Water/Wastewater Utility Compensation and Employee/Contractor Retention Survey Results 2021

MISSISSIPPI STATE UNIVERSITY™

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Contents

Introduction

The public water systems in Mississippi are estimated to serve almost 2.9 million persons each year. While many individuals in the state are served by multiple public water systems (home, work, school, church, etc.), this fact demonstrates that there is a tremendous need in the state for water systems to be operated in a safe and effective manner and the state of Mississippi has done an exceptional job in achieving this. The state's water supply primacy agency, the Mississippi State Department of Health Bureau of Public Water Supply (MSDH–BPWS), has developed unique and innovative programs that, in many cases, have led the nation. Examples include the legislatively mandated Board Management Training program that is required for all water associations and municipalities with a population of 10,000 residents or less.

Eighty-eight percent of the over 1,100 public water systems in Mississippi are considered community water systems. For a water system to be considered a community water system, it must supply water to at least 15 service connections or 25 residents on an annual basis. Many of these systems were created in the 1960s to provide safe drinking water to rural areas through programs developed and implemented by the Farmers Home Administration (currently USDA Rural Development). Today, many of these systems face substantial challenges including an aging workforce and infrastructure, increased legal mandates and regulations, and outdated management practices. Of these challenges, one that needs prompt attention in today's operating environment is the management of a community water system's human capital.

Human capital is the water system's most valuable asset since it is the key factor in the water system's ability to deliver safe water to its customers. It is also one of the highest expenditures of the utility; in most local government organizations, employee salaries and fringe benefits comprise between 50 and 75 percent of the total operating budget and water utilities do not deviate from this substantially (this does not include the capital costs of constructing treatment plants, installing distribution lines, etc.). The need for an increased awareness of the importance of investing in human capital is underscored by the changes occurring as the Baby Boomer generation leaves the workforce. The ability to attract and retain talented, highly competent employees to meet the needs of Mississippi's citizens in rapidly changing times will help to contain costly turnover and a loss of institutional knowledge. However, little effort has been devoted to understanding the compensation and benefits provided in Mississippi that employees and contractors that work with Mississippi's community water systems receive and how these vary across factors such as system size, treatment class, organization type, and geographic region.

To help water utility entities fill this knowledge gap, Mississippi State University Extension Service faculty surveyed the state's public water systems in 2004, 2012, 2018, and again in 2021 to gather information about the compensation and benefits provided to workers in Mississippi's community water systems. Our goal was to review the characteristics of various water utility positions such as compensation, benefits, and years of service and how these characteristics relate to the characteristics of a water utility (population served, complexity of water treatment, organizational structure and location). Information provided by the water utilities in the state also allowed us to contrast employee benefits provided by water utilities and to develop a model to identify key factors that influence employee retention (i.e., years of service).

We hope that the findings from this study are of benefit to water system officials in developing fair and competitive pay and benefits structures designed to not only recruit, but also retain, quality employees who support and contribute to the organization's culture and goals.

Equitable compensation and benefits plans foster a high-quality work environment that supports the recruitment, training, motivation, and retention of a diverse group of quality employees. Job descriptions should be accurate and thoroughly describe the job being performed while pay structures should not only reflect the responsibility and skills for the position, but also account for cost-of-living and superior performance adjustments in compensation.

Survey Design

There are many factors that impact the comparability of public (community) water systems such as operating budgets, community and organizational priorities, level of outsourcing, geography, and departmental organization. Although every effort was made to standardize available data, not all services, functions, or positions could be included in this analysis or appear in a way that provides a straight-forward comparison among peer cohorts. Job descriptions with similar or overlapping duties and responsibilities were consolidated for reporting purposes. **It is important to note that all data collected for this study are self-reported and unaudited.**

In order to accurately determine the average compensation levels by occupation, years of service, benefit packages available, etc., water systems were grouped into organizations based on the responsible official and mailing

address. Most organizations are composed of only one system, but many organizations were composed of up to nine individual water systems. The logic used in this grouping is quite simple; an organization that is comprised of three water systems may only employ one certified waterworks operator. This organization would be unlikely to employ separate certified operators for each system and thus using a per system basis, rather than a per organization basis, could significantly skew the results. Throughout the remainder of this publication, the term "organization" will carry this meaning unless otherwise specified.

Surveys were sent to 808 organizations (these organizations were comprised of 1,187 individual water systems). Efforts were made to exclude non-community systems, although this effort was not entirely successful. One hundred twenty-eight organizations completed and returned the survey instruments (a response rate of 15.8 percent).

The 128 organizations responding to the survey represented 157 individual water systems as defined by the Mississippi State Department of Health–Bureau of Public Water Supply (MSDH–BPWS). One hundred twelve organizations were comprised of one system, eight organizations were comprised of two systems, three organizations were comprised of three systems, two organizations were comprised of four systems, and one organization was comprised of five systems.

Each organization was asked to complete a single survey. Organizations were asked to respond to survey questions regarding number of employees/contractors, pay structure/scale, insurance and retirement benefits, vehicle and mileage reimbursement, and other fringe benefits, that reflect the organization as a whole. Data concerning system size, treatment class, type of organization, and geographic location was verified using a master list of system information and characteristics provided by the MSDH–BPWS.

Organization Characteristics

Water and wastewater organizations in Mississippi can be classified differently depending on the size of the population they serve, the complexity of the treatment process used by the organization in the individual systems, the type of management/governing board utilized by the organization, and the geographic location of the state in which they are located. There are undoubtedly other possible classifications as well, but these are the primary factors typically discussed when comparing contractor and employee compensation and years of service.

Water Organizations

A key factor in classifying water organizations focuses on the size of population served.[1] The smallest responding water organization reported serving a population of 42 persons while the largest responding organization served a population of 49,339. Nineteen of the responses (14.8 percent) were from organizations considered to be very small and 73 of the responding organizations (57.0 percent) were classified as small. Twenty-five of the respond ing organizations (19.5 percent) were classified as medium and the remaining 11 organizations (8.6 percent) were considered large. This classification of organizations rather than individual systems is not a common practice, but we considered it acceptable for the purpose of this publication because it provides a commonly understood delineation.

Since different water treatment techniques require different levels of expertise for the certified waterworks operator (and perhaps management and distribution persons as well), it is also advantageous to classify the organizations by treatment class.[2] One organization may contain multiple systems that fall into multiple treatment classes, so we classify the organization by the most complex treatment class used by the organization's systems. For example, an organi-

[1] Served population is calculated as 2.6 people per system connection. For the purposes of this publication, the following commonly accepted definitions are used to classify water organizations by size:

- **Very Small** – serves a population of 500 fewer
- **Small** – serves a population between 501 and 3,300, inclusive
- **Medium** – serves a population between 3,301 and 10,000, inclusive
- **Large** – serves a population of more than 10,000

[2] Treatment classes defined by the Mississippi State Department of Health – Bureau of Public Water Supply are as follows:

- **Class A** – organizations having surface water treatment, lime softening, or coagulation and filtration for the removal of constituents other than iron or manganese.
- **Class B** – organizations having two or more Class C treatment facilities, with iron or manganese removal facilities breaking pressure or requiring flocculation and/or sedimentation, a system using membrane filtration, or ion exchange treatment.
- **Class C** – organizations with aeration, pH adjustment, corrosion control, or closed pressure type facilities.
- **Class D** – organizations that provide no treatment to the water other than chlorination, fluoridation, or direct chemical feed.
- **Class E** – organizations that purchase all finished water from other systems.

(Source: Recommended Minimum Performance Guidelines for Certified Waterworks Operators in the State of Mississippi, Mississippi State Department of Health.)

zation that consists of one Class B system and two Class C systems would be classified as a Class B organization.

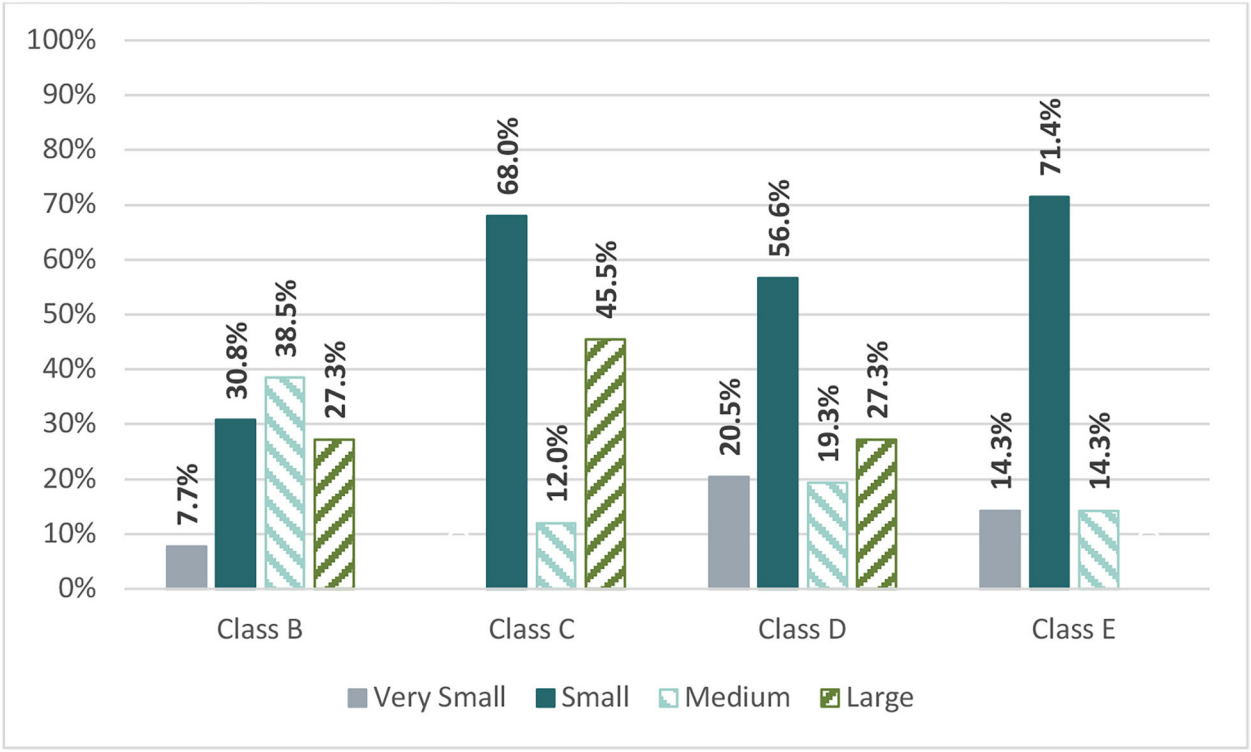
Eighty-three of the responding organizations (64.8 percent) were classified as Class D water treatment organizations, while 25 organizations (19.5 percent) utilized Class C treatment techniques, 13 organizations (10.2 percent) were Class B, and seven organizations (5.5 percent) were Class E organizations that purchased water from other utilities. Furthermore, nine organizations (7.0 percent) indicated that they purchase between 1 and 100 percent of the water sold (one Class D organization reported that it purchased one percent of their water from another utility, one Class C organization reported that it purchased 40 percent of their water from another utility, and the remaining seven utilities are the Class E organizations that purchase 100 percent of their water from other utilities).

Regarding management type, 93 (72.7 percent) of the responding organizations are classified as water associations, while 26 (20.3 percent) are municipal water utilities. This is compared to the overall distribution of water organizations in the state with around 55.0 percent being organized as associations and 32.0 percent being utilities governed by a municipality. The remaining nine responses (7.0 percent) were classified as districts (two organizations) or privately-owned utilities (seven organizations). **Figure 1** shows the percentage of organizations in each size category broken into the various treatment classes while **Table 1** presents the same information in a numerical format.

Wastewater Organizations

While there were fewer wastewater organizations that responded to the survey (35 organizations that responded to the survey indicated that they provide wastewater services to their customers), there was a high variation in the types of wastewater organizations that did respond. Populations served ranged from 147 to 27,500. Using the same population size classifications as was used in classifying water organizations, six (17.1 percent) wastewater organizations were classified as very small, 14 (40.0 percent) were classified as small, nine (25.7 percent) were classified as serving medium-size populations, and six (17.1 percent) were classified as serving large populations.

Figure 1 – Percentage of Water Organization Population Size Classifications by Treatment Class



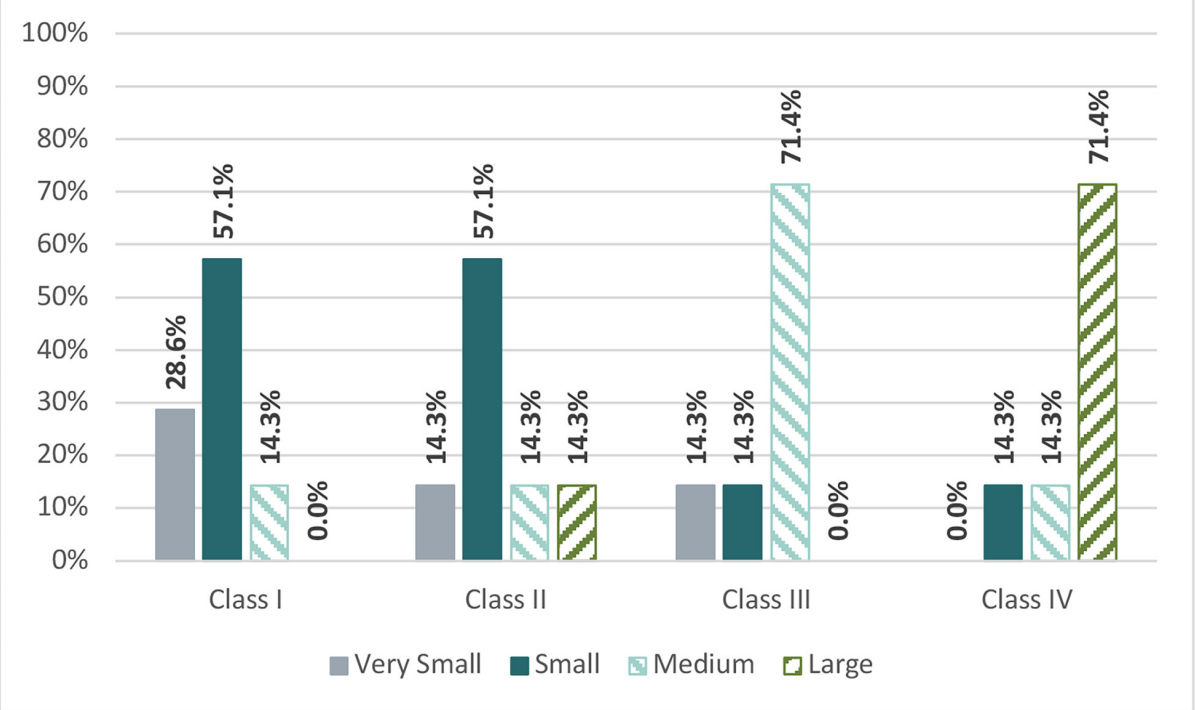
Wastewater organizations are classified by treatment process[3] as well. Fourteen (40.0 percent) of the wastewater organizations that responded to the survey were classified as utilizing Class I treatment techniques, seven (20.0 percent) organizations utilized Class II techniques, seven organizations (20.0 percent) were classified as using Class III treatment techniques, and seven (20.0 percent) organizations were classified as utilizing Class IV treatment methods. It should be noted from footnote 3 that there is a treatment quantity component included in classifying wastewater organizations by treatment method that is not present in the treatment methodology classification of water. **Table 2** provides an overview of the distribution of organizations that provide wastewater services by the size of the population served and treatment class.

The majority of the organizations that provide wastewater services are organized as municipalities (26 organizations or 74.3 percent). Four organizations (11.4 percent) are organized as privately-owned organizations, three organizations (8.6 percent) are associations, and two organizations (5.7 percent) are organized as utility districts.

Wastewater organizations were relatively evenly dispersed throughout the geographic regions included in this report (Figure 2). Six wastewater organizations (17.1 percent) are located in the Capital/River region of the state, seven organizations (20.0 percent) are located in the Coastal region, four organizations (11.4 percent) are located in the Delta region, 10 organizations (28.6 percent) are located in the Hills region, and eight organizations (22.9 percent) are located in the Pines region.

Table 1 also provides information regarding the distribution of organizations that provide water and wastewater services by population size classification, treatment methodology, and organization management classification.

Figure 2 – Percentage of Wastewater Organization Size Classifications by Treatment Class



[3] **Class I** – wastewater treatment facilities that utilize waste stabilization lagoons or septic tank-sand filter treatment methods.

Class II – wastewater treatment facilities that utilize aerated lagoons (all capacities), trickling filters (less than 300,000 gallons per day capacity), or activated sludge (less than 100,000 gallons per day capacity).

Class III – wastewater treatment facilities that utilize trickling filters (300,000 to 3,000,000 gallons per day capacity) or activated sludge (100,000 to 2,000,000 gallons per day capacity).

Class IV – wastewater treatment facilities that utilize trickling filters (greater than 3,000,000 gallons per day capacity) or activated sludge (greater than 2,000,000 gallons per day capacity).

Table 1. Number of responding organizations by organization size, treatment class, and organizational structure.

Organization Management	Organization Treatment Class	Very Small Org	Small Org	Medium Org	Large Org	Total
Private	B (water)					
	C (water)				1	1
	D (water)	2	3	1		6
	E (water)					
	I (wastewater)		2			2
	II (wastewater)					
	III (wastewater)			1		1
	IV (wastewater)				1	1
District	B (water)					
	C (water)					
	D (water)		1	1		2
	E (water)					
	I (wastewater)					
	II (wastewater)		1			1
	III (wastewater)			1		1
	IV (wastewater)					
Municipal	B (water)	1	1			2
	C (water)		1		4	5
	D (water)	4	8	4	1	17
	E (water)		1	1		2
	I (wastewater)	3	6	1		10
	II (wastewater)	1	3		1	5
	III (wastewater)	1	1	3		5
	IV (wastewater)		1	1	4	6
Association	B (water)		3	5	3	11
	C (water)		16	3		19
	D (water)	11	35	10	2	58
	E (water)	1	4			5
	I (wastewater)	1		1		2
	II (wastewater)			1		1
	III (wastewater)					
	IV (wastewater)					
Total (water)		19	73	25	11	128
Total (wastewater)		6	14	9	6	35

Geography of Organizations

Due to the place-based nature of water utilities and the influence that neighboring utilities exert on many functions of the water organization, particularly on pricing levels and structures, organizations are classified by the geographic region of the state in which they are located[4]. The distribution of respondent organizations closely resembles the distribution of all organizations in the state by geographic region. There is, however, one exception. The Delta region is home to 16.3 percent of the organizations in the state, but only 7.6 percent of the respondent organizations come from this region. **Table 2** presents the number and percentage of responding organizations and all organizations in the state by geographic region. The largest numbers of respondent organizations are located in the Hills region while the lowest number of respondents are located in the Delta region, thus reflecting the differences in the respondent versus population distributions previously mentioned.

Table 2. Number of Organizations by Organization Region

Region	Number of Respondent Orgs	Percent of Respondent Orgs	Number of All Orgs	Percentage of All Orgs
Capital/River Region	23	17.8%	140	17.3%
Coastal Region	24	18.3%	151	18.7%
Delta Region	10	7.6%	132	16.3%
Hills Region	36	27.5%	195	24.1%
Pines Region	35	26.7%	190	23.5%
Total	**128**	**100.0%**	**808**	**100.0%**

Workforce and Organizational Structure

One hundred of the responding organizations (78.1 percent) provided the number of employees associated with their organization, while 76 organizations (59.4 percent) provided the number of contractors associated with their organization. **Table 3** shows the average number of employees for organizations that report employees, the average number of contractors for organizations that report utilizing contractors based on organization size. While the number of employees for a large organization is expected to be higher than that of smaller organizations, it is worth noting that the reported number of workers in this study is high for large organizations primarily due to one municipality in the Capital/River Region of the state reporting a relatively high number of employees and contractors. The relatively high usage of personnel for this municipality is likely due to a population served that is significantly larger than the typical organization that responded to the survey. As might be expected, the average number of employees increases as the size of the organization increases; this trend is maintained even when the afore-mentioned municipality is excluded). It is important to remember that the size classification is

Table 3. Average Number of Employees and Contractors by Organization Size

Organization Size	Average Number of Employees	Average Number of Contractors	Average Number of Total Workers (both Employees and Contractors)
Very Small	3.1	2.4	3.4
Small	3.5	2.5	4.2
Medium	8.8	2.4	9.8
Large	33.9	51.2	51.0

[4] The **Capital/River Region** consists of the following counties: Adams, Amite, Claiborne, Copiah, Franklin, Hinds, Jefferson, Lawrence, Lincoln, Madison, Pike, Rankin, Simpson, Walthall, Warren, and Wilkinson.

The **Coastal Region** consists of the following counties: Covington, Forrest, George, Greene, Hancock, Harrison, Jackson, Jefferson Davis, Jones, Lamar, Marion, Pearl River, Perry, Stone, and Wayne.

The **Delta Region** consists of the following counties: Bolivar, Coahoma, Holmes, Humphreys, Issaquena, Leflore, Quitman, Sharkey, Sunflower, Tallahatchie, Tunica, Washington, and Yazoo.

The **Hills Region** consists of the following counties: Alcorn, Benton, Calhoun, DeSoto, Grenada, Itawamba, Lafayette, Lee, Marshall, Panola, Pontotoc, Prentiss, Tate, Tippah, Tishomingo, Union, Webster, and Yalobusha.

The **Pines Region** consists of the following counties: Attala, Carroll, Chickasaw, Choctaw, Clarke, Clay, Jasper, Kemper, Lauderdale, Leake, Lowndes, Monroe, Montgomery, Neshoba, Newton, Noxubee, Oktibbeha, Scott, Smith, and Winston.

based solely on the population served by the organization and does not account for infrastructure factors such as the miles of distribution line or the number of wells.

Table 4 shows the average number of employees and contractors based on organization treatment class. It is commonly accepted that the number of workers for a more complex treatment plant is typically expected to be higher due to water treatment cost and that organizations utilizing more complex treatment methods usually have larger populations among which the treatment cost is allocated, and thus have larger treatment and distribution systems. Also, the higher number of employees found in the class C category is due to one municipality reporting a relatively large number of employees. It is possible that this municipality reported all city workers that have even a tangential relationship with the water utility.

Table 4. Average Number of Employees and Contractors by Treatment Class

Organization Treatment Class	Average Number of Employees	Average Number of Contractors	Average Number of Total Workers (both Employees and Contractors)
Class B	6.9	1.9	7.9
Class C	15.2	20.1	22.2
Class D	5.8	2.5	6.0
Class E	4.0	3.3	3.7

Table 5 shows the number of workers based on organization type. The most common types of organizational structures responding to the survey were municipalities, associations, utility districts, and private organizations. Municipalities reported having the most employees (an average of 18.3 employees per organization) and contractors (an average of 19.5 contractors per organization), but this was primarily due to the previously mentioned city. Municipal organizations owned by city governments generally offer additional services (wastewater, gas, electricity, etc.) and this municipality may have more office staff, maintenance staff, a consulting engineer, or an attorney contributing to the average number of reported employees and contractors. Private organizations reported the second highest average of both employees and contractors with 9.8 employees and 6.5 contractors. Associations had the lowest average number of both employees and contractors (4.3 employees and 2.3 contractors). This is likely due to the fact that the associations that responded to the survey tended to serve smaller populations and would therefore need a smaller labor force to achieve their missions.

Table 5. Average Number of Employees and Contractors by Organization Type

Organization Classification	Average Number of Employees	Average Number of Contractors	Average Number of Total Workers (both Employees and Contractors)
Municipal	18.3	19.5	26.3
Association	4.3	2.3	4.7
District	8.0	3.0	5.5
Private	9.8	6.5	10.7

Table 6 presents the average number of employees and contractors based on the region of Mississippi in which the organization is located. While there is some variation across regions, the previously mentioned municipal organization with the high number of workers is located in the Capital/River Region. Also, the Coastal Region has an organization with a relatively large population; this organization is likely the reason that the Coastal Region ranked second in both the number of employees and the number of contractors.

Table 6. Average Number of Employees and Contractors by Organization Region

Organization Region	Average Number of Employees	Average Number of Contractors	Average Number of Total Workers (both Employees and Contractors)
Capital/River Region	11.2	15.1	20.1
Coastal Region	5.4	8.3	8.3
Delta Region	3.4	2.2	3.3
Hills Region	8.3	2.5	7.3
Pines Region	6.4	2.1	6.4

Compensation and Years of Service Overview

The following tables **7** through **14** provide compensation and years of service (length of employment/association by employees/contractors) with the organization by job classification and analysis factor. While a detailed analysis of each position by organization factor can be found in the appendices, there are several general analysis results that should be of interest to the reader.

- Employee wages tend to be higher than contractor compensation for all positions and organization factors.
- Small and medium size organizations have the longest average years of service for most positions in both the employee and contractor categories.
- Both employee wages and contractor compensation tend to increase for all positions as the size of the organization increases.
- Treatment Class E organizations tend have the longest average years of service for both employees and contractors in all positions; however, the small number of treatment Class E organizations preclude the establishment of a solid trend for these organizations. Treatment Class C organizations have the longest average years of service for both employees and contractors in the general manager, designated operator, billing clerk, and meter reader positions.
- In general, employee wages and contractor compensation tend to increase as treatment complexity increases.
- Associations tend to have the longest average years of service for both employees and contractors in all positions.
- Utility districts tend have the highest level of monthly gross wages for employees, followed by municipalities and then associations. Municipalities tend to have the highest level of compensation for contractors followed by associations. Private organizations did not disclose wage or compensation information and utility districts have relatively few contractors in the analyzed positions.
- For most positions, the Capital/River region has the longest average years of service for employees and contractors, followed by the Delta and Hills regions.
- The Coastal region tends to have the highest monthly gross wages for employees while the Capital/River region tends to have the highest level of compensation for contractors.

Table 7. Average Monthly Gross Compensation for Employees and Contractors by Population Size

Position	Very Small (Employee)	Small (Employee)	Medium (Employee)	Large (Employee)	Very Small (Contractor)	Small (Contractor)	Medium (Contractor)	Large (Contractor)
General Manager	$1,368	$1,937	$3,711	$5,231	$775	$1,813	$5,000	N/A
Designated Water-works Operator	$760	$2,833	$3,792	$4,312	$818	$1,387	$5,000	N/A
Certified Wastewater Operator in Charge	N/A	$2,922	$3,670	$5,850	$908	$1,950	$2,800	$4,666
Billing Clerk	$789	$1,500	$2,512	$3,437	$610	$922	$2,000	N/D[5]
Meter Reader	$885	$1,777	$3,308	$3,863	$482	$1,042	$2,600	$833
Maintenance and Repair	$1,304	$2,214	$3,176	$4,037	$894	$1,700	$5,000	N/D
Other Water Operators	N/A	$2,418	$3,252	$3,251	N/A	$750	$600	N/D
Other Wastewater Operators	N/A	$2,898	$2,240	$4,200	N/D	N/D	N/A	N/A
Administrative Support	N/A	$1,372	$2,198	$3,310	$350	$525	N/A	N/A

Table 8. Average Years of Service for Employees and Contractors by Organization Size

Position	Very Small (Employee)	Small (Employee)	Medium (Employee)	Large (Employee)	Very Small (Contractor)	Small (Contractor)	Medium (Contractor)	Large (Contractor)
General Manager	16.3 years	16.3 years	17.5 years	11.2 years	12.3 Years	14.0 years	N/D	N/A
Designated Waterworks Operator	13.1 years	15.9 years	16.0 years	16.0 years	11.1 years	12.8 years	8.5 years	N/A
Certified Wastewater Operator in Charge	N/A	10.9 years	20.8 years	30.0 years	12.7 years	6.8 years	N/D	14.0 years
Billing Clerk	12.8 years	9.8 years	8.1 years	11.4 years	N/A	6.2 years	6.4 years	14.3 years
Meter Reader	15.3 years	8.9 years	12.2 years	6.5 years	12.7 years	11.2 years	17.3 years	16.5 years
Maintenance and Repair	6.8 years	11.4 years	7.0 years	18.7 years	9.7 years	14.8 years	8.8 years	15.0
Other Water Operators	N/A	10.4 years	9.6 years	11.3 years	N/A	11.7 years	N/D	15.0 years
Administrative Support	N/A	6.2 years	6.4 years	14.3 years	1.5 years	4.5 years	N/A	N/A

[5] N/D is defined as meaning that the organization did not disclose information for the specific position and classification. For example, general manager contractor compensation was not disclosed by any medium-size organization that reported utilizing contractors.

