PUBLIC DOCUMENT
NON-PUBLIC DATA EXCISED

Direct Testimony and Schedules
Patrick L. Cutshall

Before the Minnesota Public Utilities Commission

State of Minnesota

In the Matter of the Application of Minnesota Power
For Authority to Increase Rates for Electric Utility
Service in Minnesota

Docket No. E015/GR-21-335

Exhibit ________

CAPITAL STRUCTURE, COST OF CAPITAL AND RETIREMENT PLAN ACCOUNTING

November 1, 2021

TABLE OF CONTENTS

Page

I. INTRODUCTION AND QUALIFICATIONS 1

II. ALLETE CORPORATE STRUCTURE 6

III. MINNESOTA POWER'S FINANCIAL POSITION 8

- A. The Company's Current Financial Position 8
- B. Importance of Credit Ratings 11
- C. Determination of Credit Ratings and Risk 16
  - 1. Business Risk 17
  - 2. Financial Risk 24
  - 3. Company Credit Ratings 25
  - 4. Other Factors 27
- D. Recent Credit Actions 29
  - 1. Basis for Credit Actions Toward ALLETE 29
  - 2. Impacts on Access to and Cost of Capital 30
  - 3. Looking Forward 33

IV. RECOMMENDED TEST YEAR CAPITAL STRUCTURE 34

- A. Debt 36
- B. Common Equity 39

V. RETIREMENT PLAN ACCOUNTING 42

- A. Pension Accounting 42
  - 1. Pension Expense 46
  - 2. Pension – Accumulated Contributions in Excess of Net Periodic Benefit Cost 60
- B. Other Post-Employment Benefit Expense 84
  - 1. OPEB Expense 84
  - 2. OPEB – Accumulated Contributions in Excess of Net Periodic Benefit Cost 94

VI. CONCLUSION 99

I. INTRODUCTION AND QUALIFICATIONS

Q. Please state your name and business address.

A. I am Patrick L. Cutshall, and my business address is 30 West Superior Street, Duluth, Minnesota 55802.

Q. What is your present position with ALLETE, Inc.?

A. I am the Vice President and Corporate Treasurer of ALLETE, Inc.

Q. Please describe your educational background and work experience with ALLETE, Inc. and Minnesota Power.

A. I have 34 years of experience in finance. I earned a Bachelor's degree in accounting from the University of Minnesota Duluth in 1987 and have the professional designations of a CPA (Certified Public Accountant), which is currently inactive, and a CFA (Chartered Financial Analyst). I began my career at ALLETE in 1989 as an Accounting Analyst and became an Investment Analyst in my first year. I was promoted to the position of Retirement Fund Manager in 2003, to Director of Investments and Tax in 2014, and most recently to Vice President and Corporate Treasurer. Prior to my employment at ALLETE, I worked as a CPA for Ernst & Whinney, a predecessor to Ernst & Young LLP.

Q. What are your present duties as Vice President and Corporate Treasurer of ALLETE?

A. As Vice President and Corporate Treasurer, I am responsible for raising capital (including both debt and equity), banking and bank relationships, credit rating relationships, financial analysis, long-range financial forecasts, cash management, benefit plan investments, rates, and tax.

Q. What is the purpose of the testimony you are presenting on behalf of Minnesota Power?

A. My testimony will address the recommended capital structure and overall rate of return for Minnesota Power ("Minnesota Power" or the "Company"). I also address the

Company's proposals with respect to recovery of test year pension and other post-employment benefit ("OPEB") expense and provide support for the Company's request to include Minnesota Power's accumulated contributions in excess of net periodic benefit cost for the pension and OPEB in rate base.

Q. How is your testimony organized?

A. My testimony is organized as follows:

- In Section II, I describe ALLETE's corporate structure;
- In Section III, I describe Minnesota Power's financial position. This section will explain the credit ratings, risks facing Minnesota Power, and recent actions taken by the rating agencies;
- In Section IV, I discuss the recommended test year capital structure;
- In Section V, I discuss retirement plan accounting as it relates to pension and OPEB expense and contributions; and
- In Section VI, I provide my overall conclusions and recommendations.

My testimony provides support for the Minnesota Public Utilities Commission ("Commission") to establish an overall rate of return of 7.5133 percent. This is based on a recommended capital structure that consists of 53.8108 percent common equity and a 10.2500 percent return on equity ("ROE") as supported in the Direct Testimony of Company witness Ann E. Bulkley. The recommended capital structure and rate of return are needed to support and maintain adequate investment-grade corporate credit ratings and financial integrity necessary for Minnesota Power to continue to provide quality electric service. My recommendations are summarized below in Table 1.

Table 1. Recommended 2022 Test Year Capital Structure and Rate of Return

	Percentage	Cost	Weighted Cost
Long-Term Debt	46.1892 %	4.3250 %	1.9977 %
Common Equity	53.8108 %	10.2500 %	5.5156 %
Total	**100.0000 %**		**7.5133 %**

I also support Minnesota Power's forecasted 2022 test year (which will be updated for actuals at the December 31, 2021 measurement date) pension expense of $5,574,892 ALLETE ($3,588,541 Minnesota Power regulated ("MP regulated"); $3,190,618 Minnesota jurisdictional ("MN Jurisdictional")) and OPEB expense of negative $8,409,933 ALLETE (negative $6,173,505 MP regulated; negative $5,488,744 MN Jurisdictional), for an overall negative retirement benefit expense of $2,298,126.[1] This overall negative expense results in reduced customer rates (i.e., customers are paid) while retirees and employees receive benefits, which is not sustainable indefinitely. I explain why the Company believes it is reasonable to establish pension and OPEB expense based on our best estimate of current costs for the pension and OPEB plans (to be updated for actuals at the December 31, 2021 measurement date).

I also support the inclusion in rate base of the Company's 13-month average 2022 test year (updated for actuals at the December 31, 2021 measurement date) balance of the pension and OPEB accumulated contributions in excess of net periodic benefit costs (also known as prepaid pension/OPEB asset) of $71,464,800 (MN Jurisdictional) and $19,457,015 (MN Jurisdictional), respectively. This outcome is consistent with standard ratemaking treatment for other rate base items, provides fairness for the use of investor capital, supports critical credit ratings, and is warranted because the Company's levels of contributions are mandated as discussed further in my testimony.

Q. Are you sponsoring any exhibits in this proceeding?

A. Yes. I am sponsoring the following schedules to my Direct Testimony:

- MP Exhibit ___ (Cutshall), Direct Schedule 1: Moody's Investor Services ("Moody's") Rating Methodology Regulated Electric and Gas Utilities. (Jun. 23, 2017);
- MP Exhibit ___ (Cutshall), Direct Schedule 2: Moody's Credit Report on ALLETE, Inc. (Apr. 27, 2021);

[1] A summary of allocation factors used across the Company for purposes of calculating the Minnesota Jurisdictional totals is provided in Volume 3, Schedules B-16 to B-19 and C-13 to C-16.

- MP Exhibit ___ (Cutshall), Direct Schedule 3: Moody's Credit Report on ALLETE, Inc. (Feb. 8, 2018);
- MP Exhibit ___ (Cutshall), Direct Schedule 4: Moody's Credit Report on ALLETE, Inc. (Feb. 22, 2018);
- MP Exhibit ___ (Cutshall), Direct Schedule 5: Moody's Credit Report on ALLETE, Inc. (Mar. 26, 2019);
- MP Exhibit ___ (Cutshall), Direct Schedule 6: Standard & Poor's ("S&P") Corporation Key Credit Factors for the Regulated Utilities Industry (Nov. 19, 2013);
- MP Exhibit ___ (Cutshall), Direct Schedule 7: S&P's Credit Report on ALLETE, Inc. (Feb. 6, 2018);
- MP Exhibit ___ (Cutshall), Direct Schedule 8: S&P's Credit Report on ALLETE, Inc. (Apr. 22, 2020);
- MP Exhibit ___ (Cutshall), Direct Schedule 9: Prepaid Pension Roll Forward;
- MP Exhibit ___ (Cutshall), Direct Schedule 10: Mercer (US) Inc. ("Mercer") Standard Percentile Approach – Range of Net Portfolio Returns - Pension;
- MP Exhibit ___ (Cutshall), Direct Schedule 11: EEI Member Companies, Per Company's 2020 Annual Reports, Expected Return on Plan Assets;
- MP Exhibit ___ (Cutshall), Direct Schedule 12: EEI Pension and OPEB Survey 2020-2021 and Select Results;
- MP Exhibit ___ (Cutshall), Direct Schedule 13: Prepaid Pension Asset Working Capital Requirements;
- MP Exhibit ___ (Cutshall), Direct Schedule 14: Customer Benefits from Prepaid Pension Assets;
- MP Exhibit ___ (Cutshall), Direct Schedule 15: 2020 Mercer Actuarial Valuation Report – Qualified Retirement Plans;
- MP Exhibit ___ (Cutshall), Direct Schedule 16: Mercer Letter – Investment Earnings Impact on Pension Expense;
- MP Exhibit ___ (Cutshall), Direct Schedule 17: Prepaid OPEB Asset Working Capital Requirements;

- MP Exhibit ___ (Cutshall), Direct Schedule 18: Mercer Standard Percentile Approach – Range of Net Portfolio Returns - OPEB;
- MP Exhibit ___ (Cutshall), Direct Schedule 19: 2020 Mercer Actuarial Valuation Report – Postretirement Welfare Plans; and
- MP Exhibit ___ (Cutshall), Direct Schedule 20: 2020 Form 10-K Independent Auditor Report.

Q. Are there other schedules in the rate filing that support your testimony?

A. Yes. For General Rates, my testimony is supported by the rate of return and cost of capital exhibits in Volume 3, including:

- Direct Schedule D-1 – Rate of Return Cost of Capital Summary Schedule;
- Direct Schedule D-2 – Embedded Cost of Long-Term Debt; and
- Direct Schedule D-3 – Average Short-Term Securities.

Direct Schedule D-1, Rate of Return Cost of Capital Summary Schedule, shows the cost of each capital element (including ROE) capitalization amounts and ratios, weighted cost of each capital element, and overall rate of return. The actual cost is provided for the 2020 calendar year, and projected costs are provided for 2021 and the 2022 test year. Direct Schedule D-2, Embedded Cost of Long-Term Debt, shows the actual weighted cost of capital for all issuances of long-term debt for 2020 and as projected for 2021 and the 2022 test year. Direct Schedule D-3, Average Short-Term Securities, explains that Minnesota Power does not have any short-term debt in its capital structure.

For Interim Rates, my testimony is supported by the rate of return and cost of capital exhibits in Volume 1, including:

- Direct Schedule C-6 (IR) – Capital Structure and Rate of Return Calculations Comparison to Most Recent General Rate Case;
- Direct Schedule C-7 (IR) – Description of Changes to Capital Structure and Rate of Return Calculations Comparison to Most Recent General Rate Case;
- Direct Schedule D-6 (IR) – Capital Structure and Rate of Return Calculations Comparison to Most Recent (Actual) Fiscal Year; and

- Direct Schedule D-7 (IR) – Description of Changes to Capital Structure and Rate of Return Calculations Comparison to Most Recent (Actual) Fiscal Year.

In addition, my Direct Testimony is supported by the capital structure calculations in Volume 4, including Workpaper COC-1 – Minnesota Power Capital Structure Determination.

II. ALLETE CORPORATE STRUCTURE

Q. What is the purpose of this section of your testimony?

A. The purpose of this section of my testimony is to describe the corporate structure of ALLETE and how Minnesota Power fits into that structure.

Q. Please explain the significance of Minnesota Power to ALLETE.

A. Minnesota Power is an operating division of ALLETE and is ALLETE's dominant business by a significant margin, representing approximately 68 percent of ALLETE's capital.

Q. What are ALLETE's other investments, in addition to Minnesota Power?

A. ALLETE's other investments are organized into three segments: (1) other regulated operations; (2) ALLETE Clean Energy; and (3) corporate and other. ALLETE's regulated operations in addition to Minnesota Power are: American Transmission Company ("ATC") (approximately 8 percent ownership), an independent transmission company in Wisconsin; and Superior Water, Light & Power ("SWLP") — an electric, water, and gas utility in Wisconsin. ALLETE Clean Energy is a company that develops, acquires, and manages clean and renewable energy projects. The corporate and other segment includes the following: BNI Energy ("BNI"), whose primary business is a lignite coal mining operation in North Dakota that serves the Milton R. Young generating plant located at the mine site; ALLETE South Wind, an investment in the Nobles 2 wind project which commenced operation in late 2020; ALLETE Properties, a legacy Florida real estate investment; an investment in a utility-scale solar project; and South Shore Energy, an investment in the Nemadji Trail Energy Center.

Q. How does Minnesota Power's capital structure relate to that of ALLETE?

A. As an operating division of ALLETE, Minnesota Power has a capital structure that is derived from ALLETE's consolidated capital structure.[2] The ALLETE consolidated capital structure includes common equity and debt that finance all of ALLETE's business activities, including those of its subsidiary operations. The Minnesota Power capital structure, which is the capital structure used for ratemaking purposes, is calculated by starting with ALLETE's capital structure and then extracting the debt located at ALLETE's subsidiaries and ALLETE's equity and debt investments in those subsidiaries. Minority interest investments in subsidiary operations are also excluded when calculating the Minnesota Power capital structure. Capital structure calculations are included in Volume 4, Workpaper COC-1 – Minnesota Power Capital Structure Determination.

Q. You note that Minnesota Power is an operating division of ALLETE. Has ALLETE considered forming a holding company?

A. Yes, ALLETE has considered this structure in the past. The Company is still evaluating the potential implications of forming a holding company. Any such filing would be made outside of a rate proceeding.

Q. Is Minnesota Power proposing any changes to the methodology that was used to establish its capital structure in the Company's 2016 rate case filing?

A. No, the proposed 2022 test year capital structure is consistent with the methodology that was approved in the Company's 2016 rate case in Docket No. E015/GR-16-664 ("2016 Rate Case").

In addition, the Company requests that the capital structure in the current filing remain unchanged from the last approved amounts in the 2016 Rate Case. While the capital structure has been maintained near the allowed capital structure, there are slight

[2] ALLETE's capital structure is reflected in its 2020 Form 10-K filed with the U.S. Securities and Exchange Commission and included in this filing as Direct Schedule F-1 in Volume 3.

fluctuations in the ratios due to specific timing of debt and equity issuances and capital expenditures. For the test year, the Company is projected to carry an equity ratio that is slightly higher than what was approved in the last rate case but requests that the capital structure remain unchanged.

III. MINNESOTA POWER'S FINANCIAL POSITION

A. The Company's Current Financial Position

Q. What is the purpose of this section of your testimony?

A. This section of the testimony outlines the challenges that have faced Minnesota Power in recent years. Since the Company's 2016 Rate Case, ALLETE has experienced the following: a reduction in its credit rating from both Moody's and Standard & Poor's ("S&P"); seen the impacts of the Tax Cuts and Jobs Act; experienced customer load fluctuations, reductions, and loss; and weathered the economic impacts of the COVID-19 pandemic. I will outline the impacts of these challenges and what the Company has done to manage through this time period.

Q. Please summarize Minnesota Power's present authorized capital structure and rate of return.

A. In Minnesota Power's 2016 Rate Case, the Commission found that an equity ratio of 53.81 percent and a 9.25 percent ROE were appropriate, resulting in an overall rate of return of 7.06 percent. Since Minnesota Power's 2019 Rate Case was withdrawn prior to going through the entire rate case process, Minnesota Power's authorized capital structure and rate of return remained unchanged from the 2016 Rate Case.

Q. Please describe Minnesota Power's debt financing since the 2016 Rate Case.

A. Compared to the 2016 Rate Case, Minnesota Power's long-term debt portion of the capital structure has increased by $83.5 million, while the cost of long-term debt has decreased by 19 basis points due to the favorable pricing of long-term debt in recent years and in the projected test year. The recent low interest rate environment has been instrumental in the ability to raise low-cost debt at Minnesota Power. However, a positive regulatory framework and supportive credit rating will be needed moving forward to continue accessing low-cost capital for the benefit of customers.

Q. Has Minnesota Power maintained its approved equity ratio following its last rate proceeding?

A. Yes. Since the 2016 Rate Case, Minnesota Power's actual capital structure has been prudently managed close to the 2017 approved capital structure (equity to capital ratio of 53.81 percent) within a reasonable corridor of 52.79 percent to 53.75 percent. Table 2 below displays Minnesota Power's actual capital structure for 2017-2020 as well as the projected amounts for 2021 and 2022.

Table 2. Minnesota Power Capital Structure 2017-2022

	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Projected	2022 Projected	2022 Requested
Common Equity	$1,402,976	$1,358,634	$1,437,694	$1,495,252	$1,525,177	$1,547,493	
Short-term Debt	-	-	-	-	-	-	
Long-term Debt	1,207,237	1,214,784	1,256,126	1,294,465	1,329,560	1,312,084	
Total Capitalization	$2,610,213	$2,573,418	$2,693,820	$2,789,717	$2,854,737	$2,859,577	
Equity Ratio	*53.75%*	*52.79%*	*53.37%*	*53.60%*	*53.43%*	*54.12%*	*53.8108%*
Debt Ratio	*46.25 %*	*47.21%*	*46.63%*	*46.40%*	*46.57%*	*45.88%*	*46.1892%*

Q. Has Minnesota Power earned its allowed rate of return in recent years?

A. No. Minnesota Power's 2020 unadjusted MN Jurisdictional rate of return was 6.38 percent and the projected 2021 unadjusted MN Jurisdictional rate of return is 5.97 percent. These returns are materially below the authorized level due to incurred costs that were not included in rates as well as a loss of load compared to the sales forecast approved in the last rate case. These issues are expected to continue in the 2022 test year, while purchased power expenses are materially increasing due to the start of a long-term capacity purchase with Manitoba Hydro to deliver carbon-free hydropower.

Without rate relief, the Company's proposed 2022 test year MN Jurisdictional rate of return is projected to be only 3.86 percent.

Q. At what level have Moody's and S&P set the Company's credit ratings and outlook since the 2016 Rate Case?

A. As discussed in the next section of my testimony, after the 2016 rate case decision was announced on January 30, 2018, both Moody's and S&P revised ALLETE's credit ratings to a negative outlook. On February 8, 2018, Moody's issued a report (see MP Exhibit ___ (Cutshall), Direct Schedule 3) titled "*Minnesota Power's General Rate Case Outcome is Credit Negative*," then on February 20, 2018, ALLETE was placed on outlook negative by Moody's as explained in Moody's February 22, 2018 (MP Exhibit ___ (Cutshall), Direct Schedule 4), and subsequently downgraded ALLETE in March 2019 (see MP Exhibit ___ (Cutshall), Direct Schedule 5). On February 6, 2018, S&P revised ALLETE's rating to outlook negative (see MP Exhibit ___ (Cutshall), Direct Schedule 7) in their report titled, "*ALLETE Inc. Outlook Revised to Negative Following Rate Decision, Effects of Tax Reform; Ratings Affirmed*," and then subsequently downgraded ALLETE in April 2020 (see MP Exhibit ___ (Cutshall), Direct Schedule 8). The downgrades were attributed to several factors, including the outcome of the 2016 Rate Case, the enactment of the Tax Cuts and Jobs Act of 2017 ("TCJA"), and Minnesota Power's ongoing financial and business risk associated primarily with its unique load due to weaker economic conditions (both the dominance of large power customers and the types of industries those customers serve). Additionally, these risks are not offset by the ability to sell power in the Midcontinent Independent System Operator ("MISO") region due to low wholesale electricity prices. I discuss the impacts of these changes for the present and the future in the following section of my testimony.

Q. Why is Minnesota Power's financial position since the 2016 Rate Case relevant to this proceeding?

A. Minnesota Power's financial position is relevant to this proceeding because it speaks to the challenging conditions the Company has endured and why significant relief is needed to allow Minnesota Power to continue executing its Energy*Forward* strategy toward a carbon-free future. Without reasonable rate relief, the Company's financial metrics and overall financial integrity will continue to be challenged. Additionally, a supportive regulatory framework is instrumental to avoid a further decline to the Company's credit rating which would place ALLETE's S&P rating one notch above a "junk" rating and just one notch higher at Moody's. Moody's stated that ALLETE's prior rate case outcome was credit negative and pointed to a less supportive regulatory relationship between Minnesota Power and the Commission (see MP Exhibit ___ (Cutshall), Direct Schedule 2). If credit supportiveness from the Minnesota regulatory framework continues to decline, ALLETE could be downgraded further. As Minnesota Power continues to execute the energy policy of the State of Minnesota and reaches a critical point in its clean energy journey — leading in the delivery of 50 percent renewable energy to customers — the financial health of the Company is critical for further decarbonization of the electric system.

B. Importance of Credit Ratings

Q. Why are adequate investment grade credit ratings important?

A. Credit ratings by major credit rating agencies are the primary measure used by investors to evaluate the creditworthiness of companies and help debt investors differentiate between companies that are often competing for the same investment dollars. The credit ratings assigned by rating agencies indicate their opinions of a company's ability to meet its financial obligations. Rating agency opinions are considered valuable by potential investors because they represent independent, third-party assessments that are based upon a consistent approach to the evaluation of company risk over time. Ratings affect the number of potential investors and the cost of a company's debt and offer important insight into a company's investment risk in the past and future.

Because Minnesota Power is an operating division of ALLETE, ALLETE's credit ratings and access to low-cost capital on behalf of Minnesota Power directly impact the cost of capital incurred by Minnesota Power customers. The stronger the Company's credit ratings are, the greater the number of investors willing to consider investing in the Company's debt will be and the less the Company will need to pay in fees and interest in order to issue debt — providing benefits for customers. Investment-grade credit ratings are crucial because the cost of debt increases very rapidly — and the number of potential buyers decreases substantially — for those companies rated near the bottom of or below investment grade. Because the income available to common equity holders is subordinate to debt obligations, the weakening of a company's creditworthiness also increases the cost of equity.

In addition to the benefit of lower interest costs, which customers benefit from, many counterparties to Minnesota Power's contracts require ALLETE to have an investment credit rating or post-credit support such as letters of credit. If ALLETE were downgraded from its current levels, it would put ALLETE's rating at S&P's lowest investment grade rating and just one notch higher at Moody's — which is precariously close to a "junk" bond rating — leaving little room to avoid adverse outcomes. Thus, an investment grade rating avoids significant costs to customers by not having to post letters of credit or pursue other credit enhancements.

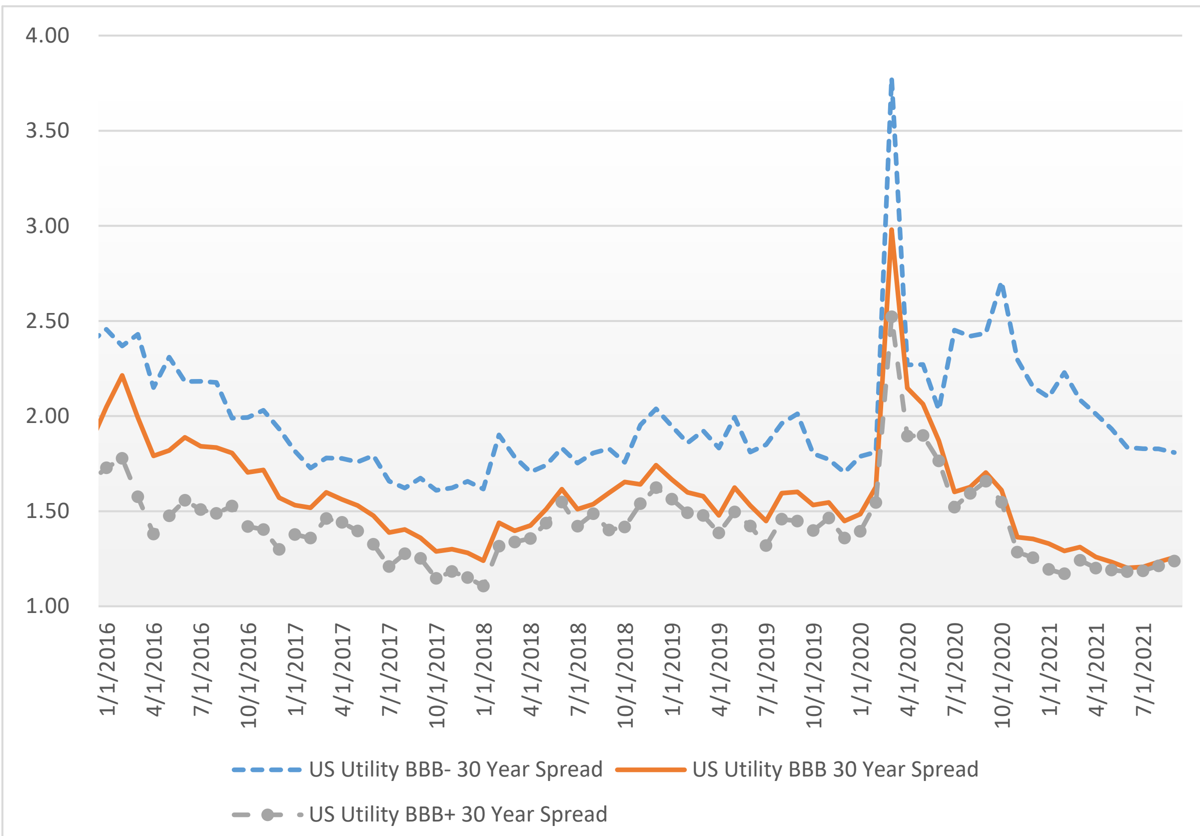
Q. Do Minnesota Power customers benefit if ALLETE has higher credit ratings?

A. Yes — the higher the credit rating, the lower the debt cost to the Company's customers. The contrary is also true — the lower the credit rating, the higher the cost to our customers. ALLETE's credit rating is also important to customers because it allows for the availability of capital to support utility projects, especially during economically challenging times. For example, the most recent market volatility during the COVID-19 pandemic increased credit spreads between BBB- rated utilities and BBB+ rated utilities by approximately 125 basis points in March 2020.[3] As Figure 1 below illustrates, credit spreads increase as credit ratings decline. While the impact of recent downgrades has been relatively minor on the overall cost of debt for Minnesota Power, the impacts will increase over time as more debt is issued at these lower ratings. Additionally, the impact of the recent credit rating downgrades has been partially

[3] Source: Per Bloomberg.

mitigated due to macroeconomic factors such as historically low interest rates, partially due to the economic impacts of COVID-19 and the resulting market volatility. As a result of the historically low interest rates, ALLETE has been fortunate to have access to relatively low cost of capital subsequent to the credit rating downgrades. However, the impacts can be much more severe if the Company's credit rating degrades further or during periods of economic distress.

Figure 1. Utility BBB-, BBB, BBB+ Credit Spreads



Q. How do economic conditions affect the Company in terms of credit ratings?

A. Credit ratings take on greater importance when economic conditions worsen and credit becomes more difficult to obtain. As credit availability tightens, investors become increasingly selective with respect to the companies in which they will invest. Therefore, lower credit ratings reduce access to capital markets and increase the expense of obtaining capital. Attracting competitively priced capital in unexpected economic conditions (such as the COVID-19 pandemic) is critical in order to provide reliable and safe utility service to the Company's customers at affordable rates.

Q. Can you provide examples of how the Company has been impacted by these economic conditions?

A. Due to its unique customer concentration, Minnesota Power is heavily impacted by downturns in the taconite and paper industries, which in turn can have an impact on its credit ratings because those industries represent such a large portion of Minnesota Power's revenue. In fact, revenue from industrial customers was approximately 62 percent of Minnesota Power total retail revenue in 2020.[4] The way such downturns can affect Minnesota Power was demonstrated in 2015 when the Company endured significant impacts as a result of an economic downturn. Taconite customer power nomination levels dropped to 80 percent of capacity in September 2015. In the second quarter of 2015, U.S. Steel Corporation temporarily idled its Minnesota ore operations at its Keewatin Taconite ("Keetac") plant in Keewatin, Minnesota and a portion of its Minnesota ore operations at its Minntac plant in Mountain Iron, Minnesota. In August 2015, Cliffs Natural Resources, Inc. temporarily idled its United Taconite plant in Eveleth, Minnesota. Magnetation, another Minnesota Power customer, idled its facilities in 2016 and later filed bankruptcy — resulting in a permanent 20-megawatt (MW) load reduction. In addition to these taconite reductions in 2015 and 2016, Blandin Paper announced in October 2017 that it would permanently shut down its Paper Machine #5 in Grand Rapids, Minnesota. Paper Machine #5 ceased operations on December 2017, which was approximately a 25 MW permanent reduction in load for Minnesota Power. More recently in April 2020, U.S. Steel Corporation stated it would idle its Keetac facility in response to the sudden and dramatic decline in business conditions resulting from the COVID-19 pandemic. In June 2020, Verso Corporation indefinitely idled its Duluth paper mill. While Verso Corporation sold the Duluth Mill in 2021, Keetac did resume production in December 2020. Both Keetac and Verso

---

[4] Based on Form FERC Form 1 for ALLETE, Inc. (2020).

represent combined revenue of approximately $30 million annually (net of associated expense savings such as fuel costs), and when both industrial customers idled operations in 2020, it was equivalent to the loss of Minnesota Power's entire residential customer class. These changes underscore the unique and ongoing business risks facing the Company, which are reflected in our credit ratings.

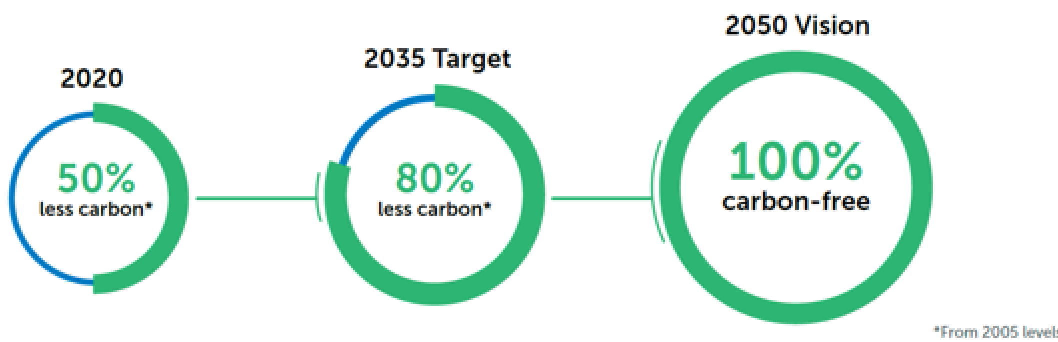
Q. Can you address why a sales true-up mechanism would be credit positive and help the Company during changes in economic conditions?

A. As discussed in the Direct Testimonies of Mr. Frank Frederickson and Ms. Jennifer Cady, Minnesota Power's proposed sales true-up mechanism would be a simple and fair method to align risks and benefits of large power operational volatility that occurs between rate cases. The true-up mechanism would allow future significant swings of $10 million or more in large power base revenues (net of any offsetting sales) to be either credited to customers (when revenues increase by beyond the baseline) or billed to customers (when revenues decrease beyond the baseline) in an annual rider on customer bills in the following year. The rider on customer bills would be a charge, a credit, or set at zero and would recover or refund any large swings beyond the operational base revenues established in the 2022 test year. The mechanism would allow Minnesota Power to stay out of future rate cases triggered by operational volatility of our largest customers. Because the sales true-up mechanism would mitigate one of the biggest risk factors identified by our rating agencies (industrial customer concentration), its approval by the Commission would support Minnesota Power's credit ratings and would more closely align Minnesota Power's risk profile with that of other utilities.

Q. Why are strong credit ratings important for the 2022 test year and beyond?

A. Attracting capital is important for Minnesota Power in 2022 and moving forward. Debtholders are selective in regards to which companies they will invest their capital. Favorable credit ratings and a sound regulatory environment will allow ALLETE to finance utility infrastructure and renewable projects with favorable terms and low-cost capital for customers. ALLETE will also need to refinance its existing maturing debt in 2022 and beyond. In addition, as outlined in its 2021 Integrated Resource Plan,[5] the Company anticipates continuing to invest in incremental carbon-free renewable generation and transmission lines due to the anticipated reduction in coal generation at Boswell and more reliance on renewable energy to meet Minnesota energy policy and societal goals and customer expectations, which will require financing. Finally, a strong credit rating for the 2022 test year would make the potential for a significant downgrade, including during future economic downturns, less likely. This will allow the Company to be in a position to finance needed capital additions in order to continue providing clean, safe, reliable, and affordable energy to its customers as part of the Company's clean-energy transformation displayed in Figure 2 below.

Figure 2. Minnesota Power's Clean Energy Transformation



C. Determination of Credit Ratings and Risk

Q. How does Minnesota Power's capital structure affect ALLETE's credit rating?

A. As mentioned, Minnesota Power's capital represents a majority of the ALLETE capital structure. Both Moody's and S&P focus on the quantitative and qualitative areas of a company which make up the financial and business risks. For financial risks, the rating agency ratios focus on cash flow, debt payback, and interest coverage, which are directly impacted by the amount of debt carried in the capital structure. A higher level of equity in the capital structure reduces the Company's risk and improves credit metrics. Consequently, Minnesota Power's capital structure and financial performance substantially dictate ALLETE's credit ratings and financial integrity.

