

# **Diamond State Port Corporation Pension Plan**

**Actuarial Valuation  
as of June 30, 2017**

**Produced by Cheiron**

**January 2018**

# TABLE OF CONTENTS

<i>Section</i>	<i>Page</i>
Letter of Transmittal .....	i
Foreword.....	ii
Section I Board Summary .....	1
Section II Assets .....	10
Section III Liabilities .....	13
Section IV Contributions.....	17
Section V Accounting Statement Information.....	19
 <i>Appendices</i>	
Appendix A Membership Information .....	23
Appendix B Actuarial Assumptions and Methods .....	32
Appendix C Summary of Plan Provisions.....	38

January 29, 2018

Board of Pension Trustees  
State of Delaware  
McArdle Building  
860 Silver Lake Boulevard, Suite 1  
Dover, Delaware 19904

Dear Members of the Board:

At your request, we have conducted the annual actuarial valuation of the Diamond State Port Corporation Pension Plan (Plan) as of June 30, 2017. The results of this valuation are contained in this report. The purpose of the valuation is discussed in the Foreword.

This report contains information on plan assets and liabilities, as well as analyses combining asset and liability performance and projections. It also discloses employer contribution levels and required disclosures under the Governmental Accounting Standards Board (GASB) Statement No. 67.


In completing the valuation and preparing our report, we relied on information, some oral and some written, supplied by staff of the Office of Pensions. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

The contribution results of this report are only applicable to the employer contribution for Fiscal Year (FY) 2019 and rely on future plan experience conforming to the underlying assumptions. Future experience may differ significantly from the current experience due to such factors as the following: program experience differing from that anticipated by the assumptions; changes in assumptions; and changes in program provisions or applicable law.


To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board, including the use of assumptions and methods for funding purposes that comply with the Actuarial Standards of Practice. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinions contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

This report was prepared for the Diamond State Port Corporation Pension Plan for the purposes described herein and for the use by the Plan's auditor in completing an audit related to the matters herein. Other users of this valuation report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.

Sincerely,  
Cheiron



Fiona E. Liston, FSA, MAAA, EA  
Principal Consulting Actuary



Elizabeth Wiley, FSA, FCA, MAAA, EA  
Consulting Actuary

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**FOREWORD**

Cheiron has performed the annual actuarial valuation of the Diamond State Port Corporation Pension Plan (Plan) as of June 30, 2017. The purpose of this report is to:

- 1) **Measure and disclose**, as of the valuation date, the financial condition of the Plan,
- 2) **Indicate trends** in the financial condition of the Plan,
- 3) **Determine the contribution rate** to be paid by the employer for Fiscal Year (FY) 2019, and
- 4) **Provide** accounting statement information.

An actuarial valuation establishes and analyzes plan assets and liabilities on a consistent basis and traces the progress of both from one year to the next. It includes measurement of the plan's investment performance as well as an analysis of liability gains and losses.

**Section I** presents a summary containing our findings and disclosing important trends experienced by the Plan in recent years.

**Section II** contains details on various asset measures, together with pertinent performance measurements.

**Section III** shows similar information on liabilities, measured for actuarial, accounting, and governmental reporting purposes.

**Section IV** presents the FY 2019 actuarially determined contribution.

**Section V** includes required disclosures under Governmental Accounting Standards Board (GASB) Statement No. 67 and items recommended by the Government Finance Officers Association (GFOA).

The appendices to this report contain a summary of the Plan's membership at the valuation date, a summary of the major provisions of the Plan, and a summary of the actuarial methods and assumptions used in the valuation.

The actuarial assumptions reflect our understanding of the likely future experience of the Plan, and the assumptions individually and as a whole represent our best estimate for the future experience of the Plan. The results of this report rely on future plan experience conforming to the underlying assumptions and methods outlined in this report. To the extent that the actual plan experience deviates from the underlying assumptions and methods, or there are any changes in Plan provisions, the true cost of the Plan would vary from our results.

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION I – BOARD SUMMARY**

**General Comments**

The actuarially determined contribution (ADC) rate increased from 8.38% for FY 2018 to 9.48% for FY 2019.

During the year ending June 30, 2017, the Plan's assets earned 11.0% on a market value basis. However, due to the Plan's asset smoothing method, which recognizes portions of the investment gains and losses over time, the return on an actuarial value basis was 6.6%. This return was less than the prior year's assumed investment rate of return of 7.2% for last year, resulting in an actuarial loss on investments of \$162 thousand.

The Plan experienced an actuarial loss on plan liabilities resulting from salary increases different from those assumed and members retiring, terminating, becoming disabled, and dying at rates different from the actuarial assumptions. This liability loss increased the actuarial liability by \$265 thousand. The Plan will experience actuarial gains or losses over time, as we cannot predict exactly how people will behave. In addition to the actuarial loss, the Plan's liabilities also increased by \$815 thousand due to reduction in the assumed investment rate of return.

This valuation report also contains information to be reported in the June 30, 2017 Comprehensive Annual Financial Report (CAFR) of the Delaware Public Employees' Retirement System (Delaware PERS) under GASB Statement No. 67, as well as additional disclosure information recommended by the Government Finance Officers Association (GFOA). The GASB disclosures are based on the use of updated procedures to roll forward the 2016 actuarial valuation liability results. The calculation of net pension liability in Section V is shown as disclosed for the plan year ending June 30, 2017, based on the 2016 funding actuarial valuation liability results, updated to reflect the reduction in the assumed investment rate of return. We also present a projection of the June 30, 2018 disclosure in Section V, assuming all actuarial assumptions are met over the coming year, which is based on the 2017 funding actuarial valuation liability results.

As of the June 30, 2017 funding actuarial valuation, the Plan's unfunded actuarial liability (UAL) was \$4.39 million. This is an increase from the \$3.30 million UAL in the funding valuation for the prior year.

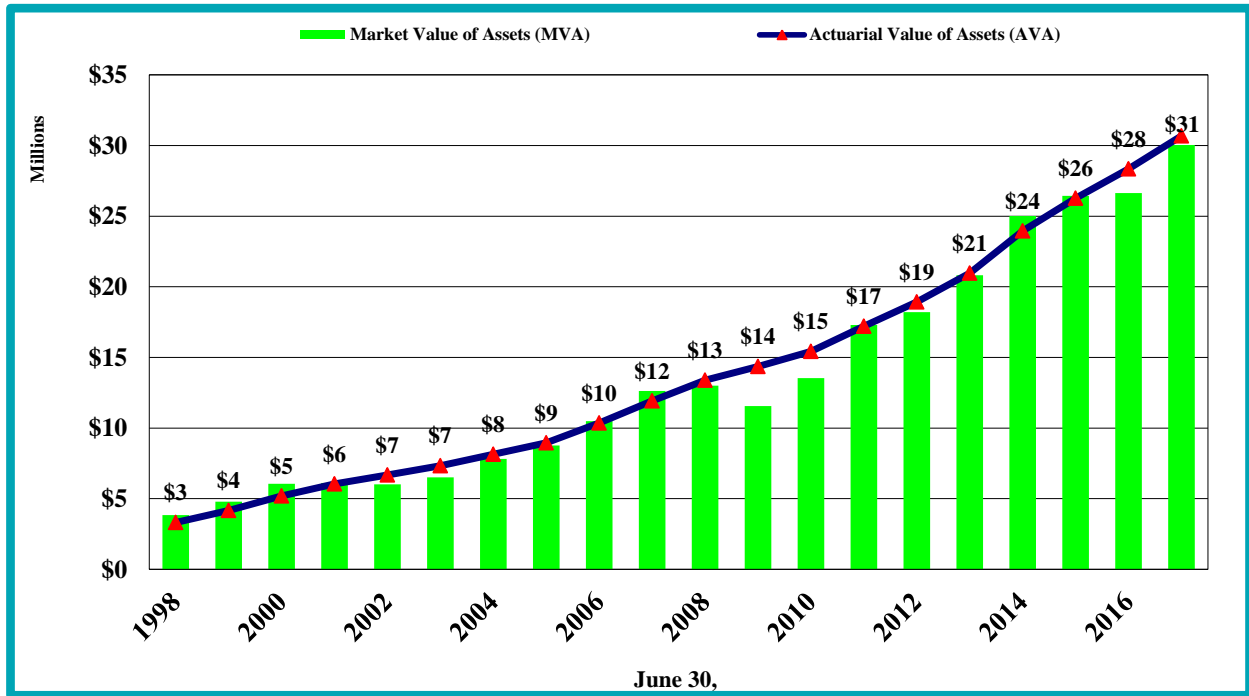
DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017

SECTION I – BOARD SUMMARY

Trends

Asset Returns

The graph below shows measurements of the Plan’s assets over the last 20 years based on both market values and actuarial values. The green bars represent the market value measurements, while the blue line shows the actuarial value measurements. The black numbers are the actuarial value of asset measurements as of the valuation date for each year in millions of dollars.



The market value of assets (MVA) returned 11.0% over the last year. The determination of the Plan’s actuarial value of assets (AVA) for the current year reflects a portion of the return below the 7.2% assumed for the prior year, and continued recognition of prior years’ gains and losses, and thus returned 6.6% over FY 2017.

Over the period July 1, 1998 to June 30, 2017, the Plan’s assets measured using actuarial value of asset measurements returned a compound 7.7%, compared to the current valuation assumption of 7.0%. On a market value of asset basis, the Plan returned 6.8% over the same period.

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

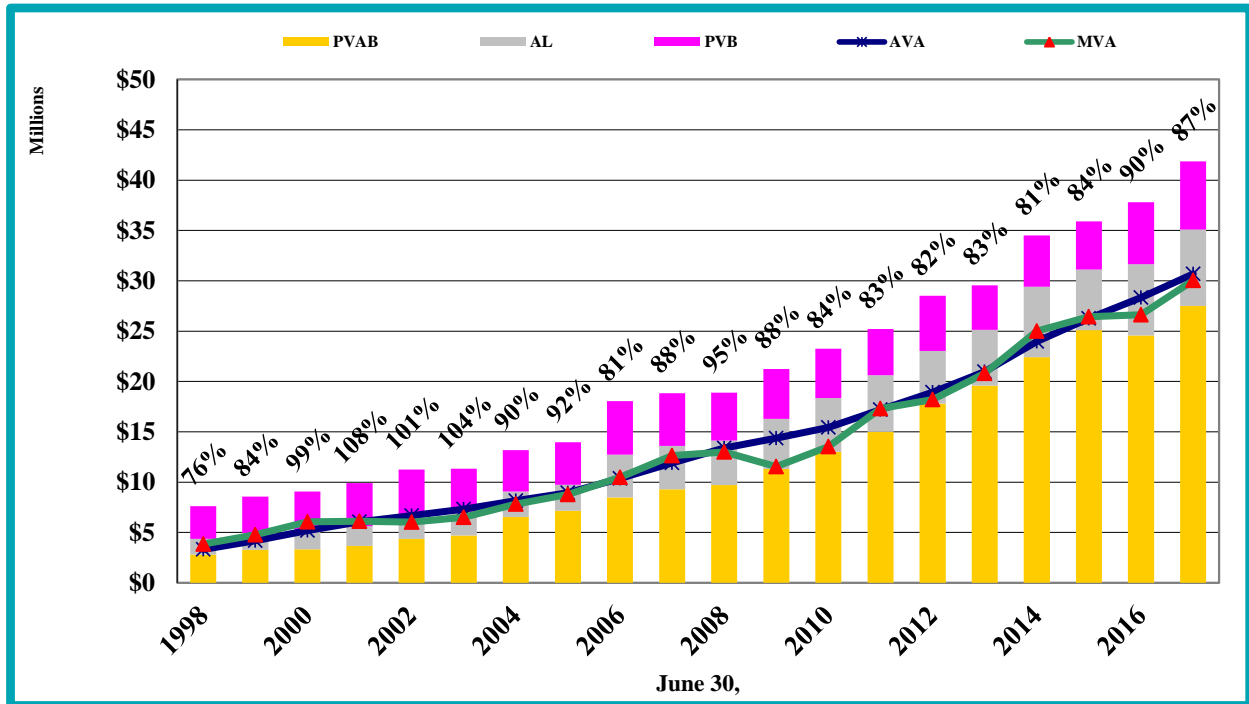
**SECTION I – BOARD SUMMARY**

Assets and Liabilities

The three colored bars below represent the three different measures of liability discussed in this report. The first measure is given by the yellow bars, the present value of accrued benefits (PVAB). The PVAB values represent the value of all benefits earned by current members through the valuation date. These values do not reflect any future additional service or salary increases for current members beyond the valuation date.