Table 9. Average Monthly Gross Compensation for Employees and Contractors by Organization Treatment Class

Position	ETC-B*	ETC-C	ETC-D	ETC -E	CTC-B**	CTC-C	CTC-D	CTC-E
General Manager	$3,200	$3,355	$2,302	$4,000	N/A	$2,067	$1,789	$300
Designated Waterworks Operator	$3,956	$2,302	$3,108	$3,731	$1,225	$1,475	$1,425	$425
Billing Clerk	$2,479	$1,963	$1,725	$2,562	N/D	$1,081	$888	$588
Meter Reader	$3,558	$1,661	$2,098	$2,570	$1,792	$945	$1,116	$708
Maintenance and Repair	$3,743	$2,425	$2,490	$2,960	$1,875	$2,150	$1,602	$1,000
Other Water Operators	$2,116	$2,787	$2,973	$3,009	N/A	$400	$800	N/A
Administrative Support	$2.440	$2,557	$2,050	$1,500	N/A	N/A	$550	$300
Certified Wastewater Operator (by WW treatment class)	IV $5,850	III $3,155	II $2,983	I $3.228	IV $2,758	III $3,000	II $1,600	I $1,375
Other Wastewater Operator (by WW treatment class)	IV $4,200	III $2,240	II N/A	I $2,898	IV N/A	III N/A	II N/A	I N/A

*ETC: Employee Treatment Class
**CTC: Contractor Treatment Class

Table 10. Average Years of Service for Employees and Contractors by Organization Treatment Class

Position	ETC-B*	ETC-C	ETC-D	ETC -E	CTC-B**	CTC-C	CTC-D	CTC-E
General Manager	15.0 years	19.6 years	15.3 years	13.3 years	N/A	20.0 years	9.4 years	20.0 years
Designated Waterworks Operator	13.3 years	20.5 years	14.4 years	18.5 years	21.5 years	12.4 years	11.5 years	10.0 years
Billing Clerk	11.9 years	7.5 years	10.1 years	7.2 years	N/D	12.8 years	10.8 years	8.0 years
Meter Reader	7.0 years	6.6 years	12.2 years	7.0 years	20.5 years	13.1 years	11.9 years	9.0 years
Maintenance and Repair	9.6 years	9.2 years	11.7 years	14.7 years	21.5 years	14.7 years	11.6 years	20.0 years
Other Water Operators	9.7 years	10.3 years	10.3 years	10.0 years	N/A	8.5 years	16.5 years	N/A
Administrative Support	10.8 years	7.2 years	7.6 years	1.8 years	N/A	N/A	4.8 years	1.0 years
Certified Wastewater Operator (by WW treatment class)	IV 30.0 years	III 11.0 years	II 11.7 years	I 18.7 years	IV 14.3 years	III 23.0 years	II 3.8 years	I 6.5 years
Other Wastewater Operator (by WW treatment class)	IV 18.0 years	III 8.0 years	II N/A	I 8.0 years	IV N/A	III N/A	II N/A	I N/A

*ETC: Employee Treatment Class
**CTC: Contractor Treatment Class

Table 11. Average Monthly Gross Compensation for Employees and Contractors by Organization Type

Position	Private (Employee)	District (Employee)	Municipal (Employee)	Association (Employee)	Private (Contractor)	District (Contractor)	Municipal (Contractor)	Association (Contractor)
General Manager	N/D	$5,000	$3,061	$2,421	$1,750	N/A	$2,750	$1,511
Designated Waterworks Operator	$7,200	$3,040	$3,005	$2,982	$850	$1,650	$1,513	$1,291
Billing Clerk	$3,800	$2,720	$2,091	$1,771	$575	N/D	$2,000	$868
Meter Reader	N/D	N/D	$2,094	$2,155	$990	N/D	$1,913	$972
Maintenance and Repair	$2,916	N/D	$2,842	$2,612	$1,750	N/D	$2,008	$1,640
Other Water Operators	$4,583	$2,560	$2,705	$2,821	N/A	N/A	$567	$950
Administrative Support	$1,400	$3,520	$2,211	$2,092	N/A	N/D	N/A	$467
Certified Wastewater Operator in Charge	N/A	$3,040	$3,249	$4,700	$3,000	$2,000	$1,977	N/A
Other Wastewater Operator	$2,916	$2,240	$3,549	N/A	N/A	N/A	N/D	N/A

Table 12. Average Years of Service for Employees and Contractors by Organization Type

Position	Private (Employee)	District (Employee)	Municipal (Employee)	Association (Employee)	Private (Contractor)	District (Contractor)	Municipal (Contractor)	Association (Contractor)
General Manager	15.0 years	N/A	17.6 years	15.9 years	1.0 years	N/A	16.0 years	15.7 years
Designated Water-works Operator	20.3 years	4.0 years	16.2 years	15.7 years	8.0 years	5.0 years	14.4 years	12.3 years
Billing Clerk	8.0 years	7.0 years	11.5 years	9.4 years	5.0 years	N/D	8.0 years	12.0 years
Meter Reader	N/D	N/D	13.9 years	9.2 years	1.0 years	N/D	16.8 years	12.6 years
Maintenance and Repair	3.0 years	N/D	13.8 years	10.0 years	1.0 years	N/D	14.3 years	14.5 years
Other Water Operators	8.5 years	4.0 years	11.9 years	10.2 years	N/A	N/A	15.5 years	9.5 years
Administrative Support	1.0 years	15.0 years	9.4 years	7.3 years	N/A	N/D	N/A	3.5 years
Certified Waste-water Operator in Charge	15.0 years	4.0 years	13.3 years	35.5 years	1.0 years	4.5 years	13.5 years	N/A
Other Wastewater Operator	12.0 years	4.0 years	25.0 years	15.0 years	N/A	N/A	N/D	N/A

Table 13. Average Monthly Gross Compensation for Employees and Contractors by Organization Region

Position	Capital/River Region (Employee)	Coastal Region (Employee)	Delta Region (Employee)	Hills Region (Employee)	Pines Region (Employee)	Capital/River Region (Contractor)	Coastal Region (Contractor)	Delta Region (Contractor)	Hills Region (Contractor)	Pines Region (Contractor)
General Manager	$2,469	$3,256	$1,145	$2,792	$1,909	$5,000	$1,750	$1,150	$1,745	$1,025
Designated Waterworks Operator	$2,259	$4,401	$1,960	$2,726	$3,006	$2,130	$1,138	$885	$953	$1,619
Billing Clerk	$1,856	$2,010	$1,513	$1,925	$1,880	N/D	$1,183	$1,075	!681	$982
Meter Reader	$2,240	$2,762	$834	$1,717	$2,372	$1,984	$1,133	$741	$987	$1,034
Maintenance and Repair	$2,519	$2,468	$2,572	$2,813	$2,863	$3,167	$1,688	$1,163	$1,542	$1,325
Other Water Operators	$2,160	$2,869	$4,200	$3,085	$2,594	$1,500	N/D	N/A	$600	$450
Administrative Support	$1,463	$1,898	$2,500	$2,354	$2,436	$750	N/A	$350	$300	N/A
Certified Wastewater Operator in Charge	N/A	$3,870	N/A	$3,883	$2,615	$3,167	$3,000	$688	$600	$1,200
Other Wastewater Operator	N/A	$2,240	N/D	$3,549	N/A	$1,900	N/A	N/D	$200	$1,187

Table 14. Average Years of Service for Employees and Contractors by Organization Region

Position	Capital/River Region (Employee)	Coastal Region (Employee)	Delta Region (Employee)	Hills Region (Employee)	Pines Region (Employee)	Capital/River Region (Contractor)	Coastal Region (Contractor)	Delta Region (Contractor)	Hills Region (Contractor)	Pines Region (Contractor)
General Manager	18.3 years	16.1 years	20.5 years	15.5 years	14.1 years	N/D	1.0 years	10.0 years	13.8 years	23.3 years
Designated Waterworks Operator	17.5 years	13.1 years	17.0 years	18.2 years	14.1 years	10.3 years	9.3 years	12.3 years	10.7 years	18.0 years
Billing Clerk	11.2 years	8.7 years	15.8 years	9.0 years	8.3 years	N/D	7.8 years	12.0 years	13.7 years	8.7 years
Meter Reader	10.1 years	7.4 years	14.0 years	11.8 years	9.9 years	12.5 years	9.3 years	7.0 years	14.6 years	12.6 years
Maintenance and Repair	14.5 years	6.5 years	13.0 years	11.3 years	10.5 years	12.7 years	7.6 years	9.3 years	16.1 years	18.0 years
Other Water Operators	14.3 years	9.9 years	15.0 years	10.4 years	7.6 years	17.0 years	15.0 years	N/A	N/A	9.0 years
Administrative Support	6.9 years	8.4 years	3.0 years	3.9 years	11.2 years	8.0 years	N/A	1.5 years	1.0 years	N/A
Certified Wastewater Operator in Charge	25.0 years	16.7 years	N/A	18.3 years	14.5 years	13.5 years	8.0 years	13.5 years	N/A	3.0 years
Other Wastewater Operator	N/A	8.0 years	N/D	13.0 years	N/A	N/A	N/A	N/D	N/D	N/A

Employee/Contractor Retention

Given the aging of the water utility workforce and the expense incurred by the utility in training new workers, a primary issue concerning water utilities in today's environment concerns the retention of personnel that includes both employee and contractor personnel. This is particularly true for skilled personnel such as certified waterworks/wastewater operators and billing clerks. These concerns are becoming more prominent as these workers are required to assume a greater level of responsibility as grant and debt capital is becoming more difficult to obtain, thus forcing the organization to rely on self-funded capital and maintenance/repair strategies. The level of responsibility for these workers is further increased as a greater emphasis is being placed on asset management (for both human capital and utility infrastructure) by regulatory, lending, and technical assistance agencies. Given this environment, the utility would be well advised to understand the factors that are important in an employee's or contractor's decision to continue their service to the utility. To assist water utilities in understanding the factors that are both important and unimportant in an employee's or contractor's decision to stay, statistical analysis (regression) was used to gain insight into the impact of various economic factors have on the years of service for both employees and contractors for each position. Overviews of these analyses are provided below with more detail of the analysis methodologies and results available upon request.

The goal of this analysis is to determine the extent various factors included in the survey effort are related to the length of service that an employee or a contractor in each position has devoted to the utility. No economic reasoning would indicate that the size of the population served, the treatment method, or the geographic region in which the utility is located should have a significant effect on the years of service of an employee. The statistical analyses of these factors confirmed this belief. Therefore, we will determine the degree to which more economics-based factors explain the length of service for both employees and contractors. For employees, we will determine if reported monthly gross wages/salaries and the presence of primary benefits (health insurance, a retirement plan, and/or disability insurance) and/or secondary benefits (organization-provided vehicle, reimbursement of mileage, uniforms, and/or cost of continuing education units covered by the organization while controlling for the size of the population served by the organization, treatment classification, organization type, and geographic location of the organization) can be used to explain the years of service for each position. Monthly contractor compensation will be used to determine the extent to which the length of contractor service to an organization can be explained.

General Manager

Neither compensation nor the presence of benefits appear to significantly affect the general manager's decision to serve a utility. For employee general managers, all variables used in the analysis (monthly gross wage/salary, the presence and number of primary benefits and the presence and number of secondary benefits) were not significant with regard to the years of service. Compensation to contractor general managers is also not significant in the contractor general manager's decision to serve the utility and only explain just over five percent of the contractor general manager's decision.

As with all positions in this analysis, this suggests that are other factors which influence a general manager's decision to remain with a utility. These factors could include quality working decisions, a dedicated staff, an effective governing board, and a strong desire on the part of the general manager as well as the organization's staff to serve the utility's customers as effectively as possible. These are factors which governing boards should consider when considering policies that could affect the general manager's tenure with the organization.

Designated Waterworks Operator

Wages and salaries for employee designated operators do not seem to contribute to the average length of tenure, but the presence of primary and secondary benefits have a significant impact on the length of an employee designated waterworks operator's tenure with an organization. While these two variables were the only two significant indicators of the average length of tenure that an employee designated operator had with the organization, the analysis explained 45.8 percent of the employee designated operator's decision regarding the length of service to the system.

Contractor designated operators do not seem to consider their level of compensation as a significant factor in their decision to serve the utility. This factor explained virtually

none of the contractor's decision and the level of compensation was statistically insignificant. However, many contractor-designated operators serve multiple systems that may serve a small population of customers and these systems may not have the resources to provide a high level of compensation to the designated operator. In these cases, the quantity of systems in the operator's portfolio generates the needed revenue and have governing boards that are appreciative of the operator's efforts could be sufficient for the contractor to extend their years of service.

Certified Wastewater Operator in Charge

As with designated waterworks operators, the level of compensation or the presence of benefits has no statistically significant influence on the length of tenure that an employee certified wastewater operator in charge has with an organization. Furthermore, the compensation for a contractor certified wastewater operator in charge does not have a highly statistically significant influence on the contractor's length of tenure with the organization.

A portion of these findings may be attributable to the relatively small number of organizations that reported offering wastewater services to their customers and therefore utilized a small number of certified wastewater operators in charge. However, it does seem plausible that non-economic factors such as working environment, stability of employment, and a feeling of loyalty to the organization and its customers could have a significant influence on the length of tenure that a certified wastewater operator in charge has with the organization.

Other Positions

Billing Clerk, Meter Reader, Maintenance and Repair, Other Operator, and Administrative Support

The years of service (length of tenure) by any of the other positions examined in this paper, either employees or contractors, closely resembles the explanation for years of service by general managers. None of the employee-focused factors were found to be statistically significant in the analysis and the ability of these factors to explain the length of service by any of the positions was extremely low. The exception to this situation is the maintenance and repair personnel position.

Similar situations were found when examining the length of service for contractors. In all cases, the level of monthly compensation for each position was not statistically significant in explaining the years of service for contractors in the specific position and the ability of the analysis to explain the length of service ranged from three percent for meter readers to just under five percent for other operators.

The weakness of compensatory factors to explain the length of service for both employees and contractors leads to the assumption that there are other human factors that influence an employee's or contractor's desire to serve the organization. In a 2014 blog post for Forbes magazine, Jacob Morgan[6] wrote that the Boston Consulting Group conducted a world-wide survey of over 200,000 people. This effort determined that the top ten factors for employee satisfaction, in order of importance, are:

1. Appreciation of the employee's work
2. Good relationships with colleagues
3. Good work-life balance
4. Good relationships with superiors
5. The company's financial stability
6. Learning and career development
7. Job security
8. Attractive fixed salaries
9. Interesting job content
10. Company values

While this survey solely targeted employees, it is not difficult to understand that the same values could very well be held by contractors in the water utility sector.

What is most interesting is that compensation is ranked eighth on the list and benefits aren't even mentioned. In other words, a company can't expect a worker, either an employee or a contractor, to do a good job and stay with the company just because they get a nice paycheck if the working conditions are conducive to the employee or contractor feeling like they are valued by and contributing to the organization.

The takeaway lesson for both governing boards and organization management is that employees and contractors alike must feel valuable to the mission of the organization and feel that they are instrumental in providing clean and safe water to the organization's customers.

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[6] Morgan, Jacob. "The Top 10 Factors For On-The-Job Employee Happiness." https://www.forbes.com/sites/jacobmorgan/2014/12/15/the-top-10-factors-for-on-the-job-employee-happiness/#3f50b4255afa. December 15, 2015.

Appendix I – General Manager

Seventy-eight of the responding organizations (60.9 percent) reported having a person in the role of general manager. Sixty-five of these organizations (8.3 percent of the organizations that report utilizing the role of general manager) report using an employee in this role and 13 of these organizations (16.7 percent of the organizations that report utilizing the role of general manager) reported using a contractor as the organization's general manager. **Table A-I-1** presents the percentage and number of responding organizations that report having an explicit role of general manager. The percentages are based on the number of organizations responding in each specific size category (for example, five of the 19 very small organizations responding to the survey utilized an employee in the role of the general manager; this means that 26.3 percent of the very small organizations used an employee in this role). It is interesting to note that the percentage of organizations that report having an employee general manager generally increases as the size of the organization increases, but the opposite is true for contractor general managers.

Table A-I-1[7] provides the average years of service for a general manager in the various population served size classifications[8]. For organizations utilizing employees in the general manager role, the longest average tenure length is found in the "medium" population size class, followed closely by the "very small," and "small" population size classes (while there are no medium and large organizations that utilize a contractor in the general manager position, the same type of average tenure length tenure pattern holds in that the average tenure length for small population organizations is longer that the average tenure length for very small size population organizations). The shortest average tenure length can be found for organizations that serve large populations; we suspect that this is due to the larger number of employees typically found in these organizations and that more experience with a water utility is typically required by governing bodies for an employee that fills this role. Requiring more experience to assume the role of general manager typically indicates a shorter working time until retirement in this position.

Reported data for contractors serving in the role of general manager are limited to the very small and small population organizations. This is likely due to the perceived additional cost of an employee in this role. The additional resources required to hire an employee to serve as a general manager are more likely to be available for organizations serving larger populations. The average years of service for this position in these organization sizes are virtually the same.

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[7]It is important to note that the counts of organizations within tables and between tables that are classified by the same metric (i.e., Table A-I-1 and Table A-I-2 are both classified by the size of the population served by the organization) may not be equal for different metrics. This is due to differences in information reported by the organization. In most cases, the number of organizations reporting a specific position will have the largest counts, not all organizations reported lengths of tenure or average compensation for either employees or contractors or the availability of benefits for employees. However, the total counts for a particular position should be the same across classifications (population size, treatment classification, organization type, and geography) for each metric being analyzed.

[8]Served population is calculated as 2.6 people per system connection. For the purposes of this publication, the following commonly accepted definitions are used to classify water organizations by size:

- **Very small** – serves a population of 500 persons or fewer
- **Small** – serves a population between 501 and 3,300 persons, inclusive
- **Medium** – serves a population between 3,301 and 10,000 persons, inclusive
- **Large** – serves a population of more than 10,000 persons

Table A-I-1. Percentage/Number of Organizations Reporting a General Manager Position and Average Years of Service for this Position by Population Size Classification

Population Classification	Percentage/ Number of Orgs with GMs (Employee)	Average Tenure of GMs (Employee)	Percentage/ Number of Orgs with GMs (Contractor)	Average Tenure of GMs (Contractor)
Very Small	26.3% 5 of 19 orgs	16.3 years 4 orgs	21.1% 4 of 19 orgs	12.3 years 4 orgs
Small	46.6% 34 of 73 orgs	16.3 years 27 orgs	12.3% 9 of 73 orgs	14.0 years 9 orgs
Medium	76.0% 19 of 25 orgs	17.5 years 17 orgs	4.0% 1 of 25 orgs	N/D
Large	63.6% 7 of 11 orgs	11.2 years 5 orgs	0.0% 0 of 11 orgs	N/A
Total	50.8% 65 of 128 orgs	16.2 years 53 orgs	10.9% 14 of 128 orgs	13.5 years 13 orgs

Table A-I-2 presents the average level of gross monthly wages (employees) and monthly compensation (contractors) for general manager positions as well as the number of organizations providing any benefits to employees in this position by organization size. The average monthly gross wages/salaries for employee general managers and the average monthly compensation for contractor general managers tend to increase as the population served by the organization increases with large population organizations having the highest average monthly gross wages/salaries and small population organizations having the highest contractor compensation for organizations that reported contractor compensation data (the small population size class was used instead of the medium population size class because there was only one medium population organization that reported contractor payments). Regarding the number of organizations with primary or secondary benefit packages[9], an organization that provides at least one primary benefit typically provides at least one secondary benefit (this is true for all job classifications). The percentages of organizations that utilize an employee in the role of a general manager and that also provide benefits to these employees for each population size classification are listed below:

- Very Small – 2 of 5 organizations (40.0 percent)
- Small – 10 of 34 organizations (29.4 percent)
- Medium – 16 of 19 organizations (84.2 percent)
- Large – 7 of 7 organizations (100.0 percent)

[9]**Primary benefits** are defined as health insurance, retirement plan(s), and/or disability insurance. An organization was categorized as providing primary benefits to a particular employee job classification (i.e., general manager) if it provided at least one of these benefits to the employee.

Secondary benefits are defined as provision of a company-owned vehicle, mileage reimbursement for a personally-owned vehicle, uniforms, and/or covering the cost(s) required for continuing education unit (CEU) hours. An organization was categorized as providing secondary benefits to a particular employee job classification (i.e., general manager) if it provided at least one of these benefits to the employee. Contractors do not typically receive these types of benefits from the organization due to their status as independent businesses.

Table A-I-2. Average Monthly Gross Compensation for General Managers and Benefits Packages for Employee General Managers by Population Size Classification

Population Classification	Average Monthly Gross Wages/ Salaries for GMs (Employee)	Organizations with Primary/Secondary Benefits for GMs (Employee)	Average Monthly Compensation for GMs (Contractor)
Very Small	Orgs reporting – 5 Average – $1,368 Minimum – $200 Maximum – $3,750	Orgs reporting benefits – 2 orgs Primary – 2 orgs Secondary – 2 orgs	Orgs reporting – 4 Average – $775 Minimum – $325 Maximum – $1,800
Small	Orgs reporting – 24 Average – $1,937 Minimum – $50 Maximum – $5,250	Orgs reporting benefits – 10 orgs Primary – 10 orgs Secondary – 10 orgs	Orgs reporting – 8 Average – $1,813 Minimum – $300 Maximum – $3,300
Medium	Orgs reporting – 14 Average – $3,711 Minimum – $1,000 Maximum – $5,800	Orgs reporting benefits – 16 orgs Primary – 16 orgs Secondary – 16 orgs	Orgs reporting – 1 Average – $5,000 Minimum – $5,000 Maximum – $5,000
Large	Orgs reporting – 3 Average – $5,231 Minimum – $1,900 Maximum – $9,200	Orgs reporting benefits – 7 orgs Primary – 7 orgs Secondary – 7 orgs	N/A
Total	Orgs reporting – 46 Average – $2,630 Minimum – $50 Maximum – $9,200	Orgs reporting benefits – 35 orgs Primary – 35 orgs Secondary – 35 orgs	Orgs reporting – 13 Average – $1,738 Minimum – $300 Maximum – $5,000

The same types of analyses can be applied to treatment classes. **Table A-I-3** presents the percentage and number of organizations with a general manager and the average years of service by water treatment class[10]. While the average tenure for Class E treatment organizations was the shortest of all treatment classifications for employees, it should be noted that only two Class E treatment organizations reported having the explicit role of general manager.

As previously mentioned, Class E treatment organizations reported the shortest average years of service for employee general managers and were followed closely by Class B treatment organizations and Class D treatment organizations. Class C treatment organizations had the longest employee general manager tenure at 19.6 years. A plausible explanation could be that the majority of the organizations utilizing Class C treatment techniques served the small population classification and are organized as associations; these organizations may be more stable with regard to employee turnover than other organizations. However, the Class E treatment facilities follow this pattern as well. While there were relatively few organizations that reported utilizing contractors in this role, organizations that utilize class C and Class E treatment techniques reported the longest tenures of contractor general managers; however, only one Class E organization reported the length of tenure for a contractor in this position.

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[10]Treatment classes defined by the Mississippi State Department of Health – Bureau of Public Water Supply are as follows:

- **Class A** – organizations having surface water treatment, lime softening, or coagulation and filtration for the removal of constituents other than iron or manganese.
- **Class B** – organizations having two or more Class C treatment facilities, with iron or manganese removal facilities breaking pressure or requiring flocculation and/or sedimentation, a system using membrane filtration, or ion exchange treatment.
- **Class C** – organizations with aeration, pH adjustment, corrosion control, or closed pressure type facilities.
- **Class D** – organizations that provide no treatment to the water other than chlorination, fluoridation, or direct chemical feed.
- **Class E** – organizations that purchase all finished water from other systems.

(Source: *Recommended Minimum Performance Guidelines for Certified Waterworks Operators in the State of Mississippi,* Mississippi State Department of Health.)

Table A-I-3. Percentage/Number of Organizations Reporting a General Manager Position and Average Years of Service for this Position by Organization Treatment Class

Organization Treatment Class	Percentage/ Number of Orgs with GMs (Employee)	Average Tenure of GMs (Employee)	Percentage/ Number of Orgs with GMs (Contractor)	Average Tenure of GMs (Contractor)
Class B	30.8% 4 of 13 orgs	15.0 years 3 orgs	0.0% 0 of 13 orgs	N/A
Class C	60.0% 15 of 25 orgs	19.6 years 12 orgs	16.0% 4 of 25 orgs	20.0 years 4 orgs
Class D	53.0% 44 of 83 orgs	15.3 years 36 orgs	10.8% 9 of 83 orgs	9.4 years 8 orgs
Class E	28.6% 2 of 7 orgs	13.3 years 2 orgs	14.3% 1 of 7 orgs	20.0 years 1 org
Total	50.8% 65 of 128 orgs	16.2 years 53 orgs	10.9% 14 of 128 orgs	13.5 years 13 orgs

Table A-I-4 presents the average level of monthly compensation for general manager positions in this position by treatment class. The average monthly gross wages/salaries for employee general managers and the average monthly compensation for contractor general managers tend to increase as the treatment methods become more complex. Somewhat surprisingly, Class E treatment organizations (those organizations that purchase water from other utilities) report the highest level of employee general manager compensation, but it should be realized that only one organization that utilized Class E treatment techniques provided compensation information for the study.

Of the treatment technique classifications that had multiple responses, organizations that utilized Class C treatment techniques had the highest average level of employee general manager compensation followed closely by Class B organizations. The average monthly compensation for employee general managers of Class D treatment technique organizations is $900 to $1,000 dollars below that of Class B and Class C organizations, respectively.

For organizations that utilize contractors in the general manager role, Class C treatment organizations report providing the highest average level of compensation, but an organization that utilizes Class D techniques had the highest level of contractor general manager compensation at $5,000 per month.

Table A-I-4 also presents the number of organizations that provides at least one primary and/or secondary benefit for employees in this position by treatment class. It is interesting to note that the overwhelming majority of the organizations that report providing benefits to employee general managers provide both primary and secondary benefits to those employees. The percentages of organizations that utilize an employee in the role of a general manager and that provide benefits to these employees for each water treatment classification are listed below:

- Class B – 4 of 4 organizations (100.0 percent)
- Class C – 9 of 15 organizations (60.0 percent)
- Class D – 20 of 44 organizations (45.5 percent)
- Class E – 2 of 2 organizations (100.0 percent)

Table A-I-4. Average Monthly Gross Compensation for General Managers and Benefits Packages for Employee General Managers by Organization Treatment Class

Organization Treatment Class	Average Monthly Gross Wages/ Salaries for GMs (Employee)	Organizations with Primary/Secondary Benefits for GMs (Employee)	Average Monthly Compensation for GMs (Contractor)
Class B	Orgs reporting – 2 Average – $3,200 Minimum – $600 Maximum – $5,800	Orgs reporting benefits – 4 orgs Primary – 4 orgs Secondary – 4 orgs	N/A
Class C	Orgs reporting – 11 Average – $3,355 Minimum – $1,100 Maximum – $9,200	Orgs reporting benefits – 9 orgs Primary – 9 orgs Secondary – 9 orgs	Orgs reporting – 3 Average – $2,067 Minimum – $600 Maximum – $3,300
Class D	Orgs reporting – 32 Average – $2,302 Minimum – $50 Maximum – $5,250	Orgs reporting benefits – 20 orgs Primary – 20 orgs Secondary – 20 orgs	Orgs reporting – 9 Average – $1,789 Minimum – $325 Maximum – $5,000
Class E	Orgs reporting – 1 Average – $4,000 Minimum – $4,000 Maximum – $4,000	Orgs reporting benefits – 2 orgs Primary – 2 orgs Secondary – 2 orgs	Orgs reporting – 1 Average – $300 Minimum – $300 Maximum – $300
Total	Orgs reporting – 46 Average – $2,630 Minimum – $50 Maximum – $9,200	Orgs reporting benefits – 35 orgs Primary – 35 orgs Secondary – 35 orgs	Orgs reporting – 13 Average – $1,738 Minimum – $300 Maximum – $5,000

Table A-I-5 presents the percentage and number of organizations with a general manager and the average years of service by the type of legal entity organization. This analysis reveals some interesting results. First, neither of the two districts that responded to the survey reported utilizing a contractor to fill the general manager role. Second, private utilities and associations seem to be much more likely to utilize contractors in this role than are municipalities or districts. Third, municipal general managers have the longest tenure in their positions than either associations or private utilities. This could be due to the benefits offered by municipalities (these benefits tend to be more substantial than benefits offered by associations) and previous research has shown that benefits are important factors in retaining employees.

