

Section 4: Certificate of Actuarial Valuation

SEPTEMBER 2, 2016

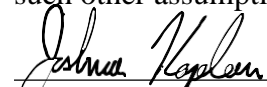
CERTIFICATE OF ACTUARIAL VALUATION

This is to certify that Segal Consulting, a Member of The Segal Group, Inc. (“Segal”) has prepared an actuarial valuation of the CWA/ITU Negotiated Pension Plan as of January 1, 2016 in accordance with generally accepted actuarial principles and practices. It has been prepared at the request of the Board of Trustees to assist in administering the Fund and meeting filing requirements of federal government agencies. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Trustees and may only be provided to other parties in its entirety.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

The valuation is based on the assumption that the Plan is qualified as a multiemployer plan for the year and on information supplied by the auditor with respect to contributions and assets and reliance on the Plan Administrator with respect to the participant data. Segal Consulting does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. To the extent we can, however, Segal does review the data for reasonableness and consistency. Based on our review of the data, we have no reason to doubt the substantial accuracy of the information on which we have based this report and we have no reason to believe there are facts or circumstances that would affect the validity of these results. Adjustments for incomplete or apparently inconsistent data were made as described in the attached *Exhibit 6*.

I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of my knowledge, the information supplied in this actuarial valuation is complete and accurate, except as noted in *Exhibit 1*. Each prescribed assumption for the determination of Current Liability was applied in accordance with applicable law and regulations. In my opinion, each other assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and such other assumptions, in combination, offer my best estimate of anticipated experience under the plan.



Joshua Kaplan, FSA, FCA, MAAA
Vice President and Actuary
Enrolled Actuary No. 14-05487

EXHIBIT 1 - SUMMARY OF ACTUARIAL VALUATION RESULTS

The valuation was made with respect to the following data supplied to us by the Plan Administrator:

Pensioners as of the valuation date (including 3,481 beneficiaries in pay status)		18,217
Participants inactive during year ended December 31, 2015 with vested rights (including 71 beneficiaries with rights to deferred pensions and 132 with unknown age)		8,777
Participants active during the year ended December 31, 2015 (including 72 participants with unknown age)		2,959
• Fully vested	1,866	
• Not vested	1,093	
Total participants		29,953

The actuarial factors as of the valuation date are as follows:

Normal cost, including administrative expenses		\$3,807,962
Actuarial present value of projected benefits		1,016,855,215
Present value of future normal costs		8,517,671
Actuarial accrued liability		1,008,337,544
• Pensioners and beneficiaries ¹	\$703,304,092	
• Inactive participants with vested rights	207,194,742	
• Active participants	97,838,710	
Actuarial value of assets \$675,430,933 ² at market value as reported by Stockman Kast Ryan & Company, L.L.P.)		\$695,192,847
Unfunded actuarial accrued liability		313,144,697

¹ Includes liabilities for 134 former spouses in pay status.

² Excludes \$73,500,226 in withdrawal liability receivables included in the audited financial statements.

EXHIBIT 2 - ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS

The actuarial present value of accumulated plan benefits calculated in accordance with FASB ASC 960 is shown below as of January 1, 2015 and as of January 1, 2016. In addition, the factors that affected the change between the two dates follow.

	Benefit Information Date	
	January 1, 2015	January 1, 2016
Actuarial present value of vested accumulated plan benefits:		
• Participants currently receiving payments	\$711,256,981	\$703,304,092
• Other vested benefits	<u>312,120,496</u>	<u>293,345,380</u>
• Total vested benefits	\$1,023,377,477	\$996,649,472
Actuarial present value of non-vested accumulated plan benefits	1,168,242	813,078
Total actuarial present value of accumulated plan benefits	\$1,024,545,719	\$997,462,550

Factors	Change in Actuarial Present Value of Accumulated Plan Benefits
Plan amendments	-\$379,916
Benefits accumulated, net experience gain or loss, changes in data	-4,165,493
Benefits paid	-87,456,615
Changes in actuarial assumptions	-8,369,149
Interest	73,288,004
Total	-\$27,083,169

EXHIBIT 3 - CURRENT LIABILITY¹

The table below presents the current liability for the Plan Year beginning January 1, 2016.