The second liability measure is the one currently used for the Plan’s funding target, the actuarial liability (AL). These target amounts are represented by the top of the gray bars. This measurement is also the basis of the liability measure used in GASB 67. The funded ratios reported by the Plan are the percentages shown above the bars and are developed by comparing these target measurements of liability to the actuarial value of assets at each valuation date.

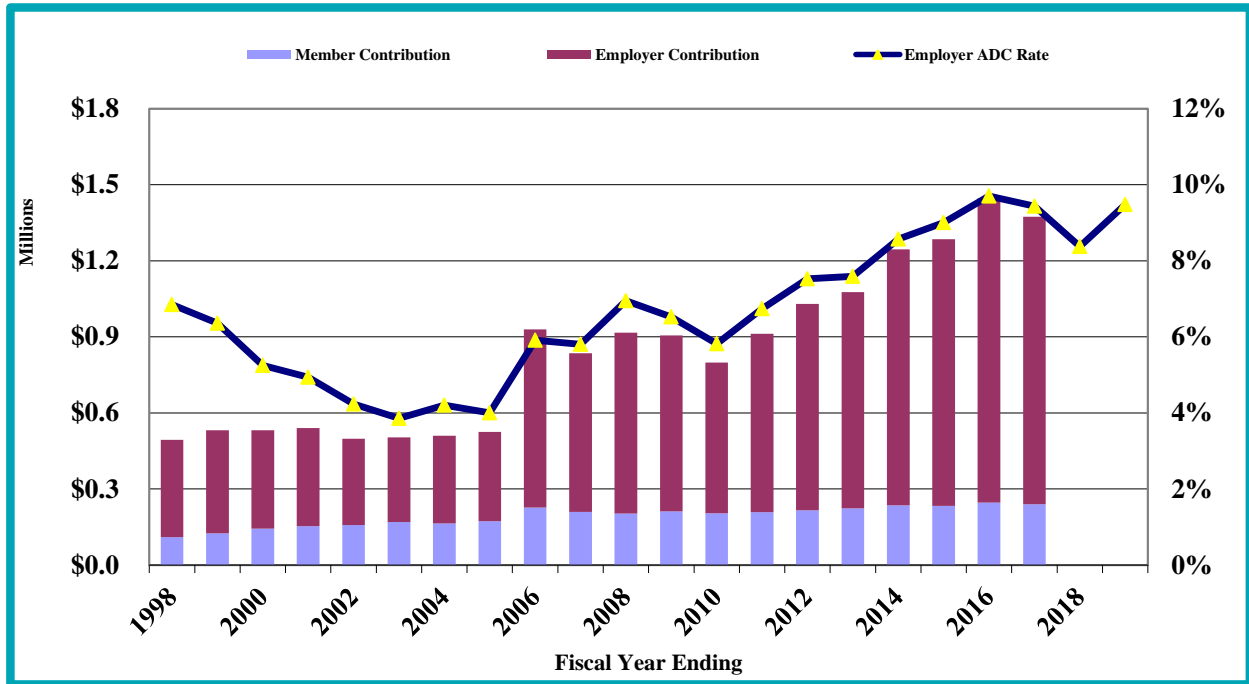
The amount represented by the top of the pink bars, the present value of future benefits (PVB), is the amount needed to provide all benefits for the current members and their beneficiaries, including reflection of assumed future service and pay increases. If the Plan had assets equal to the PVB as of a certain date, no additional contributions would, in theory, be needed to pay the benefits of the current members if all assumptions were exactly met from that point forward.



**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION I – BOARD SUMMARY**

Contribution Rates



The stacked bars in the graph above show the dollar amounts of the contributions made by the employer and the members for each fiscal year and are read using the left-hand scale. The contribution amounts shown in the bars represent what was actually paid. The blue line shows the Employer ADC rate for each fiscal year as a percentage of payroll (right-hand scale).

The member contribution rate is set by the plan document, based on the Plan in which the member participates. The participating employer contribution rate is set by the actuarial process. Please note that there is a lag in the participating employer contribution rates shown. For example, the value shown for the Fiscal Year 2017 is the rate prepared by the June 30, 2015 valuation and implemented for the period July 1, 2016 to June 30, 2017.



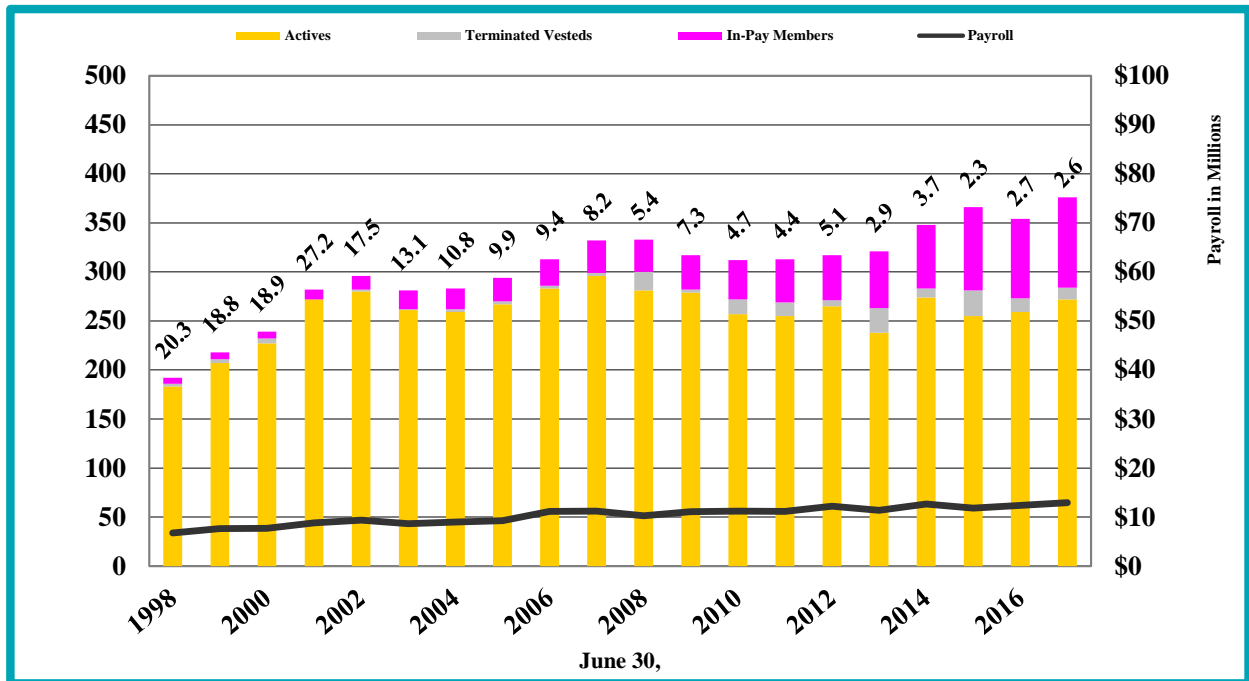
**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION I – BOARD SUMMARY**

Participant Trends

The bars below show the number of members as of each valuation date, divided between active members, terminated vested members, and retirees/beneficiaries. These bars are read using the left-hand scale. Since this is a relatively young pension plan, there are still more active members than inactive members. However, as this Plan continues to mature, this plan will continue to show growth in the number of inactive members. The numbers that appear above each bar represent the ratio of active members to inactive members (retirees, beneficiaries, and terminated vested members) at each valuation date. The active-to-inactive ratio has decreased from 20.3 actives to each inactive in 1998 to 2.7 actives to each inactive in 2017.

The black line shows the covered payroll for the Plan as of each valuation date and is read using the right-hand scale.

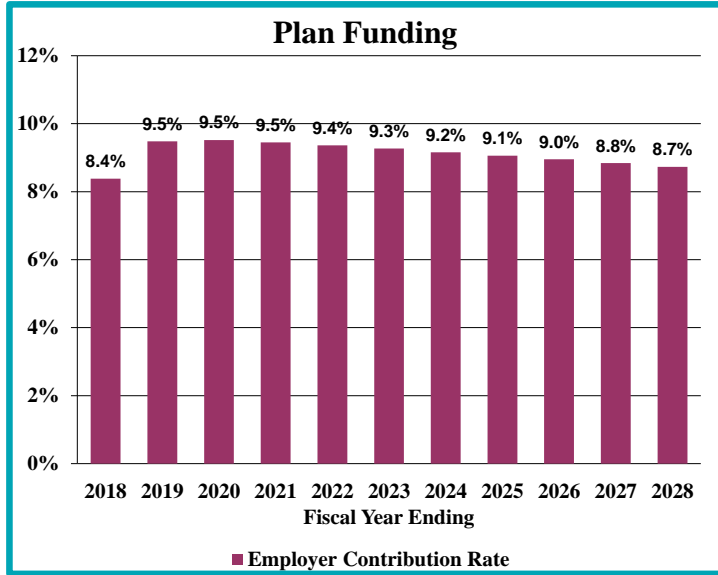


**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION I – BOARD SUMMARY**

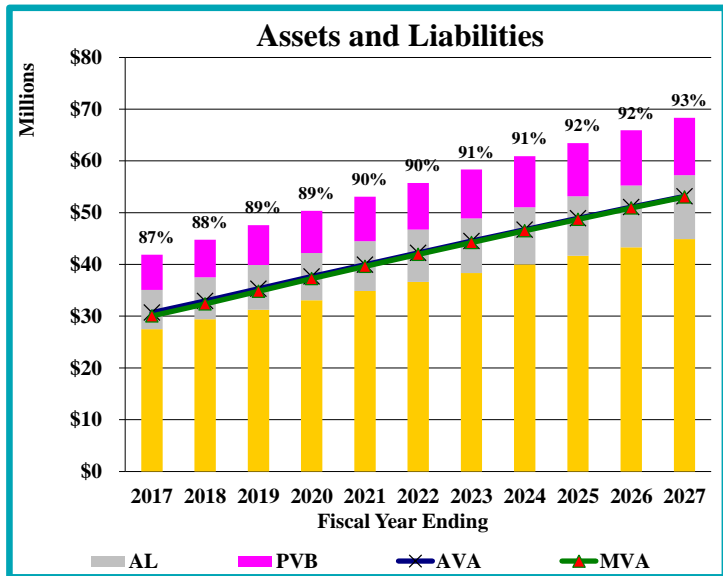
**Future Outlook**

Baseline Projections



These graphs show the expected progress of the Plan over the next 10 years, assuming the Plan’s assets earn 7.0% on a *market value* basis and assuming all other assumptions are exactly met, including that the actuarially determined contribution (ADC) amounts are made in full. The chart entitled “Plan Funding” shows an increase in contribution rate in FY 2019, and thereafter a gradual decline in contribution rate to 8.73% at the end of this period, absent any further gains or losses.

