



AMENDED RETIREMENT PROGRAM OF PUGET SOUND PILOTS

ACTUARIAL ANALYSIS

AS OF JANUARY 1, 2019



**AMENDED RETIREMENT PROGRAM OF PUGET SOUND PILOTS
ACTUARIAL ANALYSIS AS OF JANUARY 1, 2019**

TABLE OF CONTENTS

Actuarial Certification	1
Summary	2
Payout Projections	3
Participant Count and Benefit Payment Projections	4
Actuarial Basis and Compliance	5
Participant Statistics as of January 1, 2019.....	6
Actuarial Method and Assumptions	7
Summary of Plan Provisions.....	10
Charts	12



**AMENDED RETIREMENT PROGRAM OF PUGET SOUND PILOTS
ACTUARIAL ANALYSIS AS OF JANUARY 1, 2019**

ACTUARIAL CERTIFICATION

Independent Actuaries, Inc. was retained by Puget Sound Pilots to prepare an actuarial analysis of the Amended Retirement Program of Puget Sound Pilots as of January 1, 2019. The results of that analysis are set forth in this report, which reflects the provisions of the plan as disclosed in the Summary of Plan Provisions. This report is intended for the use of Puget Sound Pilots and copying, distributing, or relying on the contents of this report without the Sponsor’s permission are prohibited.

The analysis is based on census and plan financial data which were provided by the Plan Administrator. All information submitted to us has been reviewed for reasonableness and consistency, but has otherwise been accepted and relied upon without audit. The plan provisions and other material assumptions are disclosed in the Actuarial Basis section of this report.

This report was prepared in accordance with applicable law. To the best of our knowledge, the information supplied in this report is complete and accurate. Each prescribed method and assumption was applied in accordance with our understanding of applicable law and regulations. The prescribed methods and assumptions are disclosed in the Actuarial Methods and Assumptions section. In our opinion, each other assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and such other assumptions, in combination, offer our best estimate of anticipated experience under the plan. The enrolled actuaries certify that the report has been calculated in accordance with generally accepted actuarial principles and applicable statutes and regulations.

Future actuarial measurements may differ significantly from the current measurement presented in this report due to such factors as the following: plan experience differing from that anticipated; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law.

The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Steven L. Diess

Steven L. Diess, EA, MAAA

Jeffrey F. Lamb

Jeffrey F. Lamb, EA, MAAA

November 19, 2019

Date

17-06055

Enrollment #

November 19, 2019

Date

17-08218

Enrollment #

Independent Actuaries, Inc.
4500 Kruse Way, Suite 200 Lake Oswego, OR 97035 503.520.0848



AMENDED RETIREMENT PROGRAM OF PUGET SOUND PILOTS ACTUARIAL ANALYSIS AS OF JANUARY 1, 2019

SUMMARY

Independent Actuaries, Inc. has prepared this report to provide the plan sponsor with the results of the actuarial analysis as of January 1, 2019.

What follows is an “open group” projection, meaning that it includes assumed future new hires to replace departing active Pilots. Prior to the year 2022, we have taken into consideration the retirement of Pilots currently “burning comp time” as well as potential future Pilots currently working on completing their certification. Beyond the year 2022, we have assumed that the workforce of active Pilots subject to distribution will grow to 59 Pilots over the projection period, and that future hires consist of approximately the same ages and genders as past hires have had.

Assumed Pilot distributive share and tariff revenue amounts for the years 2019 through 2022 are described on page 7 of this report. Beyond the year 2022, both amounts are expected to grow at 3.0% per year, which is the approximate average annual growth in Puget Sound CPI over the last three years.

The assumed rates of future turnover and retirement reflect observed past experience of the current group of Pilots. Mortality assumptions are based on the most recent, commonly used base tables and improvement scales available.

Total projected annual benefit payments are expected to grow from approximately \$5.0M in 2019 to \$7.1M in 2025, reflecting the fact that a number of active Pilots are currently in their 60s (see the participant statistics on page 6). However, tariff revenue is also expected to grow fairly rapidly over the projection period. Projected benefit payments are expected to range from approximately 13.0% to 15.1% of tariff revenue over the projection period, as shown on pages 4 and 14.

The structure of the program is not uncommon compared to other defined benefit plans in the private and public sector. Benefits are defined as a percentage of average pay (“Net Share”) times years of service. Benefit amounts are frozen at the time of retirement, and are payable for the lifetime of the participant, with continuing payments to the surviving spouse (if any).