[5] Docket No. E015/M-21-33.

Q. How is ALLETE's creditworthiness rated?

A. ALLETE is rated by both Moody's and S&P. Moody's and S&P divide issuer ratings into categories, ranging from Aaa/AAA reflecting the strongest credit quality, to "/" or "D", reflecting the lowest credit quality. The ratings are modified with a number (1, 2 or 3) for Moody's ratings or a symbol (+ or -) for S&P's ratings to describe the relative position in the credit rating category. For example, Moody's Baa category (comprised of Baa1, Baa2, and Baa3, ranked highest to lowest) aligns with S&P's BBB category (comprised of BBB+, BBB, and BBB-, ranked highest to lowest). A credit rating of Baa3/BBB- is the lowest rating to be considered investment grade; debt rated below Baa3/BBB- is considered non-investment grade or speculative grade (also known as junk grade). In determining ratings, credit rating agencies consider (i) business risk (including regulatory support, customer concentration, and size); (ii) financial risk; (iii) credit metrics; and (iv) other factors. I discuss each of these in turn, below.

1. <u>Business Risk</u>

Q. What is "business risk" in the context of credit ratings?

A. Business risk refers to the qualitative assessment used by the rating agencies, which include general risks such as country and industry risk. The rating agencies will then identify specific risks with a company. For Minnesota Power, customer concentration is the biggest and most unique business risk factor identified by both Moody's and S&P. The applicable regulatory framework, Minnesota Power's small size, service territory, and reduced price offsets in the MISO market further contribute to Minnesota Power's riskier business profile.

Q. When establishing a credit rating, what factors do the rating agencies consider from a business risk perspective?

A. According to Moody's June 23, 2017 rating methodology titled *Regulated Electric and Gas Utilities* (see MP Exhibit ___ (Cutshall), Direct Schedule 1), nearly 80 percent of the business risk is within the regulatory environment. Because utility rates are set in a regulatory process rather than a competitive process, in this report, Moody's highlights regulatory framework as a key determinant to the success of a company in the utility industry. In addition, Moody's examines the ability of a utility to recover its costs and earn an appropriate return because the regulatory environment affects the utility's ability to generate cash flow and repay its debt over time.

S&P explains in its November 19, 2013 rating methodology titled *Key Credit Factors for the Regulated Utilities Industry* that its business risk evaluation for utility companies considers country risks, industry risk, and a company's advantages and disadvantages within its markets or its competitive position (see MP Exhibit ___ (Cutshall), Direct Schedule 6). Within its evaluation of competitive position, S&P places 60 percent of its weighting on competitive advantage measured by the utility's regulatory advantage or "regulatory framework."

Q. How does the "regulatory framework" affect perceptions of Minnesota Power's creditworthiness?

A. The regulatory framework is critically important to perceptions of Minnesota Power's creditworthiness as it defines the environment in which a utility operates and has a significant bearing on a utility's financial performance according to Moody's June 23, 2017 rating methodology titled *Regulated Electric and Gas Utilities* (see MP Exhibit ___ (Cutshall), Direct Schedule 1). Decisions made within the regulatory environment are critical to protect the Company's credit quality, its ability to recover its costs, and to earn a fair and reasonable return. The rating agencies place a high value on stability, predictability, consistency, and transparency in regulation.

Q. Does ALLETE's business risk profile reflect unique characteristics of Minnesota Power's business operations?

A. Yes. According to Moody's 2021 credit report (MP Exhibit ___ (Cutshall), Direct Schedule 2), ALLETE's exposure to industrial customers is substantial, representing roughly 50 percent of annual sales volume in most years — the highest within the Moody's U.S. regulated utility universe. The Company's industrial customers consist of operating margin sensitive businesses such as iron pellet and taconite producers

(69 percent of industrial kilowatt-hours ("kWh") sold in 2020), paper, pulp and wood products companies (12 percent), and oil pipelines and other industrials (19 percent). All three industries face cyclical market conditions that are highly sensitive to the US steel industry. In addition, Moody's stated that the [credit] rating could come under downward pressure should there be a deterioration in U.S. macroeconomic conditions, resulting in lower industrial customer demand and a drop in sales that is not offset by off-system sales or other means.

Q. Can you provide more detail on the risks associated with Minnesota Power's customer concentration?

A. Yes. Minnesota Power's significant industrial customer concentration makes it unique compared to other utilities. Minnesota Power's revenue from industrial customers was approximately 62 percent and 64 percent of retail revenue in 2020 and 2019, respectively.[6] This compares to an industry average of 16 percent in 2019, making Minnesota Power's percentage of revenue from industrial customers among the highest of investor-owned utilities in the United States.[7]

In addition, Minnesota Power's retail customer mix is unique in that energy sales to large industrial customers make up approximately 72 percent of the Company's total retail energy sales, while sales to the residential customer class are only 13 percent of total retail energy sales.[8]

This industrial customer concentration is a factor that subjects Minnesota Power to substantial earnings volatility risk relative to its peers. Minnesota Power serves a service territory that includes a natural resource-based economy with economic success tied to the operations of a few large customers that function in highly competitive and cyclical industries: taconite processing, paper and wood products manufacturing, and oil pipelines. For example, the 2020 closure of Verso's Duluth paper mill, one of our

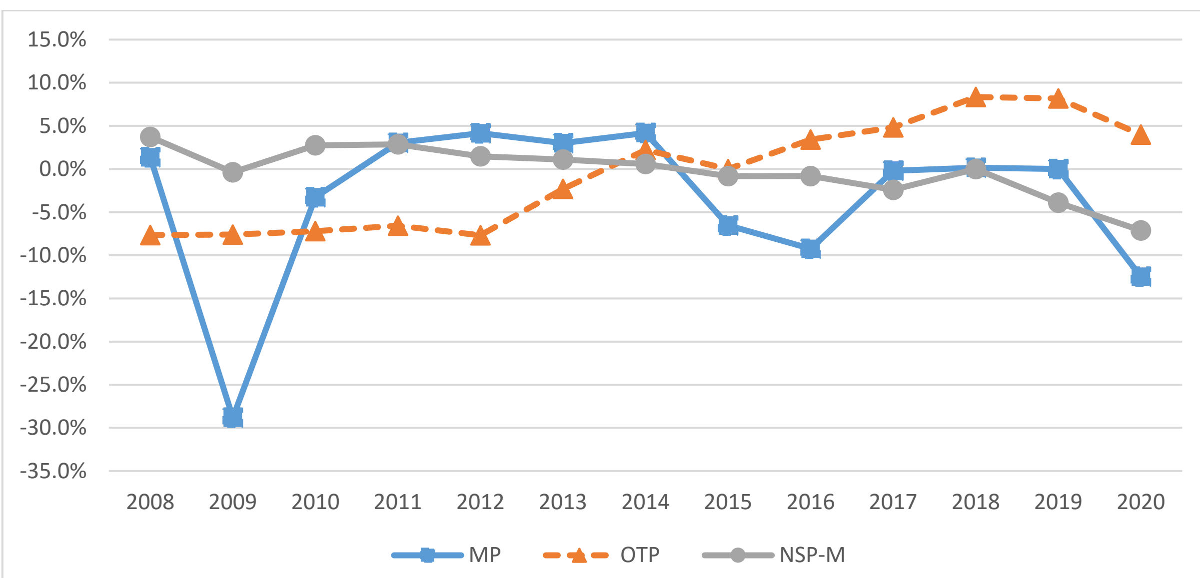
[6] Based on Form FERC Form 1 for ALLETE, Inc. (2019 and 2020).
[7] Based on Form EIA-861 Annual Electric Power Industry Report (2019).
[8] Based on Form FERC Form 1 for ALLETE, Inc. (2020).

smaller Large Industrial customers, represented about half of our residential sales. This is unlike the typical utility, which benefits from a stable base of mostly residential and commercial customers.

Q. Can you provide direct evidence of the uniqueness of the risk that Minnesota Power's customer concentration presents?

A. Yes. To illustrate the unique level of risk that Minnesota Power's load profile presents, we have compared Minnesota Power to two neighboring Minnesota electric utilities — Northern States Power Company ("NSP") and Otter Tail Power Company ("OTP"). These utilities face comparable levels of competition, operate in the same Minnesota regulatory environment, and are allowed the same cost recovery riders. Their load profile, however, is much different because they are not so heavily reliant on sales to a small number of large industrial customers who operate in the highly cyclical taconite and paper industries. Figure 3 below illustrates that Minnesota Power's sales volatility is significantly greater than similar utilities by comparing it to the relative stability of Minnesota's two other investor-owned utilities — OTP and NSP.

Figure 3. Change from Median MWh Sales to Ultimate Customers



Q. Does this customer concentration specifically distinguish Minnesota Power from other Minnesota investor-owned electric utilities?

A. Yes. Minnesota Power's industrial customer concentration is significantly higher than other Minnesota investor-owned electric utilities. As mentioned above, Minnesota Power's percentage of retail revenue from its industrial customers was 62 percent in 2020. This contrasts with the Minnesota operations at OTP and NSP, who saw retail revenue from industrial customers at 26 percent and 14 percent, respectively.[9]

Q. Has the Minnesota Public Utilities Commission previously recognized Minnesota Power's unique customer concentration and the associated variability in the Company's sales?

A. Yes. In the Company's 2016 Rate Case, the Commission noted the importance of setting just and reasonable rates and "assuring a fair and reasonable return" in light of Minnesota Power's "unique risk profile."[10] The Company had explained that it had unique business risks due to "its highly concentrated customer base, of which a significant percentage are industrial customers in highly cyclical industries."[11]

Also, in the Company's 2009 rate case, the Administrative Law Judge stated

> Minnesota Power's retail customer profile is unique among Minnesota's investor-owned utilities, in that its industrial customers use approximately two-thirds of the retail energy it supplies. It has twelve large power customers (taconite plants, paper mills, and pipelines) that account for 64% of the Company's retail revenues.[12]

The unique customer concentration issue remains today as Minnesota Power currently has seven active large power contracts with five customers (of which three are non-investment grade), providing electric service to six taconite producing facilities and three paper and pulp mills in northern Minnesota.

---

[9] Based on Form FERC Form 1 for Northern States Power–Minnesota and Otter Tail Power Company (2020).
[10] *In the Matter of the Application of Minn. Power for Auth. to Increase Rates for Elec. Serv. in Minn.*, Docket No. E015/GR-16-664, FINDINGS OF FACT, CONCLUSIONS, AND ORDER at 61 (Mar. 12, 2018).
[11] *Id.*
[12] *In the Matter of the Application of Minn. Power for Auth. To Increase Rates for Elec. Serv. in Minn.*, Docket No. E-015/GR-09-1151, FINDINGS OF FACT, CONCLUSIONS, AND RECOMMENDATION at 2-3 (Aug. 17, 2010).

Q. Does the MISO wholesale market offset the losses the Company has experienced — and will experience — when its industrial customers' sales decline?

A. Only partially.

Q. Please explain.

A. While the MISO market gives the Company a market into which power can be sold, the margins in this market are based on what can be achieved in the day-ahead or spot prices and not the Company's actual cost of service. MISO prices have continued to remain lower than historical levels. In fact, while Minnesota Power was able to recover 30 percent of lost net revenues through margins on bilateral sales in 2018, the Company was only able to recover 1 percent in 2020 as further explained in the Direct Testimony of Company witness Julie I. Pierce.

Q. How is this different from the risks facing any other utility operating in the MISO footprint?

A. Minnesota Power is heavily reliant on sales to a small number of large industrial customers who operate in cyclical taconite and paper industries. As a result, Minnesota Power's exposure to lose large industrial retail margins is significantly greater than other utilities in the MISO footprint. There are no other investor-owned utilities in the nation that have a customer load profile directly comparable to Minnesota Power's.

Q. Do the rating agencies also factor in the Company's size, service territory and access to the MISO market when they evaluate the Company?

A. Yes. Both Moody's and S&P evaluate the Company's size, service territory, and access to wholesale markets when determining ALLETE's credit rating. Moody's specifically notes in its 2017 *Regulated Electric and Gas Utilities* rating methodology that it looks at the population, size, and breadth of the service territory. Moody's further explains that an issuer with a small service territory that is highly dependent on one or two sectors, especially highly cyclical industries, will score lower on diversification, which increases its business risk (see MP Exhibit ___ (Cutshall), Direct Schedule 1).

Q. Overall, how do business risk factors translate into impacts to the Company's financial metrics and cost of or access to capital?

A. As a result of the business risk factors unique to Minnesota Power, credit rating agencies require the Company to have higher debt coverage ratios to support its credit rating. If Minnesota Power's ratios fall below its thresholds, the Company's credit rating will be downgraded. As a result, the weaker credit rating would ultimately increase costs for customers.

Q. Would a sales true-up mechanism positively affect ALLETE's credit rating?

A. Yes. A sales true-up mechanism would help reduce the lag from needing to file rate cases, which would allow the Company to recover costs and earn a fair and reasonable return in a timely fashion. We also base this on the fact that after the 2016 Rate Case outcome, Moody's stated in its February 8, 2018 report, that

> Another credit negative outcome of the rate case was the Commission's ruling against the adoption of an annual rate review mechanism (ARRM) which was intended to mitigate the impact of MP's industrial customers idling their plants. Unlike peer utilities in the state with more balanced mix of customers, MP's industrial customers account for about 50% of its annual sales volume, the highest industrial exposure within the Moody's US regulated utility universe…Although the ARRM is not part of MP's existing rate construct, its addition would have been a material credit positive and likely translated into more stability in the company's financial ratios.[13]

Q. Have other state agencies recognized that Minnesota Power is unique and riskier than other utilities?

A. Yes. For example, in response to Minnesota Power's 2020 petition seeking deferred accounting of extraordinary lost revenues caused by the idling of two industrial customers' plants as a result of the COVID-19 pandemic, the Office of the Attorney General ("OAG") recognized that the "indirect exposure to industrial markets increases

[13] *See* MP Exhibit ___ (Cutshall), Direct Schedule 3.

Minnesota Power's overall business risk[.]"[14] Additionally, the Department of Commerce Division of Energy Resources ("Department") noted that "it is not unusual for [Minnesota Power's] large industrial customers to experience periodic downturns," and "it is not unforeseeable that MP would be impacted by such a downturn because industrial customers account for 74 percent of sales."[15] Indeed, both the OAG and the Department argued against approval of deferred accounting in that matter because they assumed that the risks associated with Minnesota Power's high percentage of industrial customers that are subject to periodic economic downturns were well known and factored into the Company's approved rate of return.

Q. How do you recommend that the Commission factor these risks into its determinations in this proceeding?

A. Minnesota Power requires the ability to earn its authorized ROE and produce sufficient cash flow to support its credit rating. The recommended capital structure consisting of 53.81 percent common equity and a ROE supported by the Direct Testimony of Company witness Ms. Bulkley is the first step in allowing ALLETE to sustain its investment grade corporate credit rating and financial integrity to provide its customers with high-quality, safe, and reliable service at competitive rates.

2. Financial Risk

Q. What does the financial risk profile address?

A. Financial risk addresses the ability of a company to make scheduled payments of principal and interest on its financial obligations. To assess a company's ability to make these payments, the credit agencies evaluate certain financial ratios to determine whether the company will have sufficient levels of cash flow to cover its interest expense and repay the principal amount of its debt. Because it impacts the financial ratios, the credit rating agencies also evaluate the relative amounts of debt and equity in

[14] *In the Matter of Minnesota Power's Petition for Approval to Track and Defer Lost Large Industrial Customer Sales Resulting from the COVID-19 Pandemic*, Docket No. E-015/M-20-814, Comments of the Office of the Attorney General at 2-3 (Jan. 4, 2021).

[15] *In the Matter of Minnesota Power's Petition for Approval to Track and Defer Lost Large Industrial Customer Sales Resulting from the COVID-19 Pandemic*, Docket No. E-015/M-20-814, Comments of the Minnesota Department of Commerce, Division of Energy Resources at 1-2 (Jan. 4, 2021).

the company's capital structure to determine whether the company is appropriately capitalized given its business risk.

Q. What key financial metrics does Moody's consider in establishing a company's financial risk profile?

A. Moody's evaluates four key financial metrics in order to consider the company's financial risk profile. The four key ratios are listed below. S&P uses similar requirements and metrics to establish its financial risk profile.

(1) Cash Flow from Operations Before Changes in Working Capital (CFO Pre-Working Capital) to Debt;

(2) CFO Pre-Working Capital Plus Interest Expense to Interest;

(3) CFO Pre-Working Capital Minus Dividends to Debt; and

(4) Debt to Capitalization.

CFO Pre-Working Capital to Debt is the most heavily weighted sub-factor in Moody's assessment of the financial metrics. Based upon Moody's April 27, 2021 credit report, Moody's expects ALLETE's CFO Pre-Working Capital to Debt to remain at about 18 percent in 2021 but recover to 20 percent in 2022. A downgrade could result if CFO Pre-Working Capital to Debt remains below 19 percent beyond 2021 (see MP Exhibit ___ (Cutshall), Direct Schedule 2.

3. <u>Company Credit Ratings</u>

Q. Where do ALLETE's current credit ratings rank among investment grade credit ratings?

A. Table 3 below depicts the investment grade credit rating scales used by Moody's and S&P. ALLETE, with its downgrades by S&P on April 22, 2020 and Moody's on March 26, 2019, is currently rated BBB (outlook stable) by S&P and Baa1 (outlook stable) by Moody's. These ratings are only one to two notches above the lowest investment grade rating by each respective agency. For comparison, NSP is rated A-by S&P (outlook stable) and A2 by Moody's (outlook stable). In addition, OTP is rated BBB+ (outlook stable) by S&P and A3 by Moody's (outlook stable).

Table 3. Investment Grade Credit Ratings

	ALLETE's ratings are circled in red	
	Moody's	**S&P**
Higher	Aaa	AAA
	Aa1 / Aa2 / Aa3	AA+ / AA / AA-
	A1 / A2 / A3	A+ /A / A-
Lower	***Baa1*** / Baa2 / Baa3	*BBB+* / **BBB** / BBB-
	Anything below these ratings is considered non-investment grade/"junk"	

Q. Why is it important for ALLETE to maintain an adequate credit rating and not be downgraded further?

A. The closer ALLETE is to non-investment grade, the higher its cost of debt will be when it looks to issue debt for future regulated projects or to refinance maturing first mortgage bond debt. The cost of debt increases dramatically during times of financial distress. Minnesota Power intends to be strategically aligned and positioned to take advantage of low-cost financing by maintaining or raising its existing credit rating. In addition, if ALLETE were to fall below investment grade, additional costs, such as increases in fees for letters of credit, would be needed to support ALLETE's credit rating when entering into agreements (e.g., with MISO).

Q. Do ALLETE's subsidiaries (other than Minnesota Power as an operating division) impact its credit metrics?

A. Yes. ALLETE's subsidiaries help positively offset Minnesota Power's credit metrics. SWLP is rated Baa1 by Moody's pursuant to a downgrade on April 22, 2021. ATC (an investment by a subsidiary of ALLETE) is rated A2 by Moody's (two notches above ALLETE) and A+ by S&P (four notches above ALLETE). In addition, ALLETE's credit rating is determined by ALLETE's financial risk, business risk, and other factors (i.e., corporate governance, liquidity, and capital structure) for Moody's and S&P. Aside from SWLP and the ATC investment, Moody's and S&P do not assess a credit rating for individual subsidiaries under ALLETE because Minnesota Power is ALLETE's dominant business, representing approximately 68 percent of ALLETE's capital. ALLETE appropriately capitalizes its subsidiaries taking each subsidiary's risk and capital needs into consideration to achieve the desired capital structure, cash flow, and financial risk profile with consideration of Moody's and S&P's rating metrics.

4. <u>Other Factors</u>

Q. In your experience, does ALLETE compete with other companies for investor dollars?

A. Yes. A regulated utility must have the opportunity to earn a return that is competitive and will satisfy investor expectations. From an investor's perspective, the operating and credit risk associated with Minnesota Power's large amount of customer concentration is significant and requires a higher return.

Q. Why does this matter?

A. Investors are critical to the Company. ALLETE will have to refinance maturing first mortgage bonds and continue to invest in infrastructure to address reliability in its service territory. In addition, the Company will rely on investors for future capital investments, which will be needed to incorporate future renewable energy resources and support continued decarbonization efforts while providing safe and reliable utility service to its customers at a competitive rate.

Q. Do Moody's and S&P make adjustments for other items in determining credit ratings?

A. Yes. A company's balance sheet by itself does not provide the information necessary to determine the appropriateness of a company's capital structure. It is important to understand that credit ratings do not reflect unadjusted balance sheet capital structure ratios but rather financial ratios that include off-balance sheet debt obligations.

Consequently, ALLETE's balance sheet ratios are adjusted to reflect debt equivalents for off-balance sheet debt obligations.

Q. What are "debt equivalents" and "off-balance sheet debt obligations"?

A. In the determination of a company's credit rating, rating agencies consider the amount of debt and debt-like instruments (debt equivalents) that a company utilizes relative to the total capital employed by the company. These debt equivalents are either on- or off-balance sheet obligations that the rating agencies treat as debt. All else equal, a company's financial risk profile will increase — and its credit rating will face downward pressure — as a company increases the amount of leverage (debt and debt equivalents) used in its capitalization.

Q. Should debt equivalents be considered in determining the reasonableness of Minnesota Power's test year capital structure for ratemaking purposes?

A. Yes. Since credit ratings are driven by financial ratios that include debt equivalents for off-balance sheet obligations, the Company must consider these obligations in its capital structure decisions. Due to the debt equivalents associated with Minnesota Power's operations, in order to maintain its credit metrics and investment grade credit ratings, the Company is required to carry a higher level of common equity in its capital structure.

Q. What Minnesota Power "debt equivalents" and "off-balance sheet debt obligations" should the Commission consider?

A. Moody's and S&P financial ratios both include debt equivalents for pension obligations and leases. Additionally, S&P ratios include adjustments for purchased power agreements and asset retirement obligations. Each of these debt equivalents should be considered in the capital structure as they are a key part of Minnesota Power's ability to provide electrical service to customers in a safe, reliable, and affordable manner.

D. Recent Credit Actions

1. Basis for Credit Actions Toward ALLETE

Q. Earlier you noted that the Company's credit ratings have changed since the 2016 Rate Case. Did the credit rating agencies explain why these changes occurred?

A. Yes. As previously noted, Moody's placed ALLETE on negative outlook in February 2018 and then subsequently downgraded it in March 2019. S&P placed ALLETE on negative outlook in February 2018 and then subsequently downgraded it in April 2020. Moody's and S&P both provided explanations of their reasoning for these changes.

Q. Please explain why Moody's downgraded ALLETE.

A. Moody's reasoning was twofold. First, Moody's noted the adverse outcome of the 2016 Rate Case as the primary reason for the downgrade. The lower revenues from that ratemaking outcome — including a low ROE given the risks associated with Minnesota Power's profile combined with the disallowance of multiple core cost recovery items such as lost transmission revenues, certain distribution and generation operations and maintenance expenses, and $3 million of prepaid pension expenses — placed pressure on ALLETE's credit rating and ultimately led to a downgrade. Second, Moody's identified weaker debt coverage ratios in the future due to impacts from tax reform (the TCJA) and necessary continued capital investment in utility infrastructure going forward. However, Moody's most recent report, dated April 27, 2021, noted that an upgrade could occur if there is an improvement in the company's regulatory environment, including approval of a mechanism that would reduce its material exposure to industrial customers.

Q. Please explain why ALLETE was downgraded by S&P.

A. S&P explained its rationale in its Research Update, dated April 22, 2020, which is attached to my testimony as MP Exhibit ___ (Cutshall), Direct Schedule 8. S&P's reasoning was more cyclical commercial and industrial load. In addition, S&P expected the Company's credit measures would continue to be pressured by weaker economic conditions related to uncertainties around the COVID-19 pandemic.

Q. Is it easy to get upgraded after a downgrade occurs?

A. No, it is not an easy process to receive a credit upgrade after a downgrade occurs. The Company will have to achieve stronger financial ratios on a sustained basis before it can be considered for an upgrade. In fact, the risk of further downgrade stills exists if the Company does not meet anticipated rating agency expectations.

2. <u>Impacts on Access to and Cost of Capital</u>

Q. What are the impacts of the downgrades on the Company?

A. The impacts are all negative and take primarily two forms — reduced access to capital and a higher cost of capital.

Q. What is the estimated impact of the downgrades on the Company's access to capital?

A. The Company's access to capital has unmistakably suffered. In August 2018, ALLETE entered into a $100 million first mortgage bond private placement offering to be issued in March 2019. After pricing the first mortgage bonds in October 2018, U.S. Bancorp Investments and Wells Fargo Securities, LLC issued a Private Placement Transaction Review summarizing the strategy and results of the issuance. The marketing analysis included in this summary stated that while "many of the participating investors mentioned that the Moody's A1 first mortgage bond rating was helpful…the negative outlook caused some investors to look at A2 rated utilities as comps." They also noted one of the top reasons investors passed on the deal was because "investors viewed the recent rate case as lacking support from the regulatory and legislative bodies."[16]

This occurred in a strong financial market. These conditions would be exacerbated if the market was distressed as that can cause the cost to issue debt to increase substantially. In a financially distressed environment, investors will more stringently evaluate the Company's ability to meet its fixed obligations and to provide an acceptable return before committing their capital to the Company.

---

[16] U.S. Bancorp Investments and Wells Fargo Securities, LLC, Private Placement Transaction Review (Oct. 4, 2018).

Q. What are the impacts of the credit downgrade on the Company's cost of capital?

A. While a credit downgrade will not have a significant immediate impact on the debt cost, the impacts will materially increase over time. Based on Bloomberg data, the additional cost in terms of added credit spread paid by BBB- credit companies compared to BBB+ rated companies averaged 0.51 percent for the period January 2006 through September 2021. Credit spreads between BBB- and BBB+ rated companies were as high as 1.48 percent at one point during the 2008-2009 financial crisis. Recent market volatility during the COVID-19 pandemic increased credit spreads between BBB- rated utilities and BBB+ rated utilities by approximately 1.25 percent in March 2020.[17] Ultimately, a downgrade will also result in a higher cost of debt for Minnesota Power's customers, which will compound over time and will likely be magnified in financially distressed markets.

Finally, there is the uncertainty associated with the reduced attractiveness of ALLETE as an investment. As Minnesota Power looks to refinance its debt and issue new debt or letters of credit, the cost of debt and fees will likely be higher than it would have been otherwise. That uncertainty grows if and when the market becomes less stable, the Company's revenues shift downward with its large power customers, or other economic conditions deteriorate.

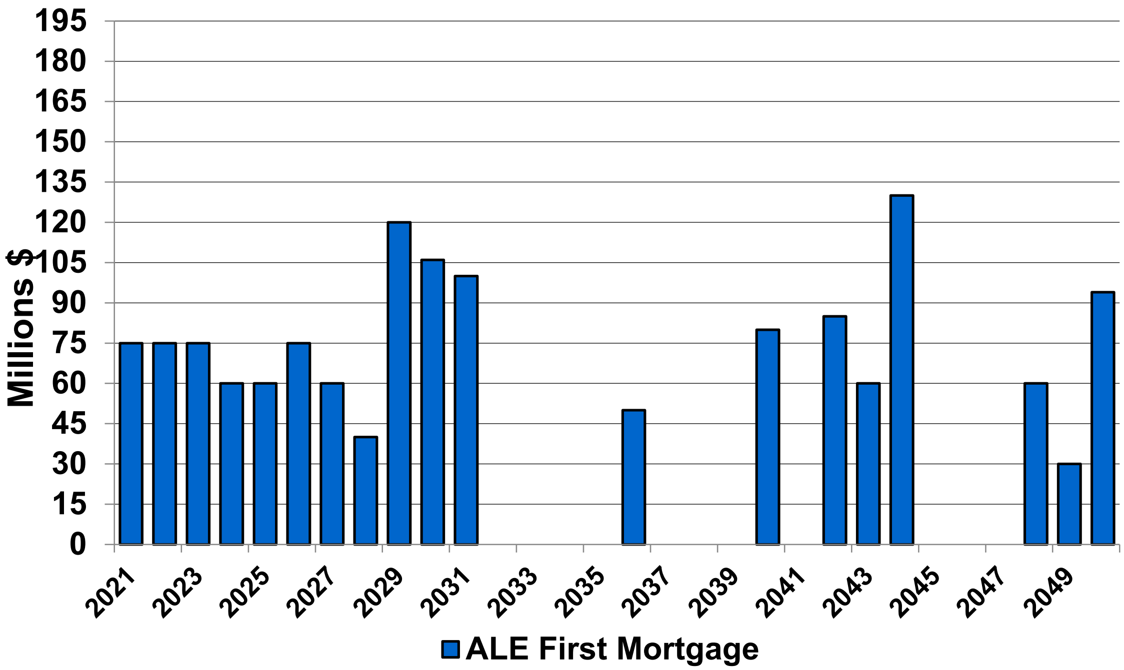
Q. How do these factor into future ALLETE debt or equity offerings?

A. ALLETE has a significant amount of first mortgage bond maturities in the next ten years (see Figure 4, below), making access to low-cost capital particularly important. First mortgage bonds are the main debt financing and support for Minnesota Power utility assets. As displayed in Figure 4 below, ALLETE will need to refinance first mortgage bonds every year through 2030 and likely longer as we refinance debt. Because Minnesota Power's operations will not generate sufficient cash flow to fund these requirements, the Company will need to secure additional capital from external sources. It is imperative that Minnesota Power receive a constructive rate case outcome and

[17] Source: Per Bloomberg.

maintain its credit rating in order to be well positioned to refinance the maturing first mortgage bonds.

Figure 4. Minnesota Power First Mortgage Bond Maturities



Q. Will the Company need external financing beyond refinancing its maturing debt?

A. Yes. Minnesota Power's capital investment plan includes investments to meet safety, environmental, regulatory, and system reliability objectives. Additional investments are planned for Minnesota Power's existing facilities to maintain and expand its system to address reliability as well as carbon reduction efforts. The Company also plans to invest in transmission opportunities that strengthen or enhance the transmission grid and take advantage of its geographical location between sources of renewable energy and end users. These include the investments to enhance the Company's own transmission facilities as well as investments in other transmission assets (either individually or in partnership with others).

Q. Will the Company have to finance future incremental renewable projects that are currently unknown?

A. Although specifics are not known at this time, the Company expects future investments will be needed due to changing renewable energy and carbon reduction expectations at both the state and federal levels. As technology advances and renewable pricing continues to become more competitive, the Company will evaluate its portfolio mix and customer costs. It is necessary that the Company remain in good financial standing in order to be able to finance investments needed for a cleaner and more resilient electric system as the Company works towards its vision for a 100 percent carbon-free future by 2050.

3. <u>Looking Forward</u>

Q. What is Minnesota Power hoping to achieve in this rate proceeding with respect to its financial metrics and credit ratings?

A. At a minimum, Minnesota Power needs to maintain its current credit rating. As discussed above, in order to achieve this, Minnesota Power must earn an appropriate ROE as supported in the testimony of Company witness Ms. Bulkley. In addition, Minnesota Power needs approval of its recommended 53.81 percent equity ratio, the ability to recover reasonable expenses, and approval of its recommended cost of capital.

Q. What regulatory support is needed in Minnesota for the Company to maintain its current credit rating?

A. Regulatory support is heavily weighted by Moody's when determining a utility's business risk profile. Moody's 2017 rating methodology, *Regulated Electric and Gas Utilities*, explains two factors that are instrumental in determining the credit rating of a company (see MP Exhibit ___ (Cutshall), Direct Schedule 1). The two factors include:

- Regulatory Framework; and
- Ability to Recover Costs and Earn Returns.

Moody's states, "[T]he Regulatory Framework is the foundation for how all the decisions that affect utilities are made (including the setting of rates), as well as the predictability and consistency of decision-making provided by that foundation. The

Ability to Recover Costs and Earn Returns relates more directly to the actual decisions, including their timeliness and the rate-setting outcomes."

S&P also states in its 2013 report, *Key Credit Factors for the Regulated Utilities Industry* (see MP Exhibit ___ (Cutshall), Direct Schedule 6), "We base our assessment of the regulatory framework's relative credit supportiveness on our view of how regulatory stability, efficiency or tariff setting procedures, financial stability, and regulatory independence protect a utility's credit quality and its ability to recover its costs and earn a timely return."

These reports and discussions with both Moody's and S&P confirm that regulatory support is critical for ALLETE. As previously noted, since the 2016 Rate Case, ALLETE has been downgraded by both credit rating agencies. Regulatory decisions that are perceived as unfavorable can increase the Company's business risk and put downward pressure on credit ratings. The regulatory framework is a critical factor in determining the credit risk of a utility because of the environment in which the utility operates and its influence on financial performance. If regulatory support is further jeopardized, Minnesota Power may be perceived as a weakened company, and Minnesota Power customers will ultimately pay for this perception through higher rates. Minnesota Power has worked diligently to execute the energy policy of the State of Minnesota — delivering its customers a power supply that is half renewable today. However, regulatory support as described above is critical for the Company to continue transitioning its system for a carbon-free future.

In the next section of my Direct Testimony, I address how these considerations should factor into the Company's overall 2022 test year capital structure.