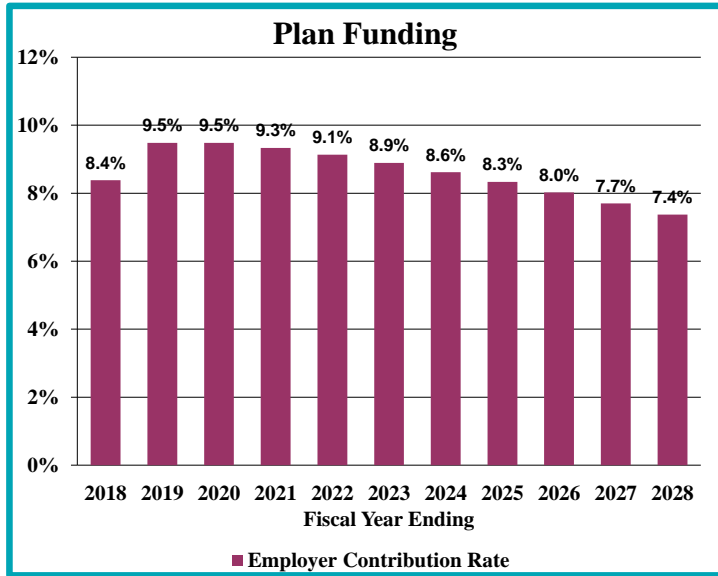
The “Assets and Liabilities” graph shows the projected funded ratios of the Plan over the next 10 years. The Plan’s funded status is projected to increase to from 87% to 93%, as stored investment losses are recognized by the asset smoothing method and payments come in from the employer and members.



**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION I – BOARD SUMMARY**

Projections with Asset Returns of 8.0%

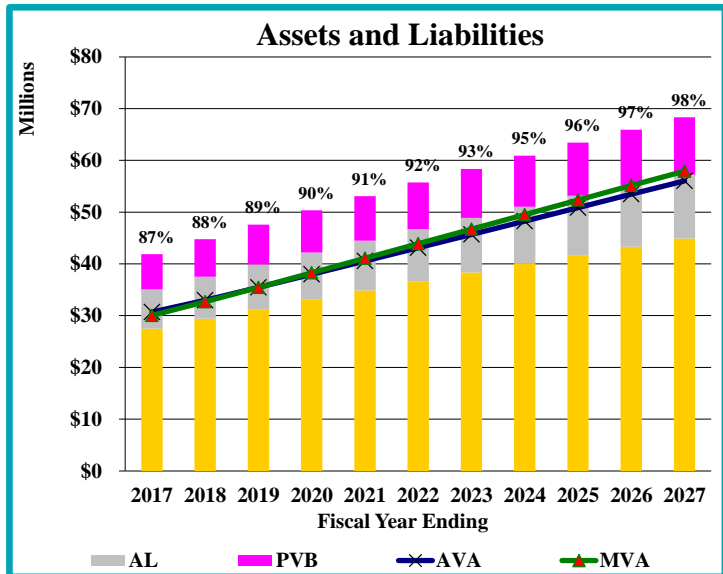


The Plan’s investment earnings will affect the future funding status of the Plan. The two graphs on this page show what the next 10 years would be expected to look like if the Plan’s investment performance is 8.0% each year, 1.0% higher than the valuation investment rate of return assumption.

These two graphs assume all other assumptions are exactly met, including participating employer contributions made equal to the full actuarially determined amounts.

The “Plan Funding” graph shows that under this scenario the employer ADC rate would decrease to approximately 7.37% of payroll by the end of the 10-year period, significantly less than the 8.73% ultimate rate in the baseline projection.

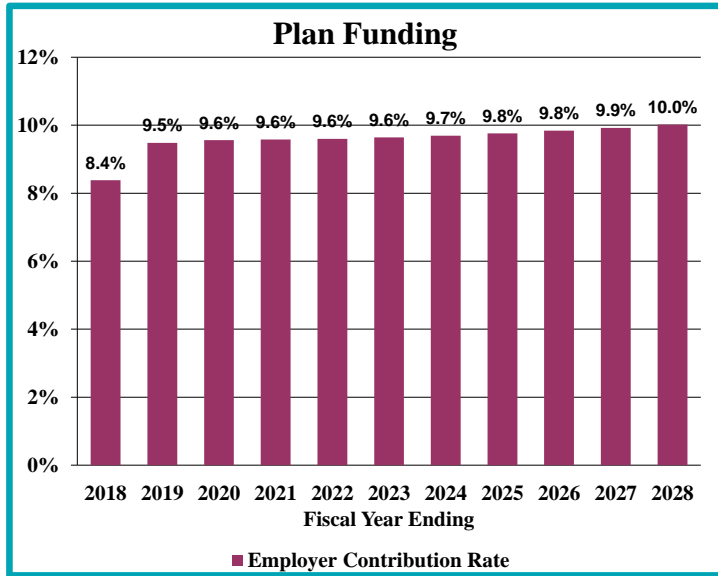
The “Assets and Liabilities” graph shows that under this scenario the Plan would increase to a 98% funded ratio by 2027, an improvement over the baseline scenario’s ultimate level of 93%.



**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION I – BOARD SUMMARY**

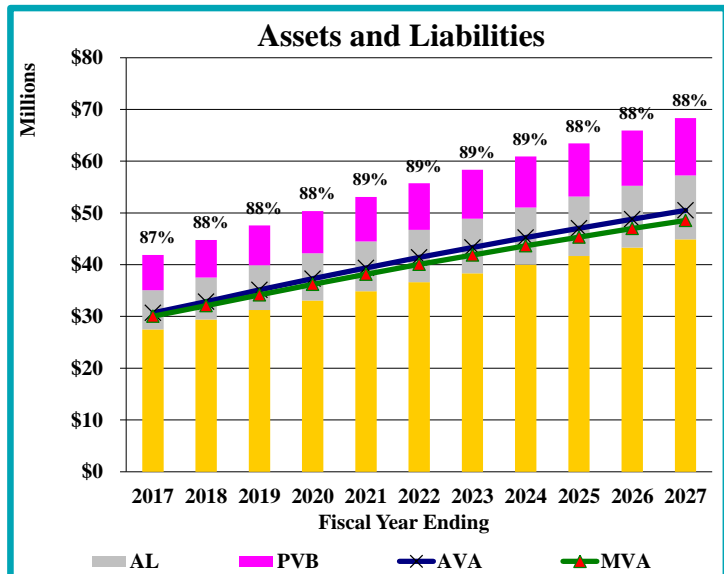
Projections with Asset Returns of 6.0%



The graphs on this page show projections of the Plan’s funding status and contributions assuming that the Plan’s investment performance is 6.0% each year of the projection, 1.0% lower than the valuation investment rate of return assumption.

Note that these projections assume all other assumptions are exactly met, including payment of participating employer contributions made equal to the full actuarially determined contribution.

Under this scenario, the employer ADC rate increases to approximately 10.02% of payroll by the end of the 10-year period, significantly greater than the 8.73% ultimate rate in the baseline projection. Additionally, the Plan is projected to stay around the same funded ratio, reaching 88% at the end of the 10-year period, significantly lower than the 93% ultimate ratio in the baseline scenario.



**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION I – BOARD SUMMARY**

**Table I-1  
Summary of Principal Plan Results**

<b>Valuation as of:</b>	<b>June 30, 2016</b>	<b>June 30, 2017</b>	<b>% Change</b>
<b><u>Member Counts</u></b>			
Active Members	259	272	5.02%
Disabled Members	4	4	0.00%
Retirees and Beneficiaries	77	88	14.29%
Terminated Vested Members	14	12	(14.29%)
Terminated Non-Vested Members	<u>0</u>	<u>0</u>	N/A
<b>Total Member Counts</b>	<b>354</b>	<b>376</b>	<b>6.21%</b>
Covered Payroll of Active Members*	\$ 12,376,200	\$ 12,912,200	4.33%
Annual Benefit Payments for Retirees, Disabled Members, and Beneficiaries	\$ 795,100	\$ 884,200	11.21%
<b><u>Assets and Liabilities</u></b>			
Actuarial Liability (AL)	\$ 31,637,100	\$ 35,081,900	10.89%
Actuarial Value of Assets (AVA)	<u>28,340,500</u>	<u>30,687,300</u>	8.28%
Unfunded AL (UAL)	\$ 3,296,600	\$ 4,394,600	33.31%
Funded Ratio on AVA Basis (AVA/AL)	89.6%	87.5%	
Funded Ratio on MVA Basis (MVA/AL)	84.2%	85.6%	
Present Value of Accrued Benefits (PVAB)	\$ 24,576,600	\$ 27,496,800	11.88%
Market Value of Assets (MVA)	<u>26,636,900</u>	<u>30,038,400</u>	12.77%
Unfunded PVAB	\$ (2,060,300)	\$ (2,541,600)	(23.36%)
Accrued Benefit Funded Ratio (MVA/PVAB)	108.4%	109.2%	
<b><u>Employer Contribution Rate</u></b>			
	<b>Fiscal Year 2018</b>	<b>Fiscal Year 2019</b>	
Entry Age Normal Cost	5.61%	6.06%	
UAL Amortization Payment	2.47%	3.12%	
Administrative Expense	<u>0.30%</u>	<u>0.30%</u>	
Actuarially Determined Contribution (ADC)	8.38%	9.48%	

\* Assumes one year of payroll increase projection, representing payroll beginning on each valuation date.

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION II – ASSETS**

Pension plan assets play a key role in the financial operation of the Plan and in the decisions that the Board of Trustees may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely affect benefit levels, employer actuarially determined contributions, and the ultimate security of members’ benefits.

In this section, we present detailed information on the Plan’s assets including:

- **Disclosure** of the Plan’s assets at June 30, 2016 and June 30, 2017,
- Statement of the **changes** in market values during FY 2017,
- Development of the **actuarial value of assets**,
- An assessment of **investment performance**, and
- A projection of the Plan’s expected **cash flows** for the next 10 years.

**Market Value of Assets Disclosure**

The market values of assets represent “snap-shot” or “cash-out” values that provide the principal basis for measuring financial performance from one year to the next. However, market values can fluctuate widely with swings in the marketplace, and as such, are usually not suitable for budgeting and long-range planning.

Table II-1 below shows the market values as of June 30, 2016 and June 30, 2017, along with the changes between the two.

Table II-1 Changes in Market Values of Assets		
<b>Market Value of Assets – June 30, 2016</b>		<b>\$ 26,636,900</b>
<b><u>Additions</u></b>		
Member Contributions	\$ 239,900	
Employer Contributions	1,134,200	
Investment Returns	<u>2,949,300</u>	
<b>Total Additions</b>	<b>\$ 4,323,400</b>	
<b><u>Deductions</u></b>		
Benefit Payments	\$ 892,100	
Administrative Expenses	<u>29,800</u>	
<b>Total Deductions</b>	<b>\$ 921,900</b>	
<b>Market Value of Assets – June 30, 2017</b>		<b>\$ 30,038,400</b>

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION II – ASSETS**

**Actuarial Value of Assets**

The actuarial value of assets represents a “smoothed” value developed by the actuary to reduce, or eliminate, erratic results that could develop from short-term fluctuations in the market value of assets. The actuarial value for this plan equals the expected actuarial value of assets, developed from the immediately prior valuation, plus 20% of the difference between the actual market value of assets and that expected actuarial value of assets at the valuation date. The table below illustrates the calculation of the actuarial value of assets as of June 30, 2017.