Benefits are not prefunded through a Trust, as is authorized and common among Pilot retirement programs nationally. Although benefit payments are expected to increase in the near-term, that growth is expected to be matched by growth in tariff revenues. In our opinion, the structure and operation of the program is viable and sustainable into the foreseeable future.



**AMENDED RETIREMENT PROGRAM OF PUGET SOUND PILOTS
ACTUARIAL ANALYSIS AS OF JANUARY 1, 2019**

PAYOUT PROJECTIONS



**AMENDED RETIREMENT PROGRAM OF PUGET SOUND PILOTS
ACTUARIAL ANALYSIS AS OF JANUARY 1, 2019**

PARTICIPANT COUNT AND BENEFIT PAYMENT PROJECTIONS

Tariff Year	Active Counts and Revenue			Retiree Counts			Benefit Payments				Pmts as % of Revenue
	Current Actives	Future Hires	Total Actives ¹	Current Retirees	Future Retirees	Total Retirees	Current Retirees	Current Actives	Future Hires	Total	
2019	49	0	49	60	0	60	4,806,000	227,000	0	5,033,000	14.8%
2020	43	6	49	60	6	66	4,737,000	743,000	0	5,480,000	15.1%
2021	40	13	53	59	9	68	4,597,000	1,116,000	0	5,713,000	13.0%
2022	35	18	53	57	14	71	4,452,000	2,029,000	2,000	6,483,000	13.8%
2023	31	24	55	56	18	74	4,304,000	2,421,000	7,000	6,732,000	14.0%
2024	28	29	57	55	22	77	4,152,000	2,744,000	16,000	6,912,000	14.0%
2025	25	34	59	53	25	78	3,995,000	3,092,000	31,000	7,118,000	14.0%

Note: Participant counts reflect estimated counts on January 1 of each year. Due to the variability in timing of retirements and new hires over the course of each year, the active Pilot count could vary by several participants compared to the projections above at any given point in the year.

¹Active Pilots, as defined in Puget Sound Pilots bylaws, Section 3



**AMENDED RETIREMENT PROGRAM OF PUGET SOUND PILOTS
ACTUARIAL ANALYSIS AS OF JANUARY 1, 2019**

ACTUARIAL BASIS AND COMPLIANCE



**AMENDED RETIREMENT PROGRAM OF PUGET SOUND PILOTS
ACTUARIAL ANALYSIS AS OF JANUARY 1, 2019**

PARTICIPANT STATISTICS AS OF JANUARY 1, 2019

Active Pilot Statistics

Age	Benefit Service										Total
	Under 1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & up	
Under 25	0	0	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0	0	0
35-39	0	1	0	0	0	0	0	0	0	0	1
40-44	0	0	1	0	0	0	0	0	0	0	1
45-49	0	1	1	0	0	0	0	0	0	0	2
50-54	0	4	3	2	0	0	0	0	0	0	9
55-59	0	1	4	7	0	1	0	0	0	0	13
60-64	0	1	2	4	2	1	0	2	0	0	12
65-69	0	0	4	1	0	1	1	4	0	0	11
70 & up	0	0	0	0	0	0	0	0	0	0	0
Total	0	8	15	14	2	3	1	6	0	0	49

Active participants average age 58.1
 Active participants average benefit service 12.0
 2018 Tariff Year Net Share (per participant) 410,000

Inactive Pilot Statistics

	<u>Number</u>	<u>Average Age</u>	<u>Total Annual Benefit</u>
Participants receiving benefits:			
Retirees	51	72.7	4,596,477
Surviving spouses	9	80.5	216,967
Disabled participants	0	N/A	0
Total	60	73.9	4,813,444



**AMENDED RETIREMENT PROGRAM OF PUGET SOUND PILOTS
ACTUARIAL ANALYSIS AS OF JANUARY 1, 2019**

ACTUARIAL METHOD AND ASSUMPTIONS

Valuation Date	January 1, 2019
Assumed Form of Payment	50% Joint & Survivor annuity if married, Life Annuity if single
Assumed Commencement Date	Termination/retirement date
Mortality	
Pre-Retirement	None
Post-Retirement	RP-2014 Total Dataset Mortality Adjusted to 2006, projected fully generationally with Scale MP-2018
Distributive Income Growth	Distributive income per Pilot is expected to be as follows for the years 2019 through 2022:

2019	\$390,000
2020	\$500,000
2021	\$500,000
2022	\$500,000

Beyond the year 2022, we have assumed that distributive income will grow at 3% per year, based on historical growth in Puget Sound CPI.