Item	Amount
Retired participants and beneficiaries receiving payments	\$902,639,643
Inactive vested participants	405,891,264
Active participants	
• Non-vested benefits	\$1,656,946
• Vested benefits	<u>163,603,848</u>
• <i>Total active</i>	\$165,260,794
Total	\$1,473,791,701
Expected increase in current liability due to benefits accruing during the plan year	\$5,729,874
Expected release from current liability for the plan year	87,215,865
Expected plan disbursements for the plan year, including administrative expenses of \$2,400,000	\$89,615,865
Current value of assets	\$748,931,159
Percentage funded for Schedule MB	50.8%

¹ The actuarial assumptions used to calculate these values are shown in *Exhibit 6*.

EXHIBIT 4 - INFORMATION ON PLAN STATUS AS OF JANUARY 1, 2016

Plan status (as certified on March 30, 2016, for the 2016 zone certification)	<i>Critical and Declining</i>
Actuarial value of assets for FSA	\$695,192,847
Scheduled progress (as certified on March 30, 2016, for the 2016 zone certification)	Yes
Accrued liability under unit credit cost method	997,462,550
Funded percentage for monitoring plan's status	69.7%
Year in which insolvency is expected	2030

EXHIBIT 5 - SUMMARY OF PLAN PROVISIONS

(SCHEDULE MB, LINE 6)

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year	January 1 through December 31
Pension Credit Year	January 1 through December 31
Plan Status	Ongoing plan

- Normal Pension**
- *Age Requirement:* 65
 - *Service Requirement:* 10 years of service, or 5 years of service including one hour of service on January 1, 1989 or later.
 - *Amount:* 1.7% of all monies contributed to the plan prior to January 1, 1977, 1% of all monies contributed to the plan from January 1, 1977 to December 31, 1983, 1.3% of all monies contributed to the plan from January 1, 1984 to June 30, 1985, 1.7% of all monies contributed to the plan from July 1, 1985 to June 30, 1987, 3.0% of all monies contributed to the plan from July 1, 1987 to December 31, 1992, 3.0% of all monies credited to the Participant's account from January 1, 1993 to June 30, 1998, 3.25% of all monies credited to the Participant's account from July 1, 1998 to December 31, 2002, 2.50% of all monies credited to the Participant's account from January 1, 2003 to April 30, 2009 and 1.00% of all monies credited to the Participants' account on or after May 1, 2009.

plus

1% of the average monthly contributions per year of past service from January 1, 1968 to December 31, 1976.

In addition, all benefits accrued through December 31, 1997 are increased by 12% and all benefits accrued through December 31, 1998 are increased by 10%.

Early Retirement

- *Age Requirement:* 62
- *Service Requirement:* 20 years of service (5 years of service for disabled participants)
- *Amount:* Normal benefit accrued, reduced as follows:

Commencement Age	Reduction Factor
64	.9016
63	.8146
62	.7375

Vesting

- *Age Requirement:* None
- *Service Requirement:* 10 years of service, or 5 years of service including one hour of service on January 1, 1989 or later.
- *Normal Retirement Age:* 65

Pre-Retirement Death Benefit

- *Age Requirement:* None
- *Service Requirement:* Participants who are vested and have had at least \$250 of contributions made on their behalf
- *Amount:* Beneficiaries of married employees who die prior to retirement will receive a benefit under Option B on the date that the participant would have been eligible for a pension benefit. Beneficiaries of unmarried participants receive 100% of employer contributions payable in 60 equal monthly installments commencing at the participant's earliest retirement age.

Post-Retirement Death Benefit

- *Husband and Wife:* If married, pension benefits are paid in the form of a 50% joint and survivor annuity (Option B), unless this form is rejected by employee and spouse. If not rejected, the benefit amount otherwise payable is reduced to reflect the joint and survivor coverage. If Option B has been rejected by employee and spouse or is not applicable, benefits are payable for the life of the employee without reduction, or in any other available optional form elected by the employee in an actuarially equivalent amount.