<b>Table II-2 Development of Actuarial Value of Assets</b>		
1.	Actuarial Value of Assets at June 30, 2016	\$ 28,340,500
2.	Amount in (1) with interest to June 30, 2017 at 7.20% per year	30,381,000
3.	Employer and member contributions for FY 2017	1,374,100
4.	Interest on contributions assuming payments made uniformly throughout the year to June 30, 2017 at 7.20% per year	49,500
5.	Disbursements from Trust except investment expenses, July 1, 2016 through June 30, 2017	921,900
6.	Interest on disbursements to June 30, 2017 at 7.20% per year	<u>33,200</u>
7.	Expected Actuarial Value of Assets at June 30, 2017 = (2) + (3) + (4) – (5) – (6)	\$ 30,849,500
8.	Actual Market Value of Assets at June 30, 2017	<u>\$ 30,038,400</u>
9.	Excess of (8) over (7)	\$ (811,100)
10.	Actuarial Value of Assets at June 30, 2017 = (7) + 20% of (9)	\$ 30,687,300

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION II – ASSETS**

**Investment Performance**

The market value of assets (MVA) returned 11.0% during 2017, which is more than the prior year’s assumed 7.2% investment rate of return. The actuarial value of assets (AVA) returned 6.6% over this same year, reflecting the asset smoothing method being utilized by the Plan for the measurement of the actuarial value of assets. Since a maximum of 20% of the gain or loss from the performance of the Plan is typically recognized in a given year under the asset smoothing method, in periods of very good performance, the AVA can lag significantly behind the MVA, and in a period of negative returns, the AVA does not decline as rapidly as the MVA.

**Projection of Cash Flows**

<b>Table II-3 Cash Flow Projections</b>		
<b>Year Beginning July 1,</b>	<b>Expected Benefit Payments</b>	<b>Expected Contributions*</b>
2017	\$ 1,075,000	\$ 1,341,000
2018	1,304,000	1,520,000
2019	1,540,000	1,558,000
2020	1,768,000	1,597,000
2021	1,998,000	1,636,000
2022	2,217,000	1,677,000
2023	2,428,000	1,719,000
2024	2,643,000	1,762,000
2025	2,854,000	1,806,000
2026	3,067,000	1,852,000

\* Expected contributions include employer contributions and member contributions. For illustration purposes, we have assumed the employer contribution rate will remain level from FYE 2018 and that payroll will increase at the actuarially assumed rate of 2.50% per year.

Expected benefit payments are projected for the closed group valued at June 30, 2017. Projecting any further than 10 years using a closed group would not yield reliable projections due to the omission of new hires in the benefit payments, compounded by their inclusion in the expected contributions.



**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION III – LIABILITIES**

In this section, we present detailed information on the Plan’s liabilities for funding purposes, including:

- **Disclosure** of the Plan’s liabilities at June 30, 2016 and June 30, 2017, and
- Statement of **changes** in these liabilities during the year.

**Disclosure**

Three liability measurements are calculated and presented in this report. Each type is distinguished by the purpose, or purposes, for which they are used.

- **Present Value of Benefits (PVB):** Used for analyzing the financial outlook of plans, this represents the amount of money needed today to fund all future benefits and expenses of a plan, assuming current members continue to accrue benefits and there are no new entrants, and that all actuarial assumptions are met.
- **Actuarial Liability (AL):** Used for funding calculations for a plan and GASB disclosures, this liability is calculated by taking the present value of benefits (PVB) and subtracting the present value of future member contributions (PVFEEC) and the present value of future employer normal costs (PVFNC) under an acceptable actuarial funding method. The Plan uses the **Entry Age Normal** funding method.
- **Present Value of Accrued Benefits (PVAB):** Used for communicating the current level of liabilities, this liability represents the total amount of money needed today to fund the current accrued obligations of a plan, assuming no future accruals of benefits or salary increases. These liabilities are also required for some accounting purposes of some plans (Topic No. 960) and are sometimes used as part of assessing whether a plan can meet its current benefit commitments. Note that the development of this amount also assumes that all actuarial assumptions are met, including the assets earning 7.0% per year.

None of the liability amounts disclosed in this report is appropriate for measuring a settlement of the Plan’s liabilities.

The following table discloses each of these liabilities for the current and immediately prior funding valuations. With respect to each disclosure, a subtraction of an appropriate value of Plan assets yields, for each respective type, either a net surplus or an unfunded amount.

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION III – LIABILITIES**

**Table III-1  
Liabilities and Net (Surplus)/Unfunded Amounts**

	<b>June 30, 2016</b>	<b>June 30, 2017</b>
<b><u>Present Value of Benefits</u></b>		
Active Member Benefits	\$ 29,602,000	\$ 32,419,100
Retiree, Beneficiary, Disabled, and Terminated Members Benefits	8,216,600	9,448,100
<b>Present Value of Benefits (PVB)</b>	<b>\$ 37,818,600</b>	<b>\$ 41,867,200</b>
Market Value of Assets (MVA)	\$ 26,636,900	\$ 30,038,400
Future Member Contributions	1,729,200	1,793,700
Future Employer Contributions	9,452,500	10,035,100
<b>Total Resources</b>	<b>\$ 37,818,600</b>	<b>\$ 41,867,200</b>
<b><u>Actuarial Liability</u></b>		
Present Value of Benefits (PVB)	\$ 37,818,600	\$ 41,867,200
Present Value of Future Employer Normal Costs (PVFNC)	4,452,300	4,991,600
Present Value of Future Member Contributions (PVFEEC)	1,729,200	1,793,700
<b>Actuarial Liability (AL=PVB–PVFNC–PVFEEC)</b>	<b>\$ 31,637,100</b>	<b>\$ 35,081,900</b>
Actuarial Value of Assets (AVA)	28,340,500	30,687,300
<b>Net (Surplus)/Unfunded AL (AL – AVA)</b>	<b>\$ 3,296,600</b>	<b>\$ 4,394,600</b>
<b><u>Present Value of Accrued Benefits</u></b>		
Present Value of Benefits (PVB)	\$ 37,818,600	\$ 41,867,200
Present Value of Future Benefit Accruals (PVFBA)	13,242,000	14,370,400
<b>Present Value of Accrued Benefits (PVAB=PVB–PVFBA)</b>	<b>\$ 24,576,600</b>	<b>\$ 27,496,800</b>
Market Value of Assets (MVA)	\$ 26,636,900	\$ 30,038,400
<b>Net (Surplus)/Unfunded PVAB (PVAB – MVA)</b>	<b>\$ (2,060,300)</b>	<b>\$ (2,541,600)</b>

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION III – LIABILITIES**

**Changes in Liabilities**

Each of the liabilities disclosed in the prior table are expected to change at each valuation. The components of that change, depending upon which liability is analyzed, can include:

- New entrants since the last valuation
- Benefits accrued since the last valuation
- Plan amendments increasing benefits
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, or dying at rates different than expected
- A change in actuarial assumptions
- A change in actuarial methods

Unfunded liabilities (or surpluses), developed from subtraction of an appropriate value of plan assets from these liability measures, will change because of all of the above as well as due to changes in plan asset measures resulting from:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure plan assets

In each valuation, we report on those elements of change that are of particular significance, potentially affecting the long-term financial outlook of the Plan. Below we present key changes in liabilities since the last valuation.

<b>Table III-2 Liability Changes</b>			
<b>(In Thousands)</b>	<b>Present Value of Benefits</b>	<b>Actuarial Liability</b>	<b>Present Value of Accrued Benefits</b>
Liabilities June 30, 2016	\$ 37,819	\$ 31,637	\$ 24,577
Liabilities June 30, 2017	41,867	35,082	27,497
Liability Increase/(Decrease)	4,048	3,445	2,920
Change Due to:			
Benefit Changes	0	0	0
Assumption Changes	1,215	815	798
Actuarial (Gain)/Loss	NC *	265	NC *
Benefits Accumulated and Other (Gain)/Loss	2,833	2,365	2,122

\* NC = not calculated

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION III – LIABILITIES**

Table III-3 below provides additional information about the liability measurements for funding purposes as of both the current and the immediately prior valuations.

<b>Table III-3 Actuarial Liabilities for Funding</b>		
	<b>June 30, 2016</b>	<b>June 30, 2017</b>
1. Actuarial Liabilities		
Retiree, Beneficiary, Disabled, and Terminated Members	\$ 8,216,600	\$ 9,448,100
Active Members	<u>23,420,500</u>	<u>25,633,800</u>
<b>Total Actuarial Liability (AL)</b>	<b>\$ 31,637,100</b>	<b>\$ 35,081,900</b>
2. Actuarial Value of Assets (AVA)	\$ 28,340,500	\$ 30,687,300
3. Unfunded Actuarial Liability (UAL) [AL – AVA]	\$ 3,296,600	\$ 4,394,600

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION IV – CONTRIBUTIONS**

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level, if any, of contributions are needed to properly maintain the funding status of the plan. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that are both fairly stable and predictable.

For this plan, the funding method employed is the **Entry Age Normal** actuarial funding method. Under this method, there are three components to the total contribution: the **normal cost contribution**, the **unfunded actuarial liability contribution** (UAL contribution), and the **administrative expense contribution**.

The employer normal cost contribution rate is determined in the following steps. First, for each active member an individual total normal cost rate is determined by taking the value, as of entry age into the Plan, of that member's projected future benefits and dividing it by the value, also at entry age, of the member's expected future salary. Then, this individual total normal cost rate is reduced by the member's contribution rate to produce the employer normal cost rate for each member. The employer normal cost rate multiplied by payroll for each active member equals the employer normal cost. The sum of the employer normal cost amounts for all active members is then divided by the covered payroll for all active members to produce the employer normal cost contribution rate.

The actuarial liability is that portion of the present value of projected benefits that will not be paid by future employer normal cost contributions or future member contributions. The difference between this liability and the funds accumulated as of the same date is referred to as the unfunded actuarial liability (UAL).

The UAL amortization payment rate is calculated by amortizing this UAL over an open 15-year period. All payments are determined assuming total pay increases by the current annual inflation assumption of 2.50%.

The current assumed administrative expense rate is 0.30% of payroll. This rate, when applied to payroll, is intended to provide an allowance above the cost of funding the benefits to pay for the expense of operating the Plan.

The table below presents and compares the employer contribution rates for the Plan based on this funding valuation and the immediately prior one.

<b>Table IV-1 Employer Contribution Rate</b>		
<b>Valuation Date</b>	<b>June 30, 2016</b>	<b>June 30, 2017</b>
<b>FY Contribution Rate Payable</b>	<b>FY 2018</b>	<b>FY 2019</b>
Entry Age Normal Cost Rate	5.61%	6.06%
UAL Amortization Payment Rate	2.47%	3.12%
Administrative Expense Rate	<u>0.30%</u>	<u>0.30%</u>
Actuarially Determined Contributions	8.38%	9.48%

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION IV – CONTRIBUTIONS**

Table IV-2 below provides additional detail about the development of the contribution rate as well as the expected dollar amounts these rates will result in for FY 2019.