Table A-I-5.Percentage/Number of Organizations Reporting a General Manager Position and Average Years of Service for this Position by Organization Type

Organization Type	Percentage/ Number of Orgs with GMs (Employee)	Average Tenure of GMs (Employee)	Percentage/ Number of Orgs with GMs (Contractor)	Average Tenure of GMs (Contractor)
Private	42.9% 3 of 7 orgs	15.0 years 1 org	28.6% 2 of 7 orgs	1.0 years 2 orgs
District	50.0% 1 of 2 orgs	N/D	0.0% 0 of 2 orgs	N/A
Municipal	57.7% 15 of 26 orgs	17.6 years 11 orgs	3.9% 1 of 26 orgs	16.0 years 1 org
Association	49.5% 46 of 93 orgs	15.9 years 41 orgs	10.8% 10 of 93 orgs	15.7 years 10 orgs
Total	50.8% 65 of 128 orgs	16.2 years 53 orgs	10.9% 14 of 128 orgs	13.5 years 13 orgs

Table A-I-6 presents the average level of monthly compensation for general manager positions as well as the number of organizations providing any benefits to employees in this position by organization type. The average monthly gross wages/salaries for employee general managers are reported to be the highest for utility districts (although there was only one utility district that provided wage and salary information for this study) and are followed by municipalities and then associations. Not surprisingly, a higher percentage of municipalities reported providing benefits to their general manager employees than did associations (66.7 percent versus 50.0 percent, respectively). This is presumably due to many municipalities across the state participating in state employee benefit programs for all employees of the municipality. The percentages of organizations that utilize an employee in the role of a general manager and that provide benefits to these employees for each organization type are listed below:

- Private – 3 of 3 organizations (100.0 percent)
- District – 1 of 1 organization (100.0 percent)
- Municipal – 13 of 15 organizations (86.7 percent)
- Association – 18 of 46 organizations (39.1 percent)

Table A-I-6. Average Monthly Gross Compensation for General Managers and Benefits Packages for Employee General Managers by Organization Type

Organization Classification	Average Monthly Gross Wages/ Salaries for GMs (Employee)	Organizations with Primary/Secondary Benefits for GMs (Employee)	Average Monthly Compensation for GMs (Contractor)
Private	N/D	Orgs reporting benefits – 3 orgs Primary – 3 orgs Secondary – 0 orgs	Orgs reporting – 2 Average – $1,750 Minimum – $500 Maximum – $3,000
District	Orgs reporting – 1 Average – $5,000 Minimum – $5,000 Maximum – $5,000	Orgs reporting benefits – 1 org Primary – 1 org Secondary – 1 org	N/A
Municipal	Orgs reporting – 11 Average – $3,061 Minimum – $400 Maximum – $9,200	Orgs reporting benefits – 13 orgs Primary – 13 orgs Secondary – 13 orgs	Orgs reporting – 2 Average – $2,750 Minimum – $500 Maximum – $5,000
Association	Orgs reporting – 34 Average – $2,421 Minimum – $50 Maximum – $5,800	Orgs reporting benefits – 18 orgs Primary – 18 orgs Secondary – 18 orgs	Orgs reporting – 9 Average – $1,511 Minimum – $300 Maximum – $3,300
Total	Orgs reporting – 46 Average – $2,630 Minimum – $50 Maximum – $9,200	Orgs reporting benefits – 35 orgs Primary – 35 orgs Secondary – 35 orgs	Orgs reporting – 13 Average – $1,738 Minimum – $300 Maximum – $5,000

Table A-I-7 presents the percentage and number of organizations with a general manager and the average years of service by geographic region[11] within the state. The Delta region has the longest years of service for employee general managers while the Pines region has the longest years of service for contractor general managers.

Table A-I-7. Percentage/Number of Organizations Reporting a General Manager Position and Average Years of Service for this Position by Geographic Region

Organization Region	Percentage/ Number of Orgs with GMs (Employee)	Average Tenure of GMs (Employee)	Percentage/ Number of Orgs with GMs (Contractor)	Average Tenure of GMs (Contractor)
Capital/River	56.5% 13 of 23 orgs	18.3 years 12 orgs	4.4% 1 of 23 orgs	N/D
Coastal	70.8% 17 of 24 orgs	16.1 years 14 orgs	8.3% 2 of 24 orgs	1.0 years 2 orgs
Delta	20.0% 2 of 10 orgs	20.5 years 2 orgs	20.0% 2 of 10 orgs	10.0 years 2 orgs
Hills	52.8% 19 of 36 orgs	20.5 years 2 orgs	16.7% 6 of 36 orgs	13.8 years 6 orgs
Pines	40.0% 14 of 35 orgs	14.1 years 11 orgs	8.6% 3 of 35 orgs	23.3 years 3 orgs
Total	50.8% 65 of 128 orgs	16.2 years 53 orgs	10.9% 14 of 128 orgs	13.5 years 13 orgs

Table A-I-8 presents the average level of monthly compensation for general manager positions as well as the number of organizations providing any benefits to employees in this position by geographic region. The average monthly gross wages/salaries for employee general managers are highest for the Hills, Coastal, and Pines regions while the average monthly compensation for contractor general managers is highest for the Capital/River regions (it is important to note that only one organization in the Capital/River region indicated that it utilized a contractor for the general manager position). While the number of organizations within specific regions that report utilizing a general manager varies widely, approximately half or more organizations that report having an employee general manager provide at least one primary benefit to that employee and higher proportions report providing secondary benefits. The percentages of organizations that utilize an employee in the role of a general manager and that provide benefits to these employees for each geographic region are listed below:

- Capital/River Region – 8 of 13 organizations (61.5 percent)
- Coastal Region – 10 of 17 organizations (58.8 percent)
- Delta Region – 0 of 2 organizations (0.0 percent)
- Hills Region – 10 of 19 organizations (52.6 percent)
- Pines Region – 7 of 14 organizations (50.0 percent)

[11]The **Capital/River Region** consists of the following counties: Adams, Amite, Claiborne, Copiah, Franklin, Hinds, Jefferson, Lawrence, Lin Madison, Pike, Rankin, Simpson, Walthall, Warren, and Wilkinson.

The **Coastal Region** consists of the following counties: Covington, Forrest, George, Greene, Hancock, Harrison, Jackson, Jefferson Davis, Jc Lamar, Marion, Pearl River, Perry, Stone, and Wayne.

The **Delta Region** consists of the following counties: Bolivar, Coahoma, Holmes, Humphreys, Issaquena, Leflore, Quitman, Sharkey, Sunflo Tallahatchie, Tunica, Washington, and Yazoo.

The **Hills Region** consists of the following counties: Alcorn, Benton, Calhoun, DeSoto, Grenada, Itawamba, Lafayette, Lee, Marshall, Pano Pontotoc, Prentiss, Tate, Tippah, Tishomingo, Union, Webster, and Yalobusha.

The **Pines Region** consists of the following counties: Attala, Carroll, Chickasaw, Choctaw, Clarke, Clay, Jasper, Kemper, Lauderdale, Leake, Lowndes, Monroe, Montgomery, Neshoba, Newton, Noxubee, Oktibbeha, Scott, Smith, and Winston.

Table A-I-8. Average Monthly Gross Compensation for General Managers and Benefits Packages for Employee General Managers by Geographic Region

Organization Region	Average Monthly Gross Wages/ Salaries of GMs (Employee)	Organizations with Primary/Secondary Benefits for GMs (Employee)	Average Monthly Compensation for GMs (Contractor)
Capital/River	Orgs reporting – 7 Average – $2,469 Minimum – $600 Maximum – $5,800	Orgs reporting – 8 orgs Primary – 8 orgs Secondary – 8 orgs	Orgs reporting – 1 Average – $5,000 Minimum – $5,000 Maximum – $5,000
Coastal	Orgs reporting – 13 Average – $3,256 Minimum – $650 Maximum – $5,250	Orgs reporting – 10 orgs Primary – 10 orgs Secondary – 10 orgs	Orgs reporting – 2 Average – $1,750 Minimum – $500 Maximum – $3,000
Delta	Orgs reporting – 2 Average – $1,145 Minimum – $750 Maximum – $1,540	Orgs reporting – 0 orgs Primary – 0 orgs Secondary – 0 orgs	Orgs reporting – 2 Average – $1,150 Minimum – $500 Maximum – $1,800
Hills	Orgs reporting – 15 Average – $2,792 Minimum – $200 Maximum – $9,200	Orgs reporting – 10 orgs Primary – 10 orgs Secondary – 10 orgs	Orgs reporting – 6 Average – $1,745 Minimum – $325 Maximum – $3,300
Pines	Orgs reporting – 9 Average – $1,909 Minimum – $50 Maximum – $4,695	Orgs reporting – 7 orgs Primary – 7 orgs Secondary – 7 orgs	Orgs reporting – 3 Average – $1,025 Minimum – $300 Maximum – $2,300
Total	Orgs reporting – 46 Average – $2,630 Minimum – $50 Maximum – $9,200	Orgs reporting benefits – 35 orgs Primary – 35 orgs Secondary – 35 orgs	Orgs reporting – 13 Average – $1,738 Minimum – $300 Maximum – $5,000

Appendix II – Billing Clerk

One hundred fifteen of the responding organizations (89.8 percent) reported having at least one person in the role of billing clerk. Ninety-one organizations (79.1 percent of the organizations that report utilizing the role of billing clerk) reported hiring an employee in the role of billing clerk while 24 organizations (20.9 percent of the organizations that report utilizing the role of billing clerk) reported utilizing a contractor as the billing clerk.

Table A-II-1[12] presents the percentage and number of responding organizations by population size classification[13] that report having an explicit role of billing clerk. The percentage of organizations that report having a billing clerk generally increases as the size of the population served by the organization increases until the large population classification is reached. This is likely due to the employee or contractor assuming billing clerk duties having a title other than that of billing clerk.

Table A-II-1 also provides the average years of service for the billing clerk position for the various population classifications. Billing clerks for organizations that serve large populations have the longest average tenure length for both employee and contractor billing clerks followed by organizations that serve very small populations. Organizations that serve medium-size populations have the shortest average tenure length for both employee and contractor billing clerks.

Table A-II-1. Percentage/Number of Organizations Reporting a Billing Clerk Position and Average Years of Service for this Position by Population Size Classification

Organization Size	Percentage/Number of Orgs with BCs (Employee)	Average Tenure of BCs (Employee)	Percentage/Number of Orgs with BCs (Contractor)	Average Tenure of BCs (Contractor)
Very Small	42.1% 8 of 19 orgs	11.0 years 7 orgs	26.3% 5 of 19 orgs	6.0 years 5 orgs
Small	69.9% 51 of 73 orgs	9.5 years 41 orgs	23.3% 17 of 73 orgs	13.1 years 15 orgs
Medium	92.0% 23 of 25 orgs	8.1 years 20 orgs	4.0% 1 of 25 orgs	1.0 years 1 org
Large	81.8% 9 of 11 orgs	11.4 years 7 orgs	9.1% 1 of 11 orgs	15.0 years 1 org
Total	71.1% 91 of 128 orgs	9.5 years 75 orgs	18.8% 24 of 128 orgs	11.0 years 22 orgs

[12]It is important to note that the counts of organizations within tables and between tables that are classified by the same metric (i.e., Table A-II-1 and Table A-II-2 are both classified by the size of the population served by the organization) may not be equal for different metrics. This is due to differences in information reported by the organization. In most cases, the number of organizations reporting a specific position will have the largest counts, not all organizations reported lengths of tenure or average compensation for either employees or contractors or the availability of benefits for employees. However, the total counts for a particular position should be the same across classifications (population size, treatment classification, organization type, and geography) for each metric being analyzed.

[13]Served population is calculated as 2.6 people per system connection. For the purposes of this publication, the following commonly accepted definitions are used to classify water organizations by size:

- **Very small** – serves a population of 500 persons or fewer
- **Small** – serves a population between 501 and 3,300 persons, inclusive
- **Medium** – serves a population between 3,301 and 10,000 persons, inclusive
- **Large** – serves a population of more than 10,000 persons

Table A-II-2 presents the average level of monthly gross wages (employees) and compensation (contractors) for billing clerk positions as well as the number of organizations providing any benefits to employees in this position by organization size. The average monthly gross wages/salaries for employee billing clerks and the average monthly compensation for contractor billing clerks tend to increase as the size of the organization increases. The percentages of organizations that utilize an employee in the role of a billing clerk and that provide benefits[14] to these employees for each population size classification are listed below:

- Very small – 5 of 8 organizations (62.5 percent)
- Small – 37 of 51 organizations (72.5 percent)
- Medium – 20 of 23 organizations (87.0 percent)
- Large – 9 of 9 organizations (100.0 percent)

Billing clerk compensation increases for both employees and contractors as the population served by the organization increases. In addition, the minimum reported amounts paid to billing clerks increases as the organization's population size increases. It's interesting to note that organizations serving medium- and large-size populations are much less likely to utilize contractors in this position than are organizations that serve very small and small populations. Organizations that serve medium and large size populations are more likely to provide both primary and secondary benefits to employee billing clerks.

Table A-II-2. Average Monthly Gross Compensation for Billing Clerk and Benefits Packages for Employee Billing Clerks by Population Size Classification

Organization Size	Average Monthly Gross Wages/ Salaries of BCs (Employee)	Organizations with Primary/Secondary Benefits for BCs (Employee)	Average Monthly Compensation of BCs (Contractor)
Very Small	Orgs reporting – 7 Average – $789 Minimum – $100 Maximum – $1,784	Orgs reporting benefits – 5 orgs Primary – 1 org Secondary – 5 orgs	Orgs reporting – 5 Average – $610 Minimum – $50 Maximum – $1,800
Small	Orgs reporting – 36 Average – $1,521 Minimum – $420 Maximum – $3,800	Orgs reporting benefits – 37 orgs Primary – 20 orgs Secondary – 31 orgs	Orgs reporting – 13 Average – $922 Minimum – $375 Maximum – $2,300
Medium	Orgs reporting – 18 Average – $2,512 Minimum – $1,616 Maximum – $3,367	Orgs reporting benefits – 20 orgs Primary – 20 orgs Secondary – 13 orgs	Orgs reporting – 1 Average – $2,000 Minimum – $2,000 Maximum – $2,000
Large	Orgs reporting – 6 Average – $3,437 Minimum – $2,240 Maximum – $4,400	Orgs reporting benefits – 9 orgs Primary – 9 orgs Secondary – 6 orgs	N/D
Total	Orgs reporting – 67 Average – $1,882 Minimum – $100 Maximum – $4,400	Orgs reporting benefits – 71 orgs Primary – 50 orgs Secondary – 55 orgs	Orgs reporting – 19 Average – $897 Minimum – $50 Maximum – $2,300

[14]**Primary benefits** are defined as health insurance, retirement plan(s), and/or disability insurance. An organization was categorized as providing primary benefits to a particular employee job classification (i.e., general manager) if it provided at least one of these benefits to the employee.

Secondary benefits are defined as provision of a company-owned vehicle, mileage reimbursement for a personally-owned vehicle, uniforms, and/or covering the cost(s) required for continuing education unit (CEU) hours. An organization was categorized as providing secondary benefits to a particular employee job classification (i.e., general manager) if it provided at least one of these benefits to the employee. Contractors do not typically receive these types of benefits from the organization due to their status as independent businesses.

Table A-II-3 presents the percentage and number of organizations reporting the position of billing clerk and the average years of service for employees and contractors by water treatment class[15]. Interestingly, class B organizations not only have the longest average tenure for employee billing clerks while Class C organizations have the second shortest employee billing clerk tenure, but the longest contractor billing clerk tenure. Class D organizations are more likely to utilize contractors for this role. Class B and Class D organizations are more likely to have a billing clerk role than are the other treatment classes, but this is likely due to the fact that more Class B and Class D organizations fall into the larger population size classifications than is the case for Class C or Class E organizations.

Table A-II-3. Percentage/Number of Organizations Reporting a Billing Clerk Position and Average Years of Service for this Position by Treatment Class

Treatment Class	Percentage/Number of Orgs with BCs (Employee)	Average Tenure of BCs (Employee)	Percentage/Numbervof Orgs with BCs (Contractor)	Average Tenure of BCs (Contractor)
Class B	76.9% 10 of 13 orgs	11.9 years 9 orgs	0.0% 0 of 13 orgs	N/A
Class C	64.0% 16 of 25 orgs	7.5 years 13 orgs	24.0% 6 of 25 orgs	12.8 years 6 orgs
Class D	74.7% 62 of 83 orgs	9.7 years 50 orgs	18.1% 15 of 83 orgs	10.8 years 13 orgs
Class E	42.9% 3 of 7 orgs	7.2 years 3 orgs	42.9% 3 of 7 org	8.0 years 3 orgs
Total	71.1% 91 of 128 orgs	9.5 years 75 orgs	18.8% 24 of 128 orgs	11.0 years 22 orgs

Table A-II-4 presents the average level of monthly gross wages (employees) and compensation (contractors) for billing clerk positions as well as the number of organizations providing any benefits for employees in this position by treatment class. The average monthly compensation for contractor billing clerks tends to increase as the treatment complexity increases with the exception of Class E organizations which had the highest average compensation level for employee billing clerks but the lowest average compensation level for contractor billing clerks. Class D organizations had the widest range of compensation for employee billing clerks (measured as the difference between the minimum and maximum compensation levels). The percentages of organizations that utilize an employee in the role of a billing clerk and that provide benefits to these employees for each water treatment classification are listed below:

- Class B – 10 of 10 organizations (100.0 percent)
- Class C – 13 of 16 organizations (81.3 percent)
- Class D – 45 of 62 organizations (72.6 percent)
- Class E – 3 of 3 organizations (100.0 percent)

Class B and Class E organizations were more likely to provide some type of benefit to employee billing clerks than were Class C and Class D organizations. This is likely due to the fact that Class B and Class E organizations tend to serve larger populations. This could incentivize these organizations to utilize benefits packages for employee retention.

[15]Treatment classes defined by the Mississippi State Department of Health – Bureau of Public Water Supply are as follows:

- **Class A** – organizations having surface water treatment, lime softening, or coagulation and filtration for the removal of constituents other than iron or manganese.
- **Class B** – organizations having two or more Class C treatment facilities, with iron or manganese removal facilities breaking pressure or requiring flocculation and/or sedimentation, a system using membrane filtration, or ion exchange treatment.
- **Class C** – organizations with aeration, pH adjustment, corrosion control, or closed pressure type facilities.
- **Class D** – organizations that provide no treatment to the water other than chlorination, fluoridation, or direct chemical feed.
- **Class E** – organizations that purchase all finished water from other systems.

(Source: *Recommended Minimum Performance Guidelines for Certified Waterworks Operators in the State of Mississippi,* Mississippi State Department of Health.)

Table A-II-4. Average Monthly Gross Compensation for Billing Clerks and Benefits Packages for Employee Billing Clerks by Treatment Class

Treatment Class	Average Monthly Gross Wages/ Salaries of BCs (Employee)	Organizations with Primary/Secondary Benefits for BCs (Employee)	Average Monthly Compensation for BCs (Contractor)
Class B	Orgs reporting – 8 Average – $2,479 Minimum – $1,000 Maximum – $4,060	Orgs reporting benefits – 10 orgs Primary – 8 orgs Secondary – 7 orgs	N/D
Class C	Orgs reporting – 8 Average – $1,963 Minimum – $450 Maximum – $4,400	Orgs reporting benefits – 13 orgs Primary – 10 orgs Secondary – 11 orgs	Orgs reporting – 6 Average – $1,081 Minimum – $400 Maximum – $2,300
Class D	Orgs reporting – 8 Average – $1,725 Minimum – $100 Maximum – $4,200	Orgs reporting benefits – 45 orgs Primary – 29 orgs Secondary – 34 orgs	Orgs reporting – 15 Average – $888 Minimum – $50 Maximum – $2,000
Class E	Orgs reporting – 8 Average – $2,562 Minimum – $2,560 Maximum – $2,563	Orgs reporting benefits – 3 orgs Primary – 3 orgs Secondary – 3 orgs	Orgs reporting – 3 Average – $588 Minimum – $475 Maximum – $700
Total	Orgs reporting – 67 Average – $1,882 Minimum – $100 Maximum – $4,400	Orgs reporting benefits – 71 orgs Primary – 50 orgs Secondary – 55 orgs	Orgs reporting – 19 Average – $897 Minimum – $50 Maximum – $2,300

Table A-II-5 presents the percentage and number of organizations with a billing clerk position and the average years of service classified by organization type. All utility districts report utilizing this position and the municipal and association organization types both report over 90 percent of these organizations utilizing this position in either an employee or contractor form. A larger percentage of municipalities utilize the position of billing clerk than any other organization type, but associations have the longest average tenure for employee billing clerks. Furthermore, the average tenure length for contractor billing clerks utilized by associations is longer than the average tenure length of employee billing clerks for either utility districts or municipalities.

Table A-II-5. Percentage/Number of Organizations Reporting a Billing Clerk Position and Average Years of Service for this Position by Organization Type

Organization Type	Percentage/Number of Orgs with BCs (Employee)	Average Tenure of BCs (Employee)	Percentage/Number of Orgs with BCs (Contractor)	Average Tenure of BCs (Contractor)
Private	57.1% 4 of 7 orgs	8.0 years 2 orgs	28.6% 2 of 7orgs	5.0 years 2 orgs
District	100.0% 2 of 2 orgs	7.0 years 1 org	0.0% 0 of 2 orgs	N/A
Municipal	80.8% 21 of 26 orgs	10.8 years 16 orgs	7.7% 2 of 26 orgs	8.0 years 2 orgs
Association	68.8% 64 of 93 orgs	9.2 years 56 orgs	21.5% 20 of 93 orgs	12.0 years 18 orgs
Total	71.1% 91 of 128 orgs	9.5 years 75 orgs	18.8% 24 of 128 orgs	11.0 years 22 orgs

Table A-II-6 presents the average level of monthly gross wages (employees) and compensation (contractors) for the position of billing clerk as well as the number of organizations providing any benefits to employees in this position by organization type. The average monthly gross wages/salaries for employee billing clerks are highest for private organizations and districts, but there was only one response from each of these organization types that utilized an employee as a billing clerk. For organization types that had multiple responses, municipalities reported the highest average followed by associations, although associations reported the highest response for this question.

Associations were also much more likely to utilize contractors in this role and one association provided the highest level of compensation for contractors in this position. One municipal organization filled this role with contractors and two private organizations utilized contractors as billing clerks. The percentages of organizations that utilize an employee in the role of a billing clerk and that provide benefits to these employees for each organization type are listed below:

- Private – 4 of 4 organizations (100.0 percent)
- District – 2 of 2 organizations (100.0 percent)
- Municipal – 18 of 21 organizations (85.7 percent)
- Association – 47 of 64 organizations (73.4 percent)

Both utility districts that responded to the survey provide benefits to billing clerks. Unsurprisingly, the majority of municipalities provide benefits for employees and more than half of associations provide benefits for this position. It was surprising to note that 80 percent of the five private organizations that utilized employees in this role provided benefits to employees in the billing clerk role and three of these provided primary benefits.

Table A-II-6. Average Monthly Gross Compensation for Billing Clerks and Benefits Packages for Employee Billing Clerks by Organization Type

Organization Type	Average Monthly Gross Wages/Salaries for BCs (Employee)	Organizations with Primary/Secondary Benefits for BCs (Employee)	Average Monthly Compensation of BCs (Contractor)
Private	Orgs reporting – 1 Average – $3,800 Minimum – $3,800 Maximum – $3,800	Orgs reporting benefits – 4 orgs Primary – 3 orgs Secondary – 4 orgs	Orgs reporting – 2 Average – $575 Minimum – $500 Maximum – $650
District	Orgs reporting – 1 Average – $2,720 Minimum – $2,720 Maximum – $2,720	Orgs reporting benefits – 1 orgs Primary – 2 orgs Secondary – 2 orgs	N/A
Municipal	Orgs reporting – 14 Average – $2,091 Minimum – $500 Maximum – $4,400	Orgs reporting benefits – 18 orgs Primary – 17 orgs Secondary – 12 orgs	Orgs reporting – 1 Average – $2,000 Minimum – $2,000 Maximum – $2,000
Association	Orgs reporting – 51 Average – $1,771 Minimum – $100 Maximum – $4,200	Orgs reporting benefits – 47 orgs Primary – 28 orgs Secondary – 37 orgs	Orgs reporting – 16 Average – $868 Minimum – $50 Maximum – $2,300
Total	Orgs reporting – 67 Average – $1,882 Minimum – $100 Maximum – $4,400	Orgs reporting benefits – 71 orgs Primary – 50 orgs Secondary – 55 orgs	Orgs reporting – 19 Average – $897 Minimum – $50 Maximum – $2,300

Table A-II-7 presents the percentage and number of organizations reporting the billing clerk position and the average years of service for this position by geographic region[16]. The Capital/River region reported the highest percentage of employee billing clerks and the Delta region reported the longest average tenure length for employees this position compared to all geographic regions. Relatively few organizations report utilizing a contractor billing clerk, but the highest percentages of organizations utilizing a contractor billing clerk were found in the Hills region and the Delta region. The Hills region and the Delta region had the longest average tenures for contractors in this position. It is interesting to note that that no responding organization in the Capital/River region utilized contractors in this role.

Table A-II-7. Percentage/Number of Organizations Reporting a Billing Clerk Position and Average Years of Service for this Position by Geographic Region

Organization Region	Percentage/Number of Orgs with BCs (Employee)	Average Tenure of BCs (Employee)	Percentage/Number of Orgs with BCs (Contractor)	Average Tenure of BCs (Contractor)
Capital/River	87.0% 20 of 23 orgs	11.2 years 17 orgs	0% 0 of 23 orgs	N/A
Coastal	79.2% 19 of 24 orgs	8.7 years 16 orgs	16.7% 4 of 24 orgs	7.8 years 4 orgs
Delta	60.0% 6 of 10 orgs	13.2 years 6 orgs	30.0% 3 of 10 orgs	12.0 years 3 orgs
Hills	61.1% 22 of 36 orgs	9.0 years 16 orgs	30.6% 11 of 36 orgs	13.7 years 9 orgs
Pines	68.6% 24 of 35 orgs	7.9 years 20 orgs	17.14% 6 of 35 orgs	8.7 years 6 orgs
Total	71.1% 91 of 128 orgs	9.5 years 75 orgs	18.8% 24 of 128 orgs	11.0 years 22 orgs

[16]The **Capital/River Region** consists of the following counties: Adams, Amite, Claiborne, Copiah, Franklin, Hinds, Jefferson, Lawrence, Lincoln, Madison, Pike, Rankin, Simpson, Walthall, Warren, and Wilkinson.

The **Coastal Region** consists of the following counties: Covington, Forrest, George, Greene, Hancock, Harrison, Jackson, Jefferson Davis, Jones, Lamar, Marion, Pearl River, Perry, Stone, and Wayne.

The **Delta Region** consists of the following counties: Bolivar, Coahoma, Holmes, Humphreys, Issaquena, Leflore, Quitman, Sharkey, Sunflower, Tallahatchie, Tunica, Washington, and Yazoo.

The **Hills Region** consists of the following counties: Alcorn, Benton, Calhoun, DeSoto, Grenada, Itawamba, Lafayette, Lee, Marshall, Panola, Pontotoc, Prentiss, Tate, Tippah, Tishomingo, Union, Webster, and Yalobusha.

The **Pines Region** consists of the following counties: Attala, Carroll, Chickasaw, Choctaw, Clarke, Clay, Jasper, Kemper, Lauderdale, Leake, Lowndes, Monroe, Montgomery, Neshoba, Newton, Noxubee, Oktibbeha, Scott, Smith, and Winston.

Table A-II-8 presents the average level of monthly gross wages (employees) and compensation (contractors) for billing clerk positions as well as the number of organizations offering any benefits to employees in this position by geographic region. The average monthly gross wages/salaries for employee billing clerks are highest for the Coastal region, followed by the Hills, Pines, Capital/River, and Delta regions. The Coastal region provided the highest average compensation for contractors in this position followed closely by the Delta region.

The largest percentage of organizations providing some type of benefit to employee billing clerks was found in the Coastal region, followed by the Pines, Capital/River, Hills and Delta regions. The percentages of organizations that utilize an employee in the role of a billing clerk and that provide benefits to these employees for each geographic region are listed below:

- Capital/River Region– 15 of 20 organizations (75.0 percent)
- Coastal Region– 17 of 19 organizations (89.5 percent)
- Delta Region – 4 of 6 organizations (66.7percent)
- Hills Region – 16 of 22 organizations (72.7 percent)
- Pines Region – 19 of 24 organizations (79.2 percent)

Table A-II-8. Average Monthly Gross Compensation for Billing Clerks and Benefits Packages for Employee Designated Operators by Geographic Region

Organization Region	Average Monthly Gross Wages/ Salaries for BCs (Employee)	Organizations with Primary/Secondary Benefits for BCs (Employee)	Average Monthly Compensation for BCs (Contractor)
Capital/River	Orgs reporting – 12 Average – $1,856 Minimum – $650 Maximum – $3,440	Orgs reporting benefits – 15 orgs Primary – 11 orgs Secondary – 13 orgs	N/A
Coastal	Orgs reporting – 15 Average – $2,010 Minimum – $750 Maximum – $3,800	Orgs reporting benefits – 17 orgs Primary – 13 orgs Secondary – 16 orgs	Orgs reporting – 3 Average – $1,183 Minimum – $650 Maximum – $2,000
Delta	Orgs reporting – 6 Average – $1,513 Minimum – $100 Maximum – $4,200	Orgs reporting benefits – 4 orgs Primary – 2 orgs Secondary – 3 orgs	Orgs reporting – 2 Average – $1,075 Minimum – $350 Maximum – $1,800
Hills	Orgs reporting – 16 Average – $1,925 Minimum – $200 Maximum – $4,400	Orgs reporting benefits – 16 orgs Primary – 11 orgs Secondary – 11 orgs	Orgs reporting – 8 Average – $681 Minimum – $350 Maximum – $1,100
Pines	Orgs reporting – 18 Average – $1,880 Minimum – $450 Maximum – $4,060	Orgs reporting benefits – 19 orgs Primary – 13 orgs Secondary – 12 orgs	Orgs reporting – 6 Average – $982 Minimum – $50 Maximum – $2,300
Total	Orgs reporting – 67 Average – $1,882 Minimum – $100 Maximum – $4,400	Orgs reporting benefits – 71 orgs Primary – 50 orgs Secondary – 55 orgs	Orgs reporting – 19 Average – $897 Minimum – $50 Maximum – $2,300

Appendix III – Administrative Support

Forty-four of the 128 responding organizations (34.4 percent) reported utilizing administrative support positions other than the billing clerk position. Forty-one organizations (93.2 percent of the organizations that report utilizing the role of administrative support) reported utilizing administrative support personnel as employees while three organizations (6.8 percent of the organizations that report utilizing the role of administrative support) reported utilizing a contractor in this position. **Table A-III-1**[17] presents the percentage and number of responding organizations that report having administrative support personnel at the time of the survey as well as the average gross monthly wages (employees) or payments (contractors) classified in this position by the size of the population served[18]. The percentage of organizations that report having employee administrative support personnel at the time of completing the survey tends to increase as the size of the population served increases. The only population size classifications that report hiring contract administrative support personnel are the very small and small population size classes; this is likely due to the added expense of hiring employees for this position and the smaller systems perhaps having insufficient resources to invest in a likely part-time (less than 40 hours per week) person. With only three organizations reported having contractors in this position, it is not possible to establish a solid trend for contractors in this position.