IV. RECOMMENDED TEST YEAR CAPITAL STRUCTURE

Q. Please describe the components of Minnesota Power's capital structure.

A. Minnesota Power recommends a capital structure consisting of 53.81 percent common equity and 46.19 percent long-term debt, which Minnesota Power has maintained each year (within a small band of reasonable logistical variability) since the 2016 Rate Case. Minnesota Power's capital structures for 2020, the 2021 projected year, and the 2022 test year are shown in Direct Schedule D-1 in Volume 3. For 2020, Minnesota Power's 13-month average capital structure consisted of 53.60 percent common equity and 46.40 percent long-term debt. For the 2021 projected year, the average capital structure is expected to consist of 53.43 percent common equity and 46.57 percent long-term debt. These ratios do not reflect any off-balance sheet obligations that, for credit rating purposes, are viewed as the equivalent of debt.

Table 4 below summarizes Minnesota Power's capital structure, ROE, and overall rate of return for 2017 as authorized in the Company's 2016 Rate Case, 2020 actuals, 2021 projected year, and as requested for the 2022 test year.

Table 4. Minnesota Power Rate of Return

($000)	Authorized 2017 Retail Rate Case Test Year (E015/GR-16-664)	2020 Actual	2021 Projected Year	2022 Test Year Requested
Long-Term Debt	$1,228,550	$1,294,465	$1,329,560	$1,312,084
Common Equity	1,431,272	1,495,252	1,525,177	1,547,493
Total Capital	$2,659,822	$2,789,717	$2,854,737	$2,859,577
Return on Equity	9.2500%	8.0550%	7.3906%	10.2500%
Overall Rate of Return	7.0639%	6.3753%	5.9732%	7.5133%

Q. Why is this capital structure reasonable?

A. The Company's objective is to maintain adequate investment credit ratings in order to access needed capital at reasonable costs. This means, at a minimum, maintaining its credit ratings of Baa1 by Moody's and BBB by S&P; maintaining these ratings is critical for efficiently accessing capital markets and allowing Minnesota Power to pass on these lower capital costs to our customers. The Company's proposed capital structure is reasonable because it is what is currently being carried, it supports the Company's ability to achieve these important objectives in order to keep overall customer costs at reasonable levels, and it is consistent with what the Commission set in the last rate case.

A. Debt

Q. Please describe the composition of Minnesota Power's debt.

A. Debt attributable to Minnesota Power consists of first mortgage bonds. Minnesota Power does not carry any short-term debt.

Q. Why does Minnesota Power not carry short-term debt?

A. Due to Minnesota Power's risk as determined by rating agencies, using long-term, low-cost, fixed-rate debt better matches Minnesota Power's assets and liabilities. Not having short-term debt is prudent when considering that Minnesota Power's demand has a low seasonality effect compared to other utilities and the cyclical nature of the Company's large industrial customers. This is especially true during economic downturns when access to capital markets is restricted and the Company's financial metrics are challenged (even more so than other utilities due to the make-up of our customer mix), thus putting pressure on credit ratings. Additionally, short-term debt adds repricing risk and subjects the company to interest rate volatility. It also reduces the rating agencies' liquidity calculations for the Company because short-term debt matures every year, requiring additional financing. By issuing long-term debt, the Company has been able to lock in the current favorable rates for these particular issuances, similar to homeowners locking in fixed mortgages rather than subjecting themselves to fluctuations in interest rates in the market. This has been especially prudent in the current low interest rate environment of the last several years.

Q. Does ALLETE have other debt outstanding?

A. Yes, but all other debt held at ALLETE is allocated to or held directly at the subsidiary level. This debt is all unsecured and has no impact on Minnesota Power's capital structure.

Q. What determines which debt supports Minnesota Power and which debt supports the subsidiaries?

A. As described above, debt attributable to Minnesota Power consists of only first mortgage bonds. The first mortgage bonds are secured by all of Minnesota Power's utility assets, which keeps rates lower — all else being equal.

The ALLETE debt that supports subsidiaries consists of unsecured notes, floating rate term loans, and a floating rate tax-exempt bond issued by Collier County, Florida (supported by a letter of credit issued by Wells Fargo), which was originally issued for ALLETE's previously-owned Florida Water subsidiary. Minnesota Power assets do not secure any of the ALLETE debt used by the subsidiaries.

Q. Is it beneficial for Minnesota Power to issue first mortgage bonds?

A. Yes, first mortgage bonds are rated two notches above the unsecured credit rating by Moody's. The two notch upgrade provides the first mortgage bonds with a lower interest rate which directly reduces the Company's cost of debt and thus customer rates.

Q. What are the Company's objectives when issuing long-term debt?

A. The primary objectives of the Company's debt financing strategy are to minimize debt costs, maximize financing flexibility, minimize exposure to potential adverse market conditions in the future, maintain a strong liquidity profile, ensure only a small portion of debt matures in a given year, and maintain an adequate investment grade credit rating. Each of these objectives contributes to the overall goal of reducing credit costs and risk.

Q. What new debt is expected to be issued in 2022 for Minnesota Power?

A. Minnesota Power does not expect to issue any first mortgage bonds in 2022. Minnesota Power's projected long-term debt balance at the end of the 2022 test year is detailed in Direct Schedule D-2 and is expected to be $1,277.5 million, or 43.89 percent, of total ending capitalization. When calculated from a 13-month average, however, the balance is $1,312.1 million, or 45.88 percent, of total average capitalization. As discussed above, the Company is requesting that the capital structure remain unchanged from the

2016 Rate Case with a debt to capital ratio of 46.19 percent. This amount is shown in Direct Schedule D-1 and is used to calculate Minnesota Power's overall cost of capital. The weighted average cost of debt projected in the 2022 test year capital structure is 4.33 percent.

The precise size, timing, and tenor of debt issuances will depend on prevailing financial market conditions and trends as well as the timing of Minnesota Power's cash receipts and disbursements.

Q. Does ALLETE expect to issue any other debt in 2022?

A. ALLETE may issue unsecured debt in support of its subsidiary operations. The specific size, timing, and tenor of any unsecured debt issuances will be dependent on the needs of the subsidiaries. Since this debt will be issued for subsidiary use, it must not be included in calculations of Minnesota Power's cost of debt or as part of Minnesota Power's capital structure.

Q. Please summarize the embedded cost of the Company's long-term debt.

A. The cost of long-term debt shown in Direct Schedule D-2 — calculated from a 13-month average balance — is 4.43 percent for 2020, 4.35 percent projected for 2021, and 4.33 percent for the 2022 test year. These amounts are shown in Direct Schedule D-1 and are used to calculate the overall returns.

Q. Has the cost of debt changed since the last rate filing?

A. Yes. Minnesota Power's projected debt cost has decreased since the last rate filing. The previously approved cost of debt was 4.52 percent and is expected to be 4.33 percent for the 2022 test year. The current low interest rate environment has allowed Minnesota Power to lock in long-term debt at attractive rates.

B. <u>Common Equity</u>

Q. Please summarize the level of common equity in the Minnesota Power capital structure.

A. The projected common equity balance in Minnesota Power's capital structure at the end of the 2022 test year is expected to be $1,633.0 million, or 56.11 percent, of total ending capitalization. When calculated from a 13-month average, however, the balance is $1,547.5 million, or 54.12 percent, of average capitalization. As discussed above, the Company is requesting that the capital structure remain unchanged from the 2016 Rate Case with an equity to capital ratio of 53.81 percent. This amount is used to calculate the overall rate of return Minnesota Power is proposing in this case.[18]

Q. To determine Minnesota Power's capital structure, what amount of common equity in ALLETE's capital structure reflects investments in ALLETE subsidiaries?

A. In the 2022 test year, ALLETE's average equity investment balance in subsidiary activities is expected to be $955.7 million. The $955.7 million of equity is removed from the ALLETE capital structure to determine Minnesota Power's test year capital structure.

Q. Does the determination of Minnesota Power's common equity include any other adjustments to ALLETE's balance sheet?

A. Yes. Equity in Minnesota Power's capital structure includes an accounting entry recorded in ALLETE's "Accumulated Other Comprehensive Income" ("AOCI") for certain amounts associated with non-regulated operations' post-employment plans as required by the statements of financial accounting standards ("SFAS") 158 (Employers' Accounting for Defined Benefit Pension and Other Post-Employment Plans).

---

[18] *See* Volume 3, Direct Schedule D-1.

Q. Are these adjustments consistent with the adjustments made in previous rate filings?

A. Yes, the SFAS 158 adjustment is consistent with the capital structure approved in the Company's most recent rate order.

Q. Please explain the SFAS 158 post-employment plan balance sheet entry.

A. In September 2006, the Financial Accounting Standards Board ("FASB") issued SFAS 158. SFAS 158 requires employers to recognize certain costs associated with their defined benefit pension and other post-employment plans on their balance sheets. While SFAS 158 amounts for regulated operations are reflected as a long-term regulatory asset, amounts relating to non-regulated operations are recorded in AOCI in the Equity section of the balance sheet.

Q. Please explain why ALLETE's SFAS 158 post-employment plan entry is reversed in Minnesota Power's capital structure.

A. The SFAS 158 amounts recorded in ALLETE's AOCI are removed from Minnesota Power's capital structure because they relate only to non-regulated operations. For the 2022 test year, the projected non-regulated post-employment plan amount is $32.6 million.

Q. How much equity does ALLETE carry in its capitalization?

A. Minnesota Power is by far ALLETE's dominant business. Consequently, ALLETE's equity ratios are driven by Minnesota Power's capital structure. For the test year, ALLETE is expected to be capitalized with a projected equity ratio of 60.08 percent and Minnesota Power with a projected equity ratio of 54.12 percent.

Q. Does ALLETE expect to issue common stock in 2022?

A. Yes. As previously indicated, Minnesota Power has a need for additional external financing. To maintain a capital structure that will support adequate investment grade credit ratings and allow the Company to access needed capital at reasonable costs, ALLETE expects to issue both debt and equity capital.

Q. Please explain why the recommended capital structure for Minnesota Power for the 2022 test year is reasonable and appropriate.

A. The Company's objective is to maintain adequate investment-grade credit ratings in order to continue to access the capital it needs at reasonable terms and maintain its financial integrity. The ongoing capital expenditure requirements and debt maturities facing Minnesota Power make this objective both more difficult and more important. The Company's recommended test year capital structure produces an adjusted CFO Pre-Working Capital to Debt ratio within the expected range for ALLETE's current Moody's credit rating.

Q. Do you support the analysis and the rate of return on common equity of 10.25 percent presented by Company witness Ms. Bulkley?

A. Yes. Company witness Ms. Bulkley's conclusion of 10.25 percent is reasonable in today's economic environment, including the risks that are unique to Minnesota Power, and is representative of the range of equity investors' required rate of return for investment in integrated electric utilities in today's capital markets. The significance of the ROE increases in volatile markets because the level of earnings authorized by the Commission directly impacts the Company's ability to fund capital investment with internally generated funds.

Ms. Bulkley's recommended ROE considers the Company's unique risk profile — including its customer concentration, capital expenditure program, and debt maturities. With the Company required to access debt and equity markets for a substantial amount of capital, our ability to attract capital at reasonable returns to ensure continued safe and reliable electric service while maintaining the Company's financial integrity is crucial. Potential investors will evaluate the Company's ability to meet its fixed obligations and provide an acceptable return before committing their capital to the Company.

V. RETIREMENT PLAN ACCOUNTING

Q. What is the purpose of this section of your Direct Testimony?

A. In this section of my testimony, I explain how the Company's pension and OPEB expense amounts for the 2022 test year were derived. I note Company witness Laura E. Krollman's Direct Testimony provides background information on overall compensation, including how retirement plans fit into the Company's overall compensation management strategy. Therefore, this section focuses on pension and OPEB expense accounting and the resulting accumulated contributions in excess of net periodic benefit cost.

A. <u>Pension Accounting</u>

Q. How many qualified pension plans does ALLETE have?

A. Company witness Ms. Krollman discusses the Company's qualified pension plans and plan components in her Direct Testimony. In summary, for purposes of my testimony, ALLETE has two qualified pension plans — Plans B and C, collectively referred to as ALLETE's pension or pension plan — with the former Plan A rolled into Plan C in late 2018:

- Plan A – "non-bargaining plan": As a cost-savings measure, all benefits in Plan A were frozen effective November 30, 2018, and Plan A was merged into Plan C on December 31, 2018. Thus, Plan A no longer exists;
- Plan B – "bargaining plan" for active bargaining unit employees as of January 31, 2011; and
- Plan C – "inactive plan," for all non-bargaining participants, retired participants — including surviving spouses, and bargaining unit participants or retirees — including surviving spouses — who were no longer represented by the union contract as of December 31, 2015.

Q. How are the pension benefits paid to Minnesota Power employees funded?

A. They are funded in one of three primary ways:

- Market returns on contributions to the pension fund are used solely to reduce annual pension expense on a dollar-for-dollar basis;

- Annual pension expense — which includes benefits earned by participants each year (less market returns as described in the first bullet point) — is funded through rates, at least to the extent the Company's authorized recovery of pension expense matches its actual annual expense; or
- Company contributions funded by the investors are made to the pension and are determined separate and apart from the annual expense. When these cumulative contributions exceed cumulative expense, the Company has a prepaid asset or accumulated contributions in excess of net periodic benefit cost. When the cumulative expense exceeds cumulative contributions, the result is a liability.

Q. How are ALLETE's pension plan contributions and expense levels determined?

A. The amounts of the Company's (1) contributions to its pension plan and (2) annual pension expense are different because two different authorities govern them. Contributions to the pension plan are made to comply with the funding requirements of the Employee Retirement Income Security Act of 1974 ("ERISA") and the Internal Revenue Code ("IRC"), including the provisions of the Pension Protection Act of 2006 ("PPA"), which has been updated multiple times. The latest change was part of the American Rescue Plan Act of 2021, which became law in March 2021.

The pension expense is determined by Generally Accepted Accounting Principles ("GAAP") set forth by the FASB and accepted by the U.S. Securities and Exchange Commission ("SEC"). Minnesota Power's actuary, Mercer, calculates the Company's pension expense using actuarial analyses, which are performed in accordance with Financial Accounting Standards Codification ("ASC") 715-30 Defined Benefit Plans – Pension.

ASC 715-30 requires the pension expense for a given year to be determined on an annual basis, which is calculated by Mercer. In addition, the Company's independent auditor, PricewaterhouseCoopers, LLP ("PwC"), audits the actuarial assumptions used to ensure compliance with GAAP. PwC has always found the actuarial assumptions applied to be in accordance with GAAP.

Q. What are SFAS and ASC, and why are they important?

A. SFAS is the acronym for "statements of financial accounting standards." It is usually used with a number after it, which is the pronouncement number. These pronouncements were created by the FASB, which is the "independent, private-sector, not-for-profit organization . . . that establishes financial accounting and reporting standards for public and private companies and not-for-profit organizations that follow [GAAP]. The FASB is recognized by the [SEC] as the designated accounting standard setter for public companies."[19]

In September 2006, the FASB issued SFAS 158, which required employers to recognize on a prospective basis the funded status of their defined benefit pension and other postretirement plans on their consolidated balance sheet. SFAS 158 also required employers to recognize as a component of other comprehensive income, net of tax, the gains or losses and prior service costs or credits that arise during the period but that are not recognized as components of net periodic benefit cost. The pronouncement also required additional disclosures in the notes to financial statements.[20] SFAS 158 was effective for fiscal years ending after December 15, 2006.

In 2009, the FASB moved from a SFAS structure to the current ASC structure. This change did not fundamentally alter GAAP but did provide a new topical structure that was designed to make GAAP requirements easier to locate. SFAS 158 was re-codified as ASC 715 (Compensation—Retirement Benefits).

Q. How is the Minnesota Jurisdictional portion of pension expense and contributions derived from the ALLETE totals?

A. As described in more detail below, Minnesota Power's actuary, Mercer, calculates ALLETE's — as well as SWLP's — pension expense, contributions, accumulated contributions in excess of net periodic benefit cost, etc. using actuarial analyses. To

---

[19] *About the FASB*, FIN. ACCOUNTING STANDARDS BD., https://www.fasb.org/jsp/%20FASB/Page/SectionPage&cid=1176154526495 (last visited Aug. 14, 2019).

[20] *Summary of Statement No. 158*, FIN. ACCOUNTING STANDARDS BD., available at https://www.fasb.org/summary/stsum158.shtml.

determine the Minnesota jurisdictional amounts, we first start with the ALLETE total and subtract out subsidiaries (SWLP and ALLETE Clean Energy) to get to Minnesota Power's allocation. We then apply a regulated allocator to remove (1) the non-regulated Minnesota Power portion and (2) the capitalized amounts in order to arrive at MP regulated (also called "Total Company") pension expense/contributions. We then apply the Minnesota jurisdictional allocator to get to the amount we are requesting in this general rate case. Due to the new pension funding relief enacted as part of the American Rescue Plan Act of 2021, which included a longer amortization period from seven to fifteen years and extended interest rate smoothing, election of the funding relief lowers minimum contributions (because of lower liabilities and longer amortization periods). As a result, the Company does not expect to have any contribution requirements for 2022. The calculation for pension expense for the 2022 test year is provided below in Table 6.

Table 6. Allocation – Test Year 2022

	Expense
ALLETE	$5,574,892
Less: Subsidiaries	1,085,119
Minnesota Power	$4,489,773
x Regulated Allocator	79.9270%
MP Regulated	$3,588,541
MN Jurisdictional Allocator	88.9113%
MN Jurisdictional	**$3,190,618**

Q. Conversely, how are the subsidiary amounts determined for pension expense and contributions?

A. As mentioned above, Mercer calculates SWLP's pension expense, contributions, accumulated contributions in excess of net periodic benefit cost, etc. using actuarial analyses. Due to its small size, ALLETE's other subsidiary, ALLETE Clean Energy, is allocated expense based on its proportion of pension-eligible salaries to ALLETE's total pension eligible salaries. ALLETE Clean Energy makes contributions to the plan equal to its expense; therefore, ALLETE Clean Energy does not have an accumulated contributions in excess of net periodic benefit cost balance by definition.

1. Pension Expense

Q. What amount of pension expense is included in Minnesota Power's 2022 test year budget?

A. The 2022 pension expense is projected to be $5,574,892 for ALLETE ($3,588,541 MP regulated), which equates to $3,190,618 (MN Jurisdictional) pension expense in the 2022 test year. This is a reduction of $2,038,730 from the Minnesota jurisdictional amount included in the Company's last approved 2017 rate case test year. The Company recommends including the actual 2022 pension expense based on a December 31, 2021 measurement date (which will be known by the end of January 2022), which is the same approach approved in the 2016 Rate Case as discussed below.

Q. How was the Company's 2017 test year pension expense established in Minnesota Power's last approved rate case in 2018?

A. In the 2016 Rate Case, the Department recommended using Minnesota Power's actual 2017 pension expense based on a December 31, 2016 measurement date. The Commission agreed. After updating for the jurisdictional allocator changes in the proceeding, the actual pension expense amount included in rates was $5,229,348 (MN Jurisdictional).

Q. Can you provide more information about the Company's historical pension expense?

A. Yes. In MP Exhibit ___ (Cutshall), Direct Schedule 9, I have compiled a historical schedule of pertinent pension information — such as contributions, expense, and rate case recovery starting in 1987. Because the historical information available from our accounting and other systems is somewhat limited going back so far, the main source of this data is actuarial documentation reconciled to the general ledger. I believe this presents a reasonable and accurate view of the available information.

Q. Has the Company taken any steps in recent years to reduce its pension expense?

A. Yes. Below is a summary of the steps Minnesota Power has taken to reduce its pension expense. Company witness Ms. Krollman also discusses some of these changes in her Direct Testimony.

- Closed Plan A to new entrants – October 1, 2006;
- Closed Plan B to new entrants – February 1, 2011;
- Determined discount rate using Mercer Bond Model to support a higher discount rate, lowering liabilities and overall expense – 2014;
- Created Plan C – Effective January 1, 2016. The purpose of creating Plan C was to restructure Plan A and Plan B into a third plan (Plan C) for inactive participants in order to deliver benefits in a more cost-effective method. Plan C was established to place all participants not accruing benefits into one plan with the assets and liabilities associated with those accrued benefits. The benefits from creating Plan C were: (1) to create a plan that could, if so desired, be more easily annuitized when the opportunity arises — thus reducing risk to the Company; (2) to take advantage of accounting rules that allow a longer amortization period for unrealized losses within the pension calculation for plans covering only inactive participants; and (3) as to some participants who received benefits under both Plan A and Plan B, placing them into Plan C meant they were paid out of only one plan — reducing the Company's Pension Benefit Guarantee Corporation premiums. Accordingly, certain assets and liabilities were transferred from Plans A and B to Plan C with this change. Because no new Minnesota Power employees are eligible for pension benefits, this was just a shifting of participants from one plan to another plan. The 2022 estimated expense savings of this restructuring for ALLETE is approximately $5.3 million ($3.4 million MP regulated; $3.0 million MN Jurisdictional); and
- As part of the Company's cost control efforts following the 2016 Rate Case, ALLETE froze the final average earnings for all non-union pension plan participants effective November 30, 2018. This resulted in an estimated expense savings for ALLETE of approximately $1.0 million ($0.6 million MP regulated;

$0.6 million MN Jurisdictional) per year for at least the next five years. Since there were no more benefits accruing in Plan A, Plan A was merged into Plan C on December 31, 2018 — which created an additional expense savings per year for at least the next five years (due to Plan C having a longer amortization period than Plan A) of approximately $3.4 million for ALLETE ($2.2 million MP regulated; $1.9 million MN Jurisdictional).

Q. Generally speaking, what are the components of ALLETE's pension expense calculation?

A. ALLETE's pension expense is determined by calculating and aggregating five components:

1. Service Cost – The present value (using the discount rate as described below) of the projected retirement benefits earned by each employee in the current year;
2. Interest Cost – The amount that the present value (using the discount rate as described below) of future benefit payments is expected to increase during the year due to interest accrual over a one-year period. In other words, this is the expense incurred because employees are one year closer to receiving benefits;
3. Expected Return on Plan Assets – The amount expected to be earned on the plan's assets. It is estimated by multiplying the Expected Return on Assets ("EROA") by the five-year smoothed pension asset balance;
4. Amortization of Prior Service Cost – The cost of increased/(decreased) benefits that result from plan amendments, amortized over the remaining service life of the affected participants; and
5. Amortization of Net Gain or Loss – Gains or losses accumulated when the annual change in the benefit obligation or the plan assets deviate from expectations, e.g., the difference between the prior years' actual return on plan assets versus the prior years' Expected Return on Plan Assets. If these accumulated gains or losses exceed 10 percent of the greater of the benefit obligation or smoothed value of plan assets, the excess is amortized over a period of time based on participant demographics.

Q. What information did Mercer use to calculate the annual pension expense for the 2022 test year?

A. The primary pension assumptions used by Mercer to estimate the Company's 2022 pension expense are listed below:

- Discount rate of 3.24 percent: The discount rate is computed using the Mercer Bond Model, which creates a hypothetical portfolio of AA or better rated corporate bonds such that bond yields and principal payments would fully match the projected benefit payments from the pension plan. The discount rate is set equal to the yield on this hypothetical portfolio. This methodology is the most precise and yields the highest discount rate (lowest expense) allowed by the SEC;
- 2022 contributions of zero for ALLETE, which is the direct result of the American Rescue Plan Act of 2021, enacted March 11, 2021, discussed earlier in this section of the testimony; and
- EROA of 6.04 percent: The 6.04 percent rate is nearly at Mercer's highest supportable return (lowest expense) using Mercer's passive investment projections for ALLETE's pension asset allocation, which has an approximate fixed-asset allocation of approximately 50 percent. Mercer's net of fee mid- or 50th percentile projection for ALLETE's portfolio is 5.21 percent, but Mercer can support using returns that are in the 35th percentile (return of 4.27 percent) to 65th percentile (return 6.15 percent) range. (See MP Exhibit ___ (Cutshall), Direct Schedule 10).

Q. How do these assumptions compare to the 2017 test year that was the focus of the 2016 Rate Case?

A. The discount rate, 2022 contributions, and the EROA are all lower than in the 2017 test year. The discount rate is lower due to several factors, including the following: overall lower interest rates since the 2017 test year; required contributions are expected to be zero,[21] which is lower than in 2017; and the EROA is lower due to return expectations

---

[21] 2022 contributions are expected to be zero due to the pension funding relief as part of the American Rescue Plan Act of 2021, which was enacted in March 2021.

being generally lower than in 2017 and because the pension's asset allocation to fixed income has increased since 2017 due to the plan's investment policy of reducing risk as the plan becomes more fully funded (this is known as "Liability Driven Investing").

Q. Can you explain further why the Company's EROA is lower in the current rate case?

A. Yes. Per the investment policy's dynamic asset allocation glide path (discussed in more detail later in this testimony), as the plan becomes more fully funded, the Company prudently reduces risk by investing more in fixed income assets. By increasing investments in fixed income assets, investment risk is reduced (generally, fixed income investments are less risky than equity investments). A greater portion of the plan's interest rate risk that is inherent in a pension plan's liability is also hedged (as pension liabilities and long-duration high-quality corporate bonds experience similar changes when interest rates change). However, as the Company allocates more to the less risky fixed income assets, the plan's EROA also needs to be reduced.

Additionally, Mercer has indicated that because of the strong equity returns in recent years, future equity returns will be lower, so that returns over a longer period will be in line with its long-term equity return assumptions. Since Mercer expects interest rates to rise over time, the value of fixed income investments is expected to decline. This will also lower expected returns on fixed income assets in the short-term.

Q. Besides Mercer's return projection, was there other supportable evidence for the EROA for the plan?

A. Yes. As stated above, 6.04 percent is nearly the highest supportable return using Mercer's passive investment projection for ALLETE's approximate 50 percent asset allocation to fixed income. In addition, the Company retrieved pension data from all investor-owned electric utilities in the Edison Electric Institute ("EEI") through their 2020 annual reports (SEC required Form 10-K reports). We then created a schedule showing the electric utility companies' names, pension investment allocations to fixed income, and the EROA (see MP Exhibit ___ (Cutshall), Direct Schedule 11). The average pension return of 6.69 percent on Direct Schedule 11 materially agrees with the average pension return of 6.68 percent reported in the most recent EEI 2020-2021 Pension and Other Post-Employment Benefits Survey (see MP Exhibit ___ (Cutshall), Direct Schedule 12). As expected, both schedules show that pensions with higher investment allocations to fixed income as a whole have a lower EROA. This is because fixed income investments have less risk than equity investments and, therefore, have a lower expected return.

Based on Mercer's projections, a decrease in return expectations for a typical plan's asset allocation from 2020 to 2022 resulted in a 23 basis point reduction. Since other utility 2022 EROAs are not available from annual reports or EEI, we utilized Mercer's 23 basis point reduction in EROA and applied it to the 2020 EEI peer information to get each EEI utility companies' 2022 projected EROA. The projected 2022 EROA for a plan with a fixed income asset allocation of 50 percent (ALLETE's approximate asset allocation) would be 6.08 percent, versus ALLETE's EROA of 6.04 percent (the Company's 2022 expected EROA).

In addition, Figure 5 below is a scatter graph showing ALLETE's and the EEI utilities' pension plans' fixed income allocations compared to each company's plans' projected 2022 EROA . The scatter graph includes a best-fit trend line (using Microsoft Excel's TREND function) which visually shows the same relationship.

This function uses the "least squares" method to calculate a straight line that best fits the data. The equation for the line is:

$y = mx + b$

Where:

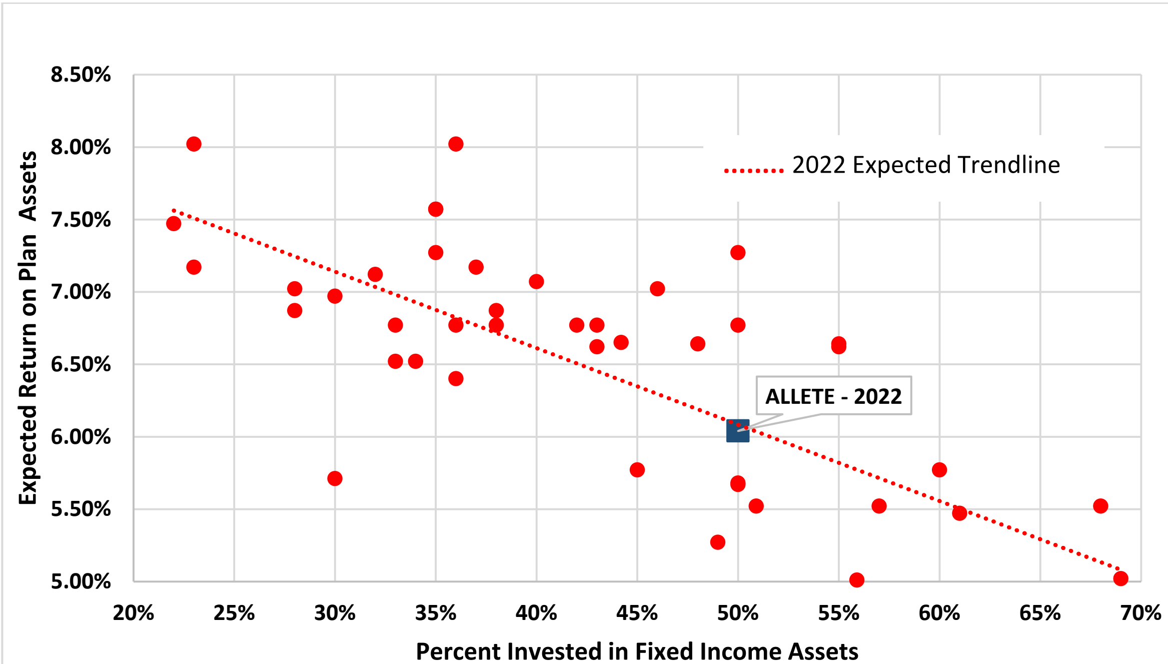
y = trend line return for a fixed asset allocation = 6.08 percent

m = the slope determined by Excel SLOPE function = -5.28 percent

x = percent a portfolio is allocated to fixed income = ALLETE portfolio ~ 50 percent

b = intercept determined by Excel INTERCEPT function = 8.72 percent

Figure 5. Pension Fixed Income Allocation vs. EROA – 2022



Q. What do you expect ALLETE's EROA would be using the trend line equation?

A. Figure 5 visually demonstrates ALLETE's 2022 expected EROA (the blue square) is for all material purposes what would be expected using the trend line of the average utility with the same allocation, so it is very consistent with the 2022 EROA trend line expectations.

Q. Why does the Company's plan have an approximate 50 percent allocation to fixed income?

A. Many people understand from their personal financial advisors for personal 401(k) investment allocations that one should reduce risk as retirement approaches by gradually switching to less risky, fixed-income-type investments from riskier equity-type investments. Aging investors nearing retirement have less opportunity or time to recover from a loss due to their shorter time horizon.

This scenario is no different for pension plans that "age." A pension plan that is open — meaning that new employees get pension benefits and participants accrue benefits — does not "age" significantly from year to year. However, once pension plans close and/or freeze benefits — as is the case for ALLETE's plan — such plans have similar risk aging characteristics and a shorter time horizon.

In November 2013, with the help of Mercer, ALLETE adopted an investment policy that reduces risk over time as the plan becomes more funded. The policy uses a dynamic asset allocation over time commonly referred to as an investment "glide path." In early 2021 — as requested by ALLETE — Mercer conducted an asset allocation study, which confirmed that the glide path being used was substantially appropriate. Minimal changes were implemented as a result of the updated study, including managing the plans' asset allocation and glide path separately.

Taking the increasing maturity of the plans into consideration, ALLETE has made a commitment to lowering the risk of the investment by gradually increasing allocation to fixed income. It does this by allocating a higher percentage of the portfolio's assets to fixed income assets as the plan achieves higher funded trigger levels. Thus, ALLETE's combined plans' approximate 50 percent allocation to fixed income is a result of ALLETE prudently adopting and following the investment policy glide path for the plans given the funded status of the pension plans and their frozen benefit status.

Q. Has ALLETE's plan reached any trigger points in recent years?

A. Yes. Due to contributions, robust equity markets, and an increase in interest rates, the plan attained two trigger points in the first quarter of 2018. The first trigger point was at the 85 percent funded level in January 2018; therefore, following the investment policy glide path, the plan's fixed income asset allocation was increased to approximately 45 percent. The second trigger point was initiated at the 90 percent funded level in February 2018, increasing the plan's fixed income asset allocation to approximately 60 percent. Since then — with the 2021 revised asset allocation study mentioned previously — where plans B and C are managed separately, the pension fund's fixed income allocation was reduced slightly to approximately 50 percent with the implementation of the new policy ranges.

Q. Are there other benefits of a pension owning fixed income investments?

A. Yes. Pension expenses and liabilities are directly and directionally sensitive to interest rate changes; however, both pension liability values and fixed income asset prices are inversely sensitive to interest rate movements (e.g., interest rates go down, causing fixed income asset prices to increase). Therefore, a pension that invests in more fixed income assets, all other things being equal, will hedge more of the interest rate risk inherent in a pension plan's liability, which provides an additional risk reducing benefit. As mentioned above, this characteristic of matching a pension's assets to its liabilities is called Liability Driven Investing, which is what ALLETE's pension policy is accomplishing over time. As the plan becomes more fully funded, the Company is transitioning its assets from return seeking to liability hedging.