<b>Table IV-2 Expected FY 2019 Employer Contributions</b>		
	<b>In Dollars</b>	<b>As % of Payroll</b>
1. Present Value of Projected Benefits Attributable to:		
a. Total Normal Cost	\$ 1,040,700	8.06%
b. Expected Member Contributions	<u>258,200</u>	<u>2.00%</u>
c. Employer-Paid Normal Cost (a) – (b)	\$ 782,500	6.06%
2. Amortization of Unfunded Liability	\$ 402,400	3.12%
3. Allowance for Administrative Expense	\$ 38,700	0.30%
4. Total Employer Actuarially Determined Contributions (1) + (2) + (3)	\$ 1,223,600	9.48%

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION V – ACCOUNTING STATEMENT INFORMATION**

ASC Topic No. 960 of the Financial Accounting Standards Board (FASB) requires plans subject to it to disclose certain information regarding their funded status. This plan is not subject to this requirement, but this information is provided for informational purposes. Statement No. 67 of the Governmental Accounting Standards Board (GASB) establishes standards for disclosure of pension information by public employee retirement systems (PERS) and governmental employers in notes to financial statements and supplementary information.

Disclosures based on FASB ASC Topic No. 960 provide a quasi “snapshot” view of how the Plan’s assets compare to its liabilities if contributions stopped and accrued benefit claims had to be satisfied. However, due to potential legal requirements and the possibility that alternative interest rates would have to be used to determine the liabilities, these values may not be a good indication of the amount of money it would take to buy the benefits for all members if the Plan were to terminate and should not be considered a settlement value.

FASB ASC Topic No. 960 specifies that a comparison of the present value of accrued (accumulated) benefits with the market value of the assets as of the valuation date must be provided. Again, this plan is not subject to this requirement, but the relevant amounts as of June 30, 2016 and June 30, 2017 are provided for informational purposes and are exhibited in Table V-1, which also includes a reconciliation of liabilities determined as of the prior valuation, July 1, 2016, to the liabilities as of June 30, 2017. These values are based on the funding liability results.

This valuation contains information reported in the June 30, 2017 Comprehensive Annual Financial Report (CAFR) of Delaware PERS under GASB Statement No. 67. Disclosures are based on the use of updated procedures to roll forward the 2016 funding valuation results. The calculation of Net Pension Liability in Table V-2 shows the amounts to be disclosed for FY 2017, based on the liabilities of the roll forward of the 2016 funding valuation, as well as a projection of the anticipated FY 2018 disclosures, based on liabilities from the 2017 funding valuations, assuming all actuarial assumptions are met over the coming year. The actual disclosures for FY 2018 will be developed once the asset measure for GASB as of June 30, 2018 is known.

Tables V-3 through V-5 are exhibits to be used for the System’s CAFR. Table V-3 is the Note to Required Supplementary Information, Table V-4 is a history of gains and losses in accrued liability, and Table V-5 is the Solvency Test, which shows the portion of accrued liability covered by the actuarial value of assets. The Government Finance Officers Association (GFOA) has named this exhibit the Solvency Test. None of the liabilities or assets shown are appropriate for settlement purposes. Furthermore, the Solvency Test does not accurately depict a plan’s future financial condition but rather is a test developed by the GFOA to assess the level of funding that relies on the payroll for future hires to pay for the benefits that have already been accrued by the current population. This valuation does not contain the additional disclosures required by GASB Statement No. 68 only for the employer and the State’s CAFR.

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION V – ACCOUNTING STATEMENT INFORMATION**

**Table V-1  
Accounting Statement Disclosure and  
Reconciliation of Present Value of Accrued Benefits**

	<b>June 30, 2016</b>	<b>June 30, 2017</b>
<b>FASB ASC Topic No. 960 Basis</b>		
1. Present Value of Accrued Benefits (PVAB)		
a. Members Currently Receiving Payments	\$ 7,881,800	\$ 9,087,300
b. Former Vested Members	334,800	360,800
c. Active Members	<u>16,360,000</u>	<u>18,048,700</u>
2. Total PVAB [1(a) + 1(b) + 1(c)]	\$ 24,576,600	\$ 27,496,800
3. Market Value of Assets (MVA)	<u>26,636,900</u>	<u>30,038,400</u>
4. Unfunded PVAB [2 – 3]	\$ (2,060,300)	\$ (2,541,600)
5. Ratio of MVA to PVAB [3 / 2]	108.4%	109.2%
<b>Reconciliation of PVAB</b>		
PVAB at June 30, 2016		\$ 24,576,600
Increase/(Decrease) During Years Attributable to:		
Passage of Time		1,737,400
Benefits Paid – FY 2017		(892,100)
Benefit Changes		0
Assumption Changes		797,600
Benefits Accrued, Other Gains/Losses		<u>1,277,300</u>
Net Increase/(Decrease)		2,920,200
PVAB at June 30, 2017		\$ 27,496,800



**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION V – ACCOUNTING STATEMENT INFORMATION**

<b>Table V-2 GASB No. 67 Disclosures</b>		
	<b>June 30, 2017</b>	<b>Estimated June 30, 2018</b>
<b><u>Total Pension Liability (TPL)</u></b>		
Service cost	\$ 943,000	\$ 1,041,000
Interest	2,314,000	2,491,000
Changes in benefit terms	0	0
Differences between expected and actual experience	(975,000)	265,000
Changes in assumptions	815,000	0
Benefit payments, including refunds of member contributions	(892,000)	(1,075,000)
<b>Net change in TPL</b>	<b>\$ 2,205,000</b>	<b>\$ 2,722,000</b>
<b>TPL - beginning</b>	<b>\$ 32,612,000</b>	<b>\$ 34,817,000</b>
<b>TPL - ending (a)</b>	<b>\$ 34,817,000</b>	<b>\$ 37,539,000</b>
<b><u>Plan Fiduciary Net Position (FNP)</u></b>		
Contributions - Employer	\$ 1,134,000	\$ 1,082,000
Contributions - Non-employer	0	0
Contributions - Member	240,000	259,000
Net investment income	2,949,000	2,111,000
Benefit payments, including refunds of member contributions	(892,000)	(1,075,000)
Administrative expenses	(30,000)	(39,000)
<b>Net change in FNP</b>	<b>\$ 3,401,000</b>	<b>\$ 2,338,000</b>
<b>FNP - beginning</b>	<b>\$ 26,637,000</b>	<b>\$ 30,038,000</b>
<b>FNP - ending (b)</b>	<b>\$ 30,038,000</b>	<b>\$ 32,376,000</b>
<b>Plan Net Pension Liability/(Asset) - ending [(a)-(b)]</b>	<b>\$ 4,779,000</b>	<b>\$ 5,163,000</b>

Items printed in red will be replaced with actual amounts once known at the end of FY 2018.

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**SECTION V – ACCOUNTING STATEMENT INFORMATION**

**Table V-3  
Analysis of Financial Experience**

**Gain and Loss in Accrued Liability During Years Ended June 30  
Resulting from Differences Between Assumed Experience and Actual Experience**

*Gain (or Loss) for Year ending June 30,  
(expressed in thousands)*

<b>Type of Activity</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
Investment Income on Actuarial Assets	\$ (181)	\$ (37)	\$ 374	\$ 44	\$ (426)	\$ (162)
Combined Liability Experience	(499)	147	(1,403)	662	975	(265)
(Loss)/Gain During Year from Financial Experience	\$ (680)	\$ 110	\$ (1,029)	\$ 706	\$ 549	\$ (427)
Non-Recurring Items	0	6	(361)	0	873	(815)
Composite Gain (or Loss) During Year	\$ (680)	\$ 116	\$ (1,390)	\$ 706	\$ 1,422	\$ (1,242)

**Table V-4  
Solvency Test  
Aggregate Accrued Liabilities for**

*(expressed in thousands)*

<b>Valuation Date June 30,</b>	<b>Active Member Contributions</b>	<b>Retirees &amp; Beneficiaries</b>	<b>Active Member State-Financed Contributions</b>	<b>Actuarial Value of Reported Assets</b>	<b>Portion of Accrued Liabilities Covered by Reported Assets</b>		
	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>		<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
2017	\$ 4,719	\$ 9,087	\$ 21,276	\$ 30,687	100%	100%	79%
2016	4,374	7,882	19,381	28,341	100	100	83
2015	3,975	7,387	19,766	26,263	100	100	75
2014	3,906	5,980	19,523	23,955	100	100	72
2013	3,550	3,870	17,716	20,964	100	100	76
2012	3,480	3,564	15,995	18,930	100	100	74

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**APPENDIX A – MEMBERSHIP INFORMATION**

<b>Diamond State Port Corporation Pension Plan Data Reconciliation</b>							
	<b>A</b>	<b>P-TDV</b>	<b>P-SUPP</b>	<b>P-RET</b>	<b>P-DIS</b>	<b>P-SURV</b>	<b>Total</b>
1. June 30, 2016 valuation	<b>259</b>	<b>14</b>	<b>0</b>	<b>59</b>	<b>4</b>	<b>18</b>	<b>354</b>
2. Additions							
(a) New entrants	23			2		10	35
(b) <u>New Beneficiary/QDRO</u>							
(c) Total	23			2		10	35
3. Reductions							
(a) Terminated - not vested	(7)						(7)
(b) <u>Paid Out/Expired/Death</u>		(2)		(4)			(6)
(c) Total	(7)	(2)		(4)			(13)
4. Changes in status							
(a) P-TDV	(1)	1					
(b) P-SUPP		(4)	4				
(c) Returned to work	1	(1)					
(d) P-RET	(3)			3			
(e) PRET25							
(f) P-DIS							
(g) P-LTD							
(h) P-SURV							
(i) PSUR25							
(j) P-SR							
(k) <u>Data corrections</u>							
(l) Total	(3)	(4)	4	3			
5. June 30, 2017 valuation	<b>272</b>	<b>8</b>	<b>4</b>	<b>60</b>	<b>4</b>	<b>28</b>	<b>376</b>

A=Active, P-TDV=Terminated Deferred Vested, P-SUPP=Terminated Deferred Vested, P-RET=Retired, P-DIS=Disabled, P-SURV=Survivor Beneficiary