Optional Forms of Benefits

- Life only
- 100% joint and survivor (Option A)
- 50% joint and survivor (Option B)
- Life with 10-year certain (Option C)
- 75% joint and survivor (Option D)

Participation	The earlier of the first day of the month following the month: i) during which the total employer contributions exceed \$250, provided contributions were made during each of twelve or more calendar months. or ii) during which the employee worked 1,000 hours during any 12-month consecutive period.
Benefit Credit	Years of Past Service - The number of months prior to the employee's Applicable Effective Date provided such period of employment began prior to January 1, 1967, divided by 12. Years of Future Service - In the fiscal year in which the Applicable Effective Date falls, an employee will be credited with the number of months between the Applicable Effective Date and the end of the fiscal year. Thereafter, a year of future service shall be granted at the rate of one year for each fiscal year during which employer contributions are made on his behalf or the Participant completed 1,000 hours of service.
Vesting Credit	The number of years of past service credit plus future service credit as outlined above.
Contribution Rate	Varies by employer based on rate per shift or percent of salary.
Changes in Plan Provisions	Adopted and effective September 9, 2015, the payout form for the non-spousal pre-retirement death benefit was revised from a lump sum payment to 60 equal monthly payments.

EXHIBIT 6 - STATEMENT OF ACTUARIAL ASSUMPTIONS/METHODS

(SCHEDULE MB, LINE 6)

Mortality Rates

Nonannuitant: RP-2014 Employee Mortality Table with Blue Collar adjustment

Healthy annuitant: RP-2014 Healthy Annuitant Mortality Table with Blue Collar adjustment

Disabled annuitant: RP-2014 Disabled Retiree Mortality Table

The underlying tables with generational projection under Scale MP-2014 to the ages of participants as of the measurement date reasonably reflect the mortality experience of the Plan as of the measurement date.

These mortality tables were then adjusted to future years using generational projection under Scale MP-2014 to reflect future mortality improvement between the measurement date and those years.

The mortality rates were based on historical and current demographic data, adjusted to reflect estimated future experience and professional judgment. As part of the analysis, a comparison was made between the actual number of and the projected number based on the prior years' assumption over the last several years.

**Termination Rates
before Retirement**

Age	Rate (%)			
	Mortality*		Disability	Withdrawal**
	Male	Female		
20	0.05	0.02	0.08	11.91
25	0.06	0.02	0.08	11.59
30	0.06	0.02	0.08	10.83
35	0.07	0.03	0.09	9.41
40	0.08	0.04	0.14	7.73
45	0.13	0.07	0.27	5.96
50	0.22	0.12	0.60	3.84
55	0.36	0.19	1.28	1.41
60	0.61	0.27	2.61	0.14

* Mortality rates shown for base table.

**Withdrawal rates do not apply at or beyond early retirement age.

The termination rates and disability rates were based on historical and current demographic data, adjusted to reflect estimated future experience and professional judgment. As part of the analysis, a comparison was made between the actual number of terminations and disability retirements and the projected number based on the prior years' assumption over the last several years.

Retirement Rates

Age	Annual Retirement Rates
62	30%
63 - 64	15
65 - 66	30
67 - 68	25
69 - 70	20
71	75
72	100

The retirement rates were based on historical and current demographic data, adjusted to reflect estimated future experience and professional judgment. As part of the analysis, a comparison was made between the actual number of retirements by age and the projected number based on the prior years' assumption over the last several years.

Description of Weighted Average Retirement Age

Age 66, determined as follows: The weighted average retirement age for each participant is calculated as the sum of the product of each potential current or future retirement age times the probability of surviving from current age to that age and then retiring at that age, assuming no other decrements. The overall weighted retirement age is the average of the individual retirement ages based on all the active participants included in the January 1, 2016 actuarial valuation.

Retirement Rates for Inactive Vested Participants

Age	Annual Retirement Rates
62	50%
63 - 64	25
65	55
67 - 71	10
66	25
72	100

The retirement rates for inactive vested participants were based on historical and current demographic data, adjusted to reflect estimated future experience and professional judgment. As part of the analysis, a comparison was made between the actual number of retirements by age and the projected number based on the prior years' assumption over the last several years.