Table A-III-1 also reports the average years of service for the administrative support position by the size of the population served by the organization. The average years of service for employees and contractors in this position increases as the size of the population served increases, although only one organization that served a very small population reported utilizing this position.

Table A-III-1. Percentage/Number of Organizations Reporting an Administrative Support Position and Average Years of Service for this Position by Population Size Classification

Organization Size	Percentage/Number of AdSupp (Employee)	Average Tenure of AdSupp (Employee)	Percentage/Number of AdSupp (Contractor)	Average Tenure of AdSupp (Contractor)
Very Small	0.0% 0 of 16 orgs	N/A	5.3% 1 of 19 orgs	1.5 years 1 org
Small	19.2% 14 of 73 orgs	5.7 years 11 orgs	2.7% 2 of 73 orgs	4.5 years 2 orgs
Medium	76.0% 19 of 25 orgs	6.4 years 17 orgs	0.0% 0 of 25 orgs	N/A
Large	81.8% 9 of 11 orgs	14.3 years 6 orgs	0.0% 0 of 11 orgs	N/A
Total	32.0% 41 of 128 orgs	7.6 years 34 orgs	2.3% 3 of 128 orgs	3.5 years 3 orgs

[17]It is important to note that the counts of organizations within tables and between tables that are classified by the same metric (i.e., Table A-III-1 and Table A-III-2 are both classified by the size of the population served by the organization) may not be equal for different metrics. This is due to differences in information reported by the organization. In most cases, the number of organizations reporting a specific position will have the largest counts, not all organizations reported lengths of tenure or average compensation for either employees or contractors or the availability of benefits for employees. However, the total counts for a particular position should be the same across classifications (population size, treatment classification, organization type, and geography) for each metric being analyzed.

[18]Served population is calculated as 2.6 people per system connection. For the purposes of this publication, the following commonly accepted definitions are used to classify water organizations by size:

- **Very small** – serves a population of 500 persons or fewer
- **Small** – serves a population between 501 and 3,300 persons, inclusive
- **Medium** – serves a population between 3,301 and 10,000 persons, inclusive
- **Large** – serves a population of more than 10,000 persons

Table A-III-2 presents the average level of monthly gross wages (employees) and compensation (contractors) for administrative support positions, as well as the number of organizations that provide any benefits to employees in this position by the size of the population served by the organization. The average monthly gross wages/salaries for employee administrative support personnel and the average monthly compensation for contractor administrative support personnel tend to significantly increase as the size of the population served by the organization increases; this should not be surprising since organizations that serve larger populations are more likely to have large administrative workloads than do organizations that serve smaller populations. Furthermore, the percentage of organizations that provide benefits[19] to administrative support employees increases as the population served by the organization increases. The percentages of organizations that utilize an employee in the role of administrative support and that provide benefits to these employees for each population size classification are listed below:

- Very Small – N/A
- Small – 8 of 14 organizations with an administrative support employee (57.1 percent)
- Medium – 16 of 19 organizations with an administrative support employee (84.2 percent)
- Large – 9 of 9 organizations with an administrative support employee (100.0 percent)

Table A-III-2. Average Monthly Gross Compensation for Administrative Support Positions and Benefits Packages for Employee Administrative Support Positions by Organization Size

Organization Size	Average Monthly Gross Wages/ Salaries of AdSupp (Employee)	Organizations with Primary/Secondary Benefits for AdSupp (Employee)	Average Monthly Compensation for AdSupp (Contractor)
Very Small	N/A	Orgs reporting benefits – 0 orgs Primary – 0 orgs Secondary – 0 orgs	Orgs reporting – 1 Average – $350 Minimum – $350 Maximum – $350
Small	Orgs reporting – 10 Average – $1,372 Minimum – $550 Maximum – $2,880	Orgs reporting benefits – 8 orgs Primary – 6 orgs Secondary – 6 orgs	Orgs reporting – 2 Average – $525 Minimum – $300 Maximum – $750
Medium	Orgs reporting – 15 Average – $2,198 Minimum – $1,040 Maximum – $4,250	Orgs reporting benefits – 16 orgs Primary – 15 orgs Secondary – 10 orgs	N/A
Large	Orgs reporting – 6 Average – $3,310 Minimum – $2,472 Maximum – $4,925	Orgs reporting benefits – 9 orgs Primary – 9 orgs Secondary – 6 orgs	N/A
Total	Orgs reporting – 31 Average – $2,147 Minimum – $550 Maximum – $4,925	Orgs reporting benefits – 33 orgs Primary – 30 orgs Secondary – 22 orgs	Orgs reporting – 3 Average – $467 Minimum – $300 Maximum – $750

[19] **Primary benefits** are defined as health insurance, retirement plan(s), and/or disability insurance. An organization was categorized as providing primary benefits to a particular employee job classification (i.e., general manager) if it provided at least one of these benefits to the employee.

Secondary benefits are defined as provision of a company-owned vehicle, mileage reimbursement for a personally-owned vehicle, uniforms, and/or covering the cost(s) required for continuing education unit (CEU) hours. An organization was categorized as providing secondary benefits to a particular employee job classification (i.e., general manager) if it provided at least one of these benefits to the employee. Contractors do not typically receive these types of benefits from the organization due to their status as independent businesses.

Table A-III-3 presents the percentage and number of organizations with administrative support personnel and the average years of service by water treatment class[20] . Class B organizations report the highest utilization of administrative support personnel and this treatment class has the longest tenure of persons serving in this capacity. As previously mentioned, few organizations utilize contractors in this role.

Table A-III-3. Percentage/Number of Organizations Reporting an Administrative Support Position and Average Years of Service for this Position by Treatment Class

Treatment Class	Percentage/Number of AdSupp (Employee)	Average Tenure of AdSupp (Employee)	Percentage/Number of AdSupp (Contractor)	Average Tenure of AdSupp (Contractor)
Class B	53.9% 7 of 13 orgs	10.8 years 6 orgs	0.0% 0 of 13 orgs	N/A
Class C	28.0% 7 of 25 orgs	5.5 years 4 orgs	0.0% 0 of 25 orgs	N/A
Class D	31.3% 26 of 83 orgs	7.6 years 22 orgs	2.4% 2 of 83 orgs	4.8 years 2 orgs
Class E	28.6% 2 of 7 orgs	1.8 years 2 orgs	14.3% 1 of 7 orgs	1.0 years 1 org
Total	32.0% 41 of 128 orgs	7.6 years 34 orgs	2.3% 3 of 128 orgs	3.5 years 3 orgs

Table A-III-4 presents the average level of monthly compensation for administrative support positions as well as the number of organizations providing any benefits to employees in this position by treatment class. The average monthly gross wages/salaries for employee administrative support positions tend to increase as the organization's treatment complexity increases with the exception of a slight increase in the average gross wages/salaries for administrative support employees of Class C organizations. The percentages of organizations that utilize an employee in the role of administrative support and that provide benefits to these employees for each water treatment classification are listed below:

- Class B – 6 of 7 organizations (85.7 percent)
- Class C – 4 of 7 organizations (57.1 percent)
- Class D – 21 of 26 organizations (80.8 percent)
- Class E – 2 of 2 organizations (100.0 percent)

[20]Treatment classes defined by the Mississippi State Department of Health – Bureau of Public Water Supply are as follows:

- **Class A** – organizations having surface water treatment, lime softening, or coagulation and filtration for the removal of constituents other than iron or manganese.
- **Class B** – organizations having two or more Class C treatment facilities, with iron or manganese removal facilities breaking pressure or requiring flocculation and/or sedimentation, a system using membrane filtration, or ion exchange treatment.
- **Class C** – organizations with aeration, pH adjustment, corrosion control, or closed pressure type facilities.
- **Class D** – organizations that provide no treatment to the water other than chlorination, fluoridation, or direct chemical feed.
- **Class E** – organizations that purchase all finished water from other systems.

(Source: *Recommended Minimum Performance Guidelines for Certified Waterworks Operators in the State of Mississippi,* Mississippi State Department of Health.)

Table A-III-4. Average Gross Monthly Compensation for Administrative Support Positions and Benefits Packages for Employee Administrative Support Positions by Treatment Class

Treatment Class	Average Monthly Gross Wages/ Salaries AdSupp (Employee)	Organizations with Primary/Secondary Benefits AdSupp (Employee)	Average Monthly Compensation AdSupp (Contractor)
Class B	Orgs reporting – 4 Average – $2,440 Minimum – $550 Maximum – $4,150	Orgs reporting – 6 orgs Primary – 6 orgs Secondary – 3 orgs	N/A
Class C	Orgs reporting – 5 Average – $2,557 Minimum – $960 Maximum – $4,925	Orgs reporting – 4 orgs Primary – 4 orgs Secondary – 3 orgs	N/A
Class D	Orgs reporting – 20 Average – $2,050 Minimum – $880 Maximum – $4,250	Orgs reporting – 21 orgs Primary – 18 orgs Secondary – 15 orgs	Orgs reporting – 2 Average – $550 Minimum – $350 Maximum – $750
Class E	Orgs reporting – 2 Average – $1,500 Minimum – $960 Maximum – $2,040	Orgs reporting – 2 orgs Primary – 2 orgs Secondary – 1 orgs	Orgs reporting – 1 Average – $300 Minimum – $300 Maximum – $300
Total	Orgs reporting – 31 Average – $2,147 Minimum – $550 Maximum – $4,925	Orgs reporting benefits – 33 orgs Primary – 30 orgs Secondary – 22 orgs	Orgs reporting – 3 Average – $467 Minimum – $300 Maximum – $750

Table A-III-5 presents the percentage and number of organizations with administrative support personnel and the average years of service by organization type. Utility districts and municipalities have the highest percentages of organizations that utilize administrative support personnel other than the billing clerk position; this is not surprising given the fact that these are often larger organizations where many employees fill multiple roles. Districts also have the longest average years of service for employees in this position, followed by municipalities, associations, and finally private organizations.

Table A-III-5. Percentage/Number of Organizations Reporting an Administrative Support Position and Average Years of Service for this Position by Organization Type

Organization Type	Percentage/Number AdSupp (Employee)	Average Tenure AdSupp (Employee)	Percentage/Number AdSupp (Contractor)	Average Tenure AdSupp (Contractor)
Private	28.6% 2 of 7 orgs	1.0 years 1 org	0.0% 0 of 7 orgs	N/A
District	100.0% 2 of 2 orgs	15.0 years 1 org	0.0% 0 of 2 orgs	N/A
Municipal	42.3% 11 of 26 orgs	9.4 years 7 orgs	2.1% 1 of 26 orgs	N/A
Association	29.0% 27 of 93 orgs	7.0 years 25 orgs	2.3% 3 of 93 orgs	3.5 years 3 orgs
Total	32.0% 41 of 128 orgs	7.6 years 34 orgs	2.3% 3 of 128 orgs	3.5 years 3 orgs

Table A-III-6 presents the average level of monthly compensation for administrative support positions as well as the number of organizations providing any benefits to employees in this position by organization type. The average monthly gross wages/salaries for administrative support employees are highest for administrative support employees employed by municipalities, followed very closely by utility districts with associations a distant third. The percentages of organizations that utilize an employee in the role of administrative support and that provide benefits to these employees for each organization type are listed below:

- Private – 1 of 2 organizations (50.0 percent)
- District – 2 of 2 organizations (100.0 percent)
- Municipal – 11 of 11 organizations (100.0 percent)
- Association – 19 of 27 organizations (70.4 percent)

Given the typical organization of utility districts, it is not surprising that virtually all utility employees receive benefits. It is somewhat surprising that the majority of municipalities do not report providing benefits to these employees, but this could be due to two factors. First, the responding organizations simply did not answer the benefits questions regarding their employees. Second, small municipalities may not be involved with the state's benefits package due to its cost.

Table A-III-6. Average Monthly Gross Compensation for an Administrative Support Position and Benefits Packages for Employee Administrative Support Positions by Organization Type

Organization Type	Average Monthly Gross Wages/ Salaries of AdSupp (Employee)	Organizations with Primary/Secondary Benefits for AdSupp (Employee)	Average Monthly Compensation for AdSupp (Contractor)
Private	Orgs reporting – 1 Average – $1,400 Minimum – $1,400 Maximum – $1,400	Orgs reporting benefits – 1 orgs Primary – 1 orgs Secondary – 1 orgs	N/A
District	Orgs reporting – 1 Average – $3,520 Minimum – $3,520 Maximum – $3,520	Orgs reporting – 2 orgs Primary – 2 orgs Secondary – 2 orgs	N/A
Municipal	Orgs reporting – 8 Average – $2,211 Minimum – $960 Maximum – $4,925	Orgs reporting benefits – 11 orgs Primary – 11 orgs Secondary – 8 orgs	N/A
Association	Orgs reporting – 21 Average – $2,092 Minimum – $550 Maximum – $4,250	Orgs reporting benefits – 19 orgs Primary – 16 orgs Secondary – 11 orgs	Orgs reporting – 3 Average – $467 Minimum – $300 Maximum – $750
Total	Orgs reporting – 31 Average – $2,147 Minimum – $550 Maximum – $4,925	Orgs reporting benefits – 33 orgs Primary – 30 orgs Secondary – 22 orgs	Orgs reporting – 3 Average – $467 Minimum – $300 Maximum – $750

Table A-III-7 presents the percentage and number of organizations with administrative support personnel and the average years of service by geographic region[21]. The Delta region has the highest percentage of organizations that utilize employee administrative support personnel and the Pines region has the longest average years of service for this position.

Table A-III-7. Percentage/Number of Organizations Reporting Administrative Support Positions and Average Years of Service for this Position by Geographic Region

Organization Region	Percentage/Number of Orgs with AdSupp (Employee)	Average Tenure of AdSupp (Employee)	Percentage/Number of Orgs with AdSupp (Contractor)	Average Tenure of AdSupp (Contractor)
Capital/River	34.8% 8 of 23 orgs	6.9 years 7 orgs	4.4% 1 of 23 orgs	8.0 years 1 org
Coastal	45.8% 11 of 24 orgs	7.5 years 9 orgs	0.0% 0 of 24 orgs	N/A
Delta	10.0% 1 of 10 orgs	3.0 years 1 org	10.0% 1 of 10 orgs	1.5 years 1 org
Hills	33.3% 12 of 36 orgs	3.9 years 7 orgs	2.8% 1 of 36 orgs	1.0 years 1 org
Pines	28.6% 10 of 35 orgs	11.2 years 10 orgs	0.0% 0 of 35 orgs	N/A
Total	32.0% 41 of 128 orgs	7.6 years 34 orgs	2.3% 3 of 128 orgs	3.5 years 3 orgs

[21]The **Capital/River Region** consists of the following counties: Adams, Amite, Claiborne, Copiah, Franklin, Hinds, Jefferson, Lawrence, Lincoln, Madison, Pike, Rankin, Simpson, Walthall, Warren, and Wilkinson.

The **Coastal Region** consists of the following counties: Covington, Forrest, George, Greene, Hancock, Harrison, Jackson, Jefferson Davis, Jones, Lamar, Marion, Pearl River, Perry, Stone, and Wayne.

The **Delta Region** consists of the following counties: Bolivar, Coahoma, Holmes, Humphreys, Issaquena, Leflore, Quitman, Sharkey, Sunflower, Tallahatchie, Tunica, Washington, and Yazoo.

The **Hills Region** consists of the following counties: Alcorn, Benton, Calhoun, DeSoto, Grenada, Itawamba, Lafayette, Lee, Marshall, Panola, Pontotoc, Prentiss, Tate, Tippah, Tishomingo, Union, Webster, and Yalobusha.

The **Pines Region** consists of the following counties: Attala, Carroll, Chickasaw, Choctaw, Clarke, Clay, Jasper, Kemper, Lauderdale, Leake, Lowndes, Monroe, Montgomery, Neshoba, Newton, Noxubee, Oktibbeha, Scott, Smith, and Winston.

Table A-III-8 presents the average level of monthly gross wages (employees) and compensation (contractors) for administrative support positions as well as the number of organizations providing any benefits to employees in this position by geographic region. The average level of monthly gross wages/salaries for administrative support employees is highest in the Delta region (only one Delta region respondent provided wage and salary information for this position), followed by the Pines, Hills, Coastal, and finally Capital/River regions. The majority of organizations that provide benefits in each geographic region provide at least one primary benefit to employee administrative support personnel. As demonstrated in the other organization classification presentations, there are three organizations that utilize contract administrative support personnel that provided compensation information; these organizations are located in the Capital/River, Delta, and Hills regions. The percentages of organizations that utilize an employee in the role of administrative support and that provide benefits to these employees for each geographic region are listed below:

- Capital/River Region – 6 of 8 organizations (75.0 percent)
- Coastal Region – 7 of 11 organizations (63.6 percent)
- Delta Region – 1 of 1 organization (100.0 percent)
- Hills Region – 11 of 12 organizations (91.7 percent)
- Pines Region – 8 of 10 organizations (80.0 percent)

Table A-III-8. Average Monthly Gross Compensation for Administrative Support Positions and Benefits Packages for Employee Administrative Support Positions by Geographic Region

Organization Region	Average Monthly Gross Wages/ Salaries of AdSupp (Employee)	Organizations with Primary/Secondary Benefits for AdSupp (Employee)	Average Monthly Compensation of AdSupp (Contractor)
Capital/River	Orgs reporting – 3 Average – $1,463 Minimum – $550 Maximum – $2,720	Orgs reporting benefits – 6 orgs Primary – 5 orgs Secondary – 6 orgs	Orgs reporting – 1 Average – $750 Minimum – $750 Maximum – $750
Coastal	Orgs reporting – 10 Average – $1,898 Minimum – $880 Maximum – $3,520	Orgs reporting benefits – 7 orgs Primary – 6 orgs Secondary – 6 orgs	N/A
Delta	Orgs reporting – 1 Average – $2,500 Minimum – $2,500 Maximum – $2,500	Orgs reporting benefits – 1 orgs Primary – 1 orgs Secondary – 1 orgs	Orgs reporting – 1 Average – $350 Minimum – $350 Maximum – $350
Hills	Orgs reporting – 9 Average – $2,354 Minimum – $960 Maximum – $4,925	Orgs reporting benefits – 11 orgs Primary – 11 orgs Secondary – 5 orgs	Orgs reporting – 1 Average – $300 Minimum – $300 Maximum – $300
Pines	Orgs reporting – 8 Average – $2,436 Minimum – $1,210 Maximum – $4,250	Orgs reporting benefits – 8 orgs Primary – 7 orgs Secondary – 4 orgs	N/A
Total	Orgs reporting – 31 Average – $2,147 Minimum – $550 Maximum – $4,925	Orgs reporting benefits – 33 orgs Primary – 30 orgs Secondary – 22 orgs	Orgs reporting – 3 Average – $467 Minimum – $300 Maximum – $750

Appendix IV – Designated Waterworks Operator

One hundred seventeen of the responding organizations (91.4 percent) reported having a person in the role of designated waterworks operator. Eighty-one organizations (63.3 percent of the organizations that report utilizing the role of designated waterworks operator) reported hiring an employee for this position while 36 organizations (28.1 percent) reported utilizing a contractor as the designated waterworks operator. **Table A-IV-1**[22] presents the percentages and numbers of responding organizations classified by the population size[23] served by the organization that reported having a designated operator at the time of the survey. State regulations require all water systems (systems are the building blocks of the organization definition used in this study) to have a designated operator. It is interesting to note that the propensity for organizations to utilize an employee in this role increases as the size of the population served increases and that the propensity for the use of contractors in this position decreases as the size of the population served declines.

Table A-IV-1 also provides the average years of service for a designated waterworks operator in the various population size classifications. Organizations that serve medium-size populations have the longest average tenure length for employee designated waterworks operators, and organizations that serve small populations have the longest average tenure for contractors in this role. Organizations that serve very small populations have the shortest average tenure length for employee designated operators and organizations that serve medium populations have the shortest average tenure length for organizations utilizing contractors in this role. However, virtually all size classes have an average tenure length for designated operators of over ten years. This suggests that, at least at the present time, the workforce that comprises this critical position is relatively stable (this has been observed in the previous studies as well). This finding is observed in other sections of this paper as well.

Table A-IV-1. Percentage/Number of Organizations Reporting a Designated Waterworks Operator Position by Population Size Classification and Average Years of Service for this Position

Size Classification	Percentage/Number DWO (Employee)	Average Tenure DWO (Employee)	Percentage/Number DWO (Contractor)	Average Tenure DWO (Contractor)
Very Small	26.3% 5 of 19 orgs	13.1 years 4 orgs	52.6% 10 of 19 orgs	11.1 years 10 orgs
Small	65.8% 48 of 73 orgs	15.5 years 38 orgs	32.9% 24 of 73 orgs	11.8 years 23 orgs
Medium	80.0% 20 of 25 orgs	15.2 years 19 orgs	8.0% 2 of 25 orgs	8.5 years 1 org
Large	81.8% 9 of 11 orgs	16.0 years 7 orgs	0.0% 0 of 11 orgs	N/A
Total	63.3% 81 of 128 orgs	15.3 years 68 orgs	28.1% 36 of 11 orgs	11.5 years 34 orgs

[22]It is important to note that the counts of organizations within tables and between tables that are classified by the same metric (i.e., Table A-IV-1 and Table A-IV-2 are both classified by the size of the population served by the organization) may not be equal for different metrics. This is due to differences in information reported by the organization. In most cases, the number of organizations reporting a specific position will have the largest counts, not all organizations reported lengths of tenure or average compensation for either employees or contractors or the availability of benefits for employees. However, the total counts for a particular position should be the same across classifications (population size, treatment classification, organization type, and geography) for each metric being analyzed.

[23]Served population is calculated as 2.6 people per system connection. For the purposes of this publication, the following commonly accepted definitions are used to classify water organizations by size:

- **Very small** – serves a population of 500 persons or fewer
- **Small** – serves a population between 501 and 3,300 persons, inclusive
- **Medium** – serves a population between 3,301 and 10,000 persons, inclusive
- **Large** – serves a population of more than 10,000 persons

Table A-IV-2 presents the average level of monthly gross wages (employees) or compensation (contractors) for designated operators as well as the number of organizations providing any benefits to employees in this position by population size classification. The average monthly gross wages/salaries for employee designated waterworks operators and the average monthly compensation for contractor designated operators tend to increase as the size of the population served by the organization increases. The percentages of organizations that report utilizing an employee in the role of designated waterworks operator and that provide benefits[24] to these employees for each population size classification are listed below:

- Very Small – 2 of 5 organizations (40.0 percent)
- Small – 38 of 48 organizations (79.2 percent)
- Medium – 20 of 20 organizations (100.0 percent)
- Large – 9 of 9 organizations (100.0 percent)

The proportion of organizations providing some type of benefit to employee designated waterworks operators tends to increase as the size of the population served by the organization increases. In addition, the majority of organizations that serve medium and large populations provide at least one primary benefit to designated waterworks operator employees and almost half (47.4 percent) of organizations that provide service to small populations provide at least one primary benefit to these employees.

Table A-IV-2. Average Monthly Gross Compensation for Designated Waterworks Operators and Benefits Packages for Employee Designated Operators by Population Size Classification

Size Classification	Average Monthly Gross Wages/ Salaries DWO (Employee)	Organizations with Primary/Secondary Benefits DWO (Employee)	Average Monthly Compensation DWO (Contractor)
Very Small	Orgs reporting – 4 Average – $760 Minimum – $150 Maximum – $1,540	Orgs reporting benefits – 2 orgs Primary – 0 orgs Secondary – 2 org	Orgs reporting – 10 Average – $818 Minimum – $350 Maximum – $1,800
Small	Orgs reporting – 39 Average – $2,423 Minimum – $300 Maximum – $7,200	Orgs reporting benefits – 38 orgs Primary – 18 orgs Secondary – 38 orgs	Orgs reporting – 19 Average – $1,387 Minimum – $175 Maximum – $4,300
Medium	Orgs reporting – 14 Average – $3,792 Minimum – $1,200 Maximum – $6,250	Orgs reporting benefits – 20 orgs Primary – 18 orgs Secondary – 20 orgs	Orgs reporting – 1 Average – $5,000 Minimum – $5,000 Maximum – $5,000
Large	Orgs reporting – 6 Average – $4,312 Minimum – $1,400 Maximum – $5,700	Orgs reporting benefits – 9 orgs Primary – 9 orgs Secondary – 9 orgsw	N/A
Total	Orgs reporting – 63 Average – $2,801 Minimum – $150 Maximum – $7,200	Orgs reporting benefits – 69 orgs Primary – 45 orgs Secondary – 69 org	Orgs reporting – 30 Average – $1,318 Minimum – $175 Maximum – $5,000

[24]**Primary benefits** are defined as health insurance, retirement plan(s), and/or disability insurance. An organization was categorized as providing primary benefits to a particular employee job classification (i.e., general manager) if it provided at least one of these benefits to the employee.

Secondary benefits are defined as provision of a company-owned vehicle, mileage reimbursement for a personally-owned vehicle, uniforms, and/or covering the cost(s) required for continuing education unit (CEU) hours. An organization was categorized as providing secondary benefits to a particular employee job classification (i.e., general manager) if it provided at least one of these benefits to the employee. Contractors do not typically receive these types of benefits from the organization due to their status as independent businesses.

Table A-IV-3 presents the percentage and number of organizations with a designated waterworks operator and the average years of service by water treatment class[25]. Since treatment complexity has some positive correlation with the size of the population served by the utility, the proportion of organizations utilizing employees as designated waterworks operators generally increases as treatment complexity increases and the proportion of organizations utilizing contractors as designated waterworks operators tends to decline as treatment complexity increases. The average tenure for contractor designated waterworks operators tends to increase as treatment complexity increases, but there appears to be no correlation between treatment complexity and the length of tenure for employee designated waterworks operators.

Table A-IV-3. Percentage/Number of Organizations Reporting a Designated Waterworks Operator Position and Average Years of Service for this Position by Organization Treatment Class

Organization Treatment Class	Percentage/Number DWO (Employee)	Average Tenure DWO (Employee)	Percentage/Number DWO (Contractor)	Average Tenure DWO (Contractor)
Class B	76.9% 10 of 13 orgs	13.3 years 8 orgs	15.4% 2 of 13 orgs	21.5 years 2 orgs
Class C	68.0% 17 of 25 orgs	20.5 years 15 orgs	24.0% 6 of 25 orgs	12.4 years 5 orgs
Class D	62.7% 52 of 83 orgs	13.7 years 43 orgs	30.1% 25 of 83 orgs	10.6 years 24 orgs
Class E	42.9% 3 of 7 orgs	18.5 years 2 orgs	42.9% 3 of 7 orgs	10.0 years 3 orgs
Total	63.3% 81 of 128 orgs	15.3 years 68 orgs	28.1% 36 of 11 orgs	11.5 years 34 orgs

Table A-IV-4 presents the average level of monthly gross wages (employees) and compensation for designated waterworks operator positions as well as the number of organizations providing any benefits for employees in this position by treatment class. While one might expect the average monthly gross wages/salaries for employee designated waterworks operators and the average monthly compensation for contractor designated waterworks tend to increase as treatment complexity increases, this is not the case. While Class B organizations have the highest average employee compensation for this position, the reported average compensation for employee designated waterworks operators increases as treatment complexity decreases. Class C and Class D organizations have the highest average monthly compensation for contract designated waterworks operators, followed by class B organizations and then Class E organizations.

The majority of organizations in each treatment class that provide benefits to employee designated waterworks operators provide at least one primary benefit to these employees. All organizations that reported providing at least one benefit to employees provided at least one secondary benefit to employees in this position. This secondary benefit was typically providing support for the designated

[25]Treatment classes defined by the Mississippi State Department of Health – Bureau of Public Water Supply are as follows:

- **Class A** – organizations having surface water treatment, lime softening, or coagulation and filtration for the removal of constituents other than iron or manganese.
- **Class B** – organizations having two or more Class C treatment facilities, with iron or manganese removal facilities breaking pressure or requiring flocculation and/or sedimentation, a system using membrane filtration, or ion exchange treatment.
- **Class C** – organizations with aeration, pH adjustment, corrosion control, or closed pressure type facilities.
- **Class D** – organizations that provide no treatment to the water other than chlorination, fluoridation, or direct chemical feed.
- **Class E** – organizations that purchase all finished water from other systems.