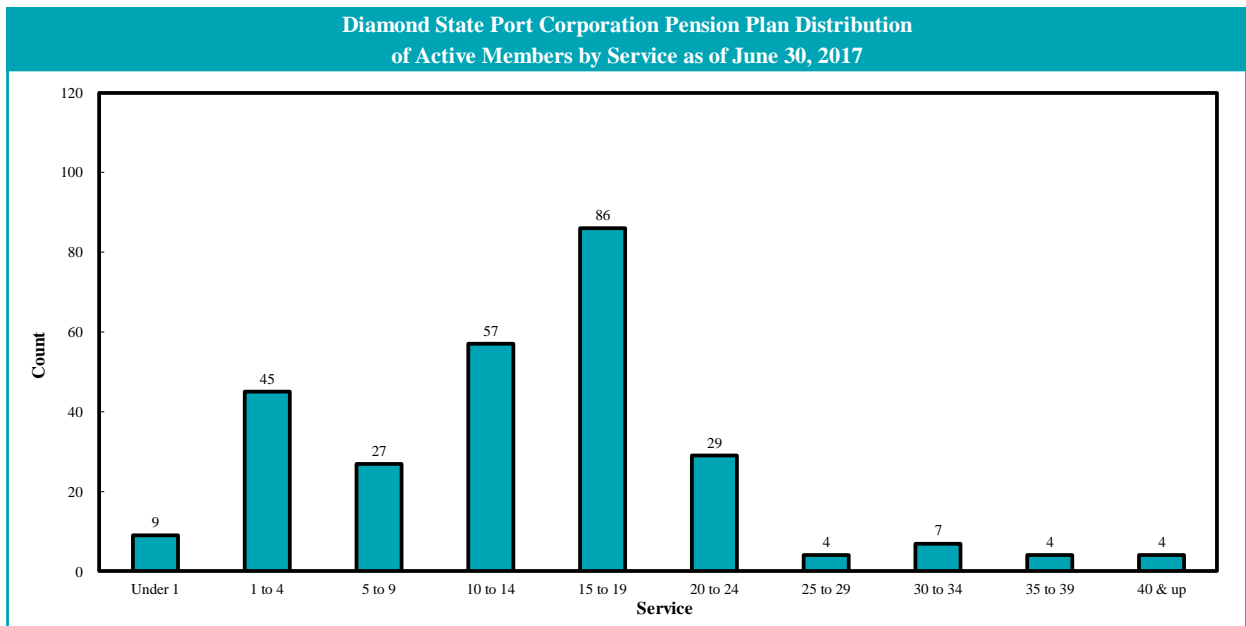
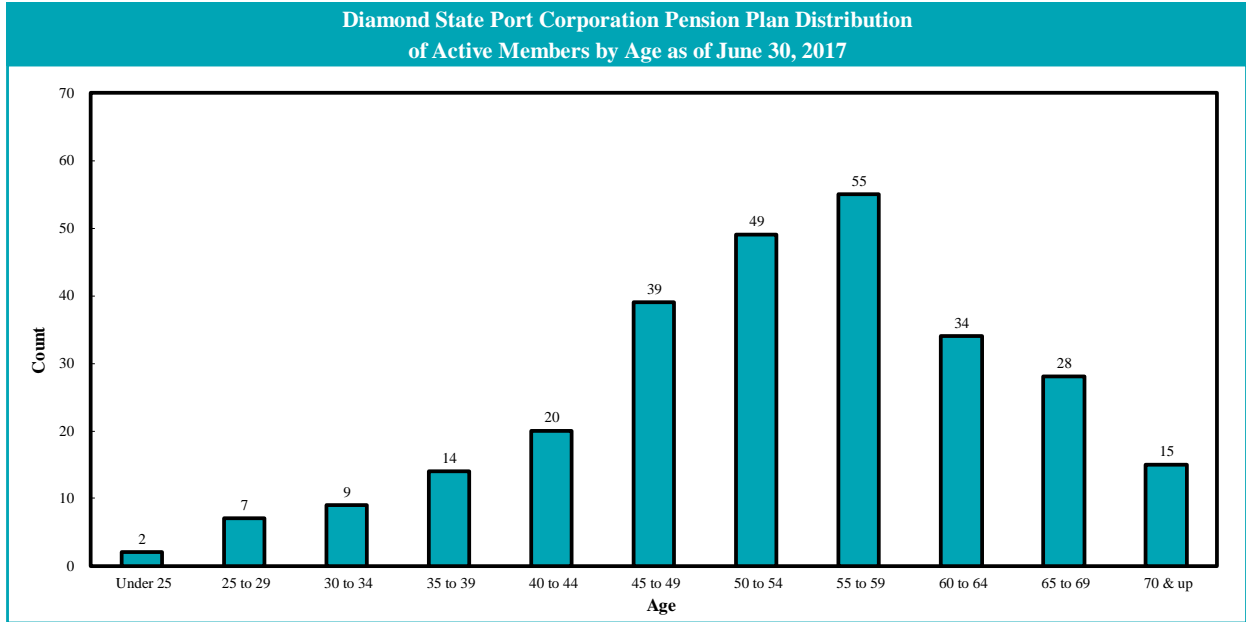
**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**APPENDIX A – MEMBERSHIP INFORMATION**

Diamond State Port Corporation Pension Plan Distribution of Active Members by Age and Service as of June 30, 2017												
Counts By Age/Service												
Age	Service										Total	
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up		
Under 25	1	1	0	0	0	0	0	0	0	0	0	2
25 to 29	1	5	1	0	0	0	0	0	0	0	0	7
30 to 34	1	2	0	6	0	0	0	0	0	0	0	9
35 to 39	0	7	2	3	2	0	0	0	0	0	0	14
40 to 44	0	6	2	5	6	1	0	0	0	0	0	20
45 to 49	1	12	4	6	14	1	1	0	0	0	0	39
50 to 54	2	5	8	6	20	5	1	2	0	0	0	49
55 to 59	2	3	6	12	17	7	1	3	3	3	1	55
60 to 64	1	3	2	8	11	5	1	2	0	0	1	34
65 to 69	0	1	0	9	8	8	0	0	0	0	2	28
70 & up	0	0	2	2	8	2	0	0	1	0	0	15
Total	9	45	27	57	86	29	4	7	4	4	4	272

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**APPENDIX A – MEMBERSHIP INFORMATION**



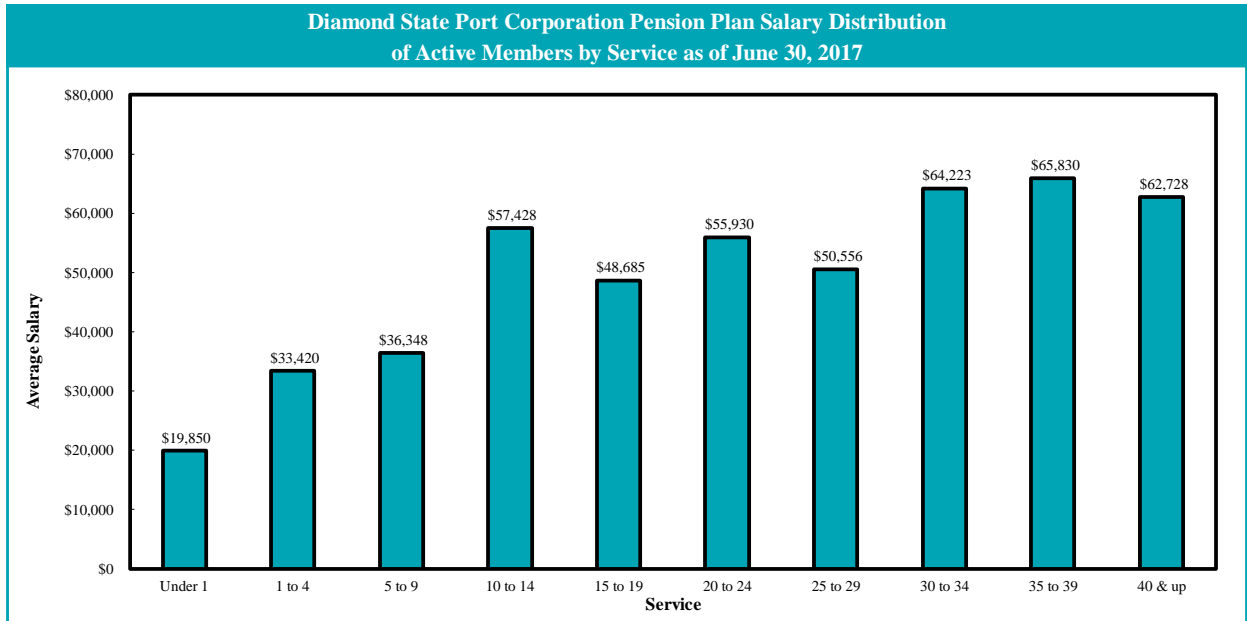
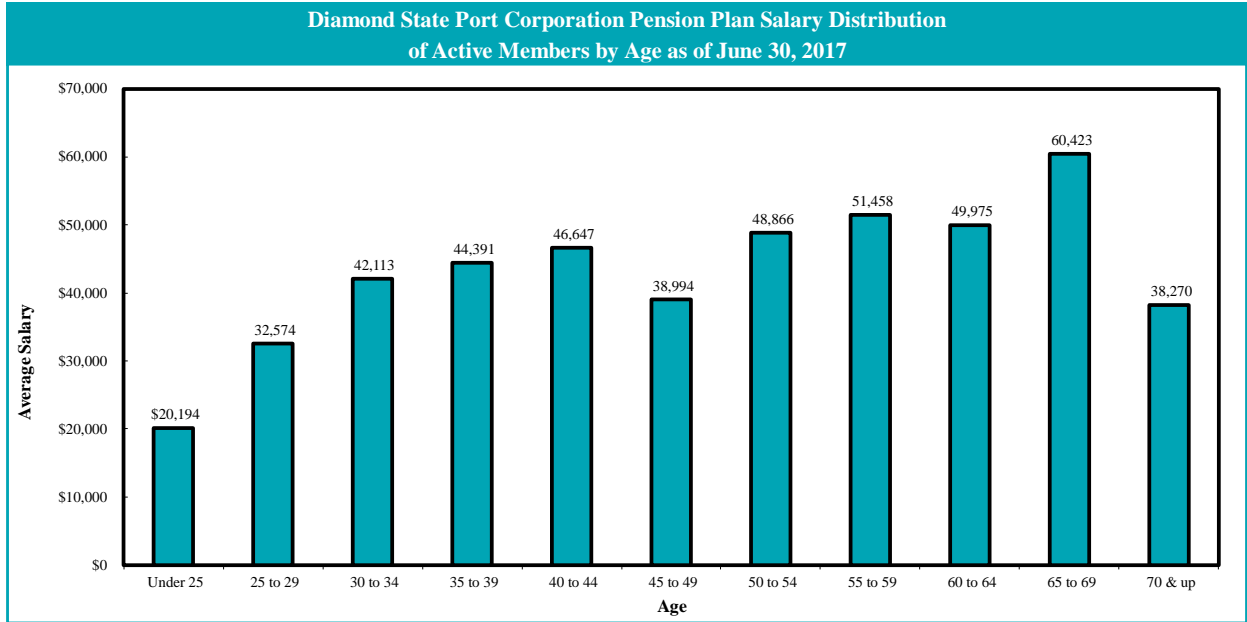
**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**APPENDIX A – MEMBERSHIP INFORMATION**

<b>Diamond State Port Corporation Pension Plan Salary Distribution of Active Members by Age and Service as of June 30, 2017</b>												
<b>Average Salary by Age/Service</b>												
<b>Age</b>	<b>Service</b>										<b>Total</b>	
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up		
Under 25	\$ 18,533	\$ 21,854	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 20,194
25 to 29	26,000	29,742	53,306	0	0	0	0	0	0	0	0	32,574
30 to 34	20,810	37,596	0	47,169	0	0	0	0	0	0	0	42,113
35 to 39	0	30,655	48,051	67,825	53,657	0	0	0	0	0	0	44,391
40 to 44	0	32,234	39,867	55,767	54,029	56,786	0	0	0	0	0	46,647
45 to 49	20,315	34,445	25,246	42,590	46,118	38,617	46,320	0	0	0	0	38,994
50 to 54	14,025	37,975	35,026	65,587	48,115	71,350	67,318	58,194	0	0	0	48,866
55 to 59	25,270	34,194	45,865	48,940	54,949	55,154	38,596	70,480	67,602	41,544	0	51,458
60 to 64	14,400	38,666	25,906	65,005	46,858	50,276	49,988	60,868	0	58,354	0	49,975
65 to 69	0	28,350	0	68,936	59,361	52,147	0	0	0	75,507	0	60,423
70 & up	0	0	22,028	65,621	27,881	57,594	0	0	60,515	0	0	38,270
<b>Total</b>	<b>\$ 19,850</b>	<b>\$ 33,420</b>	<b>\$ 36,348</b>	<b>\$ 57,428</b>	<b>\$ 48,685</b>	<b>\$ 55,930</b>	<b>\$ 50,556</b>	<b>\$ 64,223</b>	<b>\$ 65,830</b>	<b>\$ 62,728</b>	<b>\$ 62,728</b>	<b>\$ 47,471</b>