Q. What is the benefit of Liability Driven Investing to investors?

A. Liability Driven Investing means the assets of a plan mimic the liabilities of the plan. It is impossible for a pension to have perfect Liability Driven Investing because all the future variables of the assets and liabilities, such as participants' life spans, cannot be predicted perfectly. However, for the five main pension expense components,[22] explained previously, fixed income investments when appropriately stratified by maturity — or in technical terms, duration — are the best investments to mimic the liabilities. This is because all five of the pension expense components are driven by interest rates, return on assets, or both — which are the same drivers of fixed income returns. Because of this, adjusting fixed income assets through Liability Driven Investing reduces expense volatility through matching interest cost and EROA while also mitigating risk of additional loss amortizations.

[22] 1) Service Cost, 2) Interest Cost, 3) Expected Return on Plan Assets, 4) Amortization of Prior Service Cost, 5) Amortization of Net Gain or Loss.

Q. What is the benefit of the EROA to customers?

A. When the Company makes contributions to the pension fund, those funds are assumed to earn the EROA — which is then incorporated into the revenue requirement to reduce the funds needed to cover annual pension expense. This is a direct benefit to customers, who cover the annual pension expense in rates. It is not a benefit to Company investors as they do not receive the benefits of the EROA and related Expected Return on Plan Assets and (presently) are not compensated for their cumulative contributions to the pension fund that exceed cumulative expense.

Q. Please provide an example of how the EROA and the related investment earnings reduce pension expense.

A. The earnings on the investments, referred to as the Expected Return on Plan Assets (created by the EROA) significantly reduce ALLETE's pension expense. For example, Table 7 below shows the components used to calculate ALLETE's 2020 pension expense (the last full year with audited numbers). As Table 7 demonstrates, the investment return or EROA reduces the 2020 pension expense by $42.7 million, or approximately 85 percent, of the plan's expense. If there was no reduction for the Expected Return on Plan Assets, 2020 pension expense would be $49.7 million rather than $7.0 million.

Table 7. Pension Expense Example ($'s in millions)

	2020 ALLETE Actual	2022 ALLETE Test Year	2022 MP Regulated Test Year	2022 MN Jurisdictional Test Year
Service cost	$ 10.7	$ 10.0	$ 6.5	$ 5.7
Interest cost	27.1	27.3	17.6	15.6
Amortization of loss	12.0	10.6	6.8	6.1
Amortization of prior service cost	(0.1)	(0.1)	(0.1)	(0.1)
Expected Return on Plan Assets	(42.7)	(42.2)	(27.2)	(24.2)
Pension Expense	**$ 7.0**	**$ 5.6**	**$ 3.6**	**$ 3.2**
Pension Expense If No EROA	$49.7	$47.8	$30.8	$27.4

Q. Earlier you mentioned the EROA is multiplied by a five-year smoothed pension asset balance. Why does the Company take this step to determine pension expense?

A. GAAP allows the use of certain smoothing techniques to "normalize" pension expense. Using a five-year smoothed pension asset balance reduces the volatility, or normalizes the pension expense, so that customers do not see such wide ranges of pension expense from year to year as they otherwise would. This is a benefit to customers.

Q. Does ALLETE take other steps to reduce pension expense volatility?

A. Yes. For purposes of calculating pension expense, the Company utilizes all smoothing methods allowed under pension accounting rules (ASC 715-30). Under these methods:

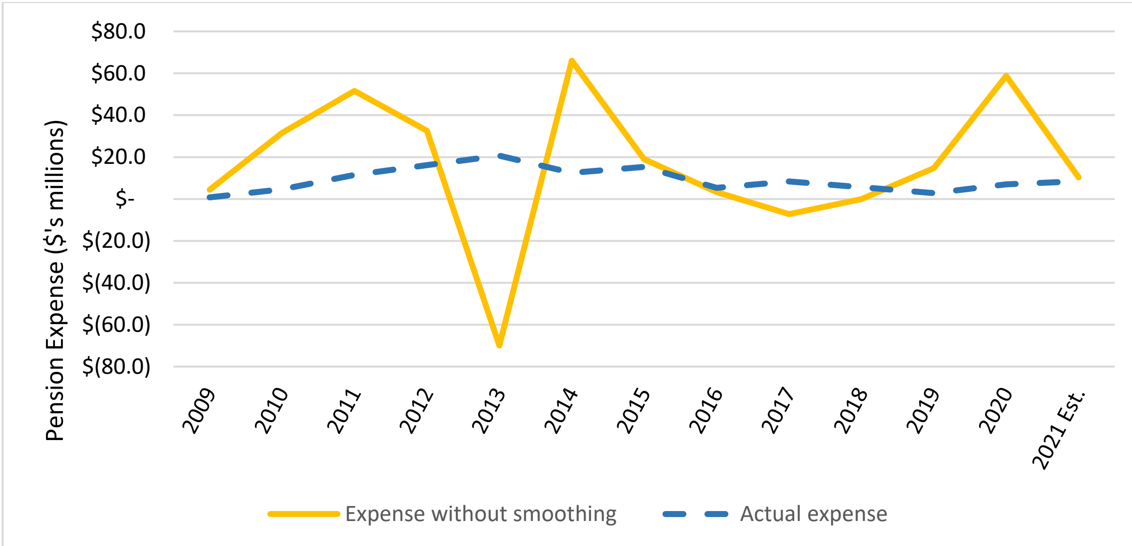
- ALLETE uses a market-related value of assets in calculating expense. This is the smoothed pension asset balance mentioned immediately above. The market-related value of assets phases in gains or losses over a five-year period, which reduces volatility by using a more stable asset value to determine the Expected Return on Plan Assets component of expense. The market-related value of assets also reduces volatility in the amortization of gains and losses, described below, because recent gains and losses are excluded from the amortization calculation to the extent they are not phased in;

- ALLETE amortizes accumulated gains and losses, excluding gains and losses not yet phased into the market-related value of assets, in the pension expense.
  - ALLETE uses a corridor to determine if gains and losses will be amortized in expense. The corridor is the greater of 10 percent of the plan's obligation or 10 percent of the plan's market-related value of assets. This is the maximum corridor allowed by the accounting rules and so provides the greatest possible reduction to volatility.
    - If accumulated gains and losses fall within the corridor, no gains and losses are amortized in expense.
    - If accumulated gains and losses exceed the corridor, only the excess is amortized over the average working lifetime of active participants or the average lifetime of all plan participants if there are no active participants accruing benefits in the plan; and
- Increases or decreases in plan liabilities resulting from plan amendments are amortized over the average working lifetime of the active participants affected by the plan amendment.

Q. What are the effects of the smoothing?

A. Appropriate smoothing has the benefit of reducing volatility and increasing predictability of the pension expense. The actual benefits of smoothing on ALLETE's pension expense over the last 12 years are shown vividly in Figure 6, where the actual expense (smoothed) — or blue dashed line — is relatively flat compared to the pension expense without smoothing (the orange solid line). This comparison demonstrates that over the last 12 years, ALLETE's actual pension expense (smoothed) range was less than $20 million ($0.8 million to $20.7 million); however, the range of pension expense without smoothing was almost seven times greater, with an approximate range of $136 million (negative $69.9 million to $66.0 million).

Figure 6. Historic Pension Expense – With and Without Smoothing



Q. Does Minnesota Power support using the actuarially determined pension expense for ratemaking purposes in this case?

A. Yes. As in past cases, Minnesota Power has consistently recommended using Mercer's actuarially determined pension expense to set rates because it is consistent, measurably accurate, and represents a specific test year cost of providing utility service. Conversely, if pension expenses are not determined consistently, "cherry picking" of other methodologies could occur — which could artificially increase or reduce the Company's pension expense recovery.

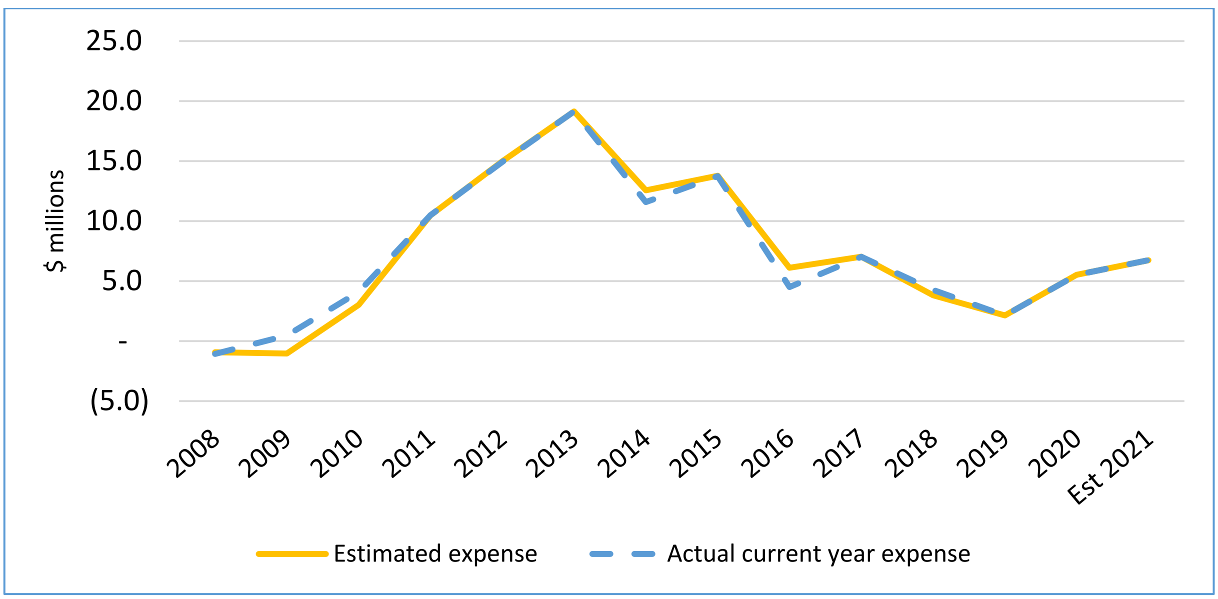
Q. Why do you believe using the actuarially determined estimated pension expense is the most accurate?

A. The actuarially determined method is the most accurate as it relies on third-party specific rules, methodologies, and expertise in this area and incorporates all of the most recent known and relevant information.

Q. Is there evidence that the actuarially determined pension expense is also the most accurate measure of actual Company expense?

A. Yes. We have statistically measured the actuarially determined pension expense estimate's correlation, or r-squared, to the next year's actual pension expense. The correlation is very high at 0.986 — close to being statistically perfectly correlated. An r-squared value is a statistical measurement that measures how the proportion of the variance of one number is attributable to another number. An r-squared value of 1 is perfectly correlated (or explains all of the variability), 0 is uncorrelated, and -1 is perfectly negatively correlated. The high correlation we measured is illustrated in Figure 7 below, where the two lines (yellow solid line being the estimated pension expense and blue dashed being the actual pension expense) are essentially on top of each other — indicating the actuarial estimate is an excellent predictor of actual expense over the last decade.

Figure 7. Minnesota Power Estimated vs. Actual Pension Expense



Q. Is there an alternative way to recover pension expense that is more accurate?

A. Yes. An alternative approach would be to institute a mechanism that adjusts rates annually for pension expense and the associated contributions. An annual true-up would be consistent with the Commission's past approval of true-ups in other Minnesota utility rate cases, related to other volatile costs, such as property taxes. Such an approach would represent the most accurate, timely, and direct recovery mechanism supporting the true cost of service. The Company would be amenable to such a mechanism to ensure there is neither under- nor over-recovery of pension expense in any given year.

Q. What do you conclude regarding the Company's pension expense included in Minnesota Power's 2022 test year?

A. Minnesota Power supports recovery of the Company's actual 2022 pension expense (the approach recommended by the Department in the 2016 Rate Case and used by the Company in previous rate cases), or an annual adjustment mechanism as set forth above. Over the years, the Company has consistently recommended and supported the determination of pension expense based on the Company's GAAP pension expense as determined by our actuary, including the current year's assumptions, which are presented herein. Also, as noted in Figure 7 above, actuarial estimates have been fairly close to actuals in past years; therefore, following the Department's recommendations from the 2016 Rate Case to use actuals would be reasonable. Using another method to calculate pension expense, or switching methods from rate case to rate case, has the strong potential to distort the forecasting methodology mandated by the SEC and GAAP to measure the cost of the plan, thereby precluding the Company from recovering its costs of providing retirement benefits to Company employees.

2. <u>Pension – Accumulated Contributions in Excess of Net Periodic Benefit Cost</u>

Q. What is the Company requesting with regard to its accumulated contributions in excess of net periodic benefit cost.

A. The Company requests that the thirteen-month average of its 2022 test year pension plan accumulated contributions in excess of net periodic benefit cost of $71,464,800 (MN Jurisdictional) (see MP Exhibit ___ (Cutshall), Direct Schedule 13) be included in the working capital section of rate base. This would result in a net increase to rate base of $43,675,618 (MN Jurisdictional) for accumulated contributions, net of ADIT. The ADIT applied to the accumulated contributions in excess of net period benefit cost equals $27,789,182 (MN Jurisdictional) and consists of $20,540,413 computed at the statutory tax rate of 28.742 percent plus excess deferred tax of $7,248,769. The excess deferred tax is a result of the corporate income tax rate change in the TCJA. The net increase, or $43,675,618 (MN Jurisdictional), is the amount on which the Company seeks to earn a return. In other words, Minnesota Power asks to treat these accumulated contributions in the same manner as any other working capital item — all of which similarly fluctuate.

Q. Has the Company used other naming conventions for accumulated contributions in excess of net periodic benefit cost?

A. Yes. Historically, GAAP has used the terms "prepaid pension cost," "prepaid pension expense," and "prepaid pension asset" to signify cumulative contributions to a pension plan in excess of its cumulative expense. These terms mean the same thing, and many GAAP-compliant audited companies and financial statements still use the term "prepaid pension." Here, the Company will use the more current terminology; however, the Company would note that prior Commission orders used the term "prepaid pension," and many surveys, articles, companies, and audited GAAP financial statements reviewed by the SEC still use that term.

Q. Has the Company requested recovery of these prepaid contributions to the pension fund before this case?

A. Yes. Minnesota Power recognizes that the Commission concluded in the Company's 2016 Rate Case that the Company did not justify rate-base treatment of prepaid pension funds. The Commission directed the Company to remove the prepaid pension asset, along with the associated tax savings, from the test-year rate base.[23]

[23] *In the Matter of the Application of Minn. Power for Auth. to Increase Rates for Elec. Serv. in Minn.*, Docket No. E015/GR-16-664, FINDINGS OF FACT, CONCLUSIONS, AND ORDER at 16 (Mar. 12, 2018).

Q. Why is Minnesota Power seeking to include this asset in rate base and earn a return on it in this proceeding?

A. Although the Commission has not approved rate-base treatment and associated recovery for several utilities, including for Minnesota Power (but has permitted rate base treatment for another Minnesota utility over the course of several rate cases), the Company feels compelled under its current circumstances to renew its request for authorization to include in rate base this important utility investment made on behalf of the Company's workers and to the benefit of its customers.

In the 2016 Rate Case Order, the Commission adopted the rationale for excluding the prepaid pension asset from rate base that was originally articulated in the 2013 and 2015 rate cases for Minnesota Energy Resources Corporation ("MERC").[24] The Commission noted that the circumstances that originally warranted denying a return on the asset in those earlier MERC cases were likewise present in Minnesota Power's 2016 Rate Case.[25] While the Company respectfully disagrees with the Commission's assessment in the 2016 Rate Case and believes that Minnesota Power is justified on the merits and the reasonableness of including the prepaid pension asset in rate base, the Company addresses the concerns expressed by the Commission in the 2016 Rate Case, provides additional information, and explains and bolsters the facts supporting recovery in this proceeding.

Q. How is your discussion of this issue organized in your Direct Testimony?

A. First, I explain what the accumulated contributions in excess of net periodic benefit cost are and how they benefit Minnesota Power employees while also directly reducing customer rates. I also provide a specific, simplified example of how this works —

---

[24] *In the Matter of the Application of Minn. Power for Auth. to Increase Rates for Elec. Serv. in Minn.,* Docket No. E-015/GR-16-664, FINDINGS OF FACT, CONCLUSIONS, AND ORDER at 16 n.22 (March 12, 2018) ("2016 Rate Case Order") (citing *In the Matter of the Application of Minn. Energy Resources Corp. for Auth. to Increase Rates for Nat. Gas Serv. in Minn.*, Docket No. G-011/GR-15-736, FINDINGS OF FACT, CONCLUSIONS, AND ORDER, at 8-11 (Oct. 31, 2016); *In the Matter of a Petition by Minn. Energy Resources Corp. for Auth. to Increase Natural Gas Rates in Minn.,* Docket No. G011/GR-13-617, FINDINGS OF FACT, CONCLUSIONS, AND ORDER, at 22-24 (Oct. 28, 2014)).

[25] 2016 Rate Case Order at 16.

shareholder contributions to the pension fund in excess of expense earn market returns, which directly reduces the annual expense included in customer rates, and, under the current non-recovery of its capital costs, reduces the Company's earnings. Next, I explain how the Company's accumulated contributions in excess of net periodic benefit cost appear on the ALLETE financial statements and are stated in accordance with GAAP. Finally, I walk through the Commission's reasons for denying a return on this asset in the 2016 Rate Case, and identify how the Company has rectified any concerns the Commission had.

a. Accumulated Contributions in Excess of Net Periodic Benefit Cost

Q. Can you describe in more detail what Minnesota Power's pension's accumulated contributions in excess of net periodic benefit cost are?

A. Yes. Minnesota Power's accumulated contributions in excess of net periodic benefit cost arose from the fact the Company has contributed more to its employee pension plan (cumulatively) than it has expensed since 1952, the inception year of the plan.

Q. What is the current balance of the plan's accumulated contributions in excess of net periodic benefit cost?

A. As of December 31, 2020, the ALLETE plan's accumulated contributions in excess of net periodic benefit cost balance was an asset balance of $107,012,100, and the Company estimates the ALLETE plan's December 31, 2021 and 2022 balances to be $108,939,929 and $103,365,037, respectively. Additional historical information is included in MP Exhibit ___ (Cutshall), Direct Schedule 9.

Q. Is there a tax benefit for making contributions to the pension plan?

A. Yes. The Company's contribution to the pension plan is tax-deductible up to the limit set by the Internal Revenue Service ("IRS"). When pension contributions exceed the expense in any given year, it creates a corresponding deferred income tax liability. This will lower the taxes Minnesota Power pays relative to its GAAP expense. Since the pension plan's inception, the accumulation of these annual deferred tax liabilities has created a related ADIT balance. If the Minnesota-jurisdictional portion of the accumulated contributions in excess of net periodic pension cost is included in rate base, then the resulting ADIT will also be included and reduce rate base.

Q. Are there other current components in rate base that are treated the same way as pension contributions for tax purposes?

A. Yes. When Minnesota Power makes a contribution to the pension plan, that contribution is tax deductible when paid. Therefore, the payment is treated exactly the same as prepaid insurance, another item in working capital that is included in rate base. In contrast, other components in rate base, such as fixed assets, are depreciated, but differently, for GAAP accounting and IRS purposes.

Q. Can you calculate the ADIT related to the pension's accumulated contributions in excess of net periodic pension costs?

A. Yes. The calculation for the tax treatment of the pension contributions that created the accumulated contributions in excess of net periodic pension cost is as follows: multiply the accumulated contributions in excess of net periodic pension cost by ALLETE's combined federal and state tax rate of 28.742 percent, which equals the ADIT, then add back the excess deferred tax. The total impact to the full Minnesota jurisdictional amount in rate base will be reduced by the corresponding ADIT.

Q. What, then, is the total amount the Company is proposing to include in rate base?

A. The Company requests that the 13-month average of its 2022 test year (updated for actuals at the December 31, 2021 measurement date) pension plan accumulated contributions in excess of net periodic benefit cost of $71,464,800 (MN Jurisdictional), less the related ADIT of $27,789,182 (MN Jurisdictional), for a net amount of $43,675,618 (MN Jurisdictional) be included in rate base.

b. Ratemaking Support for Asset

Q. Please summarize why Minnesota Power's accumulated contributions in excess of net periodic pension costs should be included in rate base and earn a return like other prepaid assets.

A. As discussed in detail below, recognition of Minnesota Power's funding of the accumulated contributions in excess of net periodic pension costs should be included in the working capital section of its rate base for several reasons: (1) these costs are a necessary cost of providing electric service; (2) a certain level of pension contribution is required by law to fund pension plans, and thus these costs are not discretionary; (3) contributions in excess of pension expense to the pension plan are made by the Company's shareholders and benefit customers by lowering expenses (as demonstrated previously in Table 7) and lowering liabilities; (4) there is precedent in Minnesota and nationwide for including accumulated contributions in excess of net periodic pension costs in rate base, and many other states have also recognized that this is necessary to compensate shareholders for pension funds contributed in excess of amounts included in rates; and (5) it is consistent with standard ratemaking treatment when contributions and expenses differ significantly for any cost of providing utility service. Given that a regulated utility is entitled to a fair return on costs it incurs as necessary to provide utility service, these costs should be included in rate base.

Q. Is including accumulated contributions in excess of net periodic benefit cost in rate base consistent with standard ratemaking treatment?

A. Yes. Including the accumulated contributions in excess of net periodic benefit cost in rate base is consistent with standard ratemaking treatment. For an expenditure, when cash payments (or other forms of payments) and expenses differ significantly, the Company must include this difference in rate base. Examples include deferred tax assets, deferred tax liabilities, and working capital items such as accounts receivable, accounts payable, inventory, and prepaid expenses. All of these items involve shareholders providing or receiving funds greater or lesser than expenses. It should be no different for the timing difference between contributions and expenses for a pension plan.

Q. Is there precedent for including accumulated contributions in excess of net periodic benefit cost in rate base?

A. Yes — both in Minnesota and in other states. Northern States Power includes accumulated contributions in excess of net periodic benefit cost in its rate base per a May 8, 2015 rate order that stated,[26] "For rate-base purposes, the pension asset is to reflect the cumulative difference between actual cash deposits made by the Company reduced by the recognized qualified pension cost…"

In addition, multiple other state commissions have also specifically found that it is important to the regulatory compact to allow a utility making cumulative contributions to its pension fund in excess of cumulative expense to earn a return on those assets; otherwise, the utility's additional contributions are being used to reduce customer expense without any compensation to the shareholders who made the contribution. I discuss other states' analysis and conclusions later in my testimony.

(1) Legal Requirements for Contributions

Q. Why doesn't the Company just make contributions to the plan equal to its pension expense, so that it would not have accumulated contributions in excess of net periodic benefit cost balance?

A. By law, a company cannot make contributions to the plan equal to its pension expense. As I discussed earlier, the pension expense and contributions represent different aspects of the pension plan and are governed by two different authorities. The *pension expense* represents the Company's annual pension plan costs on the income statement, which is determined by GAAP as set forth by the FASB and accepted by the SEC and is recovered from Minnesota Power customers. *Contributions* to the pension plan, on the other hand, are made by the Company (via its shareholders) to satisfy the funding requirements of ERISA, the IRC, and the provisions of the PPA. The PPA established certain minimum funding requirements for plan years beginning in 2008 and continuing

[26] *In the Matter of the Application of N. States Power Co. for Auth. to Increase Rates for Elec. Serv. in the State of Minn.*, Docket No. E-002/GR-13-868, FINDINGS OF FACT, CONCLUSIONS, AND ORDER at 20 (May 8, 2015).

through the present. Prior to enactment of the PPA, pension contributions and pension expense were either largely equal or in balance.

Q. How do these requirements result in an asset or liability?

A. These requirements result in an asset or liability because of different requirements. When an employer contributes more cash to the pension plan (per ERISA, the IRC, and the PPA) than it has recorded expense for over the same period (per GAAP), the result is the recognition of accumulated contributions in excess of net periodic benefit cost or — using earlier terminology — a "prepaid pension asset." Conversely, contributing less than the expense recognized will result in additional liability or a "prepaid pension liability."

Q. How does the enactment of the PPA relate to the fact that the Company did not seek to include the asset in rate base until the previous rate case?

A. There are several reasons the Company did not request prepaid pension assets\liabilities to be included in rate base prior to the enactment of the PPA, including:

- Contributions and expenses were largely the same, as illustrated in MP Exhibit ___ (Cutshall), Direct Schedule 9 and — as a result — this issue did not have a material impact on either customers or the Company;
- The prepaid pension balance was both an asset and liability, and neither favored customers nor the Company over long periods of time; and
- Prior to enactment of the PPA, there was more flexibility in determining the timing and amount of contributions.

The enactment of the PPA resulted in significant increases in contributions in 2008 and projected future years. This had noticeable detrimental impacts on the then-current and future cash financial ratios. In fact, these projected contributions had such a large impact on any company offering pension plans that the U.S. Congress subsequently enacted laws multiple times reducing some of the PPA-required contributions. The latest example of this is the American Rescue Plan Act of 2021, enacted March 11, 2021. Upon understanding these historical impacts, the Company requested deferred accounting and the recognition of the prepaid asset in its Petition for Approval of Deferred Accounting Related to Pension Plan (Docket No. E015/M-11-1264) filed on December 22, 2011. The Company's request was denied in part because the cost was not considered "unusual, unforeseeable, and large enough to have a significant impact on the utility's financial condition," which are the traditional Commission criteria for deferred accounting.[27] The Company was directed to take up the issue in a future rate case if the Company so chose.

Q. Is the Company only seeking to include the accumulated contributions in excess of net periodic cost in rate base to the extent it is an asset?

A. No. The Company believes it is appropriate to include accumulated contributions in excess of net periodic cost in rate base, whether it is an asset or a liability, for the duration of the plan.

(2) Harm of Excluding Asset from Rate Base

Q. Does <u>not</u> allowing accumulated contributions in excess of net periodic benefit cost in rate base have financial and credit implications?

A. Yes, in at least two ways — by denying shareholders the time value of their money contributed to the pension fund in excess of recovered expense and by reducing the Company's cash flows such that its credit metrics and resulting credit ratings are impacted.

Q. Please explain how excluding the accumulated contributions in excess of net periodic benefit cost from rate base denies shareholders the time value of their money.

A. The PPA required substantial increases in contributions to the Company's pension fund beginning in 2008 and going forward. In many of the years since 2008, annual contributions have been significantly greater than the pension expense (shown in MP

[27] *In the Matter of Minn. Power's Petition for Approval of Deferred Accounting Related to Pension Plan Contributions and Expenses*, Docket No. E-015/M-11-1264, ORDER DENYING PETITION at 2 (Mar. 11, 2013).

Exhibit ___ (Cutshall), Direct Schedule 9 and in Figure 8 later in my testimony). These increased contributions also have reduced, and will continue to reduce, pension expense more than would have been expected pre-PPA since ASC 715-30-35[28] requires all earnings on pension fund investments be used to reduce pension expense. Because the Company's cash contributions since 2008 have been significantly higher than the pension expense funded by customers, creating the accumulated contributions in excess of net periodic benefit cost asset (from $40M in 2008 to over $100M currently), the shareholders should be compensated for the use of their funds that reduce pension expense. If shareholders are not compensated for the use of their money, customers receive benefits (in the form of reductions to pension expense) without compensating shareholders for utilizing their dollars. Meanwhile, shareholders receive no value for contributions while they are tied up in the pension funds. Customers thus receive the benefit of the return on the shareholder investments until such time there is no longer any accumulated contributions in excess of net periodic benefit cost.

Q. Please explain how excluding the accumulated contributions in excess of net periodic benefit cost from rate base could harm the Company's cash flows and credit metrics?

A. Denying Minnesota Power the ability to include and earn a return on the accumulated contributions in excess of net periodic benefit cost decreases Minnesota Power's cash flow. In turn, decreased cash flow negatively impacts the Company's credit metrics (because many credit rating agency metrics are based on cash flow). Moreover, such exclusion raises fairness concerns and would call into question whether a utility has the needed credit support from its regulators. In fact, Moody's downgraded ALLETE from an A3 to Baa1 in its April 3, 2019 report, citing, "[V]arious expense disallowances including a decision to disallow the recovery of about $3 million of prepaid pension expenses."[29]

---

[28] ASC 715-30-35-3 and 4.
[29] *See* MP Exhibit ___ (Cutshall), Direct Schedule 3.

(3) Benefit of Accumulated Contributions to Customers

Q. Earlier you referenced that accumulated contributions in excess of net periodic benefit cost provide a direct benefit to customers. Please explain how that works.

A. Pension contributions in excess of expense are made by the Company, rather than by customers. However, these contributions have benefited customers as the earnings on these funds have significantly reduced the Company's annual pension expense under ASC 715-30, yet the Company has not earned a return on these funds. Customers benefit as a result of lower pension expense being included in base electric rates. More specifically, the recognition of accumulated contributions in excess of net periodic pension costs can provide benefits to the customer in at least three ways:

1. Customers benefit from a reduction in the balance of the pension obligation because the risk of being required to fund more in future years is also reduced;
2. The earnings resulting from the balance reduce the current year pension expense through applying the EROA on the balance and ASC 715-30 (how EROA earnings reduce pension expense is demonstrated in Table 7); and
3. Customers benefit from applying the EROA to the accumulated earnings on the prepaid pension asset (the compounding of earnings).

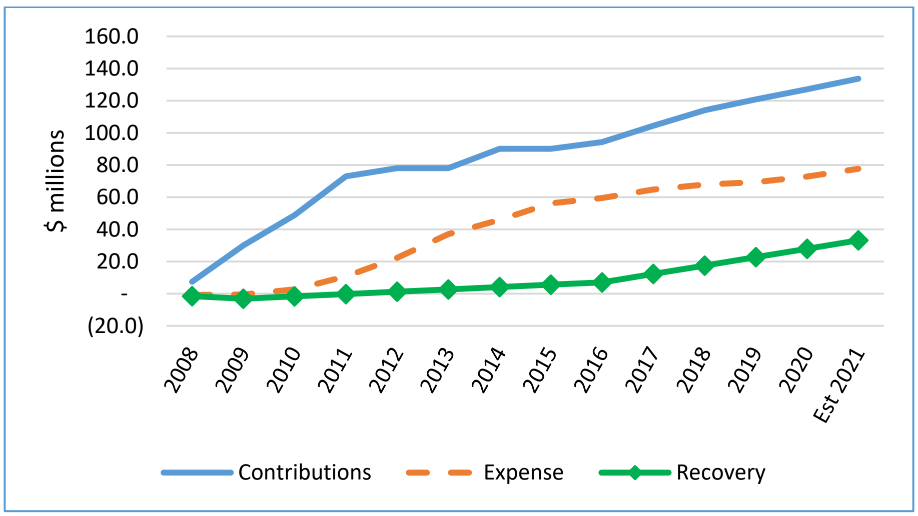
It is a long-standing ratemaking principle that utilities are entitled to an opportunity to earn a reasonable return on investments made for the benefit of customers.[30] Without including the Company's contributions (the accumulated contributions in excess of net periodic benefit cost) in rate base, the customer is essentially borrowing funds from the Company at no cost and — through application of the EROA — the customer is earning a return on these assets through the resulting pension expense reduction. Here, customers benefit from the federally-mandated contributions made to fund pension benefits available to utility employees.

[30] *See Bluefield Waterworks & Improvement Co. v. Pub. Serv. Comm'n of W. Va.*, 262 U.S. 679, 692 (1923) (stating that a "public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public.").

Q. What is the level of Minnesota Power's pension contributions, expense, and recovery since the PPA took effect?

A. As illustrated in MP Exhibit ___ (Cutshall), Direct Schedule 9 and in Figure 8 below, ALLETE's pension contributions from 2008 through 2021 have totaled $198.8 million ($153.7 million MP regulated; $133.7 million MN Jurisdictional). In addition, ALLETE has incurred pension expense totaling $118.4 million ($89.7 million MP regulated; $77.6 million MN Jurisdictional) — of which it has collected only $33.2 million (MN Jurisdictional) through rates since 2008.

Figure 8. MN Jurisdictional Historical Pension Contributions, Expense, and Recovery



Q. Why doesn't recovery of pension expense adequately compensate the Company for its pension investments?

A. As illustrated in the actual recovery amounts identified in Figure 8, by recovering only the pension expense, the Company is not recovering the cost of capital for its obligatory pension contributions made in excess of the recovered pension expense. If the prepaid asset were included in the working capital section of rate base, such amount would be easily calculated by multiplying the weighted average cost of capital ("WACC") by the Company's accumulated contributions in excess of net periodic benefit cost. The WACC is the true cost to investors, who must fund the pension plan in excess of what the Company recovers from customers.

Q. Can you identify the specific amount by which Minnesota Power's accumulated contributions in excess of net periodic benefit cost are reducing customer rates in the 2022 test year?