(Source: *Recommended Minimum Performance Guidelines for Certified Waterworks Operators in the State of Mississippi,* Mississippi State Department of Health.)

waterworks operator to attend continuing education events. The percentages of organizations that utilize an employee in the role of designated waterworks operator and that provide benefits to these employees for each water treatment classification are listed below:

- Class B – 10 of 10 organizations (100.0 percent)
- Class C – 14 of 17 organizations (82.4 percent)
- Class D – 42 of 52 organizations (80.8 percent)
- Class E – 3 of 3 organizations (100.0 percent)

Table A-IV-4. Average Monthly Gross Compensation for Designated Waterworks Operators and Benefits Packages for Employee Designated Waterworks Operators by Organization Treatment Class

Organization Treatment Class	Average Monthly Gross Wages/ Salaries DWO (Employee)	Organizations with Primary/Secondary Benefits DWO (Employee)	Average Monthly Compensation DWO (Contractor)
Class B	Orgs reporting – 7 Average – $3,956 Minimum – $1,650 Maximum – $4,900	Orgs reporting benefits – 10 orgs Primary – 9 orgs Secondary – 10 orgs	Orgs reporting – 2 Average – $1,225 Minimum – $1,000 Maximum – $1,450
Class C	Orgs reporting – 13 Average – $2,302 Minimum – $300 Maximum – $5,700	Orgs reporting benefits – 14 orgs Primary – 8 orgs Secondary – 14 orgs	Orgs reporting – 4 Average – $1,475 Minimum – $600 Maximum – $2,300
Class D	Orgs reporting – 41 Average – $2,717 Minimum – $150 Maximum – $7,200	Orgs reporting benefits – 42 orgs Primary – 25 orgs Secondary – 42 orgs	Orgs reporting – 21 Average – $1,424 Minimum – $200 Maximum – $5,000
Class E	Orgs reporting – 2 Average – $3,731 Minimum – $3,462 Maximum – $4,000	Orgs reporting benefits – 3 orgs Primary – 3 orgs Secondary – 3 orgs	Orgs reporting – 7 Average – $425 Minimum – $175 Maximum – $900
Total	Orgs reporting – 63 Average – $2,801 Minimum – $150 Maximum – $7,200	Orgs reporting benefits – 69 orgs Primary – 45 orgs Secondary – 69 org	Orgs reporting – 30 Average – $1,318 Minimum – $175 Maximum – $5,000

Table A-IV-5 presents the percentage and number of organizations with a designated waterworks operator and the average years of service by organization type. Municipalities and associations had roughly the same proportion of organizations that utilized employees and contractors for this position while the lowest proportion of organizations that reported having a designated waterworks operator were found in the private organizations group. Of the non-private organizations, associations reported the longest tenure for employee designated operators, followed by municipalities and then utility districts. Somewhat surprisingly, the six municipalities that reported using a contractor in this position reported the longest average tenure for these contractors, followed by associations, private organizations, and finally utility districts.

Table A-IV-5. Percentage/Number of Organizations Reporting a Designated Waterworks Operator Position and Average Years of Service for this Position by Organization Type

Organization Type	Percentage/Number DWO (Employee)	Average Tenure DWO (Employee)	Percentage/Number DWO (Contractor)	Average Tenure DWO (Contractor)
Private	42.9% 3 of 7 orgs	20.3 years 3 orgs	28.6% 2 of 7 orgs	8.0 years 2 orgs
District	50.0% 1 of 2 orgs	4.0 years 1 org	50.0% 1 of 2 orgs	5.0 years 1 org
Municipal	61.5% 16 of 26 orgs	14.9 years 12 orgs	26.9% 7 of 26 orgs	12.1 years 6 orgs
Association	66.7% 62 of 93 orgs	15.4 years 52 orgs	28.0% 26 of 93 orgs	11.9 years 25 orgs
Total	63.3% 81 of 128 orgs	15.3 years 68 orgs	28.1% 36 of 11 orgs	11.5 years 34 orgs

Table A-IV-6 presents the average level of monthly gross wages (employees) and compensation (contractors) for designated operator positions as well as the number of organizations providing any benefits to employees in this position by organization type. The reported average monthly gross wages/salaries for employee designated waterworks operators is highest for private organizations with employee designated operators followed by utility districts, but there were only one private organization and one utility district that provided wage/salary information for employees in this position. Municipalities reported higher salaries/wages for this position than did associations, but one association reported the highest level of salary/wages.

Utility districts reported the highest average level of monthly contractor reimbursement for this position, but only one utility district reported this information for contract designated waterworks operators. Of the organization types that provided multiple survey responses, municipalities reported the highest level of contractor payments, followed by associations and private organizations.

Over 50 percent of the municipal, association, and private organizations provide some type of benefit to the designated waterworks operator employees. In the case of municipalities, districts, and private organizations, all organizations provide at least one primary and one secondary benefit. While all organizations organized as associations provided at least one secondary benefit to employees in this position, 52 percent provided primary benefits. The percentages of organizations that utilize an employee in the role of designated waterworks operator and that provide benefits to these employees for each organization type are listed below:

- Private – 3 of 3 organizations (100.0 percent)
- District – 1 of 2 organizations (50.0 percent)
- Municipal – 15 of 16 organizations (93.8 percent)
- Association – 50 of 62 organizations (80.6 percent)

Table A-IV-6. Average Monthly Gross Compensation for Designated Waterworks Operator and Benefits Packages for Employee Designated Operators by Organization Type

Organization Type	Average Monthly Gross Wages/ Salaries DWO (Employee)	Organizations with Primary/Secondary Benefits DWO (Employee)	Average Monthly Compensation DWO (Contractor)
Private	Orgs reporting – 1 Average – $7,200 Minimum – $7,200 Maximum – $7,200	Orgs reporting benefits – 3 orgs Primary – 3 orgs Secondary – 3 orgs	Orgs reporting – 2 Average – $850 Minimum – $200 Maximum – $1,500
District	Orgs reporting – 1 Average – $3,040 Minimum – $3,040 Maximum – $3,040	Orgs reporting benefits – 1 org Primary – 1 orgs Secondary – 1 orgs	Orgs reporting – 1 Average – $1,650 Minimum – $1,650 Maximum – $1,650
Municipal	Orgs reporting – 14 Average – $3,005 Minimum – $450 Maximum – $5,700	Orgs reporting benefits – 15 orgs Primary – 15 orgs Secondary – 15 orgs	Orgs reporting – 6 Average – $1,513 Minimum – $500 Maximum – $5,000
Association	Orgs reporting – 47 Average – $2,642 Minimum – $150 Maximum – $6,250	Orgs reporting benefits – 50 orgs Primary – 26 orgs Secondary – 50 orgs	Orgs reporting – 21 Average – $1,291 Minimum – $175 Maximum – $4,300
Total	Orgs reporting – 63 Average – $2,801 Minimum – $150 Maximum – $7,200	Orgs reporting benefits – 69 orgs Primary – 45 orgs Secondary – 69 org	Orgs reporting – 30 Average – $1,318 Minimum – $175 Maximum – $5,000

Table A-IV-7 presents the percentage and number of organizations with a designated operator and the average years of service by geographic region[26]. The Delta region is the only region that reports the largest proportion of designated waterworks operators being contractors; the Coastal region reports the largest proportion of waterworks operators being employee operators; likewise, the Coastal region reports the lowest proportion of contractors being utilized for this position. The Capital/River, Hills, and Delta regions have the longest average tenure length for employee designated operators while the Pines and Delta regions have the longest average tenure length for contractor designated operators.

[26]The **Capital/River Region** consists of the following counties: Adams, Amite, Claiborne, Copiah, Franklin, Hinds, Jefferson, Lawrence, Lincoln, Madison, Pike, Rankin, Simpson, Walthall, Warren, and Wilkinson.

The **Coastal Region** consists of the following counties: Covington, Forrest, George, Greene, Hancock, Harrison, Jackson, Jefferson Davis, Jones, Lamar, Marion, Pearl River, Perry, Stone, and Wayne.

The **Delta Region** consists of the following counties: Bolivar, Coahoma, Holmes, Humphreys, Issaquena, Leflore, Quitman, Sharkey, Sunflower, Tallahatchie, Tunica, Washington, and Yazoo.

The **Hills Region** consists of the following counties: Alcorn, Benton, Calhoun, DeSoto, Grenada, Itawamba, Lafayette, Lee, Marshall, Panola, Pontotoc, Prentiss, Tate, Tippah, Tishomingo, Union, Webster, and Yalobusha.

The **Pines Region** consists of the following counties: Attala, Carroll, Chickasaw, Choctaw, Clarke, Clay, Jasper, Kemper, Lauderdale, Leake, Lowndes, Monroe, Montgomery, Neshoba, Newton, Noxubee, Oktibbeha, Scott, Smith, and Winston.

Table A-IV-7. Percentage/Number of Organizations Reporting a Designated Waterworks Operator Position and Average Years of Service for this Position by Geographic Region

Organization Region	Percentage/Number DWO (Employee)	Average Tenure DWO (Employee)	Percentage/Number DWO (Contractor)	Average Tenure DWO (Contractor)
Capital/River	69.6% 16 of 23 orgs	17.5 years 13 orgs	26.1% 6 of 23 orgs	7.9 years 4 orgs
Coastal	70.8% 17 of 24 orgs	13.1 years 15 orgs	16.7% 4 of 24 orgs	9.3 years 4 orgs
Delta	40.0% 4 pf 10 orgs	17.0 years 4 orgs	60.0% 6 of 10 orgs	12.3 years 6 orgs
Hills	63.9% 23 of 36 orgs	17.2 years 18 orgs	36.1% 13 of 36 orgs	10.7 years 13 orgs
Pines	62.9% 22 of 35 orgs	13.3 years 18 orgs	20.0% 7 of 35 orgs	15.5 years 7 orgs
Total	63.3% 81 of 128 orgs	15.3 years 68 orgs	28.1% 36 of 11 orgs	11.5 years 34 orgs

Table A-IV-8 presents the average level of monthly gross wages (employees) and compensation (contractors) for designated operator positions as well as the number of organizations providing any benefits to employees for the various geographic regions of the state. The average monthly gross wages/salaries for employee designated waterworks operators is highest for the Coastal and Pines regions while the average monthly compensation for contractor designated operators is highest for the Capital/River and Pines regions.

The Hills region has the highest proportion of organizations that provided benefits to employee designated waterworks operators. The Capital/River and Coastal regions each reported that 67.7 percent of the organizations in those regions that provided benefits provided primary benefits to employees in this position. The Hills and Pines regions each reported that 65.0 percent of the organizations that provided benefits to these employees provided at least one primary benefit. The percentages of organizations that utilize an employee in the role of designated waterworks operator and that provide benefits to these employees for each geographic region are listed below:

- Capital/River Region – 12 of 16 organizations (75.0 percent)
- Coastal Region – 15 of 17 organizations (88.2 percent)
- Delta Region – 2 of 4 organizations (50.0 percent)
- Hills Region – 20 of 23 organizations (87.0 percent)
- Pines Region – 20 of 22 organizations (90.9 percent)

Table A-IV-8. Average Monthly Gross Compensation for Designated Waterworks Operators and Benefits Packages for Employee Designated Operators by Geographic Region

Organization Region	Average Monthly Gross Wages/Salaries DWO (Employee)	Organizations with Primary/Secondary Benefits DWO (Employee)	Average Monthly Compensation DWO (Contractor)
Capital/River	Orgs reporting – 10 Average – $2,259 Minimum – $650 Maximum – $4,750	Orgs reporting benefits – 12 orgs Primary – 8 orgs Secondary – 12 orgs	Orgs reporting – 5 Average – $2,130 Minimum – $1,000 Maximum – $5,000
Coastal	Orgs reporting – 14 Average – $3,259 Minimum – $650 Maximum – $7,200	Orgs reporting benefits – 15 orgs Primary – 10 orgs Secondary – 15 orgs	Orgs reporting – 4 Average – $1,138 Minimum – $200 Maximum – $2,000
Delta	Orgs reporting – 4 Average – $1,960 Minimum – $150 Maximum – $5,700	Orgs reporting benefits – 2 orgs Primary – 1 orgs Secondary – 2 orgs	Orgs reporting – 5 Average – $885 Minimum – $500 Maximum – $1,800
Hills	Orgs reporting – 17 Average – $2,726 Minimum – $300 Maximum – $5,700	Orgs reporting benefits – 20 orgs Primary – 13 orgs Secondary – 20 orgs	Orgs reporting – 9 Average – $953 Minimum – $175 Maximum – $2,500
Pines	Orgs reporting – 18 Average – $3,006 Minimum – $1,100 Maximum – $4,900	Orgs reporting benefits – 20 orgs Primary – 13 orgs Secondary – 20 orgs	Orgs reporting – 7 Average – 1,619 Minimum – $200 Maximum – $4,300
Total	Orgs reporting – 63 Average – $2,801 Minimum – $150 Maximum – $7,200	Orgs reporting benefits – 69 orgs Primary – 45 orgs Secondary – 69 org	Orgs reporting – 30 Average – $1,318 Minimum – $175 Maximum – $5,000

Appendix V – Other Waterworks Operators

Thirty-four of the responding organizations (26.6 percent) reported utilizing a certified waterworks operator other than the designated operator. Twenty-eight organizations (82.4 percent of the organizations that report utilizing the role of "other waterworks operator") reported hiring an employee in this position while six organizations (17.6 percent of the organizations that report utilizing the role of other waterworks operator) reported utilizing a contractor for this role. **Table A-V-1**[27] presents the percentage and number of responding organizations that report having another waterworks operator position at the time of the survey as well as the average gross monthly wages (employees) or monthly compensation (contractors) classified in this position by population size classification[28]. The percentage of organizations that report having an employee other waterworks operator at the time of completing the survey increases as the size of the population served by the organization increases. While a solid trend for contractors cannot be established due to the small number of organizations utilizing contractors in this position, organizations serving small populations employed the majority of contractors in this position.

Table A-V-1 also provides the average years of service for the other waterworks operator position in the various population size classifications. The average years of service for other operators increases as the size of the population served by the organization increases. The average length of tenure for contractors in this position who serve small population organizations is 11.7 years.

Table A-V-1. Percentage/Number of Organizations Reporting an Other Waterworks Operator Position and Average Years of Service for this Position by Population Size Classification

Size Classification	Percentage/Number of Orgs with OWWOs (Employee)	Average Tenure of OWWOs (Employee)	Percentage/Numberof Orgs with OWWOs (Contractor)	Average Tenure of OWWOs (Contractor)
Very Small	0.0% 0 of 19 orgs	N/A	0.0% 0 of 19 orgs	N/A
Small	16.4% 12 of 73 orgs	9.4 years 10 orgs	5.5% 4 of 73 orgs	11.7 years 3 orgs
Medium	40.0% 10 of 25 orgs	9.6 years 9 orgs	4.0% 1 of 25 orgs	0.5 years 1 org
Large	54.6% 6 of 11 orgs	11.3 years 4 orgs	9.1% 1 of 11 orgs	15.0 years 1 org
Total	21.9% 28 of 128 orgs	9.8 years 23 orgs	4.7% 6 of 128 orgs	10.1 years 5 org

[27]It is important to note that the counts of organizations within tables and between tables that are classified by the same metric (i.e., Table A-V-1 and Table A-V-2 are both classified by the size of the population served by the organization) may not be equal for different metrics. This is due to differences in information reported by the organization. In most cases, the number of organizations reporting a specific position will have the largest counts, not all organizations reported lengths of tenure or average compensation for either employees or contractors or the availability of benefits for employees. However, the total counts for a particular position should be the same across classifications (population size, treatment classification, organization type, and geography) for each metric being analyzed.

[28]Served population is calculated as 2.6 people per system connection. For the purposes of this publication, the following commonly accepted definitions are used to classify water organizations by size:

- **Very small** – serves a population of 500 persons or fewer
- **Small** – serves a population between 501 and 3,300 persons, inclusive
- **Medium** – serves a population between 3,301 and 10,000 persons, inclusive
- **Large** – serves a population of more than 10,000 persons

Table A-V-2 presents the average level of monthly compensation for other waterworks operator positions in the various population size classes as well as the benefits packages for employees in this position. The average level of monthly gross wages/salaries for employee other waterworks operators tends to increase as the size of the organization increases. This could suggest that the other waterworks operator position in medium and large organizations is viewed as a more integral component of the organization while other operators in the very small and small systems are viewed more as support personnel to the designated waterworks operator. Also, a large majority of the organizations in every size classification that utilize employee other waterworks operators offer at least one primary benefit[29] to those employees. The percentages of organizations that utilize an employee in the role of other waterworks operator and that provide benefits to these employees for each population size classification are listed below:

- Very Small – N/A
- Small – 11 of 12 organizations (91.7 percent)
- Medium – 10 of 10 organizations (100.0 percent)
- Large – 6 of 6 organizations (100.0 percent)

Table A-V-2. Average Monthly Gross Compensation for Other Waterworks Operators and Benefits Packages for Employee Other Waterworks Operators by Population Size Classification

Size Classification	Average Monthly Gross Wages/ Salaries of OWWOs (Employee)	Organizations with Primary/Secondary Benefits for OWWOs (Employee)	Average Monthly Compensation for OWWOs (Contractor)
Very Small	N/A	Orgs reporting benefits – 0 orgs Primary – 0 orgs Secondary – 0 orgs	N/A
Small	Orgs reporting – 9 Average – $2,418 Minimum – $800 Maximum – $4,583	Orgs reporting benefits – 11 orgs Primary – 7 orgs Secondary – 9 orgs	Orgs reporting – 4 Average – $750 Minimum – $400 Maximum – $1,500
Medium	Orgs reporting – 6 Average – $3,252 Minimum – $2,560 Maximum – $4,300	Orgs reporting benefits – 10 orgs Primary – 9 orgs Secondary – 10 orgs	Orgs reporting – 1 Average – $600 Minimum – $600 Maximum – $600
Large	Orgs reporting – 4 Average – $3,251 Minimum – $2,160 Maximum – $4,200	Orgs reporting benefits – 6 orgs Primary – 5 orgs Secondary – 6 orgs	N/D
Total	Orgs reporting – 19 Average – $2,857 Minimum – $800 Maximum – $4,583	Orgs reporting benefits – 27 orgs Primary – 21 orgs Secondary – 25 orgs	Orgs reporting – 5 Average – $720 Minimum – $400 Maximum – $1,500

[29]**Primary benefits** are defined as health insurance, retirement plan(s), and/or disability insurance. An organization was categorized as providing primary benefits to a particular employee job classification (i.e., general manager) if it provided at least one of these benefits to the employee.

Secondary benefits are defined as provision of a company-owned vehicle, mileage reimbursement for a personally-owned vehicle, uniforms, and/or covering the cost(s) required for continuing education unit (CEU) hours. An organization was categorized as providing secondary benefits to a particular employee job classification (i.e., general manager) if it provided at least one of these benefits to the employee. Contractors do not typically receive these types of benefits from the organization due to their status as independent businesses.

Table A-V-3 presents the percentage and number of organizations with other operator waterworks positions and the average years of service by water treatment class[30]. While the percentage of organizations utilizing an employee other operator generally increases as the treatment complexity increases (Class E organizations have the highest percentage of persons in this position), it is interesting to note that Class C organizations have the longest average years of service for employees followed by class E organizations. All organizations utilizing a contractor in the other waterworks operator position are Class C and Class D organizations.

Table A-V-3. Percentage/Number of Organizations Reporting an Other Waterworks Operator Position and Average Years of Service for this Position by Treatment Class

Organization Treatment Class	Percentage/Number of Orgs with OWWO (Employee	Average Tenure of OWWOs (Employee)	Percentage/Number of Orgs with OWWOs (Contractor)	Average Tenure of OWWOs (Contractor)
Class B	38.5% 5 of 13 orgs	9.7 years 3 orgs	0.0% 0 of 13 orgs	N/A
Class C	16.0% 4 of 25 orgs	10.3 years 3 orgs	8.0% 2 of 25 orgs	8.5 years 2 orgs
Class D	19.3% 16 of 83 orgs	9.7 years 15 orgs	4.8% 4 of 83 orgs	11.2 years 3 orgs
Class E	42.9% 3 of 7 orgs	10.0 years 2 orgs	0.0% 0 of 7 orgs	N/A
Total	21.9% 28 of 128 orgs	9.8 years 23 orgs	4.7% 6 of 128 orgs	10.1 years 5 orgs

Table A-V-4 presents the average level of monthly compensation for other waterworks operator positions in the various water treatment classes as well as the number of organizations providing any benefits to employees in this position by water treatment class. Somewhat surprisingly, the average monthly gross wages/salaries for employee other operators and the average monthly compensation for contractor other waterworks operators tend to increase as treatment complexity declines. For those organizations that do offer benefits, a large majority of organizations in each treatment class offer primary benefits to employees in this role with the exception of Class E organizations. The percentages of organizations that utilize an employee in the role of other waterworks operator and that provide benefits to these employees for each water treatment classification are listed below:

- Class B – 5 of 5 organizations (100.0 percent)
- Class C – 4 of 4 organizations (100.0 percent)
- Class D – 15 of 16 organizations (93.8 percent)
- Class E – 3 of 3 organizations (100.0 percent)

[30]Treatment classes defined by the Mississippi State Department of Health – Bureau of Public Water Supply are as follows:

- **Class A** – organizations having surface water treatment, lime softening, or coagulation and filtration for the removal of constituents otl iron or manganese.
- **Class B** – organizations having two or more Class C treatment facilities, with iron or manganese removal facilities breaking pressure or requiring flocculation and/or sedimentation, a system using membrane filtration, or ion exchange treatment.
- **Class C** – organizations with aeration, pH adjustment, corrosion control, or closed pressure type facilities.
- **Class D** – organizations that provide no treatment to the water other than chlorination, fluoridation, or direct chemical feed.
- **Class E** – organizations that purchase all finished water from other systems.

(Source: *Recommended Minimum Performance Guidelines for Certified Waterworks Operators in the State of Mississippi,* Mississippi State Department of H

Table A-V-4. Average Monthly Gross Compensation for Other Waterworks Operators and Benefits Packages for Employee Other Waterworks Operators by Treatment Class

Organization Treatment Class	Average Monthly Gross Wages/ Salaries of OWWOs (Employee)	Organizations with Primary/Secondary Benefits for OWWOs (Employee)	Average Monthly Compensation of OWWOs (Contractor)
Class B	Orgs reporting – 2 Average – $2,116 Minimum – $1,187 Maximum – $3,044	Orgs reporting benefits – 5 orgs Primary – 4 orgs Secondary – 4 orgs	N/A
Class C	Orgs reporting – 3 Average – $2,787 Minimum – $2,160 Maximum – $3,600	Orgs reporting benefits – 4 orgs Primary – 4 orgs Secondary – 4 orgs	Orgs reporting – 1 Average – $400 Minimum – $400 Maximum – $400
Class D	Orgs reporting – 12 Average – $2,973 Minimum – $800 Maximum – $4,583	Orgs reporting benefits – 15 orgs Primary – 10 orgs Secondary – 15 orgs	Orgs reporting – 4 Average – $800 Minimum – $500 Maximum – $1,500
Class E	Orgs reporting – 12 Average – $3,009 Minimum – $2,970 Maximum – $3,048	Orgs reporting benefits – 3 orgs Primary – 3 orgs Secondary – 2 orgs	N/A
Total	Orgs reporting – 19 Average – $2,857 Minimum – $800 Maximum – $4,583	Orgs reporting benefits – 27 orgs Primary – 21 orgs Secondary – 25 orgs	Orgs reporting – 5 Average – $720 Minimum – $400 Maximum – $1,500

Table A-V-5 presents the percentage and number of organizations with another waterworks operator position and the average years of service for this position by organization type. More municipalities utilize employee other operators than any other organization type, but the largest percentage of organization types that employ this type of person are utility districts (it should be noted that there were only two utility districts that responded to the survey). Utility districts had the longest average years of service for employees in the other operator position, followed by associations, municipalities, and finally private organizations. Municipalities and associations are the only organization types that utilize contractors in this position and municipalities had the longest average years of service for other waterworks operators that are contractors.

Table A-V-5. Percentage/Number of Organizations Reporting an Other Waterworks Operator Position and Average Years of Service for this Position by Organization Type

Organization Type	Percentage/Number of Orgs with OWWOs (Employee)	Average Tenure of OWWOs (Employee)	Percentage/Number of Orgs with OWWOs (Contractor)	Average Tenure of OWWOs (Contractor)
Private	28.6% 2 of 7 orgs	4.0 years 1 org	0.0% 0 of 7 orgs	N/A
District	50.0% 1 of 2 orgs	11.9 years 6 orgs	0.0% 0 of 2 orgs	N/A
Municipal	38.5% 10 of 26 orgs	8.5 years 2 orgs	15.4% 4 of 26 orgs	10.5 years
Association	16.1% 15 of 93 orgs	9.5 years 14 orgs	2.2% 2 of 93 orgs	9.5 years
Total	21.9% 28 of 128 orgs	9.8 years 23 orgs	4.7% 6 of 128 orgs	10.1 years 5 org

Table A-V-6 presents the average level of monthly compensation for other waterworks operator positions utilized by the various organizational types as well as the number of organizations providing any benefits to employees in this position by organization type. The level of average monthly gross wages/salaries for employee other waterworks operator positions is highest for private organizations (although only one private organization and one utility district reported utilizing another waterworks operator position). For organizations providing multiple responses, associations reported the highest level of average wages/salaries followed closely by municipalities. Only municipalities and associations reported utilizing contractors for this position; the compensation for contractors is much less than the wages and salaries reported for employees in this position (this is could be due to the multiple roles that an employee in the other operator position has for a utility district or municipality) and the average monthly compensation for contract other operators is higher for associations than for municipalities. The percentages of organizations that utilize an employee in the role of other waterworks operator and that provide benefits to these employees for each organization type are listed below:

- Private – 2 of 2 organizations (100.0 percent)
- District – 1 of 1 organization (100.0 percent)
- Municipal – 10 of 10 organizations (100.0 percent)
- Association – 14 of 15 organizations (93.3 percent)

Table A-V-6. Average Monthly Gross Compensation for Other Waterworks Operators and Benefits Packages for Employee Other Waterworks Operators by Organization Type

Organization Type	Average Monthly Gross Wages/ Salaries of OWWOs (Employee)	Organizations with Primary/Secondary Benefits for OWWOs (Employee)	Average Monthly Compensation for OWWOs (Contractor)
Private	Orgs reporting – 1 Average – $4,583 Minimum – $4,583 Maximum – $4,583	Orgs reporting – 2 orgs Primary – 2 orgs Secondary – 2 orgs	N/A
District	Orgs reporting – 1 Average – $2,560 Minimum – $2,560 Maximum – $2,560	Orgs reporting – 1 orgs Primary – 1 orgs Secondary – 1 orgs	N/A
Municipal	Orgs reporting – 7 Average – $2,705 Minimum – $1,187 Maximum – $3,600	Orgs reporting – 10 orgs Primary – 10 orgs Secondary – 9 orgs	Orgs reporting – 3 Average – $567 Minimum – $500 Maximum – $600
Association	Orgs reporting – 10 Average – $2,821 Minimum – $800 Maximum – $4,300	Orgs reporting – 14 orgs Primary – 8 orgs Secondary – 13 orgs	Orgs reporting – 2 Average – $950 Minimum – $400 Maximum – $1,500
Total	Orgs reporting – 19 Average – $2,857 Minimum – $800 Maximum – $4,583	Orgs reporting benefits – 27 orgs Primary – 21 orgs Secondary – 25 orgs	Orgs reporting – 5 Average – $720 Minimum – $400 Maximum – $1,500

Table A-V-7 presents the percentage and number of organizations with other waterworks operator positions and the average years of service by geographic region[31]. The largest percentage of organizations utilizing employees in the other operator position is found in the Coastal region, followed by the Pines and Hills regions. The longest average years of service for employees in the other operator position is found in the Delta region (although only one Delta region organization reported utilizing another waterworks operator position), followed by the Capital/River, Hills, Coastal, and Pines regions. Contractors in this position were almost evenly divided between the Capital/River, Coastal, Hills, and Pines regions; the Delta region reported utilizing no contractors in the role of another waterworks operator. Given the limited use of a contractor in this role, a trend regarding the use of this position by geographic region cannot be established.

[31]The **Capital/River Region** consists of the following counties: Adams, Amite, Claiborne, Copiah, Franklin, Hinds, Jefferson, Lawrence, Lincoln, Madison, Pike, Rankin, Simpson, Walthall, Warren, and Wilkinson.

The **Coastal Region** consists of the following counties: Covington, Forrest, George, Greene, Hancock, Harrison, Jackson, Jefferson Davis, Jones, Lamar, Marion, Pearl River, Perry, Stone, and Wayne.

The **Delta Region** consists of the following counties: Bolivar, Coahoma, Holmes, Humphreys, Issaquena, Leflore, Quitman, Sharkey, Sunflower, Tallahatchie, Tunica, Washington, and Yazoo.

The **Hills Region** consists of the following counties: Alcorn, Benton, Calhoun, DeSoto, Grenada, Itawamba, Lafayette, Lee, Marshall, Panola, Pontotoc, Prentiss, Tate, Tippah, Tishomingo, Union, Webster, and Yalobusha.

The **Pines Region** consists of the following counties: Attala, Carroll, Chickasaw, Choctaw, Clarke, Clay, Jasper, Kemper, Lauderdale, Leake, Lowndes, Monroe, Montgomery, Neshoba, Newton, Noxubee, Oktibbeha, Scott, Smith, and Winston.