Future Benefit Accruals	Active employees are assumed to receive the same amount in contributions in all future years as they received in the prior year.
Unknown Data for Participants	Same as those exhibited by participants with similar known characteristics. If not specified, participants are assumed to be male.
Definition of Active Participants	Employees for whom contributions were made for 50 or more shifts, excluding those who have retired as of the valuation date and those who worked for an employer that withdrew prior to the valuation date.
Inactive Vested Participants	It is assumed that 90% inactive participants past their required beginning date are either deceased or will not collect a benefit from the Plan.
Percent Married	65%
Age of Spouse	Females 3 years younger than male spouses.
Benefit Election	65% of participants are assumed to elect the life form of payment while 35% of participants are assumed to elect the 100% joint and survivor form of payment.
Delayed Retirement Factors	Inactive vested participants who are assumed to commence receipt of benefits after attaining normal retirement age qualify for delayed retirement increases.

Net Investment Return	7.50% The net investment return assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment. As part of the analysis, a building block approach was used that reflects inflation expectations and anticipated risk premiums for each of the portfolio's asset classes as provided by Segal Rogerscasey, as well as the Plan's target asset allocation.
Annual Administrative Expenses	\$2,400,000, payable monthly, for the year beginning January 1, 2016 (equivalent to \$2,308,300 payable at the beginning of the year). This equivalent to a 153.9% load on the normal cost as of January 1, 2016. The annual administrative expenses were based on historical and current data, adjusted to reflect estimate future experience and professional judgment.
Actuarial Value of Assets	The market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the projected return on the actuarial value, and is recognized over a five-year period. The actuarial value is further adjusted, if necessary, to be within 20% of the market value.
Actuarial Cost Method	Entry Age Normal Actuarial Cost Method. Entry Age is the age at date of employment or, if date is unknown, current age minus years of service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by service, with Normal Cost determined as if the current benefit accrual rate had always been in effect.
Benefits Valued	Unless otherwise indicated, includes all benefits summarized in <i>Exhibit 8</i> .
Current Liability Assumptions	<i>Interest:</i> 3.28%, within the permissible range prescribed under IRC Section 431(c)(6)(E) <i>Mortality:</i> Mortality prescribed under IRS Regulations 1.431(c)(6)-1 and 1.430(h)(3)-1: RP-2000 tables projected forward to the valuation year plus seven years for annuitants and 15 years for nonannuitants
Justification for Change in Actuarial Assumptions (Schedule MB, line 11)	For purposes of determining current liability, the current liability interest rate was changed from 3.64% to 3.51% due to a change in the permissible range and recognizing that any rate within the permissible range satisfies the requirements of IRC Section 413(c)(6)(E) and the mortality tables were changed in accordance with IRS Regulations 1.431(c)(6)-1 and 1.430(h)(3)-1. Based on past experience and future expectations, the following actuarial assumptions were changed as of December 31, 2015: <ul style="list-style-type: none"> • Percent married, previously 70%. • Benefit election, previously 100% electing the life form of payment.
Estimated Rate of Investment Return	<i>On actuarial value of assets (Schedule MB, line 6g):</i> 7.1%, for the Plan Year ending December 31, 2015 <i>On current (market) value of assets (Schedule MB, line 6h):</i> 0.0%, for the Plan Year ending December 31, 2015
FSA Contribution Timing (Schedule MB, line 3a)	Unless otherwise noted, contributions are paid periodically throughout the year pursuant to collective bargaining agreements. The interest credited in the FSA is therefore assumed to be equivalent to a July 15 contribution date.

EXHIBIT 7 - SCHEDULE OF PROJECTION OF EXPECTED BENEFIT PAYMENTS
 (SCHEDULE MB, LINE 8b(1))

Plan Year	Expected Annual Benefit Payments
2016	\$87,249,575
2017	86,880,257
2018	86,454,835
2019	86,017,421
2020	85,950,646
2021	85,733,793
2022	85,531,374
2023	84,962,894
2024	84,203,525
2025	83,436,627

EXHIBIT 8 - SCHEDULE OF ACTIVE PARTICIPANT DATA
(SCHEDULE MB, LINE 8b(2))

The participant data is for the year ended December 31, 2015.