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**APPENDIX A – MEMBERSHIP INFORMATION**



**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**APPENDIX A – MEMBERSHIP INFORMATION**

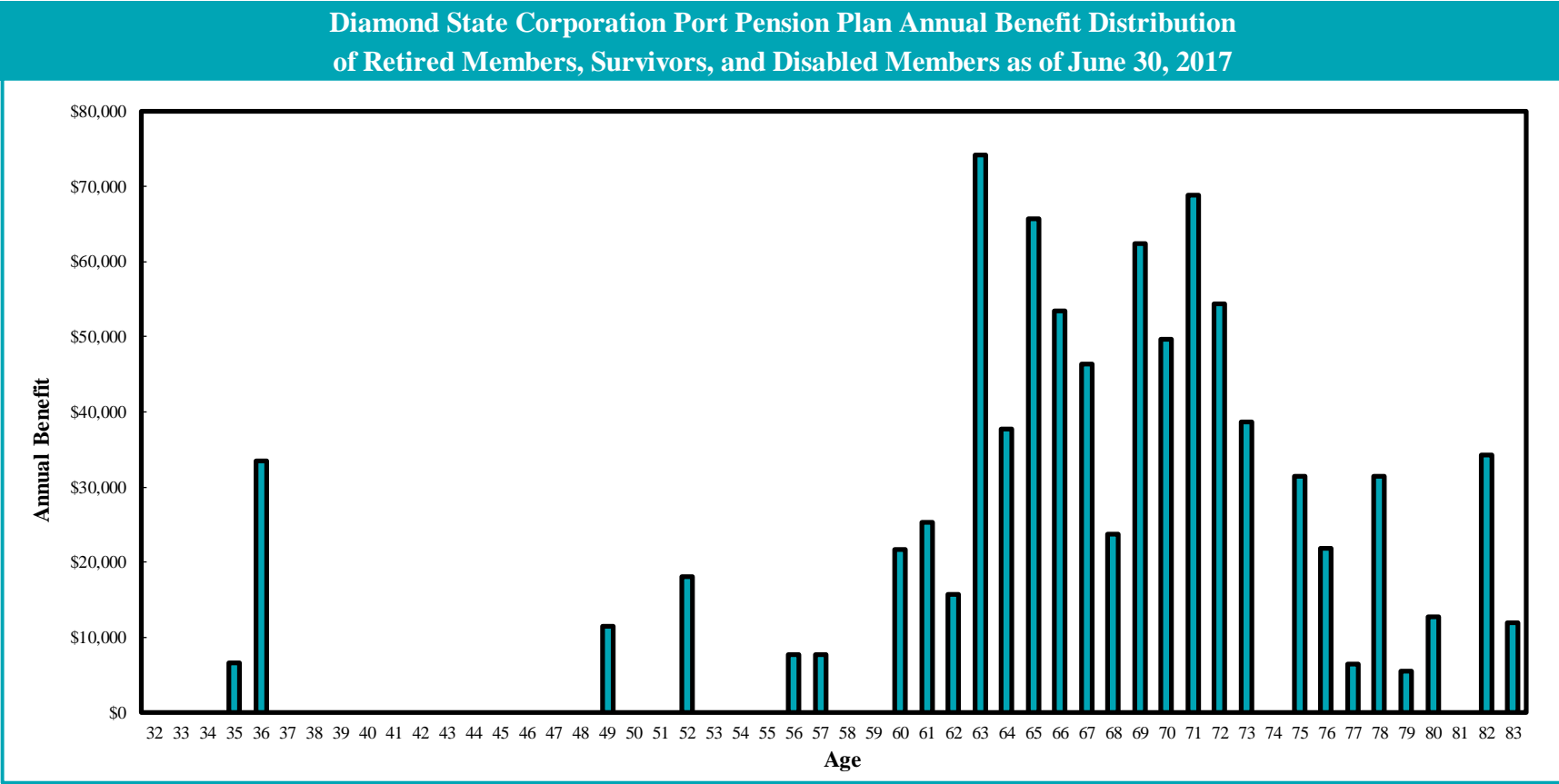
**Diamond State Port Corporation Pension Plan Annual Benefit Distribution  
of Retired Members, Survivors, and Disabled Members as of June 30, 2017**

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	0	\$0	73	3	\$38,611
25	0	\$0	74	0	\$0
26	0	\$0	75	3	\$31,440
27	0	\$0	76	2	\$21,820
28	0	\$0	77	2	\$6,426
29	0	\$0	78	5	\$31,399
30	0	\$0	79	1	\$5,466
31	0	\$0	80	1	\$12,735
32	0	\$0	81	0	\$0
33	0	\$0	82	3	\$34,284
34	0	\$0	83	1	\$11,947
35	2	\$6,531	84	1	\$6,338
36	2	\$33,496	85	0	\$0
37	0	\$0	86	0	\$0
38	0	\$0	87	0	\$0
39	0	\$0	88	0	\$0
40	0	\$0	89	0	\$0
41	0	\$0	90	0	\$0
42	0	\$0	91	0	\$0
43	0	\$0	92	0	\$0
44	0	\$0	93	0	\$0
45	0	\$0	94	0	\$0
46	0	\$0	95	0	\$0
47	0	\$0	96	0	\$0
48	0	\$0	97	0	\$0
49	2	\$11,479	98	0	\$0
50	0	\$0	99	0	\$0
51	0	\$0	100	0	\$0
52	4	\$18,011	101	0	\$0
53	0	\$0	102	0	\$0
54	0	\$0	103	0	\$0
55	0	\$0	104	0	\$0
56	1	\$7,667	105	0	\$0
57	2	\$7,597	106	0	\$0
58	0	\$0	107	0	\$0
59	0	\$0	108	0	\$0
60	2	\$21,735	109	0	\$0
61	2	\$25,222	110	0	\$0
62	3	\$15,612	111	0	\$0
63	8	\$74,228	112	0	\$0
64	3	\$37,740	113	0	\$0
65	7	\$65,664	114	0	\$0
66	4	\$53,381	115	0	\$0
67	5	\$46,325	116	0	\$0
68	2	\$23,676	117	0	\$0
69	4	\$62,365	118	0	\$0
70	5	\$49,711	119	0	\$0
71	7	\$68,904	120	0	\$0
72	5	\$54,345			
			<b>Totals</b>	<b>92</b>	<b>\$884,159</b>



**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**APPENDIX A – MEMBERSHIP INFORMATION**



**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

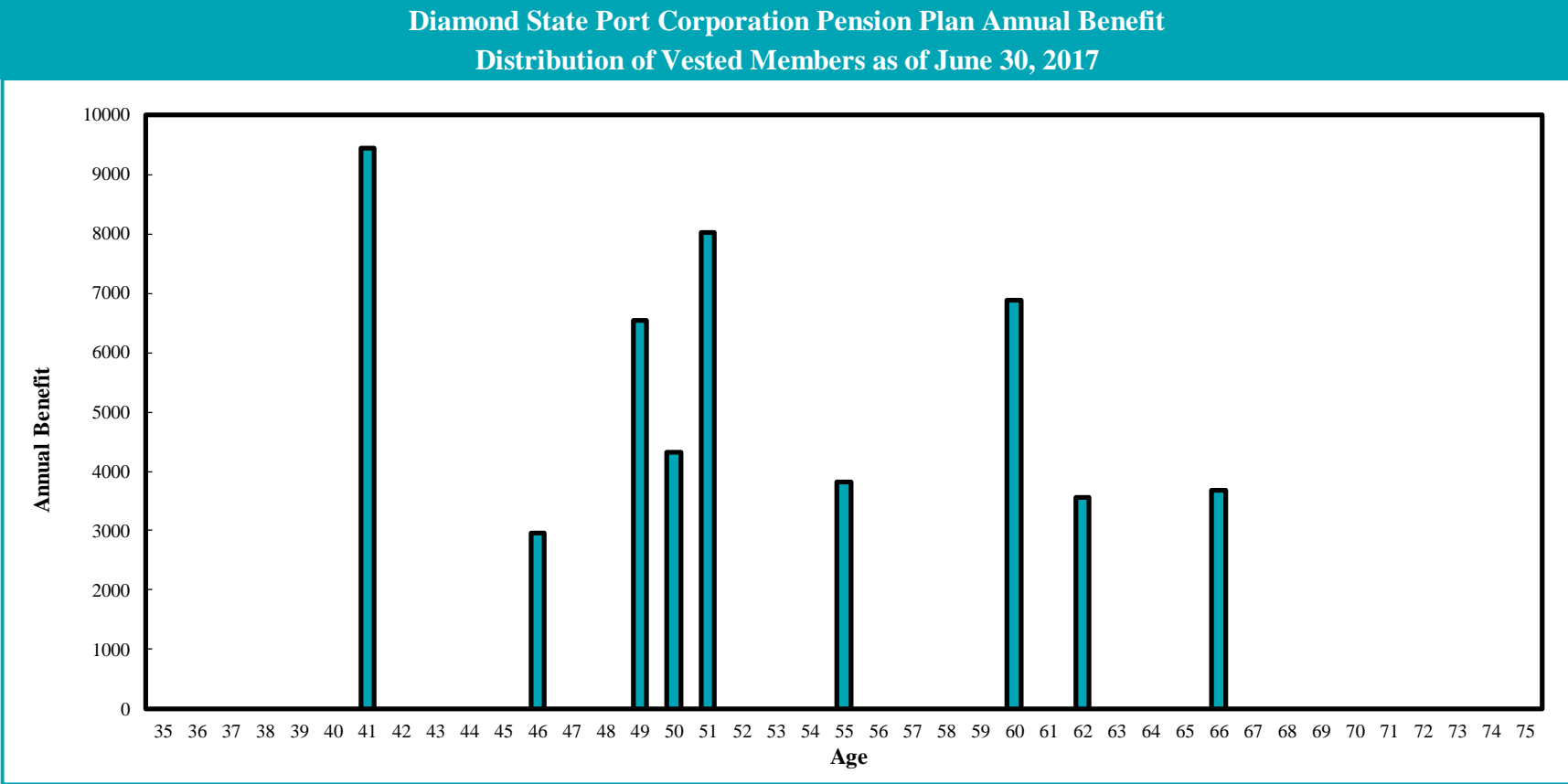
**APPENDIX A – MEMBERSHIP INFORMATION**

**Diamond State Port Corporation Pension Plan Annual Benefit  
Distribution of Vested Members as of June 30, 2017**

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	0	\$0	73	0	\$0
25	0	\$0	74	0	\$0
26	0	\$0	75	0	\$0
27	0	\$0	76	1	\$10,034
28	0	\$0	77	0	\$0
29	0	\$0	78	0	\$0
30	0	\$0	79	0	\$0
31	0	\$0	80	0	\$0
32	0	\$0	81	0	\$0
33	0	\$0	82	0	\$0
34	0	\$0	83	0	\$0
35	0	\$0	84	0	\$0
36	0	\$0	85	0	\$0
37	0	\$0	86	0	\$0
38	0	\$0	87	0	\$0
39	0	\$0	88	0	\$0
40	0	\$0	89	0	\$0
41	1	\$9,450	90	0	\$0
42	0	\$0	91	0	\$0
43	0	\$0	92	0	\$0
44	0	\$0	93	0	\$0
45	0	\$0	94	0	\$0
46	1	\$2,967	95	0	\$0
47	0	\$0	96	0	\$0
48	0	\$0	97	0	\$0
49	2	\$6,550	98	0	\$0
50	1	\$4,323	99	0	\$0
51	1	\$8,012	100	0	\$0
52	0	\$0	101	0	\$0
53	0	\$0	102	0	\$0
54	0	\$0	103	0	\$0
55	2	\$3,823	104	0	\$0
56	0	\$0	105	0	\$0
57	0	\$0	106	0	\$0
58	0	\$0	107	0	\$0
59	0	\$0	108	0	\$0
60	1	\$6,891	109	0	\$0
61	0	\$0	110	0	\$0
62	1	\$3,564	111	0	\$0
63	0	\$0	112	0	\$0
64	0	\$0	113	0	\$0
65	0	\$0	114	0	\$0
66	1	\$3,675	115	0	\$0
67	0	\$0	116	0	\$0
68	0	\$0	117	0	\$0
69	0	\$0	118	0	\$0
70	0	\$0	119	0	\$0
71	0	\$0	120	0	\$0
72	0	\$0			
			Totals	12	\$59,288

DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017

APPENDIX A – MEMBERSHIP INFORMATION



**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**A. Long-Term Assumptions Used to Determine Plan Costs and Liabilities**

**1. Demographic Assumptions**

**a. Rates of Mortality**

Mortality rates are based on the sex-distinct employee, healthy annuitant, and disabled annuitant mortality tables described below, including adjustment factors applied to the published tables for each group. Future mortality improvements are reflected by applying a custom projection scale on a generational basis to adjusted base tables from the base year shown below.