Table A-V-7. Percentage/Number of Organizations Reporting an Other Waterworks Operator Position and Average Years of Service for this Position by Geographic Region

Organization Region	Percentage/Number of Orgs with OWWOs (Employee)	Average Tenure of OWWOs (Employee)	Percentage/Number of Orgs with OWWOs (Contractor)	Average Tenure of OWWOs (Contractor)
Capital/River	17.4% 4 of 23 orgs	14.3 years 3 orgs	4.4% 1 of 23 orgs	17.0 years 1 org
Coastal	29.2% 7 of 24 orgs	9.9 years 7 orgs	0.0% 0 of 24 orgs	15.0 years 1 org
Delta	10.0% 1 of 10 orgs	15.0 years 1 org	0.0% 0 of 10 orgs	N/A
Hills	22.2% 8 of 36 orgs	10.4 years 5 orgs	5.6% 2 of 36 orgs	0.5 years 1 org
Pines	22.9% 8 of 35 orgs	6.6 years 7 orgs	5.7% 2 of 35 orgs	9.0 years 2 orgs
Total	21.9% 28 of 128 orgs	9.8 years 23 orgs	4.7% 6 of 128 orgs	10.1 years 5 org

Table A-V-8 presents the average level of monthly gross wages (employees) and compensation (contractors) for other waterworks operator positions in the various geographic regions as well as the number of organizations providing any benefits to employees in this position by geographic region. The level of average monthly gross wages/salaries for employees in the other waterworks operator position is highest for the Delta region (although only one organization from the Delta region reported utilizing this position) and is followed by the Hills, Coastal, Pines, and Capital/River regions.

All organizations that reported using employee other waterworks operators with the exception of the Coastal region provided primary benefits to all employees in this position. The percentages of organizations that utilize an employee in the role of other waterworks operator and that provide benefits to these employees for each geographic region are listed below:

- Capital/River Region – 4 of 4 organizations (100.0 percent)
- Coastal Region – 6 of 7 organizations (85.7 percent)
- Delta Region – 1 of 1 organization (100.0 percent)
- Hills Region – 8 of 8 organizations (100.0 percent)
- Pines Region – 8 of 8 organizations (100.0 percent)

Table A-V-8. Average Monthly Gross Compensation for an Other Waterworks Operator Position and Benefits Packages for Employee Other Waterworks Operators by Geographic Region

Organization Region	Average Monthly Gross Wages/ Salaries of OWWOs (Employee)	Organizations with Primary/ Secondary Benefits for OWWOs (Employee)	Average Monthly Compensation of OWWOs (Contractor)
Capital/River	Orgs reporting – 1 Average – $2,160 Minimum – $2,160 Maximum – $2,160	Orgs reporting benefits – 4 orgs Primary – 3 orgs Secondary – 3 orgs	Orgs reporting – 1 Average – $1,500 Minimum – $1,500 Maximum – $1,500
Coastal	Orgs reporting – 5 Average – $2,869 Minimum – $800 Maximum – $4,583	Orgs reporting benefits – 6 orgs Primary – 6 orgs Secondary – 6 orgs	N/D
Delta	Orgs reporting – 1 Average – $4,200 Minimum – $4,200 Maximum – $4,200	Orgs reporting benefits – 1 orgs Primary – 0 orgs Secondary – 1 orgs	N/A
Hills	Orgs reporting – 5 Average – $3,085 Minimum – $2,891 Maximum – $3,600	Orgs reporting benefits – 8 orgs Primary – 7 orgs Secondary – 8 orgs	Orgs reporting – 2 Average – $600 Minimum – $600 Maximum – $600
Pines	Orgs reporting – 7 Average – $2,594 Minimum – $1,187 Maximum – $4,300	Orgs reporting benefits – 8 orgs Primary – 5 orgs Secondary – 7 orgs	Orgs reporting – 2 Average – $450 Minimum – $400 Maximum – $500
Total	Orgs reporting – 19 Average – $2,857 Minimum – $800 Maximum – $4,583	Orgs reporting benefits – 27 orgs Primary – 21 orgs Secondary – 25 orgs	Orgs reporting – 5 Average – $720 Minimum – $400 Maximum – $1,500

Appendix VI – Certified Wastewater Operator in Charge

Thirty-five of the 128 organizations that responded to the survey indicated that they provided wastewater services to their customers. Since the majority of the organizations targeted in this survey do not (and likely don't have the opportunity to) provide wastewater services, the base for analyzing the Certified Wastewater Operator in Charge position will consist of these 35 organizations.

Twenty-six of the 35 organizations (74.3 percent) that indicated providing wastewater services reported having a person in the role of certified wastewater operator in charge. Fifteen of these organizations (42.9 percent) reported hiring an employee for this position while 11 organizations (31.4 percent) reported utilizing a contractor as the certified wastewater operator in charge. **Table A-VI-1**[32] presents the percentages and numbers of responding organizations that report having a certified wastewater operator in charge at the time of the survey by population size classification[33]. While state regulations require all wastewater systems (systems are the building blocks of the organization definition used in this study) to have a certified wastewater operator in charge, it is interesting to note that the percentage of organizations that report having a certified wastewater operator in charge peaks for small population organizations, but then declines as the population served by the organization increases.

Table A-VI-1 also provides the average years of service for a certified wastewater operator in charge in the various population size classifications. Organizations that serve large populations have the longest tenure for employee certified wastewater operators in charge, followed by organizations that serve medium populations and then organizations that serve small populations. No organization that serves a very small population reported having an employee certified wastewater operator in charge. The average tenure length for employee certified wastewater operators in charge for all population size classifications was reported to be over ten years; this suggests that this is a very stable occupation for the organizations that utilize this type of employee.

Ten organizations reported utilizing a contractor as the certified wastewater operator in charge. Organizations that serve very small and small populations were more likely to utilize a contractor in this position that were organizations that served medium and large populations. However, it is interesting to note that in contrast to the trends seen in the designated waterworks analysis, two organizations that serve large populations utilized contractors as their certified wastewater operators in charge. This could suggest that the entire population that is served by the organization's water supply unit is not served by the wastewater unit.

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[32]It is important to note that the counts of organizations within tables and between tables that are classified by the same metric (i.e., Table A-VI-1 and Table A-VI-2 are both classified by the size of the population served by the organization) may not be equal for different metrics. This is due to differences in information reported by the organization. In most cases, the number of organizations reporting a specific position will have the largest counts, not all organizations reported lengths of tenure or average compensation for either employees or contractors or the availability of benefits for employees. However, the total counts for a particular position should be the same across classifications (population size, treatment classification, organization type, and geography) for each metric being analyzed.

[33]Served population is calculated as 2.6 people per system connection. For the purposes of this publication, the following commonly accepted definitions are used to classify water organizations by size:

- **Very small** – serves a population of 500 persons or fewer
- **Small** – serves a population between 501 and 3,300 persons, inclusive
- **Medium** – serves a population between 3,301 and 10,000 persons, inclusive
- **Large** – serves a population of more than 10,000 persons

Table A-VI-1. Percentage/Number of Organizations Reporting a Certified Wastewater Operator in Charge Position and Average Years of Service for this Position by Population Size Classification

Size Classification	Percentage/Number of Orgs with COICs (Employee)	Average Tenure of COICs (Employee)	Percentage/Number of Orgs with COICs (Contractor)	Average Tenure of COICs (Contractor)
Very Small	0.0% 0 of 6 orgs	N/A	50.0% 3 of 6 orgs	12.7 years 3 orgs
Small	57.1% 8 of 14 orgs	10.9 years 7 orgs	28.6% 4 of 14 orgs	5.2 years 4 orgs
Medium	55.6% 5 of 9 orgs	20.8 years 5 orgs	22.2% 2 of 9 orgs	0.5 years 1 org
Large	42.9% 2 of 6 orgs	30.0 years 1 org	33.3% 2 of 6 orgs	14.0 years 2 orgs
Total	42.9% 15 of 35 orgs	16.2 years 13 org	31.4% 11 of 35 orgs	8.7 years 10 orgs

Table A-VI-2 presents the average level of monthly gross wages (employees) or compensation (contractors) for certified wastewater operators in charge as well as the number of organizations providing any benefits to employees in this position by population size classification. The average monthly gross wages/salaries for employee certified wastewater operators in charge and the average monthly compensation for contractor certified wastewater operators in charge tend to increase as the population served by the organization increases.

Organizations that utilize employees as the certified wastewater operator in charge provide benefit packages[34] to these employees. All organizations that provide benefits to these employees provide at least one secondary benefit and all but one organization that serves a medium population provides at least one primary benefit as well. The percentages of organizations that utilize an employee in the role of a certified wastewater operator in charge and that provide benefits to these employees for each population size classification are listed below:

- Very Small – N/A
- Small – 8 of 8 organizations (100.0 percent)
- Medium – 5 of 5 organizations (100.0 percent)
- Large – 2 of 2 organizations (100.0 percent)

[34] **Primary benefits** are defined as health insurance, retirement plan(s), and/or disability insurance. An organization was categorized as providing primary benefits to a particular employee job classification (i.e., general manager) if it provided at least one of these benefits to the employee.

Secondary benefits are defined as provision of a company-owned vehicle, mileage reimbursement for a personally-owned vehicle, uniforms, and/or covering the cost(s) required for continuing education unit (CEU) hours. An organization was categorized as providing secondary benefits to a particular employee job classification (i.e., general manager) if it provided at least one of these benefits to the employee. Contractors do not typically receive these types of benefits from the organization due to their status as independent businesses.

Table A-VI-2. Average Monthly Gross Compensation for Certified Wastewater Operators in Charge and Benefits Packages for Employee Certified Wastewater Operators in Charge by Population Size Classification

Size Classification	Average Monthly Gross Wages/ Salaries of COICs (Employee)	Organizations with Primary/ Secondary Benefits for COICs (Employee)	Average Monthly Compensation for COICs (Contractor)
Very Small	N/A	N/A	Orgs reporting – 3 Average – $908 Minimum – $525 Maximum – $1,200
Small	Orgs reporting – 8 Average – $2,922 Minimum – $1,300 Maximum – $4,000	Orgs reporting benefits – 8 orgs Primary – 8 orgs Secondary – 8 orgs	Orgs reporting – 3 Average – $1,950 Minimum – $850 Maximum – $3,000
Medium	Orgs reporting – 3 Average – $3,670 Minimum – $3,040 Maximum – $4,700	Orgs reporting benefits – 2 orgs Primary – 2 orgs Secondary – 2 orgs	Orgs reporting – 2 Average – $2,800 Minimum – $600 Maximum – $5,000
Large	Orgs reporting – 1 Average – $5,850 Minimum – $5,850 Maximum – $5,850	Orgs reporting benefits – 6 orgs Primary – 5 orgs Secondary – 6 orgs	Orgs reporting – 1 Average – $4,666 Minimum – $4,666 Maximum – $4,666
Total	Orgs reporting – 12 Average – $3,353 Minimum – $1,300 Maximum – $5,850	Orgs reporting benefits – 15 orgs Primary – 14 orgs Secondary – 15 orgs	Orgs reporting – 9 Average – $2,093 Minimum – $525 Maximum – $5,000

Table A-VI-3 presents the percentage and number of organizations with a certified wastewater operator in charge and the average years of service by wastewater treatment class[35]. While there was one Class IV organization that reported utilizing an employee as the certified wastewater operator in charge and this employee had the longest tenure of all employees, the second longest average tenure of employee certified wastewater operators in charge was found in class I organizations, with Class II and Class III organizations having virtually the same average length of tenure for this type of employee. An interesting note is that organizations that use more complex wastewater treatment facilities are more likely, at least from the reported survey responses, to utilize contractors rather than employees. This is in contrast to the trend seen with designated waterworks operators where more complex treatment techniques indicate a higher proportion of employee designated waterworks operators.

[35]**Class I** – wastewater treatment facilities that utilize waste stabilization lagoons or septic tank-sand filter treatment methods.

Class II – wastewater treatment facilities that utilize aerated lagoons (all capacities), trickling filters (less than 300,000 gallons per day capacity), or activated sludge (less than 100,000 gallons per day capacity).

Class III – wastewater treatment facilities that utilize trickling filters (300,000 to 3,000,000 gallons per day capacity) or activated sludge (100,000 to 2,000,000 gallons per day capacity).

Class IV – wastewater treatment facilities that utilize trickling filters (greater than 3,000,000 gallons per day capacity) or activated sludge (greater than 2,000,000 gallons per day capacity).

Table A-VI-3. Percentage/Number of Organizations Reporting a Certified Wastewater Operator in Charge Position and Average Years of Service for this Position by Wastewater Treatment Class

Organization Treatment Class	Percentage/Number of Orgs with COICs (Employee)	Average Tenure of COICs	Percentage/Number of Orgs with COICs (Contractor)	Average Tenure of COICs (Contractor)
Class I	42.9% 6 of 14 orgs	18.7 years 6 orgs	21.4% 3 of 14 orgs	4.5 years 3 orgs
Class II	71.4% 5 of 7 org	11.7 years 3 orgs	28.6% 2 of 7 orgs	3.8 years 2 orgs
Class III	42.9% 3 of 7 orgs	11.0 years 3 orgs	42.9% 3 of 7 orgs	11.7 years 2 orgs
Class IV	14.3% 1 of 7 orgs	30.0 years 1 org	42.9% 3 of 7 orgs	14.3 years 3 orgs
Total	42.9% 15 of 35 orgs	16.2 years 13 org	31.4% 11 of 35 orgs	8.7 years 10 orgs

Table A-VI-4 presents the average level of monthly gross wages (employees) and compensation for certified wastewater operator in charge positions as well as the number of organizations providing any benefits for employees in this position by treatment class. While it is likely expected that the average monthly gross wages/salaries for employee designated operators and the average monthly compensation for contractor designated operators would tend to increase as the treatment complexity increases, this is not always the case. Certified wastewater operators in charge for Class I organizations have higher average wages/salaries than do Class II or Class III organizations. Furthermore, Class IV treatment organizations report a lower average monthly compensation for contract certified wastewater operators in charge than do Class III organizations.

Survey results indicate that Class II and Class III organizations are much more likely to provide benefits to certified wastewater operators in charge than are the other treatment classes. However, as mentioned in the discussion for **Table A-VI-2**, organizations that provide benefits to employee certified wastewater operators in charge tend to provide both primary and secondary benefits. The percentages of organizations that utilize an employee in the role of a certified wastewater operator in charge and that provide benefits to these employees are for each wastewater treatment classification:

Class I – 6 of 6 organizations (100.0 percent)

Class II – 5 of 5 organizations (100.0 percent)

Class III – 3 of 3 organizations (100.0 percent)

Class IV – 1 of 3 organizations (100.0 percent)

Table A-VI-4. Compensation for Certified Wastewater Operators in Charge and Benefits Packages for Employee Certified Wastewater Operators in Charge by Wastewater Treatment Class

Organization Treatment Class	Average Monthly Gross Wages/ Salaries of COICs (Employee)	Organizations with Primary/ Secondary Benefits for COICs (Employee)	Average Monthly Compensation for COICs (Contractor)
Class I	Orgs reporting – 5 Average – $3,228 Minimum – $1,300 Maximum – $4,000	Orgs reporting benefits – 6 orgs Primary – 5 orgs Secondary – 6 orgs	Orgs reporting – 3 Average – $1,375 Minimum – $525 Maximum – $3,000
Class II	Orgs reporting – 4 Average – $2,983 Minimum – $1,550 Maximum – $4,700	Orgs reporting benefits – 5 orgs Primary – 5 orgs Secondary – 5 orgs	Orgs reporting – 2 Average – $1,600 Minimum – $1,200 Maximum – $2,000
Class III	Orgs reporting – 2 Average – $3,155 Minimum – $3,040 Maximum – $3,269	Orgs reporting benefits – 3 orgs Primary – 3 orgs Secondary – 3 orgs	Orgs reporting – 2 Average – $3,000 Minimum – $1,000 Maximum – $5,000
Class IV	Orgs reporting – 1 Average – $5,850 Minimum – $5,850 Maximum – $5,850	Orgs reporting benefits – 1 orgs Primary – 1 orgs Secondary – 1 orgs	Orgs reporting – 2 Average – $2,758 Minimum – $850 Maximum – $4,666
Total	Orgs reporting – 12 Average – $3,353 Minimum – $1,300 Maximum – $5,850	Orgs reporting benefits – 15 orgs Primary – 14 orgs Secondary – 15 orgs	Orgs reporting – 9 Average – $2,093 Minimum – $525 Maximum – $5,000

Table A-VI-5 presents the percentage and number of organizations with a certified wastewater operator in charge position and the average years of service by organization type. Of the non-private organization types, associations have the longest tenure for employee certified wastewater operators in charge, followed by municipalities, private organizations and then utility districts. No associations reported utilizing a contract certified wastewater operator in charge and only one private organization and one utility district reported utilizing a contractor in this position. Eight municipalities utilized contract certified wastewater operators in charge and the average tenure for these wastewater operators was the longest of any organization type that utilized contractors in this position.

Table A-VI-5. Percentage/Number of Organizations Reporting a Certified Wastewater Operator in Charge Position and Average Years of Service for this Position by Organization Type

Organization Type	Percentage/Number of Orgs with COICs (Employee)	Average Tenure of COICs (Employee)	Percentage/Number of Orgs with COICs (Contractor)	Average Tenure of COICs (Contractor)
Private	25.0% 1 of 4 orgs	15.0 years 1 org	25.0% 1 of 4 orgs	1.0 years 1 org
District	50.0% 1 of 2 orgs	4.0 years 1 org	50.0% 1 of 2 orgs	4.5 years 1 org
Municipal	42.3% 11 of 26 orgs	13.3 years 9 orgs	34.6% 9 of 26 orgs	10.2 years 8 orgs
Association	66.7% 2 of 3 orgs	35.5 years 2 orgs	0.0% 0 of 3 orgs	N/A
Total	42.9% 15 of 35 orgs	16.2 years 13 org	31.4% 11 of 35 orgs	8.7 years 10 orgs

Table A-VI-6 presents the average level of monthly gross wages (employees) and compensation (contractors) for certified wastewater operator in charge positions as well as the number of organizations providing any benefits to employees in this position by organization type. The average monthly gross wages/salaries for employee certified wastewater operators in charge is highest for associations (although only one association reported wage and salary information, followed by municipalities and then utility districts. While only one private organization and one utility district provided monthly compensation information for the certified wastewater operator in charge position, compensation levels provided by these two organization types were higher than the average compensation reported by municipalities that utilized contractors.

Over half of the municipalities and associations that reported utilizing employees as certified wastewater operators in charge provide benefits of some type to those employees. All of the municipalities that provided benefits to employees in this position provided at least one primary and one secondary benefit. The percentages of organizations that utilize an employee in the role of a certified wastewater operator in charge and that provide benefits to these employees are for each organization type:

- Private – 1 of 1 organization (100.0 percent)
- District – 1 of 1 organization (100.0 percent)
- Municipal – 11 of 11 organizations (100.0percent)
- Association – 2 of 2 organizations (100.0 percent)

Table A-VI-6. Average Monthly Gross Compensation for Certified Wastewater Operators in Charge and Benefits Packages for Employee Certified Wastewater Operators in Charge by Organization Type

Organization Type	Average Monthly Gross Wages/ Salaries of COICs (Employee)	Organizations with Primary/Secondary Benefits for COICs (Employee)	Average Monthly Compensation of COICs (Contractor)
Private	N/D	Orgs reporting benefits – 1 org Primary – 1 org Secondary – 1 org	Orgs reporting – 1 Average – $3,000 Minimum – $3,000 Maximum – $3,000
District	Orgs reporting – 1 Average – $3,040 Minimum – $3,040 Maximum – $3,040	Orgs reporting benefits – 1 org Primary – 1 org Secondary – 1 org	Orgs reporting – 1 Average – $2,000 Minimum – $2,000 Maximum – $2,000
Municipal	Orgs reporting – 10 Average – $3,249 Minimum – $1,300 Maximum – $5,850	Orgs reporting benefits – 11 orgs Primary – 11 orgs Secondary – 11 orgs	Orgs reporting – 7 Average – $1,977 Minimum – $525 Maximum – $5,000
Association	Orgs reporting – 1 Average – $4,700 Minimum – $4,700 Maximum – $4,700	Orgs reporting benefits – 2 orgs Primary – 1 org Secondary – 2 orgs	N/A
Total	Orgs reporting – 12 Average – $3,353 Minimum – $1,300 Maximum – $5,850	Orgs reporting benefits – 15 orgs Primary – 14 orgs Secondary – 15 orgs	Orgs reporting – 9 Average – $2,093 Minimum – $525 Maximum – $5,000

Table A-VI-7 presents the percentage and number of organizations with a certified wastewater operator in charge and the average years of service by geographic region[36]. The Hills region has the longest average tenure length for employee designated operators, followed by the Coastal region and the Pines region. The Delta region has the longest average tenure length for contractor designated operators, followed by the Capital/River region, the Coastal region, the Pines region, and finally the Hills region.

It is interesting to note that no organization in either the Capital/River region or the Delta region report utilizing employees as certified wastewater operators in charge. Nine organizations that reported supplying wastewater services to customers did not report either an employee or a contractor in the position of certified wastewater operator in charge.

Table A-VI-7. Percentage/Number of Organizations Reporting a Certified Wastewater Operator in Charge Position and Average Years of Service for this Position by Geographic Region

Organization Region	Percentage/Number of Orgs with COICs (Employee)	Average Tenure of COICs (Employee)	Percentage/Number of Orgs with COICs (Contractor)	Average Tenure of COICs (Contractor)
Capital/River	0.0% 0 of 6 orgs	N/A	83.3% 5 of 6 orgs	10.2 years 4 orgs
Coastal	42.9% 3 of 7 orgs	16.7 years 3 orgs	28.6% 2 of 7 orgs	8.0 years 2 orgs
Delta	0.0% 0 of 4 orgs	N/A	50.0% 2 of 4 orgs	13.5 years 2 orgs
Hills	60.0% 6 of 10 orgs	18.3 years 4 orgs	10.0% 1 of 10 orgs	0.5 years 1 org
Pines	75.0% 6 of 8 orgs	14.5 years 6 orgs	12.5% 1 of 8 orgs	3.0 years 1 org
Total	42.9% 15 of 35 orgs	16.2 years 13 org	31.4% 11 of 35 orgs	8.7 years 10 orgs

[36]The **Capital/River Region** consists of the following counties: Adams, Amite, Claiborne, Copiah, Franklin, Hinds, Jefferson, Lawrence, Lincoln, Madison, Pike, Rankin, Simpson, Walthall, Warren, and Wilkinson.

The **Coastal Region** consists of the following counties: Covington, Forrest, George, Greene, Hancock, Harrison, Jackson, Jefferson Davis, Jones, Lamar, Marion, Pearl River, Perry, Stone, and Wayne.

The **Delta Region** consists of the following counties: Bolivar, Coahoma, Holmes, Humphreys, Issaquena, Leflore, Quitman, Sharkey, Sunflower, Tallahatchie, Tunica, Washington, and Yazoo.

The **Hills Region** consists of the following counties: Alcorn, Benton, Calhoun, DeSoto, Grenada, Itawamba, Lafayette, Lee, Marshall, Panola, Pontotoc, Prentiss, Tate, Tippah, Tishomingo, Union, Webster, and Yalobusha.

The **Pines Region** consists of the following counties: Attala, Carroll, Chickasaw, Choctaw, Clarke, Clay, Jasper, Kemper, Lauderdale, Leake, Lowndes, Monroe, Montgomery, Neshoba, Newton, Noxubee, Oktibbeha, Scott, Smith, and Winston.

Table A-VI-8 presents the average level of monthly gross wages (employees) and compensation (contractors) for certified wastewater operator in charge positions as well as the number of organizations providing any benefits to employees for the various geographic regions of the state. The average monthly gross wages/salaries for employee designated operators is highest for the Hills and the Coastal regions, followed by the Pines region, while the average monthly compensation for contractor designated operators is highest for the Capital/River region, followed by the Coastal, Pines, Delta, and Hills regions The percentages of organizations that utilize an employee in the role of a certified wastewater operator in charge and that provide benefits to these employees are for each geographic region:

- Capital/River Region – N/A
- Coastal Region – 3 of 3 organizations (100.0 percent)
- Delta Region – N/A
- Hills Region – 6 of 6 organizations (100.0 percent)
- Pines Region – 6 of 6 organizations (100.0 percent)

Table A-VI-8. Average Monthly Gross Compensation for Certified Wastewater Operators in Charge and Benefits Packages for Employee Certified Wastewater Operators in Charge by Geographic Region

Organization Region	Average Monthly Gross Wages/Salaries of COICs (Employee)	Organizations with Primary/Secondary Benefits for COICs (Employee)	Average Monthly Compensation of COICs (Contractor)
Capital/River	N/A	Orgs reporting benefits – 0 orgs Primary – 0 orgs Secondary – 0 orgs	Orgs reporting – 4 Average – $3,167 Minimum – $1,000 Maximum – $5,000
Coastal	Orgs reporting – 2 Average – $3,870 Minimum – $3,040 Maximum – $4,700	Orgs reporting benefits – 3 orgs Primary – 3 orgs Secondary – 3 orgs	Orgs reporting – 1 Average – $3,000 Minimum – $3,000 Maximum – $3,000
Delta	N/A	Orgs reporting benefits – 0 orgs Primary – 0 orgs Secondary – 0 orgs	Orgs reporting – 2 Average – $688 Minimum – $525 Maximum – $850
Hills	Orgs reporting – 5 Average – $3,883 Minimum – $2,800 Maximum – $5,850	Orgs reporting benefits – 6 orgs Primary – 6 orgs Secondary – 6 orgs	Orgs reporting – 1 Average – $600 Minimum – $600 Maximum – $600
Pines	Orgs reporting – 5 Average – $2,615 Minimum – $1,300 Maximum – $4,000	Orgs reporting benefits – 6 orgs Primary – 5 orgs Secondary – 6 orgs	Orgs reporting – 1 Average – $1,200 Minimum – $1,200 Maximum – $1,200
Total	Orgs reporting – 12 Average – $3,353 Minimum – $1,300 Maximum – $5,850	Orgs reporting benefits – 15 orgs Primary – 14 orgs Secondary – 15 orgs	Orgs reporting – 9 Average – $2,093 Minimum – $525 Maximum – $5,000

Appendix VII – Other Certified Wastewater Operators

Eight of the responding 35 organizations that provide wastewater services to customers (22.9 percent) reported utilizing a certified wastewater operator other than the certified wastewater operator in charge. All organizations reported using an employee in this role. **Table A-VII-1**[37] presents the percentage and number of responding organizations that report having another wastewater operator position at the time of the survey as well as the average gross monthly wages (employees) or payments (contractors) classified in this position by the size of the population[38] served by the organization. Each population size classification reported having two organizations that utilized employees in this position; the very small and large population size classifications reported having the largest percentage of organizations that utilized this position, followed by the medium and then small population size classifications.

Table A-VII-1 also provides the average years of service for the other wastewater operator position in the various population size classifications. There is no discernable trend for the average length of tenure for these employees; longest average length of tenure was reported by the two organizations that served large populations, followed by one organization that served a very small population.

Table A-VII-1. Percentage/Number of Organizations Reporting Other Certified Wastewater Operators and Average Years of Service for this Position by Population Size Classification

Size Classification	Percentage/Number of Orgs with OWWOs (Employee)	Average Tenure of OWWOs (Employee)	Percentage/Number of Orgs with OWWOs (Contractor)	Average Tenure of OWWOs (Contractor)
Very Small	33.3% 2 of 6 orgs	15.0 years 1 org	0.0% 0 of 6 orgs	N/A
Small	14.3% 2 of 14 orgs	8.0 years 1 org	0.0% 0 of 14 orgs	N/A
Medium	22.2% 2 of 9 orgs	8.0 years 2 orgs	0.0% 0 of 9 orgs	N/A
Large	33.3% 2 of 6 orgs	21.5 years 2 orgs	0.0% 0 of 6 orgs	N/A
Total	22.9% 8 of 35 orgs	13.7 years 6 orgs	0.0% 0 of 35 orgs	N/A

[37]It is important to note that the counts of organizations within tables and between tables that are classified by the same metric (i.e., Table A-VII-1 and Table A-VII-2 are both classified by the size of the population served by the organization) may not be equal for different metrics. This is due to differences in information reported by the organization. In most cases, the number of organizations reporting a specific position will have the largest counts, not all organizations reported lengths of tenure or average compensation for either employees or contractors or the availability of benefits for employees. However, the total counts for a particular position should be the same across classifications (population size, treatment classification, organization type, and geography) for each metric being analyzed.

[38]Served population is calculated as 2.6 people per system connection. For the purposes of this publication, the following commonly accepted definitions are used to classify water organizations by size:

- **Very small** – serves a population of 500 persons or fewer
- **Small** – serves a population between 501 and 3,300 persons, inclusive
- **Medium** – serves a population between 3,301 and 10,000 persons, inclusive
- **Large** – serves a population of more than 10,000 persons

Table A-VII-2 presents the average level of monthly compensation for other wastewater operator positions in the various population size classifications as well as the benefits packages for employees in this position. The level of average monthly gross wages/salaries for employee other wastewater operators tend to increase as the size of the organization increases. This could suggest that other wastewater operators in the medium and large organizations are viewed as more integral components of the organization while other wastewater operators in the very small and small systems are viewed more as support personnel to the certified wastewater operator in charge. Also, the majority of organizations in every population size classification that utilize employee other wastewater operators offer at least one primary benefit[39] to those employees. The percentage of organizations providing benefits to employee other wastewater operators is as follows by population size classification:

- Very Small – 2 of 2 organizations (100.0 percent)
- Small – 2 of 2 organizations (100.0 percent)
- Medium – 2 of 2 organizations (100.0 percent)
- Large – 2 of 2 organizations (100.0 percent)

Table A-VII-2. Average Monthly Gross Compensation for Other Certified Wastewater Operators and Benefits Packages for Employee Other Certified Wastewater Operators by Organization Size

Size Classification	Average Monthly Gross Wages/Salaries of OWWOs (Employee)	Organizations with Primary/Secondary Benefits for OWWOs (Employee)	Average Monthly Compensation for OWWOs (Contractor)
Very Small	Orgs reporting – 1 Average – $200 Minimum – $200 Maximum – $200	Orgs reporting benefits – 2 orgs Primary – 1 orgs Secondary – 2 orgs	N/A
Small	Orgs reporting – 2 Average – $2,043 Minimum – $1,187 Maximum – $2,898	Orgs reporting benefits – 2 orgs Primary – 2 orgs Secondary – 1 orgs	N/A
Medium	Orgs reporting – 1 Average – $2,240 Minimum – $2,240 Maximum – $2,240	Orgs reporting benefits – 2 orgs Primary – 2 orgs Secondary – 2 orgs	N/A
Large	Orgs reporting – 2 Average – $3,050 Minimum – $1,900 Maximum – $4,200	Orgs reporting benefits – 2 orgs Primary – 2 orgs Secondary – 2 orgs	N/A
Total	Orgs reporting – 6 Average – $2,104 Minimum – $200 Maximum – $4,200	Orgs reporting benefits – 8 orgs Primary – 7 orgs Secondary – 7 orgs	N/A

[39]**Primary benefits** are defined as health insurance, retirement plan(s), and/or disability insurance. An organization was categorized as providing primary benefits to a particular employee job classification (i.e., general manager) if it provided at least one of these benefits to the employee.