Tariff Revenue Growth	Tariff revenue is expected to be as follows for the tariff years (Sept 1 – Aug 31) 2020 through 2022:
-----------------------	---

2020	\$43,112,701
2021	\$46,625,286
2022	\$47,718,001

Beyond the year 2022, we have assumed that tariff revenue will grow at 3% per year, based on historical growth in Puget Sound CPI.



**AMENDED RETIREMENT PROGRAM OF PUGET SOUND PILOTS
ACTUARIAL ANALYSIS AS OF JANUARY 1, 2019**

ACTUARIAL METHOD AND ASSUMPTIONS

(Continued)

Turnover Rates

Turnover Table T-1, with a minimum of 0.5% per year.
Examples of turnover rates are as follows:

<u>Age</u>	<u>Rate</u>
22	5.2%
32	3.2%
42	0.7%
52	0.5%

No turnover is assumed beyond age 55, at which point the retirement rates below begin to apply.

Retirement Rates

Assumed rates are as follows:

<u>Age</u>	<u>Rate</u>
55-59	2%
60-61	5%
62-64	15%
65-69	30%
70	100%

Disablement Rates

None assumed

Future Service

All Pilots are expected to complete a full year of service in each future year of employment.

Marital Status

Current active Pilots are assumed to remain married to their current spouse (if any) in retirement. Surviving spouses are assumed to not remarry.



**AMENDED RETIREMENT PROGRAM OF PUGET SOUND PILOTS
ACTUARIAL ANALYSIS AS OF JANUARY 1, 2019**

ACTUARIAL METHOD AND ASSUMPTIONS

(Concluded)

Future Hires

Based on active Pilot data, we have assumed that the active Pilot population remains static, and that future hires occur in the following age distribution:

<u>Age</u>	<u>Rate</u>
30	5%
35	15%
40	15%
45	20%
50	30%
55	10%
60	5%

All future hires are assumed to be married at the point of retirement, with retirees assumed to be two years older than their spouses.



**AMENDED RETIREMENT PROGRAM OF PUGET SOUND PILOTS
ACTUARIAL ANALYSIS AS OF JANUARY 1, 2019**

SUMMARY OF PLAN PROVISIONS

1. Effective Date
March 1, 1982;
Latest Amendment: effective August 8, 2006.
2. Tariff Year
January 1 through December 31.
3. Plan Eligibility
 - Eligible Pilots
All Pilots are eligible to participate.
 - Requirements
Election in writing and filed with the Organization.
 - Entry date
Immediately upon service with Puget Sound Pilots.
4. Years of Service
 - Benefit
Determined by dividing the total number of days for which a share of the Organization's receipts were received by an Active Pilot by 365.
5. Normal Retirement
 - Eligibility
Completion of one year of service, and written notice to the Organization of the Active Pilot's intent to retire in at least 6 months.
 - Benefit
1.5% of a participant's Retirement Base, multiplied by Years of Service.
6. Early Retirement
Retirement in which an Active Pilot has elected to retire and is not yet receiving benefits under the Plan.
7. Disability Benefit
 - Eligibility
Physical or mental impairment rendering an Active Pilot incapable of satisfactorily performing the duties of a pilot as determined by a licensed physician.
 - Benefit
The greater of 10% of the Pilot's Retirement Base, or the Pilot's Retirement Benefit.



**AMENDED RETIREMENT PROGRAM OF PUGET SOUND PILOTS
ACTUARIAL ANALYSIS AS OF JANUARY 1, 2019**

**SUMMARY OF PLAN PROVISIONS
(Concluded)**

- | | |
|-------------------------------|---|
| 8. Death Benefit | |
| Eligibility | Death of a Pilot that has been married throughout the five-year period preceding death. |
| Benefit | If the Pilot has five or more Years of Service, one half of the Pilot's Retirement Benefit. If the Pilot has less than five Years of service, the lesser of 5% of the Retirement Base, or the Pilots Retirement Benefit. If a surviving spouse remarries, they are no longer eligible for death benefits. |
| 9. Retirement Base | Average of the last three years annual pilot Distributive Earnings / Target Net Earnings. |
| 10. Normal Form of Benefit | Single life annuity, with death benefit for surviving spouses. |
| 11. Optional Forms of Benefit | None |