A. Yes. As shown in MP Exhibit ___ (Cutshall), Direct Schedule 14, the 2022 ALLETE accumulated contributions in excess of net periodic benefit cost will reduce the 2022 test year pension expense by $6,411,610 ($4,855,976 MP regulated; $4,317,511 MN Jurisdictional). Note this calculation does not reflect the savings that would have been generated in prior years if the EROA percentage had been applied to the accumulated earnings on the accumulated contributions in excess of net periodic benefit cost in those years.

Q. How can the current situation — the Company providing contributions that reduce customer rates while not being compensated for the value of those contributions — be remedied?

A. The Company should be able to recover its cost of the capital that it uses to finance its contributions to the plan or the $3.3 million (MN Jurisdictional) net of ADIT in the Company's test year using the 2022 estimated 13-month average. Recovering the cost of capital will make the Company's net income and cash flow neutral to the size and timing of its pension contributions. In particular, the Company would include its accumulated contributions in excess of net periodic benefit cost into the working capital section of rate base — thus allowing Minnesota Power to recover the cost of financing these contributions — just as for any other working capital prepayments.

c. Financial and Audit Support for Asset

Q. Is the accumulated contributions in excess of net periodic benefit cost balance reported in your GAAP financial statements?

A. Yes. This balance, which is a net debit balance (asset), is included in ALLETE's audited GAAP financial statements. The balance is reported in ALLETE's most recent Form 10-K, in Note 11 — PENSION AND OTHER POSTRETIREMENT BENEFIT PLANS (page 107 of the 2020 Form 10-K; included in Other Supplemental Information, Direct Schedule F-1 in Volume 3). An excerpt of this portion of the footnote is shown in Figure 9 below.

Figure 9. ALLETE 10-K Pension and Postretirement Benefit Plans Footnote

Reconciliation of Net Pension Amounts Recognized in Consolidated Balance Sheet As of December 31	2020	2019
Millions		
Net Loss	$(299.0)	$(243.4)
Prior Service Credit	1.1	1.3
Accumulated Contributions in Excess of Net Periodic Benefit Cost (Prepaid Pension Asset)	91.6	87.7
Total Net Pension Amounts Recognized in Consolidated Balance Sheet	$(206.3)	$(154.4)

Q. Can you reconcile what is reported in ALLETE's 2020 Form 10-K Note 11 for accumulated contributions in excess of net periodic benefit cost balance with the ALLETE plan's balance?

A. Yes. The footnote in the 2020 Form 10-K also includes other plans. To reconcile ALLETE's reported Form 10-K balance, two other benefit plans — Supplemental Executive Retirement Plan ("SERP") and Executive Investment Plan ("EIP") — must be included with ALLETE's pension plan's accumulated contributions in excess of net periodic benefit cost debit or asset balance. Table 8 below illustrates the reconciliation.

Table 8. Reconciliation of ALLETE's plan balance to ALLETE's Form 10-K for the year ended 2020

ALLETE prepaid asset balance	$107,012,100
SERP and EIP liability balances	($15,404,021)
Form 10-K reported balance	**$91,608,079**

Q. Following GAAP, does ALLETE have a net asset or liability balance when reporting its balance?

A. It has an asset balance. Table 9 below illustrates how the plan balance is recorded in the Company's financial records.

Table 9. Plan Balance as Recorded in Company Financial Records
($'s in millions)

FERC Account Number	Name	Type	2022 MP Balance Test Year	2022 MP Regulated Test Year	2022 MN Juris. Balance Test Year
18230-6015	Pension	Asset	$228.9	$183.0	$162.7
22830-2009 & 22830-2011	Pension Plan B&C	Liability	(170.9)	(136.6)	(121.5)
21900-0003	AOCI Pension		40.4	32.3	28.7
Total Plan Balance			**$98.4**	**$78.7**	**$69.9**

Q. How does this $69.9 million total correspond to the amount the Company is requesting to include in rates?

A. The 2022 expected ending balance for Minnesota Power of $98.4 million ($78.7 million MP regulated; $69.9 million MN Jurisdictional) — as reflected in Table 9 above — corresponds to the amount of Minnesota Power's estimated 2022 test year 13-month average, which is $100.6 million ($80.4 million MP regulated; $71.5 million MN Jurisdictional) as reflected in MP Exhibit ___ (Cutshall), Direct Schedule 13.

Q. Does Minnesota Power follow GAAP in all regards to its accounting and financial statements?

A. Yes, of course. ALLETE (doing business as Minnesota Power) is a publicly-traded entity that is required to have an annual audit of its consolidated financial statements. As part of this annual audit, ALLETE's independent registered public accounting firm, PwC, opines that ALLETE's consolidated financial statements, which are supported by the books and records that also form the basis for this general rate case, are presented fairly — in all material respects — and are "in conformity with accounting principles generally accepted in the United States of America."[31] This opinion would not be possible if Minnesota Power did not follow GAAP with respect to a net asset as significant as its accumulated contributions in excess of net periodic benefit cost. In

[31] *See* MP Exhibit ___ (Cutshall), Direct Schedule 20.

addition, other governmental authorities also review ALLETE's audited financial statements; for example, the SEC reviews ALLETE's Form 10-K every three years and has had no comments on the Company's accounting for its benefit plans.

d. Prior Commission Decisions

Q. What is the purpose of this section of your testimony?

A. In this section of my testimony, I address the Commission's past decisions that the Company did not meet its burden to justify including the prepaid pension asset in rate base. I provide additional information and explanation and further identify the relevant circumstances that have changed since the 2016 Rate Case.

Q. At the outset, have circumstances changed since the 2016 Rate Case that warrant rate base treatment for the Company's accumulated contributions in excess of net periodic benefit cost?

A. Yes. Several facts have changed since the Company last addressed this issue. Most notably, one of the Department's grounds for objecting to inclusion of the asset in rate base in the 2016 Rate Case was the Company's alleged failure to account for pension contributions in accordance with GAAP. While Minnesota Power found this characterization to be unwarranted and inaccurate, as well as based on an apparent misunderstanding of independently-audited financial statements, the Company's financial statements now use the Department's preferred terminology and explicitly demonstrate Minnesota Power's existing accumulated contributions in excess of net periodic benefit cost. Both are accurate statements of GAAP as noted earlier in my testimony.

Second, the Company's credit rating decisions make it particularly important to recover its significant costs of service. The Company's credit rating agencies have identified the Commission's decision not to include Minnesota Power's pension prepayments in rate base as contributing to their concern about the regulatory framework and about the Company's financial position. As discussed previously, Moody's Credit Opinion — dated April 3, 2019 — stated that one of the reasons for ALLETE's credit downgrade from A3 to Baa1 was the "negative general rate case outcome" and further stated that one of the negatives was the disallowance of the Company recovering the cost of the prepaid pension expense even though the state's largest utility is allowed to recover its prepaid pension expense.[32] Minnesota Power seeks to remedy that issue in this proceeding.

Q. What is the first rationale for the Commission's decision in the 2016 Rate Case to exclude the prepaid pension asset from rate base?

A. The Commission held that Minnesota Power "recovers its allowable pension expense from ratepayers and is not denied recovery of this operating cost."[33]

Q. How does this finding bear on recovery of a return on the prepaid pension asset?

A. While the Company does not disagree that it is permitted to recover an authorized level of pension expense in its rate cases, the Company respectfully submits that such recovery of expense is separate from the issue of allowance for recovery of its contributions. As I discussed earlier, pension expense and the accumulated contributions in excess of net periodic benefit cost each represent different aspects of the Company's pension plan and are governed by two different authorities. Excluding the latter (contributions) on the basis of the Company's ability to recover the former (pension expense) overlooks that the accumulated contributions represent a shareholder-paid asset that is distinct from the customer-funded pension expense and that those shareholders are entitled to have the opportunity to earn a reasonable return on the value of their money dedicated to this asset.

Q. How did the Commission distinguish the prepaid pension asset from other assets that are typically included in rate base in the 2016 rate case?

A. The Commission found that the prepaid pension asset differs from other rate base assets because it "already earns a return in the form of investment returns, it fluctuates in value,

---

[32] *See* MP Exhibit ___ (Cutshall), Direct Schedule 3.
[33] 2016 Rate Case Order at 16.

and is misleading in that it does not account for the funding status of the entire pension plan."[34]

Q. What information in this rate case filing addresses these concerns?

A. My testimony addresses these three concerns in turn. First, although the pension plan indeed earns a return in the form of investment returns, as I discussed earlier, those investment returns are — by law — used solely to reduce the amount of pension expense recoverable from customers and to benefit retirees. In other words, the benefit of those investment returns remain internal to the pension fund itself. Importantly, those returns can *never* be used to compensate shareholders for the value of the federally-mandated contributions into the pension plan — money that shareholders would otherwise not be able to use. Rather, as I demonstrated earlier in my testimony, the market returns solely go to reducing customer expense.

Q. Can the Company prove that the market returns on shareholder contributions are not being returned to shareholders as a return on their investment but rather are applied to reduce expense?

A. Yes. The Company only recovers or, said another way, the customer only pays the pension expense as was shown previously. Accounting for pension expense under GAAP (ACS 715) requires reducing the actuarially calculated pension expense by the actuarially determined return on assets. In respect to cash payments — all of the contributions and benefit payments are made to/from the pension trust, and the corresponding assets and income generated from these assets are retained by the pension trust. Therefore, the customer receives all the benefit of the income generated by the assets in the pension.

This was demonstrated previously in Table 7 where the Expected Return on Plan Assets reduced pension expense by approximately 85 percent in 2020. This pension expense,

[34] 2016 Rate Case Order at 16.

which is net of expected return on plan assets or net of future expected earnings on plan assets, then is recorded in FERC general ledger account 92608.

Further evidence that shareholders do not earn a return on their contributions is shown in the Company's latest actuarial statements on page A-4, section F: "Components of net periodic benefit cost," line 3, which is included as MP Exhibit ___ (Cutshall), Direct Schedule 15. Furthermore, MP Exhibit ___ (Cutshall), Direct Schedule 16 is a letter from Mercer explaining how investment earnings on pension plan assets affect pension expense. Shareholders do not benefit in any way from investment returns on the pension plan assets.

Q. Second, how is the fluctuation in value of the asset relevant to the determination whether to include the asset in rate base?

A. While the Commission noted that the amount of any prepayment can fluctuate, this does not change the fact that Company shareholders lose the value of their money when they are prepaying benefits similar to any other prepaid asset. Minnesota Power's investment in its pension fund on behalf of employees is too large and important to permanently forego a return on prepayments made by shareholders.

Q. Third, how do you address the Commission's concern that the status of the prepaid pension asset is misleading in that it does not represent the funded status of the pension plan?

A. This is irrelevant because they are two different financial measurements. The total liabilities of the pension less the pension trust assets are considered the funded status of a plan, but the liabilities are actuarial estimates of amounts that may be paid to employees in the future; they are not like a debt because payment (in the form of annual pension expense) is not yet due. In addition, the amount to be paid may change. When pension payments to employees are actually due, they are paid from pension trust assets. In contrast, the asset exists when known and measureable cash or stock contributions to a fund exceed actual cumulative pension expense — meaning there is a measurable net amount of contributions that reflects actual cash investments in the retirement fund and which generates earnings that are being used to pay down expense. Thus, the difference between the asset and liabilities — i.e., the funded status — does not change that there is an existing asset in the form of known contributions to the pension fund.

For example, consider an escrow account on a home mortgage. Lenders estimate the amount of taxes and insurance due each year then collect money to fund the escrow account that is then used to pay the taxes and insurance when due. The tax and insurance liabilities (similar to a pension's liability) is unknown because it is not known if the taxes and insurance will increase or decrease. However, when those liabilities come due, there may be a shortage or an overage in the escrow account. If there is a shortage, the mortgage lender will bill the homeowner for the excess needed to fund those payments or increase monthly payments to cover the shortage; in contrast, if there is an overage in the escrow account, the mortgage lender will refund the homeowner for the difference. In essence, an escrow account is a prepaid asset that will be used to partially or fully payoff the future liability when it occurs — just like a pension plan. The fact that the actual amount owed when taxes or insurance are due may be higher or lower than anticipated (the funding level) does not change that the homeowner has contributed real dollars in the form of prepayments to the escrow fund. Nor should the mortgage lender be able to keep overage amounts without providing a value to the homeowner for them. This is similar to what is currently happening with accumulated contributions to the pension fund in excess of net periodic cost.

Q. Is denying a return on the prepaid pension asset helpful to encourage a utility to fund pension benefits?

A. No, it has just the opposite effect. If the Commission wants the pension plan to be fully funded, this requires additional contributions to the pension fund. Denying a return on prepaid pension assets discourages funding and does not support utilities funding benefits for employees.

Q. How else does the Commission support its prior decisions to deny rate base treatment to prepaid pension assets?

A. The Commission has found that such balances in the prepaid pension asset "fluctuate up and down, depending on funding or market conditions," and are "temporary."[35]

Q. Are these factors any different than other prepayments that are entitled to earn a return?

A. No, this is true of all prepayments. As I explained earlier, the purpose of a prepayment is to accumulate funds to pay for a future expense based on the theory that eventually the prepayment amount will cover the expense obligation and therefore no longer exist. But this does not change the fact that during the prepayment period, shareholders lose the use of their pension fund investments — in other words — without a return, the time value of money and market returns are both utilized solely to benefit customers, while shareholders lose the use of their money during this period and receive no return.

Q. Does the Commission cite any more reasons for its prepaid pension asset decision in the 2016 Rate Case Order?

A. Yes. The Commission concurred with the Department that "it would be impractical, if not impossible, to equitably separate the prepaid amount attributable solely to Minnesota Power's contributions from that attributable to ratepayer contributions and market returns."[36]

Q. Is it difficult to determine whether customers or investors made the contribution?

A. No. In every rate case since the PPA was enacted, Minnesota Power's revenue recovery for the pension fund has been established based on the expected pension expense. For example, in Minnesota Power's most recently approved rate case (test year 2017) the only amount included in rates associated with the pension plan was the Company's actual 2017 pension expense totaling $5,229,348 (MN Jurisdictional). Contributions to

[35] 2016 Rate Case Order at 17.
[36] 2016 Rate Case Order at 17.

the pension for 2017 totaled $15,165,725 ALLETE ($11,733,946 MP regulated; $10,210,047 MN Jurisdictional). The difference of $4,980,699 MN Jurisdictional ($10,210,047 MN Jurisdictional minus $5,229,348 MN Jurisdictional)[37] is paid by the Company shareholders, which is also the contribution in excess of net periodic cost for 2017.

The accumulated contribution in excess of net periodic cost is equal to the summation of all contributions in excess of net periodic cost year over year. As mentioned earlier, by using actuarial reports, the Company was able to compile a history of expense, contributions, and accumulated contributions in excess of net periodic benefit cost — rolled forward year by year, beginning with 1987 — when the accumulated contributions in excess of net periodic benefit cost essentially began up until the present time. This cumulative effect can be seen in MP Exhibit ___ (Cutshall), Direct Schedule 9.

Q. Is there precedent in Minnesota for including accumulated contributions in excess of net periodic benefit cost in rate base?

A. Yes. As discussed above, NSP includes accumulated contributions in excess of net periodic benefit cost in rate base. The Commission authorized rate-base treatment in May 2015 by requiring that "the pension asset reflect the cumulative difference between actual cash deposits made by the Company reduced by the recognized qualified pension cost…."[38]

---

[37] *In the Matter of the Application of Minn. Power for Auth. to Increase Rates for Elec. Serv. in Minn.*, Docket No. E-015/GR-16-664, COMPLIANCE FILING – FINAL GENERAL RATES, SCHEDULE 15 at 45 (Jun. 28, 2018).

[38] *In the Matter of the Application of N. States Power Co. for Auth. to Increase Rates for Elec. Serv. in the State of Minn.*, Docket No. E-002/GR-13-868, FINDINGS OF FACT, CONCLUSIONS, AND ORDER at 20 (May 8, 2015).

Q. Do other state jurisdictions allow utilities to recover their accumulated contributions in excess of net periodic benefit cost?

A. Yes. Several jurisdictions allow recovery for accumulated contributions in excess of net periodic benefit cost in one form or another.[39] This was also addressed in the most recent EEI 2020-2021 Pension and Other Post-Employment Benefits Annual Survey where over sixty percent of respondents stated they were allowed rate base treatment or other recovery in *all* or *some* jurisdictions in which they operated.[40]

Moreover, Minnesota Power has identified a 2015 appellate court precedent in New Mexico that upheld the decision of the New Mexico Public Regulation Commission to allow rate base treatment for the "prepaid pension asset" of Southwestern Public Service Company. The Company recognizes these other states' appellate decisions and commission decisions are not binding on the Minnesota Commission, but they do clearly identify the issue, correctly state federal law, and their straightforward and accurate reasoning for recognizing these assets should serve as persuasive guidance to the Commission.

[39] *See e.g., N.M. Atty. Gen. v. N.M. Pub. Regulation Comm'n*, 359 P.3d 133, 138-40 (N.M. 2015) (authorizing inclusion of prepayments for pension expenses in rate base with a return because the utility is "out-of-pocket for such costs" until they are recovered from customers); *Ind. Office of Util. Consumer Counselor*, 7 N.E.3d 1025, 2014 WL 934350, at *12 (Ind. Ct. App. 2014) (unpublished) (upholding inclusion of prepaid pension asset in rate base with a return because the "asset amounted to working capital that benefited the ratepayers by reducing the total pension costs needed in [the utility's] revenue requirement"); *R.I. Consumers' Council v. Smith*, 322 A.2d 17 (R.I. 1974) (authorizing inclusion in rate base of insurance premium prepayments, which reduce the cost of premiums for ratepayers); *In the Matter of Advice No. 912-Gas Filed by Pub. Serv. Co. of Colorado to Roll the Pipeline Sys. Integrity Adjustment Costs into Base Rates Beginning in 2019 & Increase Rates for All Nat. Gas Sales & Transportation Servs. by Implementing A Gen. Rate Schedule Adjustment in the Company's Colorado P.U.C. No. 6-Gas Tariff, to Become Effective July 3, 2017*., No. 17AL-0363G, 2021 WL 3023053, at *4 (Co. P.S.C. July 12, 2021) (implementing district court order directing the commission to include prepaid pension asset in rate base because "regulated utilities must be permitted to earn 'a reasonable return on value of property used at the time it is being used to render the service[,]" and excluding the prepaid pension asset from rate base would "deprive [the utility] and its shareholders of their constitutional right to earn a reasonable return on their investment."); *In re Rocky Mountain Power*, 2014 WL 7526282, at *14, *36 (Wyo. P.S.C. 2014) (agreeing utility should recover financing costs of its prepaid pension asset by including the asset in the rate base and earning a return on it); *In re Potomac Elec. Power Co.*, 263 P.U.R.4th 1, ¶ 113 (D.C. P.S.C. Jan. 30, 2008) (finding investor-supplied cash contributions created a prepaid pension asset that should earn a return); *In re Ky.-Am. Water Co.*, No. 97-034, 1997 WL 34863470 (Ky. P.S.C. Sept. 30, 1997).

[40] *See* MP Exhibit ___ (Cutshall), Direct Schedule 12.

Specifically, the New Mexico Supreme Court noted that a utility should be compensated for prepayments for both physical property and other investments on behalf of customers and employees:

> A utility can include prepayments for pension expenses in its rate base because the utility is out-of-pocket for such costs until they are recovered from ratepayers and is therefore entitled to recover its cost of financing such prepaid expenses. For example, in the context of prepaid pension assets, income earned on the pension fund is reported under [GAAP] as a reduction to the utility's pension expense. If that reduction in pension expense is used in determining a utility's rates, there will be a corresponding reduction in the amounts collected from ratepayers. Under these circumstances, the utility must finance the reduction because it cannot use the income from the pension trust to pay other current obligations; as a result, the utility is allowed to recover the costs of financing the reduction by including the pension income in the rate base.
>
> […]
>
> Basically, when a utility supplies working capital to fund contributions in excess of pension expenses to create an income-producing prepaid pension asset, the utility finances the entire cost of the prepaid pension asset.[41]

The Missouri Supreme Court has also recently addressed the inclusion of prepaid pension assets in rate base. In that case, the Public Service Commission of Missouri agreed that prepaid pension assets should be included in rate base but disagreed with the utility on the amount to be included in the pension asset.[42] Thus, both Missouri's Public Service Commission and its Supreme Court acknowledge that prepaid pension assets are properly included in rate base.

[41] *N.M. Atty. Gen. v. N.M. Pub. Regulation Comm'n*, 359 P.3d 133, 137-38 (N.M. 2015) (citing *S. Co. Servs., Inc.*, 122 FERC ¶ 61,218, at 62,235 (2008)) (order on tariff filing) (finding it generally appropriate to include pension prepayments in rate base because "utility is out-of-pocket for such costs until they are recovered from ratepayers and is therefore entitled to recover its cost of financing such prepaid expenses"), *order clarified by* 128 FERC ¶ 61,276 (2009); *In re Rocky Mountain Power*, 2014 WL 7526282, at *14, *36 (a "prepaid pension asset represents [a utility's] contributions to its pension ... plans in excess of what is expensed to that time" and the utility "finances the asset with a combination of debt and equity financing").

[42] *Spire Missouri, Inc. v. Pub. Svc. Comm. of Mo.*, 618 S.W.3d 225, 235-36 (Mo. 2021).

Q. Based on all of this information, please summarize the Company's request with respect to the accumulated contributions in excess of net periodic benefit cost.

A. Minnesota Power requests that the 13-month average balance for the 2022 test year (updated for actuals at the December 31, 2021 measurement date) of the accumulated contributions in excess of net periodic benefit cost, which is $71,464,800 (MN Jurisdictional), be included in the working capital section of rate base. The total rate base increase, net of the associated ADIT asset of $27,789,182 (MN Jurisdictional), would be $43,675,618 (MN Jurisdictional), and the Company requests that it be allowed the opportunity to earn a WACC return on this net asset — the same as it does on any other working capital prepayments and the same as other Minnesota and U.S. utilities are allowed.

Because the accumulated contributions in excess of net periodic benefit cost represent contributions in excess of pension expense (recovered from customers), investor capital is required to fund those contributions; as such, investors should be permitted to a return on their capital.

Lastly, the Company reiterates that it is required by federal law to fund the pension plan and that customers benefit from these pension plan shareholder contributions because earnings on these contributions directly reduce pension expense. Accordingly, it is necessary to include the accumulated contributions in excess of net periodic benefit cost in rate base to fully reimburse the Company (shareholders) for its reasonable and necessary utility costs to comply with federal law, which provides benefits to customers.

B. Other Post-Employment Benefit Expense

1. OPEB Expense

Q. What Post-Employment Benefit Expenses are included in the OPEB?

A. ALLETE's OPEB expense reflects employees' post-employment (retirement) medical, dental, and life benefits. Please see Company witness Ms. Krollman's testimony for more details regarding these benefits for employees.

Q. How many OPEB plans does the Company have and why?

A. ALLETE has two main types of OPEB plans because collectively bargained plans and non-bargained plans have different IRS rules for contributions and taxability:

- "Bargaining, union plan, or non-taxable plan" — Company contributions to bargained plans are fully deductible for tax purposes. In addition, similar to a pension plan, earnings are generally not taxed; and
- "Non-bargained plan or taxable plan" — Company contributions to non-bargained plans have deductibility limitations. In addition, these plans pay tax on their investment income.

Q. What amount of OPEB expense is included in Minnesota Power's 2022 test year?

A. ALLETE's 2022 test year OPEB expense is negative $8,409,933 (negative $6,173,505 MP regulated; negative $5,488,944 MN Jurisdictional). For clarity, a negative expense is income.

Q. How was the Company's 2017 test year OPEB expense established in the Company's last approved rate case in 2017?

A. OPEB costs allowed by the Commission for the 2017 test year were based on the Company's forecasted 2017 expense.

Q. What has the historical OPEB expense been?

A. ALLETE's OPEB was an expense from its inception in 1996 to 2012. Then — primarily due to benefit reductions and $145 million of largely customer-funded contributions through 2013 and the related earnings — the OPEB expense turned to a benefit in 2013; it has remained a negative expense through 2021. Below in Table 10 is the last five years of OPEB expense.

Table 10. Historical OPEB Expense/(Benefit) in $ millions

Year	ALLETE	MP Regulated	MN Jurisdictional
2017	($1.0)	($0.7)	($0.6)
2018	($1.2)	($0.9)	($0.8)
2019	($2.4)	($1.8)	($1.6)
2020	($8.6)	($5.7)	($5.1)
2021 Est.	($6.6)	($4.9)	($4.3)

Q. Can you explain in more detail why the OPEB expense has been negative since 2013?

A. Yes. A main reason the OPEB benefit has persisted so long is because Minnesota Power has funded its OPEB plans at the expense level as opposed to other utilities in Minnesota that have been allowed to not fund their plans resulting in higher expenses. This has created significant investment income that has — along with benefit reduction measures — more than offset the other components of OPEB expense, which I will address later in my testimony. Minnesota Power's customers have benefitted from negative OPEB expenses since 2013 when it has served to both reduce the Company's revenue requirement and provide well-earned benefits to retirees. However, this negative expense situation is very unusual but will likely continue in future years.

Q. Is OPEB expense likely to be negative in the 2022 test year?

A. Yes, for two primary reasons: (1) the Expected Return on Plan Assets offsets the cost components of the expense calculation; and (2) the cost savings from past benefit reductions will continue to be reflected in the expense for several more years.

Q. How do utilities fund OPEB plans and calculate OPEB expense?

A. There is no legal mandate to fund OPEB plans as there is for pension plans; however, utilities have typically funded their OPEB plans as mandated or agreed upon by their governing commissions. ALLETE's OPEB funding policy is to fund, at a minimum, its OPEB expense. The OPEB expense is determined by GAAP mandated by FASB and accepted by the SEC, which is similar to pension expense.

Q. Why does the Company have the policy to fund OPEB expense?

A. On September 22, 1992, the Commission issued an Order adopting "SFAS 106 accrual accounting for Minnesota utility recordkeeping and ratemaking purposes."[43] That Order stated, "SFAS 106 does not require funding for OPEB obligations."[44] The Department, however, "recommended that external funding be required, in order to provide assurance of future payment of these obligations."[45] In 1992, "the Commission required Xcel to establish an external funding mechanism by its next general rate case for FAS 106."[46] Later, Minnesota Power filed its 1994 rate case in which Company witness Bruce E. Gagnon testified — based largely on the NSP d/b/a Xcel Energy precedent — that "[t]he Company intends to fund the SFAS 106 liabilities as the funds are collected."[47] Since then, Minnesota Power has not only funded its expense — it has funded more than its expense.

On June 27, 2012, the Company requested the ability to determine on an annual basis whether to fund its post-employment benefit trust obligations;[48] however, the Commission denied this request.[49] One of the reasons for the denial was that the "request would appear to defeat the trust account's purpose, which is to ensure that funds are available to pay benefits when they are due."[50]

---

[43] *In the Matter of the Accounting and Ratemaking Effects of the Statement of Fin. Accounting Standards*, Docket U-999/CI-92-96, ORDER ADOPTING ACCOUNTING STANDARD AND ALLOWING DEFERRED ACCOUNTING at 7 (Sept. 22, 1992).

[44] *Id.* at 4.

[45] *Id.*

[46] *In the Matter of Xcel's Petition for Approval to Discontinue Funding of Tax Advantaged Extern Fund (VEBA Fund) for Retiree Medical Costs and the Withdrawal of the Accumulated VEBA Fund Balance over a Five-Year Period*, Docket No. E,G-002/M-02-2188, ORDER APPROVING PETITION WITH MODIFICATION AND REQUIRING COMPLIANCE FILING at 1 (Oct. 17, 2003) (citing the Commission's Order in Docket No. U-999/CI-92-96).

[47] *In the Matter of the Application of Minn. Power for Auth. to Change its Schedule of Rates for Retail Elec. Serv. in the State of Minn.*, Docket No. E-015/GR-94-001, DIRECT TESTIMONY OF BRUCE E. GAGNON at 8 (Jan. 3, 1994).

[48] *In the Matter of Minn. Power's Petition for Approval of Deferred Accounting Related to Pension Plan Contributions and Expenses*, Docket No. E-015/M-11-1264, REPLY COMMENTS (Jun. 27, 2012).

[49] *In the Matter of Minn. Power's Petition for Approval of Deferred Accounting Related to Pension Plan Contributions and Expenses*, Docket No. E-015/M-11-1264, ORDER DENYING PETITION (Mar. 11, 2013).

[50] *Id.* at 2.

Q. What is the benefit of contributions to fund the OPEB plan?

A. As with pension funding, by making contributions to the OPEB fund, investors are providing an assurance of future payments of these obligations and reducing annual expense amounts. For test year 2022, Mercer projected that the earnings on these funds will reduce ALLETE's OPEB expense by $9.5 million ($7.0 million MP regulated; $6.2 million MN Jurisdictional).

Q. Can you provide more detail explaining how the Company's annual OPEB expense is derived?

A. Yes. Minnesota Power had the OPEB expense calculated by Mercer using actuarial analyses, which are performed in accordance with ASC 715-60 Defined Benefit Plans — Other Postretirement ("ASC 715-60"). ASC 715-60 sets forth the methodologies and assumptions used to calculate OPEB expense.

ASC 715-60 requires the OPEB expense for a given year to be determined annually, which is calculated by Mercer. In addition, the Company's independent auditor — PwC — audits the actuarial assumptions used to ensure compliance with GAAP.

Q. Has the Company taken steps to reduce/control OPEB costs in recent years?

A. Yes. The Company has made several recent major changes, which are addressed in Ms. Krollman's Direct Testimony and highlighted below:

1. Beginning on February 1, 2011, new employees were no longer eligible for OPEB health benefits;
2. Effective January 1, 2012, the age requirement for retiree health eligibility for those not already eligible was increased to age 55 — up from age 50;
3. In 2013, health cost sharing for post-65 retirees was changed from 75 percent Company/25 percent retiree to 70 percent Company/30 percent retiree;
4. Post-employment life insurance for non-bargaining unit participants was eliminated unless the employee retired prior to January 1, 2016;

5. Minnesota Power added a high-deductible consumer-directed health plan option in 2014 and a second high-deductible consumer-directed health plan option in 2017;
6. Effective January 1, 2018, the pre-65 Preferred Provider Organization ("PPO") retiree health plan is no longer available to new retirees. Retiree medical-eligible participants retiring after January 1, 2018 must choose one of the pre-65 consumer directed health plan options. Any retiree that elected the pre-65 PPO retiree health plan prior to January 1, 2018 is eligible to keep PPO coverage for a maximum period of five years — i.e., through age 65 or December 31, 2022, if earlier — at which time any pre-65 retirees with PPO coverage will be transitioned to a consumer-directed health plan;
7. Effective April 1, 2018, post-employment life insurance for bargaining unit participants retiring after April 1, 2018 was changed to a $20,000 death benefit for Minnesota Power employees. The death benefit for bargaining unit employees that retired prior to April 1, 2018 was equal to 50 percent of a participant's final salary before retirement; and
8. Effective January 1, 2020 for the post-65 group, the Company offers a Medicare Advantage Plan rather than a Medicare Supplement Plan. The Medicare Advantage Plan design shifts more first dollar-coverage responsibility to the participants.

Q. What are the components of the 2022 OPEB calculation?

A. ALLETE's OPEB expense is determined in largely the same manner as pension expense — that is, by calculating and aggregating five components:

1. Service Cost – The present value (using the discount rate as described below) of the projected post-employment benefits earned by each employee in the current year;
2. Interest Cost – The amount the present value (using the discount rate as described below) of future benefit payments is expected to increase during the

year due to one year's interest accrual. In other words, this is the expense incurred because the employees are one year closer to receiving their benefits;

3. Expected Return on Plan Assets – The amount expected to be earned on the plan's assets. It is estimated by multiplying the EROA by the five-year smoothed OPEB asset balance;
4. Amortization of Prior Service Cost – The amortization of the cost of increased/ decreased benefits, amortized over the remaining service life of the affected participants; and
5. Amortization of Net Gain or Loss – Gains or losses accumulate when the annual change in the benefit obligation or the plan assets deviate from expectations, e.g., the difference between the prior years' actual return on plan assets vs. the prior years' Expected Return on Plan Assets. If these accumulated gains or losses exceed 10 percent of the greater of the benefit obligation or plan assets, the excess is amortized over a period of time based on participant demographics.

Q. What information did the actuary utilize to calculate the annual 2022 OPEB expense?

A. The primary OPEB assumptions used to estimate the Company's 2022 OPEB expense are listed below:

- Discount rate of 3.24 percent: The discount rate is computed using the Mercer Bond Model, which creates a hypothetical portfolio of AA or better rated corporate bonds such that bond yields and principal payments would fully match the projected benefit payments from the pension plan. The discount rate is set equal to the yield on this hypothetical portfolio. This methodology is the most precise and yields the highest discount rate (lowest expense) which we are allowed to use per the SEC;
- EROA of 6.00 percent for non-taxable plans. This 6.00 percent rate is (1) equal (within rounding) to ALLETE's combined pension plan EROA (as we have always done since the inception of the plan); (2) above Mercer's 5.69 percent (or 0.31 percent higher) net of fee mid- or 50 percentile projection for the plan (see MP Exhibit ___ (Cutshall), Direct Schedule 18); and (3) approximately the

same as the average OPEB EROA rates of 6.04 percent as determined in ALLETE's survey of EEI member companies 2020 annual reports (see MP Exhibit ___ (Cutshall), Direct Schedule 11). ALLETE's taxable plan's EROA is 4.80 percent, or 80 percent of the non-taxable plan's EROA, because it assumes a 20 percent tax rate; and

- Health care trend rates: initial trend rate of 5.93 percent for 2021 with ultimate trend rate of 4.50 percent. This is very comparable to the EEI Pension and OPEB Survey 2020-2021 average initial trend rate of 6.04 percent and average ultimate trend rate of 4.69 percent (see MP Exhibit ___ (Cutshall), Direct Schedule 12).