Secondary benefits are defined as provision of a company-owned vehicle, mileage reimbursement for a personally-owned vehicle, uniforms, and/or covering the cost(s) required for continuing education unit (CEU) hours. An organization was categorized as providing secondary benefits to a particular employee job classification (i.e., general manager) if it provided at least one of these benefits to the employee. Contractors do not typically receive these types of benefits from the organization due to their status as independent businesses.

Table A-VII-3 presents the percentage and number of organizations with other wastewater operator positions and the average years of service by wastewater treatment class[40]. While the percentage of organizations utilizing an employee other wastewater operator increases as the treatment complexity increases, it is difficult to realize any type of a trend due to the small number of observations.

Table A-VII-3. Percentage/Number of Organizations Reporting an Other Certified Wastewater Operator Position and Average Years of Service for this Position by Treatment Class

Organization Treatment Class	Percentage/Number of Orgs with OWWOs (Employee)	Average Tenure of OWWOs (Employee)	Percentage/Number of Orgs with OWWOs (Contractor)	Average Tenure of OWWOs (Contractor)
Class I	21.4% 3 of 14 orgs	11.5 years 2 orgs	0.0% 0 of 14 orgs	N/A
Class II	14.3% 1 of 7 orgs	N/A	0.0% 0 of 7 orgs	N/A
Class III	28.6% 2 of 7 orgs	8.0 years 2 orgs	0.0% 0 of 7 orgs	N/A
Class IV	28.6% 2 of 7 orgs	21.5 years 2 orgs	0.0% 0 of 7 orgs	N/A
Total	22.9% 8 of 35 orgs	13.7 years 6 orgs	0.0% 0 of 35 orgs	N/A

Table A-VII-4 presents the average level of monthly compensation for other wastewater operator positions in the various wastewater treatment classes as well as the number of organizations providing any benefits to employees in this position by treatment class. The average monthly gross wages/salaries for employee other wastewater operators tend to increase as treatment complexity increases with the exception of the Class I organizations. For those organizations that utilize this type of employee and offer benefits, a large majority of organizations in each treatment class offer primary benefits. The percentages of organizations by treatment class providing any benefits to employee other wastewater operators are as follows:

- Class I – 3 of 3 organizations (100.0 percent)
- Class II – 1 of 1 organization (100.0 percent)
- Class III – 2 of 2 organizations (100.0 percent)
- Class IV – 2 of 2 organizations (100.0 percent)

[40]**Class I** – wastewater treatment facilities that utilize waste stabilization lagoons or septic tank-sand filter treatment methods.

Class II – wastewater treatment facilities that utilize aerated lagoons (all capacities), trickling filters (less than 300,000 gallons per day capacity), or activated sludge (less than 100,000 gallons per day capacity).

Class III – wastewater treatment facilities that utilize trickling filters (300,000 to 3,000,000 gallons per day capacity) or activated sludge (100,000 to 2,000,000 gallons per day capacity).

Class IV – wastewater treatment facilities that utilize trickling filters (greater than 3,000,000 gallons per day capacity) or activated sludge (greater than 2,000,000 gallons per day capacity).

Table A-VII-4. Average Monthly Gross Compensation for Other Certified Wastewater Operators and Benefits Packages for Employee Other Certified Wastewater Operators by Treatment Class

Organization Treatment Class	Average Monthly Gross Wages/Salaries of OWWOs (Employee)	Organizations with Primary/Secondary Benefits for OWWOs (Employee)	Average Monthly Compensation of OWWOs (Contractor)
Class I	Orgs reporting – 2 Average – $1,549 Minimum – $200 Maximum – $2,898	Orgs reporting benefits – 3 orgs Primary – 2 orgs Secondary – 3 orgs	N/A
Class II	Orgs reporting – 1 Average – $1,187 Minimum – $1,187 Maximum – $1,187	Orgs reporting benefits – 1 org Primary – 1 org Secondary – 0 orgs	N/A
Class III	Orgs reporting – 1 Average – $2,240 Minimum – $2,240 Maximum – $2,240	Orgs reporting benefits – 2 orgs Primary – 2 orgs Secondary – 2 orgs	N/A
Class IV	Orgs reporting – 2 Average – $3,050 Minimum – $1,900 Maximum – $4,200	Orgs reporting benefits – 2 orgs Primary – 2 orgs Secondary – 2 orgs	N/A
Total	Orgs reporting – 6 Average – $2,104 Minimum – $200 Maximum – $4,200	Orgs reporting benefits – 8 orgs Primary – 7 orgs Secondary – 7 orgs	N/A

Table A-VII-5 presents the percentage and number of organizations with other wastewater operators and the average years of service by organization type. More municipalities utilize employee other wastewater operators than any other organization type, but the largest percentage of organization types that employ this type of person are utility districts (it should be noted that there only two utility districts that responded to the survey and one of them utilized an employee in this position). Municipalities reported the longest average years of service for employees in the other wastewater operator position, followed by associations and private organizations.

Table A-VII-5. Percentage/Number of Organizations Reporting an Other Certified Wastewater Operator Position and Average Years of Service for this Position by Organization Type

Organization Type	Percentage/Number of Orgs with OWWOs (Employee)	Average Tenure of OWWOs (Employee)	Percentage/Number of Orgs with OWWOs (Contractor)	Average Tenure of OWWOs (Contractor)
Private	25.0% 1 of 4 orgs	12.0 years 1 org	0.0% 0 of 4 orgs	N/A
District	50.0% 1 of 2 orgs	4.0 years 1 org	0.0% 0 of 2 orgs	N/A
Municipal	19.2% 5 of 26 orgs	17.0 years 3 orgs	0.0% 0 of 26 orgs	N/A
Association	33.3% 1 of 3 orgs	15.0 years 1 org	0.0% 0 of 3 orgs	N/A
Total	22.9% 8 of 35 orgs	13.7 years 6 orgs	0.0% 0 of 35 orgs	N/A

Table A-VII-6 presents the average level of monthly compensation for other wastewater operator positions in the various organizational types as well as the number of organizations providing any benefits to employees in this position by organization type. The average level of monthly gross wages/salaries for employee other operator positions is highest for municipalities and closely followed by utility districts. With the exception of the one association that indicated that this type of employee was used, all organizations that employed other wastewater operators provided at least one primary benefit to those operators and all organizations provided some type of benefit to these employees. The percentage of organizations providing benefits to their employees is as follows by organization type:

- Private – 1 of 1 organization (100.0 percent)
- District – 1 of 1 organization (100.0 percent)
- Municipal – 5 of 5 organizations (100.0 percent)
- Association – 1 of 1 organization (100.0 percent)

Table A-VII-6. Average Monthly Gross Compensation for Other Wastewater Operators and Benefits Packages for Employee Other Certified Wastewater Operators by Organization Type

Organization Type	Average Monthly Gross Wages/Salaries of Orgs with OWWOs (Employee)	Organizations with Primary/Secondary Benefits for OWWOs (Employee)	Average Monthly Compensation of OWWOs (Contractor)
Private	Orgs reporting – 0 Average – N/D Minimum – N/D Maximum – N/D	Orgs reporting – 1 org Primary – 1 org Secondary – 1 org	N/A
District	Orgs reporting – 1 Average – $2,240 Minimum – $2, 240 Maximum – $2, 240	Orgs reporting benefits – 1 org Primary – 1 org Secondary – 1 org	N/A
Municipal	Orgs reporting – 4 Average – $2,546 Minimum – $1,187 Maximum – $4,200	Orgs reporting – 5 orgs Primary – 5 orgs Secondary – 4 orgs	N/A
Association	Orgs reporting – 1 Average – $200 Minimum – $200 Maximum – $200	Orgs reporting – 1 org Primary – 0 orgs Secondary – 1 org	N/A
Total	Orgs reporting – 6 Average – $2,104 Minimum – $200 Maximum – $4,200	Orgs reporting benefits – 8 orgs Primary – 7 orgs Secondary – 7 orgs	N/A

Table A-VII-7 presents the percentage and number of organizations with other wastewater operator positions and the average years of service by geographic region[41]. The largest percentage of organizations utilizing employees in the other operator position is found in the Hills region, followed by the Coastal and Delta regions. The longest average years of service for employees in the other operator position is found in the Capital/River region with the Hills region running a distant second (it should be noted that the Capital/River region has only one organization that utilities another wastewater operator employee).

Table A-VII-7. Percentage/Number of Organizations Reporting and Other Certified Wastewater Operator Position and Average Years of Service for this Position by Organization Type

Organization Region	Percentage/Number of Orgs with OWWOs (Employee)	Average Tenure of OWWOs (Employee)	Percentage/Number of Orgs with OWWOs (Contractor)	Average Tenure of OWWOs (Contractor)
Capital/River	16.7% 1 of 6 orgs	25.0 years 1 org	0.0% 0 of 6 orgs	N/A
Coastal	28.6% 2 of 7 orgs	8.0 years 2 orgs	0.0% 0 of 7 orgs	N/A
Delta	25.0% 1 of 4 orgs	N/D	0.0% 0 of 4 orgs	N/A
Hills	30.0% 3 of 10 orgs	13.7 years 3 orgs	0.0% 0 of 10 orgs	N/A
Pines	12.5% 1 of 8 orgs	N/D	0.0% 0 of 8 orgs	N/A
Total	22.9% 8 of 35 orgs	13.7 years 6 orgs	0.0% 0 of 35 orgs	N/A

[41]The **Capital/River Region** consists of the following counties: Adams, Amite, Claiborne, Copiah, Franklin, Hinds, Jefferson, Lawrence, Lincoln, Madison, Pike, Rankin, Simpson, Walthall, Warren, and Wilkinson.

The **Coastal Region** consists of the following counties: Covington, Forrest, George, Greene, Hancock, Harrison, Jackson, Jefferson Davis, Jones, Lamar, Marion, Pearl River, Perry, Stone, and Wayne.

The **Delta Region** consists of the following counties: Bolivar, Coahoma, Holmes, Humphreys, Issaquena, Leflore, Quitman, Sharkey, Sunflower, Tallahatchie, Tunica, Washington, and Yazoo.

The **Hills Region** consists of the following counties: Alcorn, Benton, Calhoun, DeSoto, Grenada, Itawamba, Lafayette, Lee, Marshall, Panola, Pontotoc, Prentiss, Tate, Tippah, Tishomingo, Union, Webster, and Yalobusha.

The **Pines Region** consists of the following counties: Attala, Carroll, Chickasaw, Choctaw, Clarke, Clay, Jasper, Kemper, Lauderdale, Leake, Lowndes, Monroe, Montgomery, Neshoba, Newton, Noxubee, Oktibbeha, Scott, Smith, and Winston.

Table A-VII-8 presents the average level of monthly gross wages (employees) and compensation (contractors) for other wastewater operator positions in the various geographic regions as well as the number of organizations providing any benefits to employees in this position by geographic region. The average monthly gross wages/salaries for employees in the other operator position is highest for the Hills region and followed closely by the Coastal region (although there was only one other wastewater position reported for this region). All organizations that reported using employee other wastewater operators with the exception of one organization in the Hills region provided primary benefits to employees in this position. The percentage of organizations that provide benefits to employee other operators is as follows by geographic region:

- Capital/River Region – 1 of 1 organization (100.0 percent)
- Coastal Region – 2 of 2 organizations (100.0 percent)
- Delta Region – 1 of 1 organization (100.0 percent)
- Hills Region – 3 of 3 organizations (100.0 percent)
- Pines Region – 1 of 1 organization (100.0 percent)

Table A-VII-8. Average Monthly Gross Compensation for Other Certified Wastewater Operators and Benefits Packages for Employee Other Certified Wastewater Operators by Geographic Region

Organization Region	Average Monthly Gross Wages/Salaries of OWWOs (Employee)	Organizations with Primary/Secondary Benefits for OWWOs (Employee)	Average Monthly Compensation of OWWOs (Contractor)
Capital/River	Orgs reporting – 1 Average – $1,900 Minimum – $1,900 Maximum – $1,900	Orgs reporting benefits – 1 org Primary – 1 org Secondary – 1 org	N/A
Coastal	Orgs reporting – 1 Average – $2,240 Minimum – $2,240 Maximum – $2,240	Orgs reporting benefits – 2 orgs Primary – 2 orgs Secondary – 2 orgs	N/A
Delta	N/D	Orgs reporting benefits – 1 org Primary – 1 org Secondary – 1 org	N/A
Hills	Orgs reporting – 3 Average – $2,433 Minimum – $200 Maximum – $4,200	Orgs reporting benefits – 3 orgs Primary – 2 orgs Secondary – 3 orgs	N/A
Pines	Orgs reporting – 1 Average – $1,187 Minimum – $1,187 Maximum – $1,187	Orgs reporting benefits – 1 org Primary – 1 org Secondary – 0 orgs	N/A
Total	Orgs reporting – 6 Average – $2,104 Minimum – $200 Maximum – $4,200	Orgs reporting benefits – 8 orgs Primary – 7 orgs Secondary – 7 orgs	N/A

Appendix VIII – Meter Reader

Ninety-three of the responding 128 organizations (80.6 percent) reported having at least one person in the role of meter reader. Sixty-five organizations (50.8 percent of the organizations that report utilizing the role of meter reader) reported hiring a meter reader as an employee while 38 organizations (29.7 percent of the organizations that report utilizing the role of meter reader) reported utilizing a contractor in this position. **Table A-VIII-1**[42] presents the percentage and number of responding organizations that report having a meter reader as well as the average gross monthly wages (employees) or payments (contractors) classified in this position by population size classification[43]. In general, the percentage of organizations that report utilizing the meter reader position increases as the population served by the organization increases except for organizations that serve medium-size populations; this population size class has the lowest percentage of organizations that report having a meter reader position. One explanation for this could be the assumption of multiple roles by another employee or contractor (i.e., the designated operator also serves as the meter reader) that was not disclosed on the survey instrument.

Table A-VIII-1 also provides the average years of service for the meter reader position by the size of the population served by the organization. Organizations that serve very small populations have the longest average tenure for employee meter readers, followed by organizations that serve medium populations, organizations that serve small populations, and finally organizations that serve large populations. This is a much different pattern than is found for contractor meter readers. Organizations that serve medium populations have the longest average tenure among the organizations that utilize contractors for the meter reader positions, followed by organizations that serve large

Table A-VIII-1. Percentage/Number of Organizations Reporting a Meter Reader Position and Average Years of Service for this Position by Population Size Classification

Size Classification	Percentage/Number of Orgs with MRs (Employee)	Average Tenure of MRs (Employee)	Percentage/Number of Orgs with MRs (Contractor)	Average Tenure of MRs (Contractor)
Very Small	31.6% 6 of 19 orgs	12.3 ears 5 orgs	42.1% 8 of 19 orgs	9.6 years 8 orgs
Small	52.1% 38 of 73 orgs	8.1 years 22 orgs	32.9% 24 of 73 orgs	10.8 years 22 orgs
Medium	56.0% 14 of 25 orgs	11.2 years 13 orgs	16.0% 4 of 25 orgs	17.3 years 3 orgs
Large	63.6% 7 of 11 orgs	6.5 years 4 orgs	18.2% 2 of 11 orgs	16.5 years 2 orgs
Total	50.8% 65 of 128 orgs	9.4 years 44 orgs	29.7% 38 of 128 orgs	11.4 years 35 orgs

[42]It is important to note that the counts of organizations within tables and between tables that are classified by the same metric (i.e., Table A-VIII-1 and Table A-VIII-2 are both classified by the size of the population served by the organization) may not be equal for different metrics. This is due to differences in information reported by the organization. In most cases, the number of organizations reporting a specific position will have the largest counts, not all organizations reported lengths of tenure or average compensation for either employees or contractors or the availability of benefits for employees. However, the total counts for a particular position should be the same across classifications (population size, treatment classification, organization type, and geography) for each metric being analyzed.

[43]Served population is calculated as 2.6 people per system connection. For the purposes of this publication, the following commonly accepted definitions are used to classify water organizations by size:

- **Very small** – serves a population of 500 persons or fewer
- **Small** – serves a population between 501 and 3,300 persons, inclusive
- **Medium** – serves a population between 3,301 and 10,000 persons, inclusive
- **Large** – serves a population of more than 10,000 persons

populations, organizations that serve small populations, and finally organizations that serve very small populations. As might be expected, the percentage of organizations that utilize employee meter readers increases as the size of the population served by the organization increases. This is likely due to an increase in the level of resources that facilitates the hiring of employees.

Table A-VIII-2 presents the average level of monthly gross wages (employees) and compensation (contractors) for meter reader positions as well as the number of organizations that offer any benefits to employees in this position by population size classification. The average monthly gross wages/salaries for employee meter readers and the average monthly compensation for contractor meter readers tend to increase as the population served by the organization increases except for a drop in compensation for both employee and contractor meter readers employed/utilized by organizations that serve large populations. Also, the proportion of organizations that provide benefits[44] to employee meter readers increases as the size of the population served by the organization increases. The percentages of organizations that utilize an employee in the role of a meter reader and that provide benefits to these employees are for each population size classification:

- Very Small – 3 of 6 organizations (50.0 percent)
- Small – 28 of 38 organizations (73.7 percent)
- Medium – 12 of 13 organizations (92.3percent)
- Large – 6 of 7 organizations (85.7percent)

Table A-VIII-2. Average Monthly Gross Compensation for a Meter Reader Position and Benefits Packages for Employee Meter Readers by Population Size Classification

Size Classification	Average Monthly Gross Wages/Salaries of Orgs with MRs (Employee)	Organizations with Primary/Secondary Benefits for MRs (Employee)	Average Monthly Compensation of MRs (Contractor)
Very Small	Orgs reporting – 8 Average – $885 Minimum – $150 Maximum – $1,733	Orgs reporting benefits – 3 orgs Primary – 1 orgs Secondary – 3 orgs	Orgs reporting – 8 Average – $482 Minimum – $60 Maximum – $1,800
Small	Orgs reporting – 8 Average – $1,777 Minimum – $220 Maximum – $4,900	Orgs reporting benefits – 28 orgs Primary – 18 orgs Secondary – 27 orgs	Orgs reporting – 20 Average – $1,042 Minimum – $252 Maximum – $3,000
Medium	Orgs reporting – 8 Average – $3,308 Minimum – $1,454 Maximum – $6,250	Orgs reporting benefits – 12 orgs Primary – 11 orgs Secondary – 12 orgs	Orgs reporting – 4 Average – $2,600 Minimum – $1,300 Maximum – $5,000
Large	Orgs reporting – 8 Average – $2,863 Minimum – $2,080 Maximum – $3,650	Orgs reporting benefits – 6 orgs Primary – 6 orgs Secondary – 5 orgs	Orgs reporting – 1 Average – $833 Minimum – $833 Maximum – $833
Total	Orgs reporting – 46 Average – $2,141 Minimum – $150 Maximum – $6,250	Orgs reporting benefits – 49 orgs Primary – 36 orgs Secondary – 47 orgs	Orgs reporting – 33 Average – $1,089 Minimum – $60 Maximum – $5,000

[44]**Primary benefits** are defined as health insurance, retirement plan(s), and/or disability insurance. An organization was categorized as providing primary benefits to a particular employee job classification (i.e., general manager) if it provided at least one of these benefits to the employee.

Secondary benefits are defined as provision of a company-owned vehicle, mileage reimbursement for a personally-owned vehicle, uniforms, and/or covering the cost(s) required for continuing education unit (CEU) hours. An organization was categorized as providing secondary benefits to a particular employee job classification (i.e., general manager) if it provided at least one of these benefits to the employee. Contractors do not typically receive these types of benefits from the organization due to their status as independent businesses.

Table A-VIII-3 presents the percentage and number of organizations with a meter reader position and the average years of service by water treatment class[45]. It is interesting to note that the average tenure length for employee meter readers tends to decline as the treatment complexity increases except for Class E systems, but the average tenure length for contract meter readers increases as the treatment complexity increases. In addition, the percentage of organizations that utilize employee meter readers tends to increase as treatment complexity increases (with the exception of Class B organizations) and the percentage of organizations that utilize contractor meter readers increases as treatment complexity increases (again, with the exception of Class B organizations).

Table A-VIII-3. Percentage/Number of Organizations Reporting a Meter Reader Position and Average Years of Service for this Position by Treatment Class

Organization Treatment Class	Percentage/Number of Orgs with MRs (Employee)	Average Tenure of MRs (Employee)	Percentage/Number of Orgs with MRs (Contractor)	Average Tenure of MRs (Contractor)
Class B	38.5% 5 of 13 orgs	3.7 years 4 orgs	15.4% 2 of 13 orgs	20.5 years 2 orgs
Class C	60.0% 15 of 25 orgs	6.6 years 10 orgs	32.0% 8 of 25 orgs	13.1 years 7 orgs
Class D	50.6% 42 of 83 orgs	11.4 years 28 orgs	30.1% 25 of 83 orgs	10.4 years 23 orgs
Class E	42.9% 3 of 7 orgs	7.0 years 2 orgs	42.9% 3 of 7 orgs	9.0 years 3 orgs
Total	50.8% 65 of 128 orgs	9.4 years 44 orgs	29.7% 38 of 128 orgs	11.4 years 35 orgs

[45]Treatment classes defined by the Mississippi State Department of Health – Bureau of Public Water Supply are as follows:

- **Class A** – organizations having surface water treatment, lime softening, or coagulation and filtration for the removal of constituents other than iron or manganese.
- **Class B** – organizations having two or more Class C treatment facilities, with iron or manganese removal facilities breaking pressure or requiring flocculation and/or sedimentation, a system using membrane filtration, or ion exchange treatment.
- **Class C** – organizations with aeration, pH adjustment, corrosion control, or closed pressure type facilities.
- **Class D** – organizations that provide no treatment to the water other than chlorination, fluoridation, or direct chemical feed.
- **Class E** – organizations that purchase all finished water from other systems.

(Source: *Recommended Minimum Performance Guidelines for Certified Waterworks Operators in the State of Mississippi*, Mississippi State Department of Health.)

Table A-VIII-4 presents the average level of monthly compensation for meter reader positions as well as the number of organizations providing any benefits to in this position by treatment class. The average monthly level of gross wages/salaries for employee meter readers is highest for class B organizations, but there is little discernable correlation between employee meter reader wages and salaries and treatment complexity otherwise. This is likely due to the wide variation of wages/salaries that seem to be present within the class C and Class D organizations. Also, the minimum wages/salaries reported for Class C and Class D organizations are well below the minimums reported for Class B and Class E organizations. The levels of average monthly compensation for contractor meter readers does tend to correlate with treatment complexity except for class D organizations.

While the majority of Class D and Class E organizations provide benefits of some type to employee meter readers, less than half of the Class B organizations and less than a third of the Class C organizations provide benefits. This is likely due to a relatively high presence of very small and small populations served by the Class B and Class C organizations. It is interesting to note that all but one organization (of the organizations that provide benefits) in the Class B, Class C, and Class E classifications provide at least one primary benefit to employees in this position. The percentages of organizations that utilize an employee in the role of a meter reader and that provide benefits to these employees are for each water treatment classification:

- Class B – 5 of 5 organizations (100.0 percent)
- Class C – 8 of 15 organizations (5303 percent)
- Class D – 33 of 42 organizations (78.6 percent)
- Class E – 3 of 3 organizations (100.0 percent)

Table A-VIII-4. Average Monthly Gross Compensation for a Meter Reader Position and Benefits Packages for Employee Meter Readers by Treatment Class

Organization Treatment Class	Average Monthly Gross Wages/Salaries for MRs (Employee)	Organizations with Primary/Secondary Benefits for MRs (Employee)	Average Monthly Compensation for MRs (Contractor)
Class B	Orgs reporting – 4 Average – $3,558 Minimum – $1,733 Maximum – $4,900	Orgs reporting benefits – 5 orgs Primary – 4 orgs Secondary – 5 orgs	Orgs reporting – 2 Average – $1,792 Minimum – $833 Maximum – $2,750
Class C	Orgs reporting – 11 Average – $1,661 Minimum – $300 Maximum – $3,000	Orgs reporting benefits – 8 orgs Primary – 7 orgs Secondary – 8 orgs	Orgs reporting – 6 Average – $945 Minimum – $252 Maximum – $2,000
Class D	Orgs reporting – 29 Average – $2,098 Minimum – $150 Maximum – $6,250	Orgs reporting benefits – 33 orgs Primary – 22 orgs Secondary – 32 orgs	Orgs reporting – 22 Average – $1,116 Minimum – $60 Maximum – $5,000
Class E	Orgs reporting – 2 Average – $2,570 Minimum – $2,169 Maximum – $2,970	Orgs reporting benefits – 3 orgs Primary – 3 orgs Secondary – 2 orgs	Orgs reporting – 3 Average – $708 Minimum – $475 Maximum – $900
Total	Orgs reporting – 46 Average – $2,141 Minimum – $150 Maximum – $6,250	Orgs reporting benefits – 49 orgs Primary – 36 orgs Secondary – 47 orgs	Orgs reporting – 33 Average – $1,089 Minimum – $60 Maximum – $5,000

Table A-VIII-5 presents the percentage and number of organizations with a meter reader and the average years of service by organization type. It's interesting to note that for both employee and contract meter readers, municipalities have the longest average tenure length, followed by associations (the private organization and the utility district that indicated that an employee was utilized for this position did not respond to the length of tenure question and no utility district reported utilizing a contractor in the meter reader role). The largest percentage of organizations that employ the specific position of meter reader is found in associations and municipalities, which report a virtual tie at 81.7 percent and 80.7 percent, respectively.

Table A-VIII-5. Percentage/Number of Organizations Reporting a Meter Reader Position and Average Years of Service for this Position by Organization Type

Organization Type	Percentage/Number of Orgs with MRs (Employee)	Average Tenure of MRs (Employee)	Percentage/Number of Orgs with MRs (Contractor)	Average Tenure of MRs (Contractor)
Private	14.3% 1 of 7 orgs	N/D	57.1% 4 of 7 orgs	0.7 years 3 orgs
District	50.0% 1 of 2 orgs	N/D	0.0% 0 of 2 orgs	N/A
Municipal	61.5% 16 of 26 orgs	12.6 years 10 orgs	19.2% 5 of 26 orgs	16.8 years 4 orgs
Association	50.5% 47 of 93 orgs	8.4 years 34 orgs	31.2% 29 of 93 orgs	11.8 years 28 orgs
Total	50.8% 65 of 128 orgs	9.4 years 44 orgs	29.7% 38 of 128 orgs	11.4 years 35 orgs

Table A-VIII-6 presents the average level of monthly gross wages (employees) and compensation (contractors) for meter reader positions as well as the number of organizations providing any benefits to employees in this position by organization type. The private organization and the utility district that reported one employee meter reader each did not disclose wage/salary data for this position. The average level of monthly gross wages/salaries for employee meter readers is highest for associations, followed closely by municipalities. Municipalities report the highest level of average monthly compensation for contractor meter readers while the average levels of compensation provided by private organizations and associations are very close in magnitude.

