in the Base Rate for fiscal year 2019. The Authority had not entered into the formal In-Plant bond agreement until December 21, 2017. April 2018 was the first time that a 2017 Bond debt service payment was initiated.

Please note that both the Reserve Funding and Capital Plan Funding mechanisms to provide for annual budget funding are not covered by any existing bond covenants. However, since the 1982 Amendment to the existing Water Service Agreement states that the Base Rate "provides fully for the operation and maintenance of the Authority's water system, as improved and expended from time to time," we believe that adjusting these two funding accounts to the Base Rate is appropriate. The Authority did collect funds in Fiscal Years 2017 and 2018 based on Plant Allocation that were planned to be used for engineering services related to the In-Plant project. The ARWA Board clearly wanted to move forward in 2017 and 2018 by collecting and reserving funds to cover the upcoming In-Plant project engineering service fees in order to reduce the upcoming bond borrowing costs. The 2017 Bond excess remaining from the In-Plant project costs paid the ARWA back for the engineering service fees, and those funds were placed into the Reserve Fund. The In-Plant engineering service fees will also be included in the Reserve Fund conversion since these fees are already in the Reserve Fund.

FINDINGS, RECOMMENDATIONS, RESPONSES
Cost Allocation True-up Options
(Point Sheet 3)

- 10. Concur. The "True-up" numbers were presented to the ARWA Board of Directors at the October 18, 2018 ARWA Board Meeting by the Executive Director and the Authority's outside Counsel. ARWA's updated "true-up" calculations agree with Chesterfield Utilities calculations and will be presented to the ARWA Board at the May 16, 2019 Board Meeting.*
- 11. Concur. This recommendation is fully at the discretion of the ARWA Board of Directors. However, ARWA recommends and supports this recommendation. ARWA will be presenting a memorandum to the Board at the May 16, 2019 Board Meeting to enable the Board to move forward on this item. The ARWA will also include the suggested FY2019 budget "True-up" related to the 2012 & 2017 bond debt service so that beginning in July 2019 with the new fiscal year budget, this specific item will also have been addressed.*