Q. Please provide an example how the EROA and the related investment earnings reduce OPEB expense?

A. As illustrated by Table 11, the EROA and related Expected Return on Plan Assets are the main OPEB expense reducer at a negative $9.7 million for 2020. However, the amortization of prior service cost of a negative $8.0 million also reduced the cost of the OPEB plans and shows how the reduction of OPEB benefits has helped to reduce the Company's OPEB expense.[51]

[51] *See* MP Exhibit ___ (Cutshall), Direct Schedule 19.

Table 11. OPEB Expense Example Utilizing 2020 Actual and 2022 Expected Information ($'s in millions)

	2020 ALLETE Actual	2022 ALLETE Test Year	2022 MP Regulated Test Year	2022 MN Jurisdictional Test Year
Service Cost	$ 3.2	$ 3.2	$ 2.4	$ 2.1
Interest Cost	4.9	4.8	3.5	3.1
Amortization of Loss	1.0	0.6	0.4	0.4
Amortization of Prior Service Cost	(8.0)	(7.5)	(5.5)	(4.9)
Expected Return on Plan Assets	(9.7)	(9.5)	(7.0)	(6.2)
OPEB Expense	**$ (8.6)**	**$ (8.4)**	**$ (6.2)**	**$ (5.5)**

Q. Does the OPEB expense calculation, like the pension expense calculation, incorporate a smoothing mechanism?

A. Yes, the OPEB expense calculation incorporates the same smoothing mechanisms as the pension expense, including use of the market-related value of assets, amortizations of prior service costs/(credits), amortizations of (gains)/losses, and the application of the corridor (described below) for determining if (gains)/losses need to be amortized.

For purposes of calculating OPEB expense, the Company utilizes all smoothing methods allowed under OPEB accounting rules (ASC 715-60) that are designed to reduce OPEB expense volatility. Under these-methods:

- ALLETE uses a market-related value of assets in calculating expense. The market-related value of assets phases in gains or losses over a five-year period. This reduces volatility by using a more stable asset value to determine the Expected Return on Plan Assets component of expense. The market-related value of assets also reduces volatility in the amortization of gains and losses, described below, because recent gains and losses are excluded from the amortization calculation to the extent they are not phased in;

- ALLETE amortizes accumulated gains and losses, excluding gains and losses not yet phased into the market-related value of assets, in the OPEB expense.
    - ALLETE uses a corridor to determine if gains and losses will be amortized in expense. The corridor is the greater of 10 percent of the plan's obligation or 10 percent of the plan's market-related value of assets.
        - If accumulated gains and losses fall within the corridor, no gains and losses are amortized in expense.
        - If accumulated gains and losses exceed the corridor, the excess is amortized over the average working lifetime of active participants or the average lifetime of inactive participants if there are no active participants in the plan; and
- Increases or decreases in plan liabilities resulting from plan amendments are amortized over the expected years to full eligibility age, which typically is the average working lifetime of the active participants affected by the plan amendment.

Q. Is there an alternative way to recover OPEB expense?

A. Yes — as with the pension expense discussed previously, the Company could institute a mechanism that adjusts rates annually for OPEB expense and the associated contributions. This would be the most accurate and direct recovery mechanism, and Minnesota Power would be open to this approach to ensure neither over- nor under-recovery of OPEB expense.

Q. What do you recommend with respect to including OPEB costs in Minnesota Power's 2022 test year?

A. Similar to the pension expense, Minnesota Power supports recovery of the Company's actual 2022 OPEB expense as determined by the actuaries or through an annual adjustment mechanism. Recovery of actual 2022 OPEB expense is the most accurate and consistent method for determining OPEB expense, and was approved in the 2016 Rate Case. Using another method, such as an historic average, has the strong potential to distort the forecasting methodology required by the SEC and GAAP to measure the cost of the plan, thereby precluding the Company from recovering its actual costs of providing these benefits to utility employees. Further, historic averages do not incorporate changes in the economic environment, or plan and assumption changes implemented by the Company, to help control the cost of the OPEB plans.

2. <u>OPEB – Accumulated Contributions in Excess of Net Periodic Benefit Cost</u>

Q. What is ALLETE proposing with respect to its OPEB's accumulated contributions in excess of net periodic benefit cost balance?

A. Similar to the pension, the Company requests that the 13-month average of its 2022 test year OPEB plan accumulated contributions in excess of net periodic benefit cost of $19,457,015 (MN Jurisdictional) (see MP Exhibit ___ (Cutshall), Direct Schedule 17) be included in the working capital section of rate base. This would result in a net increase to rate base of $13,011,390 (MN Jurisdictional) for accumulated contributions, net of ADIT. The ADIT applied to the accumulated contributions in excess of net period benefit cost equals $6,445,625 (MN Jurisdictional) and consists of $19,457,015 computed at the statutory tax rate of 28.742 percent, plus excess deferred tax of $853,290. The excess deferred tax is a result of the corporate income tax rate change in the TCJA. The net increase, or $13,011,390 (MN Jurisdictional), is the amount on which the Company seeks to earn a return. In other words, Minnesota Power asks to treat these accumulated contributions in the same manner as any other working capital item — all of which similarly fluctuate.

Q. Are there other naming conventions for accumulated contributions in excess of net periodic benefit cost as it relates to OPEB plans?

A. Yes. Historically, when a Company contributed more to its OPEB plan than expensed, this has been called a "prepaid OPEB expense" or a "prepaid OPEB asset." More recently, this has been called "accumulated contributions in excess of net periodic benefit cost," analogous to the accumulated contributions in excess of net periodic benefit cost for the Company's pension.

Q. Has the Company requested recovery of the OPEB accumulated contributions in excess of net periodic benefit cost (prepaid OPEB asset) before this rate case?

A. No.

Q. Why has the Company not requested recovery of the OPEB accumulated contributions in excess of net periodic benefit cost (prepaid OPEB asset) before?

A. The Company did not request recovery of the OPEB accumulated contributions in excess of net periodic benefit cost because the balance was minimal and was expected to remain that way since, as we stated before, the company funded contributions and recovers expense from its customers.

Q. Why is the Company now requesting to include the OPEB asset in rate base and earn a return on it in this proceeding?

A. The Company anticipated that the OPEB accumulated contributions in excess of net periodic benefit cost (prepaid OPEB asset) balance would remain nominal and likely shrink; however, that balance has become larger than expected (primarily due to the retention of investment income on the prepaid balance which should be distributed to the Company but can't due to tax reasons and the accumulated effect of the benefit reduction measures ALLETE has taken) and is anticipated to grow in the future as long as negative expense continues.

Q. Why does the Company have an accumulated contributions in excess of net periodic benefit cost OPEB asset?

A. The Company has accumulated contributions in excess of net periodic benefit cost OPEB asset because it has contributed more to the OPEB plans than it has expensed since the inception of the plans. This is true even when OPEB expense is negative as has been the case since 2013.

Q. Can the Company withdraw assets from the OPEB plans other than to pay benefits or plan expenses?

A. No, the Company may not withdraw OPEB plan assets other than to pay benefits or plan expenses because the funds are held in a Voluntary Employees Beneficiary Association ("VEBA") trust, which is a separate entity from the employer. A 100 percent excise tax is imposed on any funds that reverts back to the employer. Consequently, it is impractical for Minnesota Power to use OPEB assets for anything other than qualified benefits.

Q. If the Company has generally matched OPEB funding to the level of expense, why is there an accumulated contributions in excess of net periodic benefit cost OPEB asset?

A. Accumulated contributions in excess of net periodic benefit cost assets are created when cumulative contributions exceed expense. Due to the Company's policy of funding OPEB expenses through customers' rates and the changes in OPEB benefits as discussed previously and in Ms. Krollman's testimony, the Company's OPEB expenses have been negative for years 2013 through 2020 and are estimated to be negative in 2021 and 2022. If the Company — through customer rates — funds expense and expense is negative, funds should be withdrawn from the OPEB or VEBA trust to pay the customer (through reduced rates). This would avoid having an asset due to accumulated contributions in excess of net periodic benefit cost asset;[52] however, as described above, it would be unarguably foolish to withdraw funds from the VEBA due to tax penalties. Consequently, the Company (investors) pays the negative expense to the customers to avoid the 100 percent excise tax. Thus, the VEBA will continue to have an accumulated contributions in excess of net periodic benefit cost OPEB asset (and is expected grow), which is the amount the VEBA owes the Company because the Company paid the negative expense to the customer rather than the VEBA paying the negative expense to the customer. The earnings on this accumulated contribution in

[52] A prepaid asset is created when contributions exceed expense. The math holds true when a prepaid asset is created even when expense is negative. For example, if the contribution is $0 and the expense is negative, the prepaid amount will increase because the contribution is greater than the expense.

excess of net periodic benefit cost will benefit customers by decreasing the OPEB expense. Whereas the investors' funds are tied up in the VEBA not earning a return until the accumulated contributions in excess of net periodic benefit cost balance is at or below zero, or the VEBA is no longer in existence — which will likely be many decades.

Q. Please summarize the Company's request with respect to its OPEB's accumulated contributions in excess of net periodic benefit cost balance.

A. The Company requests that the 13-month average of its test year (updated for actuals at the December 31, 2021 measurement date) OPEB plan accumulated contributions in excess of net periodic benefit cost net of ADIT be included in rate base.

Q. Please summarize the Company's requests with respect to its retirement plan accounting.

A. Minnesota Power's pension and OPEB benefits are an integral part of its eligible current and retired employees' earned retirement compensation for providing services for safe, affordable, and reliable power to customers. About 1,900 retired employees and their beneficiaries are receiving benefits from these well-funded and well-managed pension plans. Similarly, 2,155 retirees (and their families) and 669 eligible employees[53] rely on the OPEB plans for their medical, dental, and/or life insurance benefits.

As with all benefits, the pension and OPEB plans cost money. However, these types of compensation are unusual as compared to other forms of compensation that are paid when earned. Pension and OPEB benefits are paid in future years after they are earned. In fact, some of these benefits may be paid 50 or more years in the future. Due to the nature of these long-term commitments and promises, Minnesota Power is required to contribute, invest, and manage these funds — ensuring the earned benefits are paid when they are due.

---

[53] Non-eligible employees have different retirement compensation as outlined in Company witness Ms. Krollman's testimony.

Minnesota Power continues to support recovery of its test year pension and OPEB expense amounts (updated for actuals at the December 31, 2021 measurement date) as they are determined by actuarial accounting and GAAP; otherwise, the Company will not recover these legitimate and important costs of providing utility service.

In addition, the Company's legally mandated contributions to the pension plan in excess of its GAAP expense described above creates the accumulated contributions in excess of net periodic benefit cost asset balance (also known as prepaid pension asset). This balance should be included in the working capital section of rate base, like other prepaid assets, to compensate shareholders and to recognize that customers benefit by receiving all of the earnings on these funds through the reduction of pension expense. Similarly, the OPEB accumulated contributions in excess of net periodic benefit cost asset balance (also known as prepaid OPEB asset) should be included in rate base since contributions to the plan were mandated by the commission, and the plan — for tax reasons — practically cannot pay customers for negative expense and, thus, the Company must pay them instead.

Denying compensation to shareholders for this use of their money negatively impacts Minnesota Power's financial ratios and was identified by the credit rating agencies as a contributor to Minnesota Power's negative outlook. Additionally, denial of a return on the pension and OPEB accumulated contributions in excess of net periodic benefit cost asset precludes the Company from a reasonable opportunity to recover its cost of service and earn its authorized rate of return. For the company plans to continue to pay benefit expenses, contributions and customers is not sustainable. If this issue is not resolved appropriately, in future years, the resulting negative credit impacts will continue to grow and have increasingly detrimental impacts to the Company and send the wrong message about the need to support these important employee benefits.

VI. CONCLUSION

Q. What are your overall recommendations for the 2022 test year?

A. Minnesota Power recommends a capital structure consisting of 53.81 percent common equity and 46.19 percent long-term debt as well as a 4.33 percent cost of debt for the 2022 test year. I also support a rate of return on common equity of 10.25 percent as presented by Company witness Ms. Bulkley.

In regards to pension and OPEB expense, Minnesota Power supports recovery of the Company's forecasted 2022 pension expense of $3,190,618 (MN Jurisdictional) and negative OPEB expense of $5,488,944 (MN Jurisdictional) for a combined negative benefit expense of $2,298,126 (MN Jurisdictional) as determined by Mercer and updated for actuals at the December 31, 2021 measurement date or an annual adjustment mechanism. Minnesota Power also requests that the 13-month average balance for the 2022 test year, updated for actuals at the December 31, 2021 measurement date, of the pension and OPEB's accumulated contributions in excess of net periodic benefit cost of $71,464,800 (MN Jurisdictional) and $19,457,015 (MN Jurisdictional), respectively, be included in the working capital section of rate base.

As noted previously, and in more detail in the Direct Testimony of Ms. Jennifer Cady, Minnesota Power has been consistently achieving the State of Minnesota's energy policy goals — on energy conservation, renewable energy additions, decarbonization and affordability of electricity for customers. However, despite these successes, Minnesota Power has endured challenging financial conditions and significant relief is needed for the Company to continue its transition to a carbon-free future. My testimony has identified several key components required for a utility to remain financially healthy and specific requests to ensure Minnesota Power is well positioned to continue delivering value to customers.

Q. Does this complete your testimony?

A. Yes.

PUBLIC DOCUMENT
TRADE SECRET DATA
EXCISED IN ITS ENTIRETY

Moody's Investor Services ("Moody's") Rating Methodology Regulated Electric and Gas Utilities (Jun. 23, 2017)

PUBLIC DOCUMENT
TRADE SECRET DATA
EXCISED IN ITS ENTIRETY

Moody's Credit Report on ALLETE, Inc. (Apr. 27, 2021)

PUBLIC DOCUMENT
TRADE SECRET DATA
EXCISED IN ITS ENTIRETY

Moody's Credit Report on ALLETE, Inc. (Feb. 8, 2018)

PUBLIC DOCUMENT
TRADE SECRET DATA
EXCISED IN ITS ENTIRETY

Moody's Credit Report on ALLETE, Inc. (Feb. 22, 2018)

PUBLIC DOCUMENT
TRADE SECRET DATA
EXCISED IN ITS ENTIRETY

Moody's Credit Report on ALLETE, Inc. (Mar. 26, 2019)

PUBLIC DOCUMENT
TRADE SECRET DATA
EXCISED IN ITS ENTIRETY

Standard & Poor's ("S&P") Corporation Key Credit Factors for the Regulated Utilities Industry (Nov. 19, 2013)

PUBLIC DOCUMENT
TRADE SECRET DATA
EXCISED IN ITS ENTIRETY

S&P's Credit Report on ALLETE, Inc. (Feb. 6, 2018)

PUBLIC DOCUMENT
TRADE SECRET DATA
EXCISED IN ITS ENTIRETY

S&P's Credit Report on ALLETE, Inc. (Apr. 22, 2020)

Total Pension Rollforward

A	B	C	D	E	F	G
				(B+C-D)		
	ALLETE				Less Subsidiary	
Year	Beginning Prepaid	Contributions	Expense	Ending Prepaid	Contributions	Expense
1987	3,908	4,054,160	4,053,454	4,614	559,999	457,574
1988	4,614	2,673,674	2,678,288	0	149,635	204,411
1989	0	2,466,133	2,466,133	0	102,421	169,626
1990	0	3,022,676	2,796,953	225,723	164,956	120,722
1991	225,723	5,724,650	2,321,988	3,628,385	258,884	67,754
1992	3,628,385	4,033,434	2,026,297	5,635,522	169,750	38,131
1993	5,635,522	4,008,886	1,904,872	7,739,536	62,510	105,189
1994	7,739,536	1,787,709	801,925	8,725,320	27,909	(113,184)
1995	8,725,320	3,621	2,323,762	6,405,179	-	13,352
1996	6,405,179	-	5,195,829	1,209,350	-	113,051
1997	1,209,350	-	4,596,632	(3,387,282)	-	109,340
1998	(3,387,282)	-	(459,478)	(2,927,804)	-	(171,476)
1999	(2,927,804)	-	(3,922,267)	994,463	-	(284,191)
2000	994,463	-	(8,497,214)	9,491,677	-	(411,904)
2001	9,491,677	-	(9,567,909)	19,059,586	-	(725,066)
2002	19,059,586	-	(6,975,895)	26,035,481	-	(379,100)
2003	26,035,481	-	(2,628,334)	28,663,815	-	(52,538)
2004	28,663,815	7,862,565	3,097,015	33,429,365	390,044	425,527
2005	33,429,365	-	4,951,308	28,478,057	-	547,212
2006	28,478,057	8,257,827	7,305,480	29,430,404	873,279	722,553
2007	29,430,404	187,819	1,096,191	28,522,032	-	389,871
2008	28,522,032	10,898,460	(577,913)	39,998,405	1,111,644	492,799
2009	39,998,405	32,900,000	764,042	72,134,363	3,355,820	306,228
2010	72,134,363	26,500,000	4,603,064	94,031,299	2,081,415	514,800
2011	94,031,299	33,819,786	11,486,072	116,365,013	2,289,883	991,698
2012	116,365,013	7,292,000	16,174,087	107,482,926	673,856	1,245,657
2013	107,482,926	-	20,670,516	86,812,410	-	1,529,187
2014	86,812,410	19,499,040	12,522,446	93,789,004	3,780,934	935,383
2015	93,789,004	-	15,304,684	78,484,320	-	1,562,991
2016	78,484,320	6,300,180	5,285,744	79,498,756	582,518	788,160
2017	79,498,756	15,165,725	8,376,836	86,287,645	1,385,239	1,348,589
2018	86,287,645	15,000,000	5,590,407	95,697,238	1,675,888	1,333,926
2019	95,697,238	10,430,000	2,823,926	103,303,312	682,042	693,322
2020	103,303,312	10,679,000	6,970,212	107,012,100	969,917	1,450,389
2021 est	107,012,100	10,340,000	8,412,171	108,939,929	1,060,985	1,674,785
2022 est	108,939,929	-	5,574,892	103,365,037	(167,845)	1,085,119
						80.54%

H	I	J	K	L	M
		(C-F)	(D-G)	(I+J-K)	
	Minnesota Power				
Year	Beginning Prepaid	Contributions	Expense	Ending Prepaid	MN Power to MP Regulated Allocator
1987	3,908	3,494,161	3,595,880	(97,811)	76.70%
1988	(97,811)	2,524,039	2,473,877	(47,649)	76.70%
1989	(47,649)	2,363,712	2,296,507	19,556	76.70%
1990	19,556	2,857,720	2,676,231	201,045	76.70%
1991	201,045	5,465,766	2,254,234	3,412,577	76.700%
1992	3,412,577	3,863,684	1,988,166	5,288,095	76.700%
1993	5,288,095	3,946,376	1,799,683	7,434,788	76.700%
1994	7,434,788	1,759,800	915,109	8,279,479	76.700%
1995	8,279,479	3,621	2,310,410	5,972,690	76.700%
1996	5,972,690	-	5,082,778	889,912	76.700%
1997	889,912	-	4,487,292	(3,597,380)	76.700%
1998	(3,597,380)	-	(288,002)	(3,309,378)	76.700%
1999	(3,309,378)	-	(3,638,076)	328,698	76.700%
2000	328,698	-	(8,085,310)	8,414,008	76.700%
2001	8,414,008	-	(8,842,843)	17,256,851	76.700%
2002	17,256,851	-	(6,596,795)	23,853,646	76.700%
2003	23,853,646	-	(2,575,796)	26,429,442	76.700%
2004	26,429,442	7,472,521	2,671,488	31,230,475	76.700%
2005	31,230,475	-	4,404,096	26,826,379	77.120%
2006	26,826,379	7,384,548	6,582,927	27,628,000	82.956%
2007	27,628,000	187,819	706,320	27,109,499	83.657%
2008	27,109,499	9,786,816	(1,070,712)	37,967,027	85.936%
2009	37,967,027	29,544,180	457,814	67,053,394	87.422%
2010	67,053,394	24,418,585	4,088,264	87,383,715	89.220%
2011	87,383,715	31,529,903	10,494,374	108,419,244	88.827%
2012	108,419,244	6,618,144	14,928,430	100,108,958	89.600%
2013	100,108,958	-	19,141,329	80,967,629	89.693%
2014	80,967,629	15,718,106	11,587,063	85,098,672	88.661%
2015	85,098,672	-	13,741,693	71,356,979	87.124%
2016	71,356,979	5,717,662	4,497,584	72,577,057	85.021%
2017	72,577,057	13,780,486	7,028,247	79,329,296	85.149%
2018	79,329,296	13,324,112	4,256,481	88,396,927	82.681%
2019	88,396,927	9,747,958	2,130,604	96,014,281	78.353%
2020	96,014,281	9,709,083	5,519,823	100,203,541	72.982%
2021 est	100,203,541	9,279,015	6,737,386	102,745,170	80.277%
2022 est	102,745,170	167,845	4,489,773	98,423,242	79.927%

N	O	P	Q	R	S
		(J* M)	(K*M)	(O+P-Q)	
	Minnesota Power Regulated				
Year	Beginning Prepaid	Contributions	Expense	Ending Prepaid	Jurisdictional Allocator
1987	3,908	2,680,021	2,758,040	(74,110)	92.1000%
1988	(74,110)	1,935,938	1,897,464	(35,636)	92.1000%
1989	(35,636)	1,812,967	1,761,421	15,910	92.1000%
1990	15,910	2,191,871	2,052,669	155,112	92.1000%
1991	155,112	4,192,243	1,728,997	2,618,357	92.1000%
1992	2,618,357	2,963,446	1,524,923	4,056,880	92.1000%
1993	4,056,880	3,026,870	1,380,357	5,703,393	92.1000%
1994	5,703,393	1,349,767	701,889	6,351,271	92.1000%
1995	6,351,271	2,777	1,772,084	4,581,964	92.1000%
1996	4,581,964	-	3,898,491	683,473	91.9200%
1997	683,473	-	3,441,753	(2,758,280)	91.9200%
1998	(2,758,280)	-	(220,898)	(2,537,382)	91.9200%
1999	(2,537,382)	-	(2,790,404)	253,022	91.9200%
2000	253,022	-	(6,201,433)	6,454,455	91.9200%
2001	6,454,455	-	(6,782,461)	13,236,916	91.9200%
2002	13,236,916	-	(5,059,742)	18,296,657	91.9200%
2003	18,296,657	-	(1,975,636)	20,272,293	91.9200%
2004	20,272,293	5,731,424	2,049,031	23,954,685	91.9200%
2005	23,954,685	-	3,396,439	20,558,246	89.4600%
2006	20,558,246	6,125,926	5,460,933	21,223,239	89.4600%
2007	21,223,239	157,124	590,886	20,789,477	87.4900%
2008	20,789,477	8,410,399	(920,127)	30,120,002	87.6767%
2009	30,120,002	25,828,113	400,230	55,547,885	87.6767%
2010	55,547,885	21,786,262	3,647,549	73,686,598	86.1672%
2011	73,686,598	28,007,067	9,321,838	92,371,828	86.1672%
2012	92,371,828	5,929,857	13,375,873	84,925,811	86.1672%
2013	84,925,811	-	17,168,432	67,757,379	86.1672%
2014	67,757,379	13,935,830	10,273,206	71,420,003	86.1672%
2015	71,420,003	-	11,972,313	59,447,691	86.5161%
2016	59,447,691	4,861,213	3,823,891	60,485,013	86.0536%
2017	60,485,013	11,733,946	5,984,482	66,234,477	87.0129%
2018	66,234,477	11,016,509	3,519,301	73,731,685	87.5035%
2019	73,731,685	7,637,818	1,669,392	79,700,110	88.9693%
2020	79,700,110	7,085,883	4,028,477	82,757,516	88.2992%
2021 est	82,757,516	7,448,915	5,408,571	84,797,860	88.2530%
2022 est	84,797,860	134,153	3,588,541	81,343,472	88.9113%

T	U	V	W	X	Y	Z
		(P * S)	(Q * S)	(U+V-W)		
	MN Jurisdictional					
Year	Beginning Prepaid	Contributions	Expense	Ending Prepaid	Year	TOTAL Recovery
1987	3,908	2,468,300	2,540,155	(67,947)	1987	n/a
1988	(67,947)	1,782,999	1,747,564	(32,512)	1988	n/a
1989	(32,512)	1,669,743	1,622,269	14,962	1989	n/a
1990	14,962	2,018,713	1,890,508	143,167	1990	n/a
1991	143,167	3,861,055	1,592,407	2,411,816	1991	n/a
1992	2,411,816	2,729,333	1,404,454	3,736,695	1992	n/a
1993	3,736,695	2,787,748	1,271,309	5,253,134	1993	n/a
1994	5,253,134	1,243,135	646,439	5,849,830	1994	368,504 [1]
1995	5,849,830	2,558	1,632,090	4,220,298	1995	368,504
1996	4,220,298	-	3,583,493	636,805	1996	368,504
1997	636,805	-	3,163,659	(2,526,854)	1997	368,504
1998	(2,526,854)	-	(203,049)	(2,323,805)	1998	368,504
1999	(2,323,805)	-	(2,564,940)	241,134	1999	368,504
2000	241,134	-	(5,700,357)	5,941,491	2000	368,504
2001	5,941,491	-	(6,234,438)	12,175,929	2001	368,504
2002	12,175,929	-	(4,650,915)	16,826,844	2002	368,504
2003	16,826,844	-	(1,816,004)	18,642,848	2003	368,504
2004	18,642,848	5,268,325	1,883,470	22,027,703	2004	368,504
2005	22,027,703	-	3,038,454	18,989,249	2005	368,504
2006	18,989,249	5,480,253	4,885,351	19,584,151	2006	368,504
2007	19,584,151	137,468	516,966	19,204,653	2007	368,504
2008	19,204,653	7,373,960	(806,737)	27,385,349	2008	(1,566,373) [2]
2009	27,385,349	22,645,237	350,909	49,679,678	2009	(1,566,373)
2010	49,679,678	18,772,612	3,142,991	65,309,299	2010	1,452,891 [3]
2011	65,309,299	24,132,906	8,032,366	81,409,838	2011	1,452,891
2012	81,409,838	5,109,592	11,525,615	74,993,814	2012	1,452,891
2013	74,993,814	-	14,793,557	60,200,257	2013	1,452,891
2014	60,200,257	12,008,114	8,852,134	63,356,238	2014	1,452,891
2015	63,356,238	-	10,357,978	52,998,260	2015	1,452,891
2016	52,998,260	4,183,249	3,290,596	53,890,913	2016	1,452,891
2017	53,890,913	10,210,047	5,207,271	58,893,688	2017	5,229,348 [4,5]
2018	58,893,688	9,639,831	3,079,512	65,454,008	2018	5,229,348
2019	65,454,008	6,795,313	1,485,247	70,764,074	2019	5,229,348
2020	70,764,074	6,256,776	3,557,112	73,463,738	2020	5,229,348
2021 est	73,463,738	6,573,888	4,773,225	75,264,402	2021 est	5,229,348
2022 est	75,264,402	119,278	3,190,618	72,193,061	2022 est	
						33,113,939

[1] Docket Number E015/GR-94-001.

[2] Per Information Request 184, Date July 31, 2008, Docket Number E015/GR-08-415.

[3] In the Matter of the Application of Minnesota Power for Authority to Increase Rates for Electric Service in Minnesota at p. 26, Findings of Fact, Conclusions, and Order, Docket No. E-015/GR-09-1151 (Nov. 2, 2010) ("Docket 09-1151 Order").

[4] In the Matter of the Application of Minnesota Power for Authority to Increase Rates for Electric Service in Minnesota Rebuttal Testimony and Schedules of Patrick Cutshall, Docket No. E-015/GR-16-664 (June 29, 2017) at p. 6 and p.7, and Schedule 12 p.4.