Municipalities, private organizations, and utility districts that provide benefits of some type to employee meter readers provide at least one primary and at least one secondary benefit. While 94.1 percent of the associations that provide at least one benefit to employee meter readers provide at least one secondary benefit, only 61.8 percent of the associations that provide benefits to employee meter readers provide at least one primary benefit. The percentages of organizations that utilize an employee in the role of a meter reader and that provide benefits to these employees are for each organization type:

- Private – 0 of 1 organization (0.0 percent)
- Districts – 1 of 1 organization (100.0 percent)
- Municipal – 13 of 16 organizations (81.3 percent)
- Associations – 34 of 47 organizations (78.7 percent)

Table A-VIII-6. Average Monthly Gross Compensation for a Meter Reader Position and Benefits Packages for Employee Meter Readers by Organization Type

Organization Type	Average Monthly Gross Wages/Salaries for MRs (Employee)	Organizations with Primary/Secondary Benefits for MRs (Employee)	Average Monthly Compensation of MRs (Contractor)
Private	N/D	Orgs reporting benefits –1 org Primary – 1 org Secondary – 1 org	Orgs reporting – 4 Average – $990 Minimum – $60 Maximum – $3,000
District	N/D	Orgs reporting – 1 orgs Primary – 1 orgs Secondary – 1 orgs	N/A
Municipal	Orgs reporting – 11 Average – $2,094 Minimum – $150 Maximum – $3,344	Orgs reporting benefits – 13 orgs Primary – 13 orgs Secondary – 13 orgs	Orgs reporting – 4 Average – $1,913 Minimum – $150 Maximum – $5,000
Association	Orgs reporting – 35 Average – $2,155 Minimum – $220 Maximum – $6,250	Orgs reporting benefits – 34 orgs Primary – 21 orgs Secondary 32 orgs	Orgs reporting – 25 Average – $972 Minimum – $125 Maximum – $2,750
Total	Orgs reporting – 46 Average – $2,141 Minimum – $150 Maximum – $6,250	Orgs reporting benefits – 49 orgs Primary – 36 orgs Secondary – 47 orgs	Orgs reporting – 33 Average – $1,089 Minimum – $60 Maximum – $5,000

Table A-VIII-7 presents the percentage and number of organizations with a meter reader and the average years of service by geographic region[46]. While the Hills region has the largest percentage of organizations that utilize the position of meter reader (followed closely by the Capital/River and Delta regions), this region has the second lowest percentage of organizations that utilize employee meter readers as well as the second lowest average years of service for employee meter readers. However, the Hills region does have the second highest utilization rate for contractor meter readers (the Delta region has the highest) and the highest average length of tenure for contractor meter readers. It is interesting to note that the percentage of organizations utilizing meter readers is among the highest for any job classification.

[46]The **Capital/River Region** consists of the following counties: Adams, Amite, Claiborne, Copiah, Franklin, Hinds, Jefferson, Lawrence, Li Madison, Pike, Rankin, Simpson, Walthall, Warren, and Wilkinson.

The **Coastal Region** consists of the following counties: Covington, Forrest, George, Greene, Hancock, Harrison, Jackson, Jefferson Davis, Lamar, Marion, Pearl River, Perry, Stone, and Wayne.

The **Delta Region** consists of the following counties: Bolivar, Coahoma, Holmes, Humphreys, Issaquena, Leflore, Quitman, Sharkey, Sunf Tallahatchie, Tunica, Washington, and Yazoo.

The **Hills Region** consists of the following counties: Alcorn, Benton, Calhoun, DeSoto, Grenada, Itawamba, Lafayette, Lee, Marshall, Par Pontotoc, Prentiss, Tate, Tippah, Tishomingo, Union, Webster, and Yalobusha.

The **Pines Region** consists of the following counties: Attala, Carroll, Chickasaw, Choctaw, Clarke, Clay, Jasper, Kemper, Lauderdale, Leak Lowndes, Monroe, Montgomery, Neshoba, Newton, Noxubee, Oktibbeha, Scott, Smith, and Winston.

Table A-VIII-7. Percentage/Number of Organizations Reporting a Meter Reader Position and Average Years of Service for this Position by Geographic Region

Organization Region	Percentage/Number of Orgs with MRs (Employee)	Average Tenure of MRs (Employee)	Percentage/Number of Orgs with MRs (Contractor)	Average Tenure of MRs (Contractor)
Capital/River	65.2% 15 of 23 orgs	8.3 years 11 orgs	17.4% 4 of 23 orgs	8.6 years 3 orgs
Coastal	58.3% 14 of 24 orgs	7.4 years 9 orgs	20.8% 5 of 24 orgs	9.3 years 4 orgs
Delta	40.0% 4 of 10 orgs	14.0 years 4 orgs	40.0% 4 of 10 org	5.4 years 4 orgs
Hills	44.4% 16 of 36 orgs	10.7 years 11 orgs	38.9% 14 of 36 orgs	13.5 years 13 orgs
Pines	45.7% 16 of 35 orgs	8.9 years 9 orgs	31.4% 11 of 35 orgs	12.6 years 11 orgs
Total	50.8% 65 of 128 orgs	9.4 years 44 orgs	29.7% 38 of 128 orgs	11.4 years 35 orgs

Table A-VIII-8 presents the average level of monthly compensation for meter reader positions as well as the number of organizations providing any benefits to employees in this position by geographic region. The average level of monthly gross wages/salaries for employee meter readers varies greatly among regions, ranging from a high of $2,372 in the Pines region to a low of $834 in the Delta region. While the Delta region has the lowest level of monthly compensation for contractor meter readers, the Capital/River region bests the next highest level for contractor meter readers (the Coastal region) by over $850 per month.

The Capital/River region and the Coastal region have the highest percentages of organizations that provide benefits to employee meter readers. All Coastal region organizations that report providing benefits provide at least one primary and one secondary benefit to these employees. The percentages of organizations that utilize an employee in the role of a meter reader and that provide benefits to these employees are for each geographic region:

- Capital/River Region– 12 of 15 organizations (80.0 percent)
- Coastal Region– 12 of 14 organizations (85.7 percent)
- Delta Region – 2 of 4 organizations (50.0 percent)
- Hills Region – 11 of 16 organizations (68.8 percent)
- Pines Region – 12 of 16 organizations (75.0 percent)

Table A-VIII-8. Average Gross Monthly Compensation for a Meter Reader Position and Benefits Packages for Employee Meter Readers by Geographic Region

Organization Region	Average Monthly Gross Wages/Salaries of Orgs with MRs (Employee)	Organizations with Primary/Secondary Benefits for MRs (Employee)	Average Monthly Compensation of MRs (Contractor)
Capital/River	Orgs reporting – 7 Average – $2,240 Minimum – $1,256 Maximum – $4,750	Orgs reporting benefits –12 orgs Primary – 8 orgs Secondary – 11 orgs	Orgs reporting – 3 Average – $1,984 Minimum – $200 Maximum – $5,000
Coastal	Orgs reporting – 11 Average – $2,762 Minimum – $220 Maximum – $6,250	Orgs reporting benefits – 12 orgs Primary – 12 orgs Secondary – 12 orgs	Orgs reporting – 4 Average – $1,133 Minimum – $400 Maximum – $3,000
Delta	Orgs reporting – 4 Average – $834 Minimum – $150 Maximum – $1,540	Orgs reporting benefits – 2 orgs Primary – 1 orgs Secondary – 2 orgs	Orgs reporting – 3 Average – $741 Minimum – $150 Maximum – $1,800
Hills	Orgs reporting – 12 Average – $1,717 Minimum – $300 Maximum – $3,000	Orgs reporting benefits – 11 orgs Primary – 8 orgs Secondary – 10 orgs	Orgs reporting – 12 Average – $987 Minimum – $60 Maximum – $2,600
Pines	Orgs reporting – 12 Average – $2,372 Minimum – $550 Maximum – $4,900	Orgs reporting benefits – 12 orgs Primary – 7 orgs Secondary – 12 orgs	Orgs reporting – 11 Average – $1,034 Minimum – $475 Maximum – $2,750
Total	Orgs reporting – 46 Average – $2,141 Minimum – $150 Maximum – $6,250	Orgs reporting benefits – 49 orgs Primary – 36 orgs Secondary – 47 orgs	Orgs reporting – 33 Average – $1,089 Minimum – $60 Maximum – $5,000

Appendix IX – Maintenance and Repair

Ninety of the responding organizations (70.4 percent) reported having at least one person in the role of maintenance and repair. Sixty-one organizations (67.7 percent of the organizations that report utilizing the role of maintenance and repair personnel) reported hiring a maintenance and repair person as an employee while 29 organizations (32.3 percent of the organizations that report utilizing the role of maintenance and repair personnel) reported utilizing a contractor in this position. **Table A-IX-1**[47] presents the percentage and number of responding organizations that report having a maintenance and repair person at the time of the survey as well as the average monthly gross wages (employees) or payments (contractors) classified in this position by population size classification[48]. The percentage of organizations that report having a maintenance and repair person at the time of completing the survey increases as the size of the organization increases.

As might be expected, the percentage of organizations utilizing employees in a maintenance and repair position increases as the size of the population served by the organization increases (the converse is generally true for organizations that utilize contractors in a maintenance and repair position). Organizations that serve large populations have the highest reported level of average tenure length for both employees and contractors in this position and organizations that serve small populations have the second highest level of average tenure length for both employees and contractors. It is interesting to note that the average lengths of tenure for employees of organizations that serve very small populations and medium populations are very close, but there is a substantial difference between the average lengths of tenure of contractors for these two organization classifications.

Table A-IX-1. Percentage/Number of Organizations Reporting a Maintenance and Repair Position and Average Years of Service for this Position by Population Size Classification

Size Classification	Percentage/Number of Orgs with MRPs (Employee)	Average Tenure of MRPs (Employee)	Percentage/Number of Orgs with MRPs (Contractor)	Average Tenure of MRPs (Contractor)
Very Small	10.5% 2 of 19 orgs	6.8 years 2 orgs	31.6% 6 of 19 orgs	9.7 years 6 orgs
Small	43.8% 32 of 73 orgs	11.4 years 26 orgs	27.4% 20 of 73 orgs	14.1 years 20 orgs
Medium	72.0% 18 of 25 orgs	7.0 years 15 orgs	8.0% 2 of 25 orgs	8.5 years 1 org
Large	81.8% 9 of 11 orgs	18.7 years 7 orgs	9.1% 1 of 11 orgs	15.0 years 1 org
Total	47.7% 61 of 128 orgs	10.9 years 50 orgs	22.7% 29 of 128 orgs	13.0 years 28 orgs

[47]It is important to note that the counts of organizations within tables and between tables that are classified by the same metric (i.e., Table A-IX-1 and Table A-IX-2 are both classified by the size of the population served by the organization) may not be equal for different metrics. This is due to differences in information reported by the organization. In most cases, the number of organizations reporting a specific position will have the largest counts, not all organizations reported lengths of tenure or average compensation for either employees or contractors or the availability of benefits for employees. However, the total counts for a particular position should be the same across classifications (population size, treatment classification, organization type, and geography) for each metric being analyzed.

[48]Served population is calculated as 2.6 people per system connection. For the purposes of this publication, the following commonly accepted definitions are used to classify water organizations by size:

- **Very small** – serves a population of 500 persons or fewer
- **Small** – serves a population between 501 and 3,300 persons, inclusive
- **Medium** – serves a population between 3,301 and 10,000 persons, inclusive
- **Large** – serves a population of more than 10,000 persons

Table A-IX-2 presents the average level of monthly gross wages (employees) or compensation (contractors) for maintenance and repair personnel positions as well as the number of organizations providing any benefits for employees in this position by organization size. The levels of the average monthly gross wages/salaries for maintenance and repair personnel and the average monthly compensation for contractor maintenance and repair personnel increase as the size of the population served by the organization increases.

A large majority of the organizations that utilize employees in maintenance and repair positions provide at least one primary or secondary benefit[49] to those employees. Organizations that serve large populations provide at least one primary benefit to these employees. The percentages of organizations that utilize an employee in the role of maintenance and repair and that provide benefits to these employees are for each population size classification:

- Very small – 2 of 2 organizations (100.0 percent)
- Small – 26 of 32 organizations (81.3 percent)
- Medium – 18 of 18 organizations (100.0 percent)
- Large – 8 of 9 organizations (88.9 percent)

Table A-IX-2. Average Gross Monthly Compensation for Maintenance and Repair Personnel and Benefits Packages for Employee Maintenance and Repair Personnel by Population Size Classification

Size Classification	Average Monthly Gross Wages/Salaries of MRPs (Employee)	Organizations with Primary/Secondary Benefits for MRPs (Employee)	Average Monthly Compensation of MRPs (Contractor)
Very Small	Orgs reporting – 2 Average – 1,304 Minimum – $700 Maximum – $1,907	Orgs reporting – 2 orgs Primary – 1 org Secondary – 2 orgs	Orgs reporting – 4 Average – $894 Minimum – $350 Maximum – $1,800
Small	Orgs reporting – 25 Average – $2,214 Minimum – $167 Maximum – $4,900	Orgs reporting – 26 orgs Primary – 17 orgs Secondary – 25 orgs	Orgs reporting – 16 Average – $1,700 Minimum – $500 Maximum – $3,500
Medium	Orgs reporting – 13 Average – $3,176 Minimum – $1,200 Maximum – $6,250	Orgs reporting – 18 orgs Primary – 15 orgs Secondary – 17 orgs	Orgs reporting – 1 Average – $5,000 Minimum – $5,000 Maximum – $5,000
Large	Orgs reporting – 6 Average – $4,037 Minimum – $2,160 Maximum – $6,500	Orgs reporting – 8 orgs Primary – 8 orgs Secondary – 7 orgs	N/A
Total	Orgs reporting – 46 Average – $2,684 Minimum – $167 Maximum – $6,500	Orgs reporting – 54 orgs Primary – 41 orgs Secondary – 51 orgs	Orgs reporting – 21 Average – $1,704 Minimum – $350 Maximum – $5,000

[49]**Primary benefits** are defined as health insurance, retirement plan(s), and/or disability insurance. An organization was categorized as providing primary benefits to a particular employee job classification (i.e., general manager) if it provided at least one of these benefits to the employee.

Secondary benefits are defined as provision of a company-owned vehicle, mileage reimbursement for a personally-owned vehicle, uniforms, and/or covering the cost(s) required for continuing education unit (CEU) hours. An organization was categorized as providing secondary benefits to a particular employee job classification (i.e., general manager) if it provided at least one of these benefits to the employee. Contractors do not typically receive these types of benefits from the organization due to their status as independent businesses.

Table A-IX-3 presents the percentage and number of organizations with maintenance and repair personnel and the average years of service by water treatment class[50]. With the exception of Class E organizations, the percentage of organizations that utilize employees as maintenance and repair workers increases as treatment complexity increases (a slightly higher percentage of Class E systems utilize employees as maintenance and repair workers than do class D organizations). Class C organizations have the highest percentage of all water treatment classes that utilize contractors for maintenance and repair, followed closely by Class D organizations.

It is interesting to note that the average tenure for employee maintenance and repair personnel tends to decline as treatment complexity increases, but Class B organizations have the highest level of average tenure length for contractors in this position, followed by Class E organizations. Also, maintenance and repair contractors have longer average lengths of tenure than do maintenance and repair employees for all water treatment classes except Class D.

Table A-IX-3. Percentage/Number of Organizations Reporting a Maintenance and Repair Position and Average Years of Service for this Position by Treatment Class

Organization Treatment Class	Percentage/Number of Orgs with MRPs (Employee)	Average Tenure of MRPs (Employee)	Percentage/Number of Orgs with MRPs (Contractor)	Average Tenure of MRPs (Contractor)
Class B	69.2% 9 of 13 orgs	9.6 years 7 orgs	15.4% 2 of 13 orgs	21.5 years 2 orgs
Class C	64.0% 16 of 25 orgs	9.2 years 13 orgs	28.0% 7 of 25 orgs	14.7 years 7 orgs
Class D	39.8% 33 of 83 orgs	11.7 years 27 orgs	22.9% 19 of 83 orgs	11.0 years 18 orgs
Class E	42.9% 3 of 7 orgs	14.7 years 3 orgs	14.3% 1 of 7 orgs	20.0 years 1 org
Total	47.7% 61 of 128 orgs	10.9 years 50 orgs	22.67% 29 of 128 orgs	13.0 years 28 orgs

[50]Treatment classes defined by the Mississippi State Department of Health – Bureau of Public Water Supply are as follows:

- **Class A** – organizations having surface water treatment, lime softening, or coagulation and filtration for the removal of constituents other than iron or manganese.
- **Class B** – organizations having two or more Class C treatment facilities, with iron or manganese removal facilities breaking pressure or requiring flocculation and/or sedimentation, a system using membrane filtration, or ion exchange treatment.
- **Class C** – organizations with aeration, pH adjustment, corrosion control, or closed pressure type facilities.
- **Class D** – organizations that provide no treatment to the water other than chlorination, fluoridation, or direct chemical feed.
- **Class E** – organizations that purchase all finished water from other systems.

(Source: *Recommended Minimum Performance Guidelines for Certified Waterworks Operators in the State of Mississippi,* Mississippi State Department of Health.)

Table A-IX-4 presents the average level of monthly compensation for maintenance and repair positions as well as the number of organizations that provide any benefits to employees in this position by treatment class. The average monthly gross wages/salaries for employee maintenance and repair personnel and the average monthly compensation for contractor maintenance and repair personnel tend to decline as the organization's treatment complexity increases until Class B organizations are considered. A likely explanation for this is the average tenure of maintenance and repair employees for the Class C through Class E organizations. A large majority of the organizations that utilize employees as maintenance and repair personnel provide benefits to those workers and most of the organizations that reported providing benefits to their employees provide primary benefits (there are some Class C and Class D organizations that do not provide primary benefits). The percentages of organizations that utilize an employee in the role of maintenance and repair and that provide benefits to these employees are for each water treatment classification:

- Class B – 9 of 9 organizations (100.0 percent)
- Class C – 13 of 16 organizations (81.3 percent)
- Class D – 29 of 33 organizations (87.9percent)
- Class E – 3 of 3 organizations (100.0 percent)

Table A-IX-4. Average Monthly Gross Compensation for Maintenance and Repair Personnel and Benefits Packages for Employee Maintenance and Repair Personnel by Treatment Class

Organization Treatment Class	Average Monthly Gross Wages/Salaries for MRPs (Employee)	Organizations with Primary/Secondary Benefits for MRPs (Employee)	Average Monthly Compensation of MRPs (Contractor)
Class B	Orgs reporting – 6 Average – $3,743 Minimum – $1,907 Maximum – $4,900	Orgs reporting benefits – 9 orgs Primary – 9 orgs Secondary – 9 orgs	Orgs reporting – 2 Average – $1,875 Minimum – $1,000 Maximum – $2,750
Class C	Orgs reporting – 6 Average – $2,425 Minimum – $550 Maximum – $6,500	Orgs reporting benefits – 13 orgs Primary – 9 orgs Secondary – 12 orgs	Orgs reporting – 4 Average – $2,150 Minimum – $600 Maximum – $3,300
Class D	Orgs reporting – 6 Average – $2,490 Minimum – $167 Maximum – $6,250	Orgs reporting benefits – 29 orgs Primary – 20 orgs Secondary – 27 orgs	Orgs reporting – 14 Average – $1,602 Minimum – $350 Maximum – $5,000
Class E	Orgs reporting – 6 Average – $2,960 Minimum – $1,920 Maximum – $4,000	Orgs reporting benefits – 3 orgs Primary – 3 orgs Secondary – 3 orgs	Orgs reporting – 1 Average – $1,000 Minimum – $1,000 Maximum – $1,000
Total	Orgs reporting – 46 Average – $2,684 Minimum – $167 Maximum – $6,500	Orgs reporting – 54 orgs Primary – 41 orgs Secondary – 51 orgs	Orgs reporting – 21 Average – $1,704 Minimum – $350 Maximum – $5,000

Table A-IX-5 presents the percentage and number of organizations with maintenance and repair personnel and the average years of service by organization type. Municipalities have the highest average years of service (length of tenure) for employee maintenance and repair personnel than either private organizations or associations (the one utility district that reported an employee in this job category did not report the length of tenure for that employee); this could be due to municipalities being typically larger organizations that can offer higher wages and benefits than either associations or private organizations. Municipalities also have the highest average length of tenure for maintenance and repair contractors, but have the lowest percentage of organizations that utilize contractors in this role.

Table A-IX-5. Percentage/Number of Organizations Reporting a Maintenance and Repair Position and Average Years of Service for this Position by Organization Type

Organization Type	Percentage/Number of Orgs with MRPs (Employee)	Average Tenure of MRPs (Employee)	Percentage/Number of Orgs with MRPs (Contractor)	Average Tenure of MRPs (Contractor)
Private	42.9% 3 of 7 orgs	3.0 years 1 org	28.6% 2 of 7 orgs	1.0 years 2 orgs
District	50.0% 1 of 2 orgs	N/D	0.0% 0 of 2 orgs	N/A
Municipal	64.4% 17 of 26 orgs	13.8 years 14 orgs	15.4% 4 of 22 orgs	14.3 years 3 orgs
Association	43.0% 40 of 93 orgs	10.0 years 35 orgs	24.7% 23 of 93 orgs	13.9 years 23 orgs
Total	47.7% 61 of 128 orgs	10.9 years 50 orgs	22.67% 29 of 128 orgs	13.0 years 28 orgs

Table A-IX-6 presents the average level of monthly gross wages (employees) and compensation (contractors) for maintenance and repair positions as well as the number of organizations offering any benefits to employees in this position by organization type. The average monthly wages and salaries for employee maintenance and repair personnel are very similar for municipalities, private organizations and associations and municipalities have the highest average level of compensation for contractors in this position.

All private organizations, utility districts, and municipalities that offer benefits to their maintenance and repair personnel offer at least one primary benefit to these workers. Only one municipality and eight associations reported offering no benefits to employee maintenance and repair workers. The percentages of organizations that utilize an employee in the role of maintenance and repair and that provide benefits to these employees are for each organization type:

- Private – 3 of 3 organizations (100.0 percent)
- District – 1 of 1 organization (100.0 percent)
- Municipal – 16 of 17 organizations (94.1 percent)
- Association – 32 of 40 organizations (80.0 percent)

Table A-IX-6. Average Monthly Gross Compensation for Maintenance and Repair Personnel and Benefits Packages for Employee Maintenance and Repair Personnel by Organization Type

Organization Type	Average Monthly Gross Wages/Salaries for MRPs (Employee)	Organizations with Primary/Secondary Benefits for MRPs (Employee)	Average Monthly Compensation for MRPs (Contractor)
Private	Orgs reporting – 1 Average – $2,916 Minimum – $2,916 Maximum – $2,916	Orgs reporting – 3 orgs Primary – 3 orgs Secondary – 3 orgs	Orgs reporting – 2 Average – $1,750 Minimum – $500 Maximum – $3,000
District	N/A	Orgs reporting – 1 orgs Primary – 1 orgs Secondary – 1 orgs	N/A
Municipal	Orgs reporting – 13 Average – $2,842 Minimum – $1,344 Maximum – $6,500	Orgs reporting – 16 orgs Primary – 16 orgs Secondary – 15 orgs	Orgs reporting – 6 Average – $2,008 Minimum – $500 Maximum – $5,000
Association	Orgs reporting – 32 Average – $2,612 Minimum – $167 Maximum – $6,250	Orgs reporting benefits – 34 orgs Primary – 21 orgs Secondary 32 orgs	Orgs reporting – 6 Average – $1,641 Minimum – $350 Maximum – $3,500
Total	Orgs reporting – 46 Average – $2,684 Minimum – $167 Maximum – $6,500	Orgs reporting – 54 orgs Primary – 41 orgs Secondary – 51 orgs	Orgs reporting – 21 Average – $1,704 Minimum – $350 Maximum – $5,000

Table A-IX-7 presents the percentage and number of organizations with repair/maintenance personnel and the average years of service by geographic region[51]. The Coastal region has the highest percentage of organizations that utilize either employee or contractor maintenance and repair workers and the Delta region has the lowest percentage (the low percentage for the Delta region is likely due to the preponderance of very small and small organizations in the Delta region that likely have one person – i.e., the operator and/or general manager – filling the maintenance and repair role). The Capital/River region has the highest percentage of organizations that utilize employees to fill this role while the Delta region has the highest percentage of organizations that utilize contractors for maintenance and repair work.

The Capital/River region has the longest average years of service for employee maintenance and repair personnel and the Hills region has the longest average length of tenure for contractors in this position. The Coastal region has the shortest level of average tenure length for both employees and contractors.

Table A-IX-7. Percentage/Number of Organizations Reporting a Maintenance and Repair Position and Average Years of Service for this Position by Geographic Region

Organization Region	Percentage/Number of Orgs with MRPs (Employee)	Average Tenure of MRPs (Employee)	Percentage/Number of Orgs with MRPs (Contractor)	Average Tenure of MRPs (Contractor)
Capital/River	65.2% 15 of 23 orgs	14.5 years 14 orgs	17.4% 4 of 23 orgs	12.7 years 3 orgs
Coastal	62.5% 15 of 24 orgs	6.5 years 12 orgs	20.8% 5 of 24 orgs	7.6 years 5 orgs
Delta	20.0% 2 of 10 orgs	13.0 years 2 orgs	40.0% 4 of 10 orgs	9.3 years 4 orgs
Hills	36.1% 13 of 36 orgs	11.3 years 9 orgs	27.8% 10 of 36 orgs	16.1 years 10 orgs
Pines	45.7% 16 of 35 orgs	10.5 years 13 orgs	17.1% 6 of 35 orgs	15.1 years 6 orgs
Total	47.7% 61 of 128 orgs	10.9 years 50 orgs	22.67% 29 of 128 orgs	13.0 years 28 orgs

[51]The **Capital/River Region** consists of the following counties: Adams, Amite, Claiborne, Copiah, Franklin, Hinds, Jefferson, Lawrence, Lincoln, Madison, Pike, Rankin, Simpson, Walthall, Warren, and Wilkinson.

The **Coastal Region** consists of the following counties: Covington, Forrest, George, Greene, Hancock, Harrison, Jackson, Jefferson Davis, Jones, Lamar, Marion, Pearl River, Perry, Stone, and Wayne.

The **Delta Region** consists of the following counties: Bolivar, Coahoma, Holmes, Humphreys, Issaquena, Leflore, Quitman, Sharkey, Sunflower, Tallahatchie, Tunica, Washington, and Yazoo.

The **Hills Region** consists of the following counties: Alcorn, Benton, Calhoun, DeSoto, Grenada, Itawamba, Lafayette, Lee, Marshall, Panola, Pontotoc, Prentiss, Tate, Tippah, Tishomingo, Union, Webster, and Yalobusha.

The **Pines Region** consists of the following counties: Attala, Carroll, Chickasaw, Choctaw, Clarke, Clay, Jasper, Kemper, Lauderdale, Leake, Lowndes, Monroe, Montgomery, Neshoba, Newton, Noxubee, Oktibbeha, Scott, Smith, and Winston.

Table A-IX-8 presents the average level of monthly compensation for maintenance and repair positions in the various geographic regions of the state as well as the number of organizations providing any benefits to employees in this position by geographic region. The average monthly gross wages/salaries for employee maintenance and repair personnel are fairly consistent across the geographic regions, although the Pines and Hills regions have the highest levels of employee compensation for this position type. There is a relatively wide variation in the levels of average monthly compensation for contractors in this position; the highest average level of contractor compensation is in the Capital/River region and is almost $1,500 higher than the Coastal region. This is due to one organization in the Capital/River region paying a relatively high level of compensation for contractor maintenance and repair services; this contractor also performs other roles in the organization.

The majority of organizations that utilize employees in maintenance and repair roles provide at least one benefit to those employees and most of the organizations provide at least one primary benefit to their employees. The Delta region ranks highest in terms of the percentage of organizations (100.0 percent) that provide primary benefits (if any benefits are provided) and the Coastal and Pines regions have the lowest percentage of organizations that provide primary benefits if any benefits are provided (64.3 percent). The percentages of organizations that utilize an employee in the role of maintenance and repair and that provide benefits to these employees are for each geographic region:

- Capital/River Region – 12 of 15 organizations (80.0 percent)
- Coastal Region – 14 of 15 organizations (93.3 percent)
- Delta Region – 2 of 2 organizations (100.0 percent)
- Hills Region – 12 of 13 organizations (92.3 percent)
- Pines Region – 14 of 16 organizations (87.5 percent)

Table A-IX-8. Average Monthly Gross Compensation for Maintenance and Repair Personnel and Benefits Packages for Employee Maintenance and Repair Personnel by Geographic Region

Organization Region	Average Monthly Gross Wages/Salaries for MRPs (Employee)	Organizations with Primary/Secondary Benefits for MRPs (Employee)	Average Monthly Compensation for MRPs (Contractor)
Capital/River	Orgs reporting – 7 Average – $2,519 Minimum – $1,400 Maximum – $3,700	Orgs reporting – 12 orgs Primary – 10 orgs Secondary – 11 orgs	Orgs reporting – 3 Average – $3,167 Minimum – $1,000 Maximum – $5,000
Coastal	Orgs reporting – 12 Average – $2,468 Minimum – $167 Maximum – $6,250	Orgs reporting – 14 orgs Primary – 9 orgs Secondary – 14 orgs	Orgs reporting – 4 Average – $1,688 Minimum – $500 Maximum – $3,000
Delta	Orgs reporting – 2 Average – $2,572 Minimum – $1,344 Maximum – $3,800	Orgs reporting – 2 orgs Primary – 2 orgs Secondary – 2 orgs	Orgs reporting – 1 Average – $1,163 Minimum – $525 Maximum – $1,800
Hills	Orgs reporting – 10 Average – $2,813 Minimum – $700 Maximum – $6,500	Orgs reporting – 12 orgs Primary – 11 orgs Secondary – 11 orgs	Orgs reporting – 6 Average – $1,542 Minimum – $350 Maximum – $3,300
Pines	Orgs reporting – 15 Average – $2,863 Minimum – $550 Maximum – $4,900	Orgs reporting – 14 orgs Primary – 9 orgs Secondary – 13 orgs	Orgs reporting – 6 Average – $1,325 Minimum – $500 Maximum – $2,750
Total	Orgs reporting – 46 Average – $2,684 Minimum – $167 Maximum – $6,500	Orgs reporting – 54 orgs Primary – 41 orgs Secondary – 51 orgs	Orgs reporting – 21 Average – $1,704 Minimum – $350 Maximum – $5,000

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