QUESTAR

Memorandum

To: Employee Benefits Committee
From: Tony Ivins
Subject: 2016 Retiree Benefit Plans Valuation Assumptions
Date: January 12, 2016

Your approval of proposed 2016 assumptions for long-term return on assets and the present value factor for discounting future benefit liabilities is requested.

RECOMMENDATION:

Long-term return on assets:	**7.00%**	(unchanged)
Pension liability discount rate:	**4.50%**	(up from 4.10%)
SERP liability discount rate:	**3.10%**	(up from 2.90%)
Post-retirement medical plan:	**4.30%**	(up from 4.00%)
Long-term disability:	**3.00%**	(up from 2.80%)

JUSTIFICATION:

Historical return on assets - Questar's historical annual returns on pension assets are listed below *(Source: Wilshire Investment Performance Analysis 11/30/2015)*:

Year	Return	Year	Return
2015E	-0.4%	2010	14.4%
2014	6.4%	2009	25.8%
2013	14.8%	2008	-28.0%
2012	13.9%	2007	8.2%
2011	0.6%	2006	16.0%

The above rates result in a 5-year compound annual rate of return of 6.9% and a 10-year compound annual rate of return of 6.1% and were highly impacted by the severe volatility of returns experienced in recent years. Since Wilshire was retained in early 1987 and through the third-quarter of 2015 (~28 years) the fund's compound annual return has been 8.26%.

Forecast return on assets – JP Morgan Asset Management recently published its outlook for asset class returns over the long term. The table below reflects these asset class return assumptions combined with the retirement plan's asset allocation targets.

Asset class	Target Allocation	Expected Return	Weighted Return
US Large Cap	33%	7.00%	2.31%
Developed markets foreign equity	19%	7.75%	1.47%
Emerging markets foreign equity	5%	10.00%	0.50%
Domestic Fixed income	4%	4.25%	0.17%
Domestic fixed income long duration	18%	4.75%	0.85%
Domestic high yield fixed income	10%	6.75%	0.68%
Other (cash + inflation protection funds)[1]	11%	3.81%	0.42%
	100%		6.40%

Source: JP Morgan Asset Management Long-term Capital Market Return Assumptions (2016 Edition)

This 6.40% weighted return outlook compares to 5.97% estimated in JP Morgan's outlook one year ago.

[1] The return on the "Other" asset class is based on the average of forecast returns for REITs (6.00%), TIPS (2.75%), commodities (3.00%) and gold (3.50%) that are the typical investments in inflation protection funds.

Willis Towers Watson, the consulting actuary to the Questar Employee Benefits Committee, recently surveyed many of their US clients regarding return and discount rates to be used in 2016. According to preliminary survey results, the return on assets assumptions ranged from 4.05% to 9.0%, with an average of 6.98% and median of 7.00%.

Over time, Questar's planned "de-risking" of the retirement plan will gradually reduce target allocations to equity markets, likely resulting lower expected returns on pension assets. For 2015, we reduced our return assumption from 7.25% to 7.00%. **For 2016, we recommend maintaining the return assumption at 7.00%**.

Liability discount rate – Willis Towers Watson uses their RATE:Link discount rate yield curve analysis tool developed for use by clients in selecting a liability discount factor. RATE:Link calculates suggested discount rates based on a universe of AA-graded non-callable bonds as described in the attached *Report on RATE:Link Discount Rate Modeling Analysis for December 31, 2015 Year-End Disclosure*. In addition, Willis Towers Watson's client survey results indicated that their clients were using pension liability discount rates ranging from 3.48% to 5.00%, with an average discount rate of 4.40% and a median rate of 4.40%. Based on these rate indications and similar processes for the SERP and post-retirement medical plan, it is recommended that the 2015 year-end liability discount rates be changed to:

4.50% -- Retirement Plan (up from 4.10%)
3.10% -- SERP (up from 2.90%)
4.30% -- Post-retirement Medical Plan (up from 4.00%)
3.00% -- Long-term Disability (up from 2.80%)

In addition to the above analyses, Kevin Hadlock did his own informal survey of peer company CFOs. Of those who responded to this point, tentative 2016 asset return assumptions ranged from 5.8% to 7.5% and pension liability discount rates ranged from 4.0% to 4.6%. The recommended assumptions fit within those ranges.

Approved by Employee Benefits Committee:

Kevin W. Hadlock
Member
January 12, 2016

Ronald W. Jibson
Chairman
January 12, 2016