Age	Years of Service										
	Total	Under 1	1-4	5-9	10-14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Under 25	157	24	126	7	–	–	–	–	–	–	–
25 - 29	225	24	149	47	5	–	–	–	–	–	–
30 - 34	212	19	96	52	45	–	–	–	–	–	–
35 - 39	224	12	95	52	40	25	–	–	–	–	–
40 - 44	314	18	97	60	65	55	16	3	–	–	–
45 - 49	311	13	78	56	60	58	17	23	6	–	–
50 - 54	415	16	91	68	75	64	26	40	27	8	–
55 - 59	526	6	93	72	58	61	23	50	41	84	38
60 - 64	372	2	43	47	63	43	21	27	23	37	66
65 - 69	110	–	18	11	23	16	3	5	10	4	20
70 & over	21	1	12	4	2	1	–	–	–	1	–
Unknown	72	6	54	10	2	–	–	–	–	–	–
Total	2,959	141	952	486	438	323	106	148	107	134	124

EXHIBIT 9 - FUNDING STANDARD ACCOUNT

The table below presents the FSA for the Plan Year ending December 31, 2016.

Charges		Credits	
1 Prior year funding deficiency	\$45,704,968	6 Prior year credit balance	\$0
2 Normal cost, including administrative expenses	3,807,962	7 Amortization credits	32,293,460
3 Amortization charges	67,695,853	8 Interest on 6 and 7	2,422,010
4 Interest on 1, 2 and 3	8,790,659	9 Full-funding limitation credit	0
5 Total charges	\$125,999,442	10 Total credits	\$34,715,470
Minimum contribution with interest required to avoid a funding deficiency: 5 - 10 , not less than zero			\$91,283,972

Full Funding Limitation (FFL) and Credits	
ERISA FFL (accrued liability FFL)	\$361,968,166
RPA'94 override (90% current liability FFL)	641,264,156
FFL credit	0

EXHIBIT 9 - FUNDING STANDARD ACCOUNT (CONTINUED)**Schedule of FSA Bases (Charges) (Schedule MB, Line 9c)**

Type of Base	Date Established	Amortization Amount	Years Remaining	Outstanding Balance
Combined base	01/01/2006	\$20,092,014	5.66	\$96,742,688
Plan amendment	01/01/2007	50,505	21	565,373
Change in assumptions	01/01/2007	1,954,892	21	21,884,023
Plan amendment	01/01/2008	97,170	7	553,273
Plan amendment	01/01/2009	35,498	8	223,514
Actuarial loss	01/01/2009	22,049,368	8	138,836,082
Actuarial loss	01/01/2011	3,644,566	10	26,892,843
Plan amendment	01/01/2012	27,565	11	216,775
Change in assumptions	01/01/2012	2,909,759	11	22,882,581
Actuarial loss	01/01/2012	6,847,611	11	53,850,169
Plan amendment	01/01/2013	29,430	12	244,725
Actuarial loss	01/01/2013	5,500,490	12	45,738,910
Plan amendment	01/01/2014	17,947	13	156,774
Change in assumptions	01/01/2015	4,439,038	14	40,509,954
Total		\$67,695,853		\$449,297,684

EXHIBIT 9 - FUNDING STANDARD ACCOUNT (CONTINUED)

Schedule of FSA Bases (Credits) (Schedule MB, Line 9h)

Type of Base	Date Established	Amortization Amount	Years Remaining	Outstanding Balance
Actuarial gain	01/01/2007	\$517,707	6	\$2,612,292
Change in asset method	01/01/2007	9,653,654	1	9,653,654
Actuarial gain	01/01/2008	77,772	7	442,819
Plan amendment	05/01/2009	4,483,755	8.33	29,090,719
Plan amendment	01/01/2010	14,658	9	100,516
Actuarial gain	01/01/2010	5,535,098	9	37,955,844
Plan amendment	01/01/2011	3,745,980	10	27,641,166
Actuarial gain	01/01/2014	4,195,611	13	36,649,826
Actuarial gain	01/01/2015	2,483,761	14	22,666,408
Plan amendment	01/01/2016	42,171	15	400,164
Actuarial gain	01/01/2016	628,458	15	5,963,539
Change in assumptions	01/01/2016	914,835	15	8,681,008
Total		\$32,293,460		\$181,857,955

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