[5] The MN Jurisdictional Allocation factor of 87.0129% was used to calculate the amount of pension expense recovered in the 2016 rate ca: (Docket No. E-015/GR-16-664, "Compliance Filing - Final General Rates", Schedule 16, pg. 45). The calculation of the pension expense was calculated as follows:

	Per Cutshall Rebuttal Testimony	Per Compliance Filing - Final Rates
Total Company	$ 6,009,854	$ 6,009,854
MN Jurisdictional Allocation	86.5278%	87.0129%
MN Power Jurisdictional (MN)	$ 5,200,194	$ 5,229,348

Mercer Standard Percentile Approach

Range of Net Portfolio Returns

Annual Returns are Net of Expenses

Project File: ...\Apr21 PRC - Combined - excluding alternatives.mpc
Name of Client: ALLETE - Combined
Source of Return Data: Mercer Investment Consulting
Date of Return Data: April 2021
Annual Expense: 0.09%
Analyst: 0

Percentiles	Projection Horizon (years) 20
5%	1.22%
10%	2.10%
15%	2.69%
20%	3.17%
25%	**3.57%**
30%	**3.94%**
35%	**4.27%**
40%	**4.59%**
45%	**4.90%**
50%	**5.21%**
55%	**5.51%**
60%	**5.82%**
65%	**6.15%**
70%	**6.48%**
75%	**6.85%**
80%	7.25%
85%	7.73%
90%	8.32%
95%	9.20%

Interest Rate Hedge Ratio	N/A

[∑(Liability Hedging Assets x Liability Hedging Asset Duration)] / (Liability x Liability Duration)
(2,826,299,624) / (0,000 x 0.000000)

Funded Status Volatility	N/A

A measure of the one-year, one standard deviation change in funded status as a percent of the liability

Mercer Standard Percentile Approach

Asset Allocation of Portfolio

Specified By Consultant

Name of Client: ALLETE - Combined
Analyst: 0

Domestic Equity	Percentage Allocation
Domestic Equity-All Cap	0.0%
Domestic Equity-Large Cap	14.7%
Domestic Equity-Mid Cap	6.9%
Domestic Equity-Small Cap	6.7%
Domestic Equity-Micro Cap	0.0%
Company Stock-Large	0.0%
Company Stock-Small	0.0%
Defensive Equity	0.0%
International Equity	
International Equity-Unhedged	0.0%
International Equity-Hedged	0.0%
International Eq-Emerging Mkts	11.4%
International Eq-Small Cap	0.0%
Global Equity x-U.S. - All Cap	11.2%
Global Equity x-U.S. - Large Cap	0.0%
Global Equity	0.0%
Global Small Cap	0.0%
Global Defensive Equity - Unhedged	0.0%
Fixed Income	
Fixed Income-Aggregate	0.0%
Fixed Income-Gov/Credit	0.0%
Fixed Income-Gov/Credit (Downgrade Tolerant)	0.0%
Fixed Income-Short Gov/Corp	0.0%
Fixed Income-Intermediate Gov/Corp	0.0%
Fixed Income-Long Gov/Corp	0.0%
Fixed Income-Long Gov/Corp (Downgrade Tolerant)	0.0%
Fixed Income-Intermediate Government	23.5%
Fixed Income-Government	0.0%
Fixed Income-Long Gov	3.4%
Fixed Income-Very Long Gov	0.0%
Fixed Income-Intermediate Credit	0.0%
Fixed Income-Credit	0.0%
Fixed Income-Credit (Downgrade Tolerant)	11.2%
Fixed Income-Long Credit	0.0%
Fixed Income-Long Credit (Downgrade Tolerant)	10.1%
Fixed Income-Mortgages	0.0%
Fixed Income-High Yield	0.0%
Fixed Income-Muni Bonds	0.0%
Inflation-Indexed Bonds	0.0%
Cash	1.0%
Convertibles	0.0%
GICs	0.0%
Private Debt	0.0%
Multi-Asset Credit	0.0%
International - Non-US Gov't Unhedged	0.0%
International - Non-US Gov't Hedged	0.0%
International - Non-US Broad Unhedged	0.0%
Emerging Markets Hard Currency	0.0%
Alternatives	
Real Estate - Core	0.0%
Real Estate - REITS	0.0%
Private Equity	0.0%
Low-exposure Hedge Funds (Conservative prior to 7/1/2019)	0.0%
Diversified Hedge Funds (Moderate prior to 7/1/2019)	0.0%
Long-Biased Hedge Funds (Mod/Aggressive prior to 7/1/2019)	0.0%
Idiosyncratic Multi-Asset	0.0%
Commodities	0.0%
TOTAL	100.0%

Mercer Standard Percentile Approach

Asset Class Return Assumptions

Project File:	...\Apr21 PRC - Combined - excluding alternatives.mpc
Name of Client:	ALLETE - Combined
Source of Return Data:	Mercer Investment Consulting
Date of Return Data:	April 2021
Annual Expense:	0.09%
Analyst:	0

	Compound Annual Returns	Annual Arithmetic Returns	Standard Deviation of Annual Returns	Fixed Income Durations	Credit Spread Duration From Bonds	OAS From Bonds
Domestic Equity						
Domestic Equity-All Cap	5.63%	7.18%	18.4%			
Domestic Equity-Large Cap	5.55%	7.04%	18.0%			
Domestic Equity-Mid Cap	5.96%	7.70%	19.6%			
Domestic Equity-Small Cap	6.17%	8.36%	22.2%			
Domestic Equity-Micro Cap	6.25%	8.76%	23.8%			
Company Stock-Large	3.71%	7.04%	27.4%			
Company Stock-Small	1.75%	8.36%	39.7%			
Defensive Equity	5.73%	6.60%	13.7%			
International Equity						
International Equity-Unhedged	6.34%	8.20%	20.3%			
International Equity-Hedged	6.40%	7.94%	18.4%			
International Eq-Emerging Mkts	7.56%	10.59%	26.4%			
International Eq-Small Cap	6.79%	9.02%	22.4%			
Global Equity x-U.S. - All Cap	6.74%	8.69%	20.9%			
Global Equity x-U.S. - Large Cap	6.68%	8.61%	20.8%			
Global Equity	6.10%	7.65%	18.5%			
Global Small Cap	6.54%	8.53%	21.1%			
Global Defensive Equity - Unhedged	5.89%	6.70%	13.2%			
Fixed Income						
Fixed Income-Aggregate	2.80%	2.94%	5.5%	6.40	3.27	
Fixed Income-Gov/Credit	2.70%	2.86%	5.8%	7.37	4.36	
Fixed Income-Gov/Credit (Downgrade Tolerant)	2.86%	3.02%	5.7%	7.37	4.36	
Fixed Income-Short Gov/Corp	2.58%	2.61%	2.6%	1.94	3.27	
Fixed Income-Intermediate Gov/Corp	2.75%	2.81%	3.7%	4.16	0.02	
Fixed Income-Long Gov/Corp	2.53%	3.13%	11.1%	16.32	1.13	
Fixed Income-Long Gov/Corp (Downgrade Tolerant)	2.83%	3.42%	11.1%	16.32	13.27	
Fixed Income-Intermediate Government	2.53%	2.59%	3.6%	3.95	13.27	
Fixed Income-Government	2.49%	2.64%	5.6%	6.67		
Fixed Income-Long Gov	2.36%	3.20%	13.2%	18.52		
Fixed Income-Very Long Gov	1.99%	3.66%	18.8%	26.94		
Fixed Income-Intermediate Credit	3.18%	3.28%	4.7%	4.48		
Fixed Income-Credit	3.02%	3.27%	7.3%	8.23	2.91	
Fixed Income-Credit (Downgrade Tolerant)	3.39%	3.65%	7.4%	8.23	8.94	
Fixed Income-Long Credit	2.72%	3.39%	11.8%	14.90	8.94	
Fixed Income-Long Credit (Downgrade Tolerant)	3.31%	4.00%	12.0%	14.90	19.67	
Fixed Income-Mortgages	3.01%	3.15%	5.4%			
Fixed Income-High Yield	4.16%	4.78%	11.4%			
Fixed Income-Muni Bonds	2.26%	2.45%	6.3%			
Inflation-Indexed Bonds	2.26%	2.40%	5.3%			
Cash	2.11%	2.12%	1.3%	0.25		
Convertibles	4.04%	4.48%	9.6%			
GICs	2.15%	2.17%	2.3%			
Private Debt	5.56%	6.20%	11.7%			
Multi-Asset Credit	4.45%	4.83%	9.0%			
International - Non-US Gov't Unhedged	1.80%	2.19%	9.0%			
International - Non-US Gov't Hedged	2.15%	2.25%	4.6%			
International - Non-US Broad Unhedged	1.97%	2.37%	9.1%			
Emerging Markets Hard Currency	4.75%	5.33%	11.1%			
Credit Spread	0.00%	0.00%	0.46%			
Swap Yield	0.00%	0.00%	0.88%			
Tracking - assets	0.00%	0.00%	0.50%			
Alternatives						
Real Estate - Core	6.21%	7.16%	14.4%			
Real Estate - REITS	5.73%	7.60%	20.3%			
Private Equity	8.93%	11.03%	21.9%			
Low-exposure Hedge Funds (Conservative prior to 7/1/2019)	4.61%	4.76%	5.6%			
Diversified Hedge Funds (Moderate prior to 7/1/2019)	5.02%	5.28%	7.4%			
Long-Biased Hedge Funds (Mod/Aggressive prior to 7/1/2019)	5.42%	5.86%	9.8%			
Idiosyncratic Multi-Asset	4.47%	4.85%	8.9%			
Commodities	2.45%	3.70%	16.3%			
Inflation	2.19%	2.20%	1.5%			
AA Long Credit Liability - Duration 8				8.00	87.00	
AA Long Credit Liability - Duration 10				10.00	94.00	
AA Long Credit Liability - Duration 12				12.00	98.00	
PORTFOLIO - Gross	5.30%	5.86%	10.9%			
PORTFOLIO - Net of Expense	5.21%	5.76%	10.9%			

Note: Compound Returns reflect expected volatility and are, therefore, less than simple Arithmetic Average Returns.

Example: If Year 1 Return = 5% and Year 2 Return = 15%, then Annual Arithmetic Return = 10.00% and Compound Annual Return = 9.88%

Mercer Standard Percentile Approach

Asset Class Correlations

Correlations of Annual Returns

Project File: ...\Apr21 PRC - Combined - excluding alternatives.mpc
Name of Client: ALLETE - Combined
Data Source: Mercer Investment Consulting
Data Date: April 2021
Analyst: 0

	Domestic Equity								International Equity								
	All Cap	Large Cap	Mid Cap	Small Cap	Micro Cap	Co. Stock Large	Co. Stock Small	Defens Eqity	Un-hedged	Hedged	Emerg'g Mkts	Small Cap	Global Equity x-U.S. All Cap	Global Equity x-U.S. Large Cap	Global Equity	Global Small Cap	Global Defens Equity - unhedge
Domestic Equity																	
Domestic Equity-All Cap	1.00	1.00	0.99	0.94	0.91	0.83	0.83	1.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Domestic Equity-Large Cap	1.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Domestic Equity-Mid Cap	0.99	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Domestic Equity-Small Cap	0.94	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Domestic Equity-Micro Cap	0.91	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Large Company Stock	0.83	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Small Company Stock	0.83	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Domestic Equity-Defensive Equity	1.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
International Equity																	
International Equity-Unhedged	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
International Equity-Hedged	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
International Equity-Emerging Mkts	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
International Equity-Small Cap	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
International Equity-Global Equity x U.S. - All Cap	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
International Equity-Global Equity x U.S. - Large Cap	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
International Equity-Global Equity	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
International Equity-Global Small Cap	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
International Equity-Global Defensive Equity - Unhedged	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fixed Income																	
Fixed Income-U.S. - Aggregate	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fixed Income-U.S. - Gov't/Credit	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fixed Income-U.S. - Gov't/Credit (Downgrade Tolerant)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fixed Income-U.S. - Short Gov't/Corporate	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fixed Income-U.S. - Intermediate Gov't/Corporate	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fixed Income-U.S. - Long Gov't/Corporate	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fixed Income-U.S. - Long Gov't/Corporate (Downgrade Tolerant)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fixed Income-U.S. - Intermediate Gov't	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fixed Income-Government	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fixed Income-U.S. - Long Gov't	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fixed Income-U.S. - Very Long Gov't	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fixed Income-U.S. - Intermediate Credit	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fixed Income-U.S. - Credit	0.32	0.33	0.32	0.30	0.29	0.27	0.27	0.33	0.25	0.30	0.20	0.24	0.25	0.25	0.31	0.29	0.37
Fixed Income-U.S. - Credit (Downgrade Tolerant)	0.34	0.34	0.33	0.31	0.30	0.28	0.28	0.34	0.26	0.31	0.21	0.25	0.26	0.26	0.32	0.30	0.38
Fixed Income-U.S. - Long Credit	0.31	0.31	0.30	0.28	0.27	0.26	0.25	0.31	0.23	0.28	0.19	0.22	0.23	0.23	0.29	0.27	0.35
Fixed Income-U.S. - Long Credit (Downgrade Tolerant)	0.32	0.32	0.31	0.29	0.28	0.27	0.26	0.32	0.24	0.30	0.20	0.24	0.25	0.25	0.30	0.28	0.37
Fixed Income-U.S. - Mortgages	0.11	0.11	0.11	0.10	0.10	0.10	0.09	0.12	0.04	0.09	0.01	0.05	0.04	0.04	0.09	0.08	0.16
Fixed Income-U.S. - High Yield	0.57	0.57	0.55	0.52	0.50	0.47	0.47	0.57	0.50	0.56	0.46	0.48	0.52	0.52	0.57	0.54	0.60
Fixed Income-U.S. - Muni Bonds	0.16	0.16	0.16	0.15	0.14	0.13	0.13	0.17	0.11	0.14	0.08	0.11	0.11	0.11	0.15	0.14	0.19
Fixed Income-U.S. - Inflation-Indexed Bonds	-0.05	-0.05	-0.05	-0.04	-0.04	-0.04	-0.04	-0.04	-0.09	-0.07	-0.11	-0.08	-0.09	-0.09	-0.07	-0.07	-0.01
U.S. - Cash	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.08	-0.01	-0.04	-0.01	-0.02	-0.02	-0.02	-0.02	0.01
Fixed Income-U.S. - Convertibles	0.80	0.81	0.78	0.73	0.71	0.67	0.67	0.81	0.61	0.68	0.57	0.58	0.63	0.63	0.76	0.72	0.80
Fixed Income-U.S. - GICs	0.09	0.09	0.08	0.08	0.08	0.07	0.07	0.09	0.03	0.06	0.00	0.03	0.03	0.03	0.06	0.06	0.13
U.S. - Private Debt	0.59	0.59	0.57	0.54	0.52	0.49	0.49	0.59	0.51	0.56	0.48	0.48	0.53	0.53	0.59	0.55	0.59
Multi-Asset Credit	0.52	0.52	0.51	0.48	0.46	0.44	0.44	0.53	0.46	0.51	0.43	0.44	0.48	0.48	0.53	0.50	0.56
International - Non-US Gov't Unhedged	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	0.34	0.00	0.18	0.31	0.30	0.30	0.13	0.12	0.02
International - Non-US Gov't Hedged	-0.07	-0.07	-0.07	-0.06	-0.06	-0.06	-0.06	-0.06	-0.07	-0.05	-0.13	-0.05	-0.08	-0.08	-0.08	-0.07	0.02
International - Non-US Broad Unhedged	0.08	0.08	0.07	0.07	0.07	0.06	0.06	0.08	0.43	0.10	0.27	0.40	0.40	0.40	0.23	0.21	0.13
Emerging Markets Hard Currency	0.56	0.56	0.55	0.51	0.50	0.47	0.47	0.57	0.48	0.54	0.53	0.46	0.53	0.53	0.58	0.54	0.60
Alternatives																	
Real Estate - Core	0.46	0.46	0.45	0.42	0.41	0.39	0.39	0.46	0.38	0.43	0.36	0.37	0.40	0.40	0.46	0.43	0.48
Real Estate - REITS	0.74	0.72	0.75	0.73	0.72	0.61	0.61	0.73	0.59	0.65	0.55	0.61	0.61	0.60	0.71	0.72	0.73
Domestic Equity - Private Equity	0.88	0.86	0.90	0.90	0.88	0.72	0.72	0.86	0.66	0.72	0.61	0.71	0.68	0.67	0.83	0.87	0.82
Low-exposure Hedge Funds (Conservative prior to 7/1/2019)	0.37	0.37	0.36	0.34	0.33	0.31	0.31	0.37	0.29	0.32	0.27	0.28	0.30	0.30	0.35	0.33	0.36
Diversified Hedge Funds (Moderate prior to 7/1/2019)	0.70	0.70	0.68	0.64	0.62	0.59	0.59	0.70	0.56	0.61	0.53	0.53	0.58	0.58	0.68	0.64	0.69
Long Biased Hedge Funds (Mod/Aggressive prior to 7/1/2019)	0.73	0.73	0.71	0.66	0.64	0.61	0.61	0.73	0.57	0.63	0.54	0.55	0.59	0.59	0.70	0.66	0.71
Idiosyncratic Multi-Asset	0.68	0.68	0.66	0.62	0.60	0.57	0.57	0.68	0.52	0.58	0.52	0.50	0.55	0.55	0.65	0.61	0.67
Commodities	0.28	0.28	0.27	0.25	0.24	0.23	0.23	0.28	0.41	0.26	0.39	0.39	0.43	0.43	0.36	0.34	0.29
Inflation	0.09	0.09	0.09	0.08	0.08	0.08	0.07	0.10	0.22	0.06	0.29	0.20	0.26	0.26	0.18	0.16	0.08

	Fixed Income																		
	Aggre-gate	Gov/ Credit	Gov Credit (DT)	Short Gov/ Corp	Inter-med G/C	Long G/C	Long G/C (DT)	Interm Gov	Govern-ment	Long Gov	Very Long Gov	Interm Credit	Credit	Credit (DT)	Long Credit	Long Credit (DT)	Mortg-ages	High Yield	Muni Bonds
Domestic Equity																			
Domestic Equity-All Cap	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.32	0.34	0.31	0.32	0.11	0.57	0.16
Domestic Equity-Large Cap	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.33	0.34	0.31	0.32	0.11	0.57	0.16
Domestic Equity-Mid Cap	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.32	0.33	0.30	0.31	0.11	0.55	0.16
Domestic Equity-Small Cap	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.30	0.31	0.28	0.29	0.10	0.52	0.15
Domestic Equity-Micro Cap	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.29	0.30	0.27	0.28	0.10	0.50	0.14
Large Company Stock	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.27	0.28	0.26	0.27	0.10	0.47	0.13
Small Company Stock	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.27	0.28	0.25	0.26	0.09	0.47	0.13
Domestic Equity-Defensive Equity	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.33	0.34	0.31	0.32	0.12	0.57	0.17
International Equity																			
International Equity-Unhedged	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.25	0.26	0.23	0.24	0.04	0.50	0.11
International Equity-Hedged	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.30	0.31	0.28	0.30	0.09	0.56	0.14
International Equity-Emerging Mkts	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.20	0.21	0.19	0.20	0.01	0.46	0.08
International Equity-Small Cap	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.24	0.25	0.22	0.24	0.05	0.48	0.11
International Equity-Global Equity x U.S. - All Cap	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.25	0.26	0.23	0.25	0.04	0.52	0.11
International Equity-Global Equity x U.S. - Large Cap	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.25	0.26	0.23	0.25	0.04	0.52	0.11
International Equity-Global Equity	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.31	0.32	0.29	0.30	0.09	0.57	0.15
International Equity-Global Small Cap	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.29	0.30	0.27	0.28	0.08	0.54	0.14
International Equity-Global Defensive Equity - Unhedged	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.37	0.38	0.35	0.37	0.16	0.60	0.19
Fixed Income																			
Fixed Income-U.S. - Aggregate	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.90	0.88	0.89	0.87	0.92	0.51	0.58
Fixed Income-U.S. - Gov't/Credit	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.91	0.90	0.90	0.88	0.85	0.52	0.57
Fixed Income-U.S. - Gov't/Credit (Downgrade Tolerant)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.92	0.91	0.91	0.89	0.85	0.54	0.58
Fixed Income-U.S. - Short Gov't/Corporate	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.78	0.76	0.73	0.71	0.79	0.40	0.55
Fixed Income-U.S. - Intermediate Gov't/Corporate	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.88	0.87	0.86	0.84	0.84	0.50	0.58
Fixed Income-U.S. - Long Gov't/Corporate	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.92	0.91	0.93	0.91	0.83	0.54	0.56
Fixed Income-U.S. - Long Gov't/Corporate (Downgrade Tolerant)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.93	0.92	0.94	0.92	0.83	0.56	0.56
Fixed Income-U.S. - Intermediate Gov't	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.65	0.63	0.63	0.60	0.78	0.16	0.49
Fixed Income-Government	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.65	0.62	0.64	0.60	0.78	0.16	0.48
Fixed Income-U.S. - Long Gov't	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.61	0.59	0.61	0.57	0.74	0.14	0.45
Fixed Income-U.S. - Very Long Gov't	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.61	0.59	0.61	0.57	0.74	0.14	0.45
Fixed Income-U.S. - Intermediate Credit	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.98	0.98	0.95	0.95	0.76	0.80	0.58
Fixed Income-U.S. - Credit	0.90	0.91	0.92	0.78	0.88	0.92	0.93	0.65	0.65	0.61	0.61	0.98	1.00	1.00	0.99	0.99	0.76	0.77	0.56
Fixed Income-U.S. - Credit (Downgrade Tolerant)	0.88	0.90	0.91	0.76	0.87	0.91	0.92	0.63	0.62	0.59	0.59	0.98	1.00	1.00	0.99	0.99	0.75	0.79	0.56
Fixed Income-U.S. - Long Credit	0.89	0.90	0.91	0.73	0.86	0.93	0.94	0.63	0.64	0.61	0.61	0.95	0.99	0.99	1.00	1.00	0.74	0.74	0.54
Fixed Income-U.S. - Long Credit (Downgrade Tolerant)	0.87	0.88	0.89	0.71	0.84	0.91	0.92	0.60	0.60	0.57	0.57	0.95	0.99	0.99	1.00	1.00	0.73	0.76	0.53
Fixed Income-U.S. - Mortgages	0.92	0.85	0.85	0.79	0.84	0.83	0.83	0.78	0.78	0.74	0.74	0.76	0.76	0.75	0.74	0.73	1.00	0.42	0.52
Fixed Income-U.S. - High Yield	0.51	0.52	0.54	0.40	0.50	0.54	0.56	0.16	0.16	0.14	0.14	0.80	0.77	0.79	0.74	0.76	0.42	1.00	0.41
Fixed Income-U.S. - Muni Bonds	0.58	0.57	0.58	0.55	0.58	0.56	0.56	0.49	0.48	0.45	0.45	0.58	0.56	0.56	0.54	0.53	0.52	0.41	1.00
Fixed Income-U.S. - Inflation-Indexed Bonds	0.60	0.59	0.59	0.58	0.60	0.56	0.56	0.62	0.62	0.59	0.59	0.45	0.46	0.44	0.45	0.43	0.55	0.11	0.34
U.S. - Cash	0.21	0.21	0.20	0.20	0.21	0.20	0.20	0.22	0.22	0.21	0.21	0.16	0.16	0.15	0.16	0.15	0.19	0.04	0.12
Fixed Income-U.S. - Convertibles	0.39	0.39	0.39	0.32	0.38	0.39	0.40	0.19	0.20	0.19	0.19	0.51	0.50	0.50	0.48	0.48	0.34	0.58	0.29
Fixed Income-U.S. - GICs	0.72	0.72	0.71	0.67	0.71	0.70	0.70	0.66	0.66	0.63	0.63	0.64	0.64	0.62	0.62	0.61	0.66	0.34	0.43
U.S. - Private Debt	0.19	0.20	0.21	0.13	0.19	0.21	0.23	-0.06	-0.07	-0.07	-0.07	0.45	0.42	0.43	0.39	0.41	0.15	0.72	0.21
Multi-Asset Credit	0.52	0.53	0.54	0.43	0.52	0.54	0.56	0.21	0.20	0.19	0.19	0.77	0.75	0.76	0.72	0.73	0.43	0.92	0.41
International - Non-US Gov't Unhedged	0.30	0.30	0.30	0.29	0.30	0.29	0.29	0.31	0.31	0.30	0.30	0.23	0.23	0.22	0.23	0.22	0.28	0.05	0.17
International - Non-US Gov't Hedged	0.76	0.75	0.74	0.73	0.75	0.72	0.71	0.78	0.78	0.75	0.75	0.57	0.58	0.56	0.57	0.55	0.70	0.13	0.42
International - Non-US Broad Unhedged	0.35	0.34	0.34	0.32	0.34	0.34	0.34	0.30	0.30	0.28	0.28	0.33	0.33	0.32	0.32	0.31	0.32	0.22	0.22
Emerging Markets Hard Currency	0.57	0.58	0.59	0.47	0.56	0.58	0.60	0.30	0.30	0.29	0.29	0.76	0.73	0.74	0.70	0.71	0.51	0.84	0.43
Alternatives																			
Real Estate - Core	0.35	0.35	0.36	0.30	0.34	0.35	0.36	0.24	0.25	0.24	0.24	0.40	0.39	0.39	0.38	0.38	0.32	0.36	0.24
Real Estate - REITS	0.30	0.30	0.31	0.24	0.29	0.31	0.32	0.14	0.14	0.14	0.14	0.41	0.40	0.41	0.39	0.39	0.27	0.48	0.23
Domestic Equity - Private Equity	0.12	0.13	0.13	0.07	0.12	0.14	0.15	-0.05	-0.05	-0.05	-0.05	0.29	0.27	0.28	0.26	0.27	0.10	0.47	0.14
Low-exposure Hedge Funds (Conservative prior to 7/1/2019)	0.10	0.11	0.11	0.11	0.12	0.10	0.11	0.03	0.01	0.00	0.00	0.20	0.18	0.18	0.16	0.16	0.08	0.27	0.10
Diversified Hedge Funds (Moderate prior to 7/1/2019)	0.11	0.12	0.13	0.06	0.11	0.13	0.14	-0.07	-0.07	-0.06	-0.06	0.29	0.27	0.28	0.25	0.27	0.09	0.48	0.13
Long Biased Hedge Funds (Mod/Aggressive prior to 7/1/2019)	0.11	0.12	0.13	0.06	0.11	0.13	0.14	-0.07	-0.07	-0.06	-0.06	0.29	0.27	0.28	0.26	0.27	0.09	0.48	0.13
Idiosyncratic Multi-Asset	0.29	0.30	0.30	0.24	0.29	0.30	0.31	0.13	0.13	0.12	0.12	0.42	0.40	0.41	0.38	0.39	0.26	0.50	0.23
Commodities	0.21	0.21	0.21	0.25	0.24	0.19	0.19	0.18	0.15	0.12	0.12	0.26	0.23	0.23	0.21	0.21	0.17	0.23	0.16
Inflation	-0.01	0.00	0.01	0.10	0.05	-0.03	-0.03	0.04	-0.01	-0.05	-0.05	0.06	0.02	0.02	-0.01	-0.01	-0.03	0.06	0.03

	Fixed Income (cont.)										Alternatives								
	Inflation Indexed Bonds	Cash	Convert-ibles	GICs	Private Debt	Multi-Asset Credit	Int'l Un-hedged	Intl - Hedged	Broad Intl - Un-hedged	Emerging Market Debt	Real Estate - Core	Real Estate - REITS	Private Equity	Hedge Funds - Conser-vative (Mkt Neutral prior to 7/1/2006)	Hedge Funds - Mod	Hedge Funds - Mod Agg-ressive (Aggress-ive prior to 7/1/2006)	Idosyn Multi-Asset	Commodities	Inflation
Domestic Equity																			
Domestic Equity-All Cap	-0.05	-0.02	0.80	0.09	0.59	0.52	-0.02	-0.07	0.08	0.56	0.46	0.74	0.88	0.37	0.70	0.73	0.68	0.28	0.09
Domestic Equity-Large Cap	-0.05	-0.02	0.81	0.09	0.59	0.52	-0.02	-0.07	0.08	0.56	0.46	0.72	0.86	0.37	0.70	0.73	0.68	0.28	0.09
Domestic Equity-Mid Cap	-0.05	-0.02	0.78	0.08	0.57	0.51	-0.02	-0.07	0.07	0.55	0.45	0.75	0.90	0.36	0.68	0.71	0.66	0.27	0.09
Domestic Equity-Small Cap	-0.04	-0.02	0.73	0.08	0.54	0.48	-0.02	-0.06	0.07	0.51	0.42	0.73	0.90	0.34	0.64	0.66	0.62	0.25	0.08
Domestic Equity-Micro Cap	-0.04	-0.02	0.71	0.08	0.52	0.46	-0.02	-0.06	0.07	0.50	0.41	0.72	0.88	0.33	0.62	0.64	0.60	0.24	0.08
Large Company Stock	-0.04	-0.02	0.67	0.07	0.49	0.44	-0.02	-0.06	0.06	0.47	0.39	0.61	0.72	0.31	0.59	0.61	0.57	0.23	0.08
Small Company Stock	-0.04	-0.02	0.67	0.07	0.49	0.44	-0.02	-0.06	0.06	0.47	0.39	0.61	0.72	0.31	0.59	0.61	0.57	0.23	0.07
Domestic Equity-Defensive Equity	-0.04	-0.02	0.81	0.09	0.59	0.53	-0.02	-0.06	0.08	0.57	0.46	0.73	0.86	0.37	0.70	0.73	0.68	0.28	0.10
International Equity																			
International Equity-Unhedged	-0.09	-0.08	0.61	0.03	0.51	0.46	0.34	-0.07	0.43	0.48	0.38	0.59	0.66	0.29	0.56	0.57	0.52	0.41	0.22
International Equity-Hedged	-0.07	-0.01	0.68	0.06	0.56	0.51	0.00	-0.05	0.10	0.54	0.43	0.65	0.72	0.32	0.61	0.63	0.58	0.26	0.06
International Equity-Emerging Mkts	-0.11	-0.04	0.57	0.00	0.48	0.43	0.18	-0.13	0.27	0.53	0.36	0.55	0.61	0.27	0.53	0.54	0.52	0.39	0.29
International Equity-Small Cap	-0.08	-0.01	0.58	0.03	0.48	0.44	0.31	-0.05	0.40	0.46	0.37	0.61	0.71	0.28	0.53	0.55	0.50	0.39	0.20
International Equity-Global Equity x U.S. - All Cap	-0.09	-0.02	0.63	0.03	0.53	0.48	0.30	-0.08	0.40	0.53	0.40	0.61	0.68	0.30	0.58	0.59	0.55	0.43	0.26
International Equity-Global Equity x U.S. - Large Cap	-0.09	-0.02	0.63	0.03	0.53	0.48	0.30	-0.08	0.40	0.53	0.40	0.60	0.67	0.30	0.58	0.59	0.55	0.43	0.26
International Equity-Global Equity	-0.07	-0.02	0.76	0.06	0.59	0.53	0.13	-0.08	0.23	0.58	0.46	0.71	0.83	0.35	0.68	0.70	0.65	0.36	0.18
International Equity-Global Small Cap	-0.07	-0.02	0.72	0.06	0.55	0.50	0.12	-0.07	0.21	0.54	0.43	0.72	0.87	0.33	0.64	0.66	0.61	0.34	0.16
International Equity-Global Defensive Equity - Unhedged	-0.01	0.01	0.80	0.13	0.59	0.56	0.02	0.02	0.13	0.60	0.48	0.73	0.82	0.36	0.69	0.71	0.67	0.29	0.08
Fixed Income																			
Fixed Income-U.S. - Aggregate	0.60	0.21	0.39	0.72	0.19	0.52	0.30	0.76	0.35	0.57	0.35	0.30	0.12	0.10	0.11	0.11	0.29	0.21	-0.01
Fixed Income-U.S. - Gov't/Credit	0.59	0.21	0.39	0.72	0.20	0.53	0.30	0.75	0.34	0.58	0.35	0.30	0.13	0.11	0.12	0.12	0.30	0.21	0.00
Fixed Income-U.S. - Gov't/Credit (Downgrade Tolerant)	0.59	0.20	0.39	0.71	0.21	0.54	0.30	0.74	0.34	0.59	0.36	0.31	0.13	0.11	0.13	0.13	0.30	0.21	0.01
Fixed Income-U.S. - Short Gov't/Corporate	0.58	0.20	0.32	0.67	0.13	0.43	0.29	0.73	0.32	0.47	0.30	0.24	0.07	0.11	0.06	0.06	0.24	0.25	0.10
Fixed Income-U.S. - Intermediate Gov't/Corporate	0.60	0.21	0.38	0.71	0.19	0.52	0.30	0.75	0.34	0.56	0.34	0.29	0.12	0.12	0.11	0.11	0.29	0.24	0.05
Fixed Income-U.S. - Long Gov't/Corporate	0.56	0.20	0.39	0.70	0.21	0.54	0.29	0.72	0.34	0.58	0.35	0.31	0.14	0.10	0.13	0.13	0.30	0.19	-0.03
Fixed Income-U.S. - Long Gov't/Corporate (Downgrade Tolerant)	0.56	0.20	0.40	0.70	0.23	0.56	0.29	0.71	0.34	0.60	0.36	0.32	0.15	0.11	0.14	0.14	0.31	0.19	-0.03
Fixed Income-U.S. - Intermediate Gov't	0.62	0.22	0.19	0.66	-0.06	0.21	0.31	0.78	0.30	0.30	0.24	0.14	-0.05	0.03	-0.07	-0.07	0.13	0.18	0.04
Fixed Income-Government	0.62	0.22	0.20	0.66	-0.07	0.20	0.31	0.78	0.30	0.30	0.25	0.14	-0.05	0.01	-0.07	-0.07	0.13	0.15	-0.01
Fixed Income-U.S. - Long Gov't	0.59	0.21	0.19	0.63	-0.07	0.19	0.30	0.75	0.28	0.29	0.24	0.14	-0.05	0.00	-0.06	-0.06	0.12	0.12	-0.05
Fixed Income-U.S. - Very Long Gov't	0.59	0.21	0.19	0.63	-0.07	0.19	0.30	0.75	0.28	0.29	0.24	0.14	-0.05	0.00	-0.06	-0.06	0.12	0.12	-0.05
Fixed Income-U.S. - Intermediate Credit	0.45	0.16	0.51	0.64	0.45	0.77	0.23	0.57	0.33	0.76	0.40	0.41	0.29	0.20	0.29	0.29	0.42	0.26	0.06
Fixed Income-U.S. - Credit	0.46	0.16	0.50	0.64	0.42	0.75	0.23	0.58	0.33	0.73	0.39	0.40	0.27	0.18	0.27	0.27	0.40	0.23	0.02
Fixed Income-U.S. - Credit (Downgrade Tolerant)	0.44	0.15	0.50	0.62	0.43	0.76	0.22	0.56	0.32	0.74	0.39	0.41	0.28	0.18	0.28	0.28	0.41	0.23	0.02
Fixed Income-U.S. - Long Credit	0.45	0.16	0.48	0.62	0.39	0.72	0.23	0.57	0.32	0.70	0.38	0.39	0.26	0.16	0.25	0.26	0.38	0.21	-0.01
Fixed Income-U.S. - Long Credit (Downgrade Tolerant)	0.43	0.15	0.48	0.61	0.41	0.73	0.22	0.55	0.31	0.71	0.38	0.39	0.27	0.16	0.27	0.27	0.39	0.21	-0.01
Fixed Income-U.S. - Mortgages	0.55	0.19	0.34	0.66	0.15	0.43	0.28	0.70	0.32	0.51	0.32	0.27	0.10	0.08	0.09	0.09	0.26	0.17	-0.03
Fixed Income-U.S. - High Yield	0.11	0.04	0.58	0.34	0.72	0.92	0.05	0.13	0.22	0.84	0.36	0.48	0.47	0.27	0.48	0.48	0.50	0.23	0.06
Fixed Income-U.S. - Muni Bonds	0.34	0.12	0.29	0.43	0.21	0.41	0.17	0.42	0.22	0.43	0.24	0.23	0.14	0.10	0.13	0.13	0.23	0.16	0.03
Fixed Income-U.S. - Inflation-Indexed Bonds	1.00	0.15	0.14	0.47	-0.05	0.14	0.22	0.55	0.21	0.21	0.17	0.10	-0.04	0.01	-0.05	-0.05	0.09	0.29	-0.02
U.S. - Cash	0.15	1.00	0.05	0.17	-0.02	0.05	0.03	0.35	0.01	0.11	0.05	0.03	-0.02	0.00	-0.02	-0.02	0.03	0.03	-0.03
Fixed Income-U.S. - Convertibles	0.14	0.05	1.00	0.28	0.51	0.55	0.07	0.17	0.16	0.60	0.46	0.64	0.69	0.31	0.57	0.59	0.60	0.27	0.06
Fixed Income-U.S. - GICs	0.47	0.17	0.28	1.00	0.11	0.35	0.24	0.60	0.27	0.42	0.27	0.22	0.08	0.06	0.07	0.07	0.21	0.14	-0.03
U.S. - Private Debt	-0.05	-0.02	0.51	0.11	1.00	0.71	-0.03	-0.07	0.10	0.60	0.28	0.44	0.50	0.26	0.47	0.48	0.44	0.19	0.08
Multi-Asset Credit	0.14	0.05	0.55	0.35	0.71	1.00	0.07	0.18	0.22	0.81	0.35	0.45	0.44	0.25	0.44	0.44	0.47	0.23	0.07
International - Non-US Gov't Unhedged	0.22	0.03	0.07	0.24	-0.03	0.07	1.00	0.45	0.98	0.12	0.08	0.04	-0.02	0.00	-0.02	-0.02	0.05	0.44	0.31
International - Non-US Gov't Hedged	0.55	0.35	0.17	0.60	-0.07	0.18	0.45	1.00	0.42	0.29	0.18	0.09	-0.06	0.00	-0.07	-0.07	0.11	0.10	-0.11
International - Non-US Broad Unhedged	0.21	0.01	0.16	0.27	0.10	0.22	0.98	0.42	1.00	0.25	0.13	0.12	0.06	0.05	0.06	0.06	0.13	0.47	0.32
Emerging Markets Hard Currency	0.21	0.11	0.60	0.42	0.60	0.81	0.12	0.29	0.25	1.00	0.40	0.50	0.47	0.25	0.45	0.46	0.53	0.25	0.06
Alternatives																			
Real Estate - Core	0.17	0.05	0.46	0.27	0.28	0.35	0.08	0.18	0.13	0.40	1.00	0.89	0.39	0.18	0.32	0.34	0.37	0.23	0.10
Real Estate - REITS	0.10	0.03	0.64	0.22	0.44	0.45	0.04	0.09	0.12	0.50	0.89	1.00	0.67	0.27	0.51	0.53	0.53	0.27	0.10
Domestic Equity - Private Equity	-0.04	-0.02	0.69	0.08	0.50	0.44	-0.02	-0.06	0.06	0.47	0.39	0.67	1.00	0.31	0.60	0.62	0.58	0.23	0.08
Low-exposure Hedge Funds (Conservative prior to 7/1/2019)	0.01	0.00	0.31	0.06	0.26	0.25	0.00	0.00	0.05	0.25	0.18	0.27	0.31	1.00	0.88	0.87	0.63	0.14	0.09
Diversified Hedge Funds (Moderate prior to 7/1/2019)	-0.05	-0.02	0.57	0.07	0.47	0.44	-0.02	-0.07	0.06	0.45	0.32	0.51	0.60	0.88	1.00	0.98	0.77	0.19	0.07
Long Biased Hedge Funds (Mod/Aggressive prior to 7/1/2019)	-0.05	-0.02	0.59	0.07	0.48	0.44	-0.02	-0.07	0.06	0.46	0.34	0.53	0.62	0.87	0.98	1.00	0.78	0.20	0.07
Idiosyncratic Multi-Asset	0.09	0.03	0.60	0.21	0.44	0.47	0.05	0.11	0.13	0.53	0.37	0.53	0.58	0.63	0.77	0.78	1.00	0.22	0.06
Commodities	0.29	0.03	0.27	0.14	0.19	0.23	0.44	0.10	0.47	0.25	0.23	0.27	0.23	0.14	0.19	0.20	0.22	1.00	0.65
Inflation	-0.02	-0.03	0.06	-0.03	0.08	0.07	0.31	-0.11	0.32	0.06	0.10	0.10	0.08	0.09	0.07	0.07	0.06	0.65	1.00