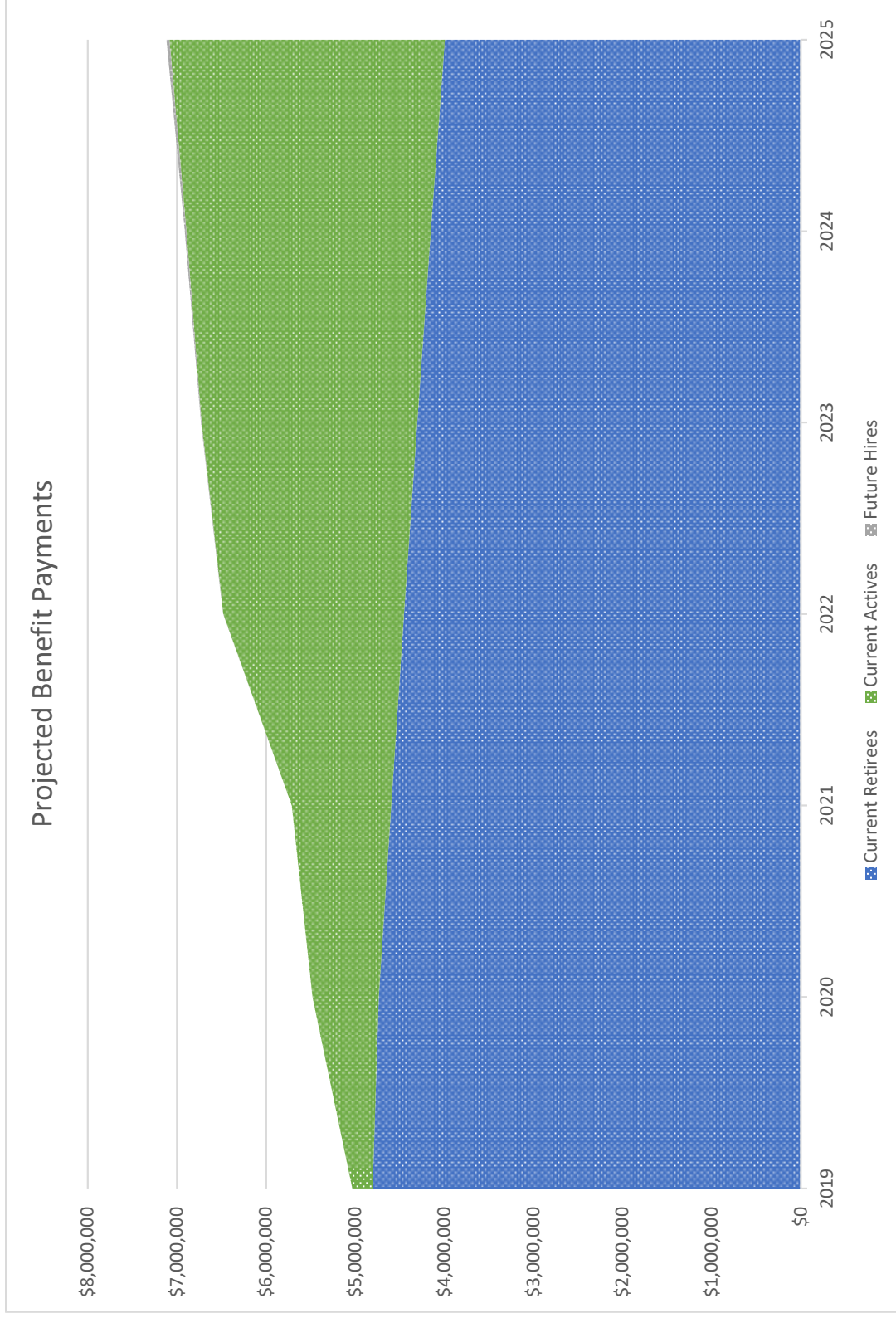


**AMENDED RETIREMENT PROGRAM OF PUGET SOUND PILOTS
ACTUARIAL ANALYSIS AS OF JANUARY 1, 2019**

CHARTS



**AMENDED RETIREMENT PROGRAM OF PUGET SOUND PILOTS
ACTUARIAL ANALYSIS AS OF JANUARY 1, 2019**





**AMENDED RETIREMENT PROGRAM OF PUGET SOUND PILOTS
ACTUARIAL ANALYSIS AS OF JANUARY 1, 2019**