**i. Sample Rates of Mortality for Active Healthy Lives at Selected Ages  
(number of deaths per 10,000 members):**

(2017 Values Shown)		
Age	Male	Female
25	5	2
30	5	2
35	5	3
40	7	4
45	10	6
50	18	11
55	30	17
60	50	25
65	89	37
70	151	63
75	258	109
80	436	188

Rates are based on 110% and 100% of the RP-2014 Total Dataset Employee Mortality Table, respectively, for males and females, using the RP-2014 Total Dataset Healthy Annuitant Mortality Table rates after the end of the Employee Mortality Table, both projected from the 2006 base rates using the RPEC-2015 model, with an ultimate rate of 0.85% for ages 20-85, grading down to an ultimate rate of 0% for ages 115-120, and convergence to the ultimate rate in the year 2020. The valuation uses fully generational projection of mortality improvements. Sample rates shown are those projected through the valuation date.

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**ii. Healthy Mortality**

(2017 Values Shown)		
Age	Male	Female
50	43	27
55	62	36
60	83	52
65	118	80
70	183	129
75	299	211
80	503	357
85	877	633
90	1,545	1,131
95	2,439	1,862
100	3,491	2,789

Rates are based on 110% and 100% of the RP-2014 Total Dataset Healthy Annuitant Mortality Table, respectively, for males and females, using the RP-2014 Total Dataset Employee Mortality Table for ages prior to start of the Healthy Annuitant Mortality Table, both projected from the 2006 base rates using the RPEC-2015 model, with an ultimate rate of 0.85% for ages 20-85 grading down to an ultimate rate of 0% for ages 115-120, and convergence to the ultimate rate in the year 2020. The valuation uses fully generational projection of mortality improvements. Sample rates shown are those projected through the valuation date.

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**iii. Sample Rates of Mortality for Disabled Annuitant Lives at Selected Ages  
(number of deaths per 10,000 members)**

(2017 Values Shown)		
Age	Male	Female
25	92	27
30	88	35
35	104	48
40	125	67
45	194	104
50	237	137
55	273	173
60	311	205
65	372	249
70	481	339
75	659	497
80	940	750
85	1,399	1,135
90	2,145	1,681
95	3,009	2,445
100	3,963	3,437

Rates are based on 120% of the RP-2014 Total Dataset Disabled Annuitant Mortality Table, projected from the 2006 base rates using the RPEC-2015 model, with an ultimate rate of 0.85% for ages 20-85, grading down to an ultimate rate of 0% for ages 115-120 and convergence to the ultimate rate in the year 2020. The valuation uses fully generational projection of mortality improvements. Sample rates shown are those projected through the valuation date.

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**b. Rates of Active Disability**

<b>Rates of Active Disability*</b>	
<b>Age</b>	<b>Rate</b>
20	0.0522%
25	0.0522
30	0.1831
35	0.2694
40	0.3821
45	0.4643
50	0.6214
55	0.8579
60	1.0699

\* No Workers' Compensation offset is assumed.

**c. Termination of Employment (Prior to Normal Retirement Eligibility)**

<b>Rates of Termination*</b>	
<b>Service</b>	<b>Rates</b>
0-1	16.0%
2-3	12.0
4-5	8.0
6-7	7.0
8	5.0
9+	3.0

\* Termination rates zero once member has reached early or normal retirement eligibility regardless of service.

**d. Retirement**

<b>Rates of Retirement*</b>	
<b>Age</b>	<b>Rates</b>
55	10.0%
56-61	5.0
62	10.0
63	15.0
64-67	10.0
68-74	30.0
75+	100.0

\* Rates only applicable if member meets eligibility.

**e. Merit/Seniority Salary Increase (in addition to across-the-board increase)**

1.5% merit increase for all ages plus an inflation rate of 2.50%

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**f. Family Composition**

Female spouses are assumed to be three years younger than males. 70% are assumed married for both male and female employees. Actual marital characteristics are used for pensioners.

**2. Economic Assumptions**

a. Investment Rate of Return:	7.00%
b. General Wage Increase Rate:	2.50%
c. Annual Assumed Cost-of-Living Increase Rate for Retirees:	0.00%
d. Total Payroll Increase Rate (for Amortization):	2.50%
e. Administrative Expenses as a Percentage of Covered Payroll:	0.30%

**3. Rationale for Assumptions**

The assumptions were adopted by the Board of Trustees upon the recommendation of the actuary, based on an experience study review performed in 2016 and covering the period July 1, 2010 through June 30, 2015. The Board continually reviews the investment rate of return assumption and adopted a reduced rate of 7.0% at the advice of its investment consultants, first effective for funding with the 2017 valuation.

**4. Changes Since Last Valuation**

The investment rate of return was reduced from 7.2% to 7.0%.



**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**B. Actuarial Methods**

**1. Funding Method**

The Entry Age Normal funding method is used to determine costs. Under this funding method, a normal cost rate is determined as a level percent of pay for each active member. The normal cost rate times payroll equals the normal cost for each active member. The normal cost plus member contributions will pay for projected benefits at retirement for each active plan participant.

The actuarial liability is that portion of the present value of projected benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and funds accumulated as of the same date is referred to as the unfunded actuarial liability.

The portion of the actuarial liability in excess of Plan assets is amortized to develop an additional cost or savings that is added to each year's employer normal cost. Under this cost method, actuarial gains and losses are directly reflected in the size of the unfunded actuarial liability.

The portion of unfunded liability, after subtracting payments due from municipalities paying for prior service, is amortized over a rolling 15-year period as a percentage of payroll. All payments are determined assuming total payroll increases by the annual inflation rate. Use of a rolling amortization period means that the UAL amount is never anticipated to be fully paid off. This method was chosen to provide a more level contribution rate over time.

**2. Actuarial Value of Assets**

For purposes of determining the employer contribution rate to the Plan, we use an actuarial value of assets. The asset smoothing method dampens the volatility in asset values that could occur because of fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process.

The actuarial value of assets is a weighted average giving 20% weight to the current market value and 80% weight to the prior year's actuarial value increased by expected interest and contributions and decreased by benefit payments and expenses. This is mathematically equivalent to recognizing 100% of the actuarially assumed interest rate, plus contributions, less payment each year, and 20% of the portion of each year's returns that have not already been reflected in asset values.

**3. Changes Since Last Valuation**

None

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**APPENDIX C – SUMMARY OF PLAN PROVISIONS**

This appendix provides a summary of Plan provisions. Where the Plan, as determined by the State Code and the Plan Rules and Regulations, and this summary differ, the Plan governs.

**1. Membership**

The Plan covers any employee who is paid regular salary or wages by the Diamond State Port Corporation.

**2. Member Contributions**

2% of compensation. Interest is credited at the rate of 7% per year.

Member contributions are made through an “employer pick-up” arrangement, which results in deferral of taxes on the contributions.

**3. Credited Service**

A year of service is credited for every year of 1,500 hours of service. In addition, those employees who participated in the City of Wilmington Plan I, Plan II, or Plan III will receive prior credited service under the terms of those plans.

**4. Final Average Compensation**

Final Average Compensation is the five-year average base salary over the last 10 consecutive years of compensation paid to the member that produces the highest average.

**5. Normal Retirement**

Eligibility: Age 65 with five years of credited service; or Rule of 90 with minimum age 55

In addition, the benefits payable under the City of Wilmington Plan I are payable at age 60 with 15 years of service or at any age with 20 years of service.

Benefit: 1.75% of final average earnings times years of service (maximum service 30 years) since the later of the date of hire or the date of transfer for those transferring from Plans I or II

In addition, former participants of Plan I will receive 2.50% of final average earnings times years of service, up to the date of transfer, but not less than \$1,800 annually nor greater than \$4,500 annually. Former participants of Plan II will receive 1.75% times final average earnings times years of Plan II service (maximum service 25 years) but not greater than \$11,000 annually.

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**APPENDIX C – SUMMARY OF PLAN PROVISIONS**

**6. Early Retirement**

Eligibility: Age 55 with five years of service

Benefit: The benefit is determined using the normal retirement benefit formula based on service and earnings at early retirement and reduced by 0.4% for each month the early retirement date precedes the normal retirement date.

**7. Disability Benefit**

Eligibility: 15 years of service

Benefit: 1.75% of final average earnings times years of service (maximum 30 years), reduced by any workers' compensation benefits paid and further reduced by earnings in excess of one-half of the pre-disability compensation earned by the participant

**8. Survivor's Benefit**

Eligibility: Death while actively employed with 15 or more years of service or after attaining eligibility for early or normal retirement benefits

Benefit: 50% of the benefit the participant would have received had he/she retired on the day before his/her death. Payments to the spouse will continue until death.

**9. Post-Retirement Death Benefit**

50% of the benefit the participant was receiving is payable to the surviving spouse. Such benefit continues to the spouse until death. If the participant is not married on his/her retirement date and dies before receiving 120 monthly payments, the participant's beneficiary will receive the remaining monthly benefit until a full 120 payments have been made.

**10. Vesting**

Eligibility: Five years of credited service

Benefit: The benefit calculated for normal retirement, using final average compensation and credited service as of the termination date. The benefit will commence on the normal retirement date. A participant may elect to receive a reduced benefit for early retirement commencing after age 55.

If the participant is married, the benefit will be a reduced amount payable for life with the surviving spouse receiving a benefit equal to 50% of the benefit received by the participant.

**DIAMOND STATE PORT CORPORATION PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2017**

**APPENDIX C – SUMMARY OF PLAN PROVISIONS**

**11. Withdrawal of Employer Contributions**

Eligibility: Terminates service and is not eligible for other benefits

Benefit: Accumulated employee contributions with interest

**12. Form of Payment**

The normal form of payment is a 50% joint and survivor annuity

**13. Cost-of-Living Adjustment**

Cost-of-living adjustments are made only on an ad hoc basis

**14. Changes Since Last Valuation**

None



*Classic Values, Innovative Advice*