Mercer Standard Percentile Approach

Investment Expense Default

Name of Client: ALLETE - Combined
Analyst: 0

Domestic Equity	Percentage Allocation	Basis Points	Weighted Average
Domestic Equity-All Cap	0.0%	5	0.0000%
Domestic Equity-Large Cap	14.7%	5	0.0073%
Domestic Equity-Mid Cap	6.9%	6	0.0042%
Domestic Equity-Small Cap	6.7%	6	0.0040%
Domestic Equity-Micro Cap	0.0%	6	0.0000%
Company Stock-Large	0.0%	0	0.0000%
Company Stock-Small	0.0%	0	0.0000%
Defensive Equity	0.0%	6	0.0000%
International Equity			
International Equity-Unhedged	0.0%	10	0.0000%
International Equity-Hedged	0.0%	10	0.0000%
International Eq-Emerging Mkts	11.4%	20	0.0228%
International Eq-Small Cap	0.0%	10	0.0000%
Global Equity x-U.S. - All Cap	11.2%	10	0.0112%
Global Equity x-U.S. - Large Cap	0.0%	10	0.0000%
Global Equity	0.0%	10	0.0000%
Global Small Cap	0.0%	10	0.0000%
Global Defensive Equity - Unhedged	0.0%	10	0.0000%
Fixed Income			
Fixed Income-Aggregate	0.0%	7	0.0000%
Fixed Income-Gov/Credit	0.0%	7	0.0000%
Fixed Income-Gov/Credit (Downgrade Tolerant)	0.0%	7	0.0000%
Fixed Income-Short Gov/Corp	0.0%	7	0.0000%
Fixed Income-Intermediate Gov/Corp	0.0%	7	0.0000%
Fixed Income-Long Gov/Corp	0.0%	7	0.0000%
Fixed Income-Long Gov/Corp (Downgrade Tolerant)	0.0%	7	0.0000%
Fixed Income-Intermediate Government	23.5%	7	0.0164%
Fixed Income-Government	0.0%	7	0.0000%
Fixed Income-Long Gov	3.4%	7	0.0024%
Fixed Income-Very Long Gov	0.0%	7	0.0000%
Fixed Income-Intermediate Credit	0.0%	7	0.0000%
Fixed Income-Credit	0.0%	7	0.0000%
Fixed Income-Credit (Downgrade Tolerant)	11.2%	7	0.0078%
Fixed Income-Long Credit	0.0%	7	0.0000%
Fixed Income-Long Credit (Downgrade Tolerant)	10.1%	7	0.0071%
Fixed Income-Mortgages	0.0%	7	0.0000%
Fixed Income-High Yield	0.0%	7	0.0000%
Fixed Income-Muni Bonds	0.0%	7	0.0000%
Inflation-Indexed Bonds	0.0%	7	0.0000%
Cash	1.0%	0	0.0000%
Convertibles	0.0%	7	0.0000%
GICs	0.0%	7	0.0000%
Private Debt	0.0%	0	0.0000%
Multi-Asset Credit	0.0%	7	0.0000%
International - Non-US Gov't Unhedged	0.0%	10	0.0000%
International - Non-US Gov't Hedged	0.0%	10	0.0000%
International - Non-US Broad Unhedged	0.0%	10	0.0000%
Emerging Markets Hard Currency	0.0%	10	0.0000%
Alternatives			
Real Estate - Core	0.0%	0	0.0000%
Real Estate - REITS	0.0%	0	0.0000%
Private Equity	0.0%	0	0.0000%
Low-exposure Hedge Funds (Conservative prior to 7/1/2019)	0.0%	0	0.0000%
Diversified Hedge Funds (Moderate prior to 7/1/2019)	0.0%	0	0.0000%
Long-Biased Hedge Funds (Mod/Aggressive prior to 7/1/2019)	0.0%	0	0.0000%
Idiosyncratic Multi-Asset	0.0%	0	0.0000%
Commodities	0.0%	0	0.0000%
Investment Fees by Asset Class	100.0%		0.0832%
Trustee Fee by Asset Size	711,000,000	1	0.0100%
Total Investment Expense			0.0932%

EEI Member Companies
Per Company's 2020 Annual Report
Expected Return on Plan Assets and Fixed Income Allocation

	Pension	
Company[1]	**Fixed Income Asset Allocation**	**Expected Return on Assets (EROA)**
Public Service Enterprise Group	22%	7.70%
IDACORP	23%	7.40%
Southern Company	23%	8.25%
Alliant Energy	28%	7.10%
Hawaiian Electric Industries	28%	7.25%
Berkshire Hathaway Energy (MidAmerican Energy)	30%	5.94%
MGE Energy	30%	7.20%
NextEra Energy	32%	7.35%
Portland General Electric	33%	7.00%
Tennessee Valley Authority	33%	6.75%
CMS Energy	34%	6.75%
Dominion Energy	35%	7.80%
First Energy	35%	7.50%
SCANA Corporation (Dominion Energy)	35%	7.80%
Ameren Corporation	36%	7.00%
Evergy	36%	6.63%
Eversource Energy	36%	8.25%
Unitil Corporation	37%	7.40%
Consolidated Edison	38%	7.00%
DTE Energy	38%	7.10%
Avangrid	40%	7.30%
Entergy Corporation	42%	7.00%
Exelon Corporation	43%	7.00%
Algonquin Power (Empire District)	43%	6.85%
Otter Tail Corporation	44%	6.88%
Edison International	45%	6.00%
PPL Corporation	46%	7.25%
Xcel Energy	48%	6.87%
Avista Corporation	49%	5.50%
Cleco Corporate Holdings	50%	5.91%
OGE Energy Corp	50%	7.50%
PNM Resources	50%	5.90%
Sempra Energy	50%	7.00%
American Electric Power	51%	5.75%
NorthWestern Energy	53%	3.97%
Duke Energy	55%	6.85%
WEC Energy Group	55%	6.87%
AES Corporation	56%	5.24%
CenterPoint Energy	57%	5.75%
MDU Resources Group	60%	6.00%
PG&E Corporation	60%	5.10%
NiSource	61%	5.70%
Pinnacle West Capital Corporation	68%	5.75%
Black Hills Corporation	69%	5.25%
Average		6.69%

	OPEB	
Company[1]	**Fixed Income Asset Allocation**	**Expected Return on Assets (EROA)**
Public Service Enterprise Group	22%	7.70%
Hawaiian Electric Industries	27%	7.25%
Southern Company	27%	7.25%
First Energy	28%	7.50%
Edison International	29%	4.90%
CMS Energy	30%	6.75%
Eversource Energy	30%	8.25%
Ameren Corporation	33%	7.00%
NorthWestern Energy	38%	4.71%
American Electric Power	39%	5.50%
Exelon Corporation	39%	6.69%
Portland General Electric	40%	5.02%
Duke Energy	42%	6.85%
NiSource	43%	5.67%
Algonquin Power (Empire District)	43%	5.57%
Evergy	45%	4.19%
Unitil Corporation	45%	7.40%
Consolidated Edison	46%	6.80%
Avangrid	50%	5.09%
DTE Energy	52%	7.20%
Entergy Corporation	53%	6.25%
Pinnacle West Capital Corporation	55%	4.85%
PPL Corporation	55%	6.44%
PG&E Corporation	58%	4.60%
WEC Energy Group	60%	7.00%
CenterPoint Energy	69%	3.95%
PNM Resources	70%	7.00%
Xcel Energy	72%	4.50%
Alliant Energy	73%	4.50%
Berkshire Hathaway Energy (MidAmerican Energy)	76%	5.42%
MDU Resources Group	90%	5.50%
Average		6.04%

[1] - Companies are sorted in ascending order of Fixed Income Allocation percentages.

PUBLIC DOCUMENT
TRADE SECRET DATA
EXCISED IN ITS ENTIRETY

EEI Pension and OPEB Survey 2020-2021 and Select Results

Minnesota Power
Working Capital Requirements
Prepaid Pension Asset
2022 Projected Budget Unadjusted

Projected

	A	B	C	D	E	F	G		H	I	
Month	Pension 18230-6015	Pension Plan B 22830-2009	Pension Plan C 22830-2011	AOCI Pension 21900-0003	Total (A+B+C+D)	MP Regulated Allocator	Prepaid Pension Asset MP Regulated E x F		MN Jurisdictional Allocator	Prepaid Pension Asset - MN Jurisdictional G x H	
December-21	228,912,981	(115,655,011)	(50,909,212)	40,396,412	$ 102,745,170	80.280%	$ 82,483,822		88.253%	$ 72,794,419	
January-22	228,912,981	(116,228,752)	(50,695,632)	40,396,412	102,385,009	79.930%	81,836,338		88.911%	72,761,750	
February-22	228,912,981	(116,802,493)	(50,482,052)	40,396,412	102,024,848	79.930%	81,548,461		88.911%	72,505,795	
March-22	228,912,981	(117,376,234)	(50,268,472)	40,396,412	101,664,687	79.930%	81,260,584		88.911%	72,249,840	
April-22	228,912,981	(117,949,975)	(50,054,892)	40,396,412	101,304,526	79.930%	80,972,708		88.911%	71,993,885	
May-22	228,912,981	(118,523,716)	(49,841,312)	40,396,412	100,944,365	79.930%	80,684,831		88.911%	71,737,931	
June-22	228,912,981	(119,097,457)	(49,627,732)	40,396,412	100,584,204	79.930%	80,396,954		88.911%	71,481,976	
July-22	228,912,981	(119,671,198)	(49,414,152)	40,396,412	100,224,043	79.930%	80,109,078		88.911%	71,226,021	
August-22	228,912,981	(120,244,939)	(49,200,572)	40,396,412	99,863,882	79.930%	79,821,201		88.911%	70,970,066	
September-22	228,912,981	(120,818,680)	(48,986,992)	40,396,412	99,503,721	79.930%	79,533,324		88.911%	70,714,111	
October-22	228,912,981	(121,392,421)	(48,773,412)	40,396,412	99,143,560	79.930%	79,245,448		88.911%	70,458,156	
November-22	228,912,981	(121,966,162)	(48,559,832)	40,396,412	98,783,399	79.930%	78,957,571		88.911%	70,202,201	
December-22	228,912,981	(122,539,903)	(48,346,248)	40,396,412	$ 98,423,242	79.930%	$ 78,669,697		88.911%	$ 69,946,249	
							$ 1,045,520,017	[1]		$ 929,042,400	[1]
				13 month Average	**$ 100,584,204**		**$ 80,424,617**	[2]		**$ 71,464,800**	[2]

Reconciliation of how 13-month average number and year end 2022 numbers tie to each other.

Total Minnesota Power 2022 year end balance	$ 98,423,242
Minnesota Power regulated allocator	79.93%
Total Minnesota Power regulated	78,669,697
MN Jurisdictional allocator	88.911%
MN Jurisdictional 2022 year end balance	$ 69,946,249

[1] Total 13 months - Dec 21 to Dec 22
[2] Total 13 months in [1] divided 13 months

Prepaid Pension Balance Components and Earnings

ALLETE

Year	A Beginning Prepaid	B Contributions	C Expense	D Ending Prepaid (A+B-C)	E Pension Return[1]	F Current Year Return on Prepaid (E*(D+A)/2)	G Compounded Return (E*Prior yr H)	H Cumulative Return (Prior yr H+F+G)
1987	3,908	4,054,160	4,053,454	4,614	8.00%	162,166		162,166
1988	4,614	2,673,674	2,678,288	0	8.00%	185	12,973	175,324
1989	0	2,466,133	2,466,133	0	8.50%	0	14,903	190,227
1990	0	3,022,676	2,796,953	225,723	8.50%	9,593	16,169	215,989
1991	225,723	5,724,650	2,321,988	3,628,385	8.50%	163,800	18,359	398,148
1992	3,628,385	4,033,434	2,026,297	5,635,522	8.20%	379,820	32,648	810,617
1993	5,635,522	4,008,886	1,904,872	7,739,536	14.20%	949,629	115,108	1,875,353
1994	7,739,536	1,787,709	801,925	8,725,320	-1.30%	(107,022)	(24,380)	1,743,952
1995	8,725,320	3,621	2,323,762	6,405,179	24.08%	1,821,712	419,944	3,985,608
1996	6,405,179	-	5,195,829	1,209,350	7.99%	304,200	318,450	4,608,259
1997	1,209,350	-	4,596,632	(3,387,282)	18.82%	(204,943)	867,274	5,270,590
1998	(3,387,282)	-	(459,478)	(2,927,804)	7.94%	(250,709)	418,485	5,438,366
1999	(2,927,804)	-	(3,922,267)	994,463	18.14%	(175,354)	986,520	6,249,531
2000	994,463	-	(8,497,214)	9,491,677	4.48%	234,890	279,979	6,764,400
2001	9,491,677	-	(9,567,909)	19,059,586	-0.58%	(82,799)	(39,234)	6,642,367
2002	19,059,586	-	(6,975,895)	26,035,481	-7.36%	(1,659,499)	(488,878)	4,493,991
2003	26,035,481	-	(2,628,334)	28,663,815	23.46%	6,416,228	1,054,290	11,964,508
2004	28,663,815	7,862,565	3,097,015	33,429,365	9.81%	3,045,671	1,173,718	16,183,897
2005	33,429,365	-	4,951,308	28,478,057	8.37%	2,590,826	1,354,592	20,129,315
2006	28,478,057	8,257,827	7,305,480	29,430,404	15.60%	4,516,860	3,140,173	27,786,348
2007	29,430,404	187,819	1,096,191	28,522,032	9.00%	2,607,860	2,500,771	32,894,979
2008	28,522,032	10,898,460	(577,913)	39,998,405	-28.71%	(9,836,109)	(9,444,149)	13,614,722
2009	39,998,405	32,900,000	764,042	72,134,363	12.22%	6,851,312	1,663,719	22,129,753
2010	72,134,363	26,500,000	4,603,064	94,031,299	14.95%	12,420,883	3,308,398	37,859,034
2011	94,031,299	33,819,786	11,486,072	116,365,013	9.47%	9,962,265	3,585,251	51,406,550
2012	116,365,013	7,292,000	16,174,087	107,482,926	10.00%	11,192,397	5,140,655	67,739,602
2013	107,482,926	-	20,670,516	86,812,410	13.30%	12,920,640	9,009,367	89,669,610
2014	86,812,410	19,499,040	12,522,446	93,789,004	7.70%	6,953,154	6,904,560	103,527,324
2015	93,789,004	-	15,304,684	78,484,320	-1.50%	(1,292,050)	(1,552,910)	100,682,364
2016	78,484,320	6,300,180	5,285,744	79,498,756	10.70%	8,452,095	10,773,013	119,907,472
2017	79,498,756	15,165,725	8,376,836	86,287,645	16.70%	13,843,165	20,024,548	153,775,184
2018	86,287,645	15,000,000	5,590,407	95,697,238	-4.00%	(3,639,698)	(6,151,007)	143,984,479
2019	95,697,238	10,430,000	2,823,926	103,303,312	7.25%	7,213,770	10,438,875	161,637,124
2020	103,303,312	10,679,000	6,970,212	107,012,100	6.75%	7,098,145	10,910,506	179,645,775
Est 2021	107,012,100	10,340,000	8,412,171	108,939,929	6.50%	7,018,441	11,676,975	198,341,191
Est 2022	108,939,929	-	5,574,892	103,365,037	6.04%	6,411,610	11,979,808	216,732,609

Minnesota Power

Year	I Beginning Prepaid	J Contributions	K Expense	L Ending Prepaid (I+J-K)	M Pension Return[1]	N Current Year Return on Prepaid (M*(L+I)/2)	O Compounded Return (M*Prior yr P)	P Cumulative Return (Prior yr P+N+O)
1987	3,908	3,494,161	3,595,880	(97,811)	8.00%	(3,756)		(3,756)
1988	(97,811)	2,524,039	2,473,877	(47,649)	8.00%	(5,818)	(300)	(9,875)
1989	(47,649)	2,363,712	2,296,507	19,556	8.50%	(1,194)	(839)	(11,908)
1990	19,556	2,857,720	2,676,231	201,045	8.50%	9,376	(1,012)	(3,545)
1991	201,045	5,465,766	2,254,234	3,412,577	8.50%	153,579	(301)	149,733
1992	3,412,577	3,863,684	1,988,166	5,288,095	8.20%	356,728	12,278	518,738
1993	5,288,095	3,946,376	1,799,683	7,434,788	14.20%	903,325	73,661	1,495,724
1994	7,434,788	1,759,800	915,109	8,279,479	-1.30%	(102,143)	(19,444)	1,374,137
1995	8,279,479	3,621	2,310,410	5,972,690	24.08%	1,715,961	330,892	3,420,990
1996	5,972,690	-	5,082,778	889,912	7.99%	274,161	273,337	3,968,488
1997	889,912	-	4,487,292	(3,597,380)	18.82%	(254,773)	746,870	4,460,585
1998	(3,597,380)	-	(288,002)	(3,309,378)	7.94%	(274,198)	354,170	4,540,557
1999	(3,309,378)	-	(3,638,076)	328,698	18.14%	(270,348)	823,657	5,093,867
2000	328,698	-	(8,085,310)	8,414,008	4.48%	195,837	228,205	5,517,909
2001	8,414,008	-	(8,842,843)	17,256,851	-0.58%	(74,445)	(32,004)	5,411,459
2002	17,256,851	-	(6,596,795)	23,853,646	-7.36%	(1,512,866)	(398,283)	3,500,310
2003	23,853,646	-	(2,575,796)	26,429,442	23.46%	5,898,206	821,173	10,219,689
2004	26,429,442	7,472,521	2,671,488	31,230,475	9.81%	2,828,219	1,002,551	14,050,459
2005	31,230,475	-	4,404,096	26,826,379	8.37%	2,429,679	1,176,023	17,656,162
2006	26,826,379	7,384,548	6,582,927	27,628,000	15.60%	4,247,442	2,754,361	24,657,965
2007	27,628,000	187,819	706,320	27,109,499	9.00%	2,463,187	2,219,217	29,340,369
2008	27,109,499	9,786,816	(1,070,712)	37,967,027	-28.71%	(9,341,735)	(8,423,620)	11,575,014
2009	37,967,027	29,544,180	457,814	67,053,394	12.22%	6,416,748	1,414,467	19,406,228
2010	67,053,394	24,418,585	4,088,264	87,383,715	14.95%	11,544,174	2,901,231	33,851,633
2011	87,383,715	31,529,903	10,494,374	108,419,244	9.47%	9,271,270	3,205,750	46,328,653
2012	108,419,244	6,618,144	14,928,430	100,108,958	10.00%	10,426,410	4,632,865	61,387,928
2013	100,108,958	-	19,141,329	80,967,629	13.30%	12,041,593	8,164,594	81,594,116
2014	80,967,629	15,718,106	11,587,063	85,098,672	7.70%	6,393,553	6,282,747	94,270,415
2015	85,098,672	-	13,741,693	71,356,979	-1.50%	(1,173,417)	(1,414,056)	91,682,941
2016	71,356,979	5,717,662	4,497,584	72,577,057	10.70%	7,700,471	9,810,075	109,193,487
2017	72,577,057	13,780,486	7,028,247	79,329,296	16.70%	12,684,181	18,235,312	140,112,980
2018	79,329,296	13,324,112	4,256,481	88,396,927	-4.00%	(3,354,524)	(5,604,519)	131,153,936
2019	88,396,927	9,747,958	2,130,604	96,014,281	7.25%	6,684,906	9,508,660	147,347,503
2020	96,014,281	9,709,083	5,519,823	100,203,541	6.75%	6,622,352	9,945,956	163,915,811
Est 2021	100,203,541	9,279,015	6,737,386	102,745,170	6.50%	6,595,833	10,654,528	181,166,172
Est 2022	102,745,170	167,845	4,489,773	98,423,242	6.04%	6,075,286	10,942,437	198,183,895

Minnesota Jurisdictional Allocation

	Current Year Return on Prepaid	Compounded Return	Total
1 2022 Minnesota Power prepaid from above	6,075,286	10,942,437	17,017,723
2 MN Power to MP Regulated Allocator	79.9300%	79.9300%	79.9300%
3 MN Power Regulated (1)*(2)	4,855,976	8,746,290	13,602,266
4 MN Jurisdictional Allocator	88.9113%	88.9113%	88.9113%
5 **MN Jurisdictional (3)*(4)**	**$ 4,317,511**	**$ 7,776,440**	**$ 12,093,951**

[1] Assumed rate of return used for years 1987 to 1995, actual rate of return used afterwards, assumed rate of return for 2021 and 2022.

MERCER

ASC 715 (US GAAP) Actuarial Valuation Report as at December 31, 2020

ALLETE, Inc. and Affiliated Companies Qualified Retirement Plans

February 8, 2021

welcome to brighter

Contents

1. Report highlights 1

2. Data, Assumption, Methods and Provisions 4

3. Important notices 12

Appendix A. Disclosure information

Appendix B. Estimated net periodic benefit cost information

Appendix C. Development of market-related value of assets

1

Report highlights

Mercer has prepared this report for ALLETE, Inc. and Affiliated Companies (ALLETE) to (i) present actuarial estimates of liabilities as of December 31, 2020 for the ALLETE and Affiliated Companies Retirement Plan B (Plan B) and ALLETE and Affiliated Companies Retirement Plan C (Plan C) to be incorporated, as ALLETE deems appropriate, in the financial statements prepared under US accounting standards, and to (ii) provide an actuarial estimate of the net periodic benefit cost for the fiscal year ending December 31, 2021 for Plan B and Plan C.

All figures in this report are expressed in US Dollars, unless otherwise stated.

The results herein reflect the disclosure rules under Accounting Standards Update 2018-14. Specifically, the AOCI expected to be recognized in the next fiscal year expense has been eliminated. Additionally, information that can be used in the narrative on the reasons for significant gains and losses has been included in the Review of Results section.

Please see Section 3 of this report for further explanation as to the purposes and limitations of this report.

Summary of results

Below are highlights of the results as of December 31, 2020 compared to the corresponding figures as of December 31, 2019.

	Fiscal year ending December 31, 2020			Fiscal year ending December 31, 2019		
	Plan B	Plan C	Total	Plan B	Plan C	Total
Net periodic benefit cost	**$ 12,062,028**	**$ (5,091,816)**	**$6,970,212**	**$8,811,793**	**$(5,987,867)**	**$2,823,926**
Benefit obligation	$286,450,704	$652,110,803	$938,561,507	$246,252,048	$584,440,862	$830,692,910
Fair value of assets	$168,935,291	$590,439,581	$759,374,872	$141,195,557	$558,382,049	$699,577,606
Funded status	**$(117,515,413)**	**$(61,671,222)**	**$(179,186,635)**	**$(105,056,491)**	**$(26,058,813)**	**$(131,115,304)**
Discount rate at year-end	2.82%	2.54%		3.47%	3.34%	

The net periodic benefit cost for the fiscal year ending December 31, 2020 includes no charges/credits due to special events.

The estimated net periodic benefit cost for the fiscal year ending December 31, 2021 is shown below:

	Plan B	Plan C	Total
Estimated 2021 net periodic benefit cost	$12,879,167	$(4,466,996)	$8,412,171

Please note that the actual net periodic benefit cost for the fiscal year ending December 31, 2021 may be substantially different from the estimate and may be revised if assets and/or liabilities are remeasured during the year due to a significant event and/or cash flows are updated.

Review of Results

The total unfunded obligation increased (i.e. worsened) by $48,071,331 between December 31, 2019 and December 31, 2020. Accumulated other comprehensive income changed from $(234,418,616) at December 31, 2019 to $(286,198,735) at December 31, 2020.

Contributing factors to these changes include:

- The unfunded obligation was expected to decrease $4,887,494 due to the expected return on plan assets exceeding the sum of benefit and interest accruals in 2020.
- Company contributions during 2020 reduced the unfunded obligation by $10,679,000.
- The discount rate decreased from 3.47% to 2.82% for Plan B and 3.34% to 2.54% for Plan C. This increased the benefit obligation by $79,616,620.
- Based on the experience study completed in 2020, retirement rates, withdrawal rates, spouse age difference, percent married and form of payment, benefit commencement age for terminated vested (Plan C only), and salary scale (Plan B only) were updated. These updated assumptions decreased the liability by $9,485,154.
- The rate of inflation assumption changed from 1.90% to 1.75%, which reduced the benefit obligation by $5,305,384.
- A refinement in the estimation of future COLA increases resulted in an increase in benefit obligation of $20,292,763.
- The plan's assets earned a return of $92,990,978, which generated an asset gain and decreased the unfunded obligation by $50,273,669.
- Finally, we incorporated new census data in our valuation. This increased the benefit obligation by $28,792,649.

Details of the disclosure information are shown in Appendix A. The estimated net periodic benefit cost information is shown in Appendix B. The development of the market-related value of assets is shown in Appendix C.

Please refer to the remainder of the report for more information about these summary numbers.

2
Data, Assumption, Methods and Provisions

This report is based on the participant data, assumptions, methods and provisions summarized in the reports titled *Retirement Plan Data, Assumptions, Methods and Provisions as of January 1, 2020*, dated March 2020 for Plan B and September 2020 for Plan C (DAMP reports) and incorporated herein by reference, except as follows:

Plan B assumption changes:

The discount rate for Plan B was updated from 3.47% at December 31, 2019 to 2.82% at December 31, 2020.

Expected return on assets: 6.50% per year for 2021

Rate of inflation: 1.75% per year

Social Security Wage Base: 2.50% per year

Based on the experience study in 2020 covering the plan experience from year 2015 through 2019, the following assumptions were updated:

- **Withdrawal** See table of withdrawal rates shown later in this report.
- **Retirement age**

Attained age	Percentage
50-54	4.0%
55-56	8.0%
57	9.0%
58-59	14.0%
60	25.0%
61	40.0%
62	65.0%
63	55.0%
64	40.0%
65	85.0%
66-67	50.0%
68 and above	100.0%

• **Spouse assumptions**	**Male participants**	**Female participants**	
— Percentage married	85%	65%	
— Spouse age difference	2 years younger	3 years older	
Form of payment – Male	**Lump sum**	**Single life**	**50% J&S**
• Active retirements	0%	15%	85%
• Future vested deferred	0%	15%	85%
• Future deaths	0%	100%	0%
• Current vested deferred	0%	15%	85%
Form of payment – Female	**Lump sum**	**Single life**	**50% J&S**
• Active retirements	0%	35%	65%
• Future vested deferred	0%	35%	65%
• Future deaths	0%	100%	0%
• Current vested deferred	0%	35%	65%
Salary Increase	See table of salary increase rates below		

Table of salary increase rates

Compensation Progression

Attained service	Percentage Increases
0	4.90%
1-5	4.50%
6-10	4.00%
11-15	3.70%
16-20	3.40%
21-25	3.40%
26-30	3.20%
31-35	3.00%
36-39	2.75%
40+	2.75%

Probability of Withdrawal			
Attained age	Percentage	Attained age	Percentage
20	10.40%	38	1.88%
21	9.60%	39	1.78%
22	9.00%	40	1.73%
23	8.40%	41	1.68%
24	7.80%	42	1.63%
25	7.20%	43	1.58%
26	6.60%	44	1.55%
27	6.00%	45	1.53%
28	5.60%	46	1.50%
29	5.20%	47	1.48%
30	3.05%	48	1.45%
31	2.85%	49	1.43%
32	2.65%	50	1.40%
33	2.48%	51	1.35%
34	2.30%	52	1.30%
35	2.18%	53	1.25%
36	2.08%	54	1.15%
37	1.98%	55+	0.00%

Plan C assumption changes:

The discount rate for Plan C was updated from 3.34% at December 31, 2019 to 2.54% at December 31, 2020.

Rate of inflation: 1.75% per year

Expected return on assets: 6.50% per year for 2021

Based on the experience study in 2020 covering the plan experience from year 2015 through 2019, the following assumptions were updated:

- **Withdrawal** See table of sample rates later in this report
- **Retirement age**

Attained age	Percentage
50-54	3.0%
55-56	10.0%
57-59	20.0%
60-61	33.0%
62	50.0%
63-64	40.0%
65	65.0%
66-67	35.0%
68 and above	100.0%

• **Benefit commencement age for**				
— Future vested deferred	61			
— Current vested deferred	61			
• **Spouse assumptions**	**Male participants**		**Female participants**	
— Percentage married	85%		65%	
— Spouse age difference	2 years younger		3 years older	
Form of payment − Male	**Lump sum**	**Single life**	**60% J&S**	**50% J&S**
• Active retirements	0%	15%	85%	0%
• Future vested deferred	0%	15%	85%	0%
• Future deaths	0%	100%	0%	0%
• Current vested deferred (former Plan A)	0%	15%	85%	0%
• Current vested deferred (former Plan B)	0%	15%	0%	85%
Form of payment − Female	**Lump sum**	**Single life**	**60% J&S**	**50% J&S**
• Active retirements	0%	35%	65%	0%
• Future vested deferred	0%	35%	65%	0%
• Future deaths	0%	100%	0%	0%
• Current vested deferred (former Plan A)	0%	35%	65%	0%
• Current vested deferred (former Plan B)	0%	35%	0%	65%

Table of withdrawal rates

Probability of Withdrawal			
Attained age	Percentage	Attained age	Percentage
20	10.40%	38	1.88%
21	9.60%	39	1.78%
22	9.00%	40	1.73%
23	8.40%	41	1.68%
24	7.80%	42	1.63%
25	7.20%	43	1.58%
26	6.60%	44	1.55%
27	6.00%	45	1.53%
28	5.60%	46	1.50%
29	5.20%	47	1.48%
30	4.88%	48	1.45%
31	4.56%	49	1.43%
32	4.24%	50	1.40%
33	3.96%	51	1.35%
34	3.68%	52	1.30%
35	2.18%	53	1.25%
36	2.08%	54	1.15%
37	1.98%	55+	0.00%

Authorized users of this report should contact Mercer to request a copy of the above reports, if they do not already have the reports, in order to understand all aspects of the calculations that are incorporated by reference.

We used financial data submitted by the trustee and ALLETE without further audit. Customarily, this information would not be verified by a plan's actuary. We have reviewed the information for internal consistency and general reasonableness.

3

Important notices

Mercer has prepared this report exclusively for ALLETE, Inc. and Affiliated Companies (ALLETE); subject to this limitation, ALLETE may direct that this report be provided to its auditors in connection with the audit of its financial statements. Mercer is not responsible for use of this report by any other party.

The only purposes of this report are to present actuarial estimates of liabilities as of December 31, 2020 for Plan B and Plan C for ALLETE to incorporate, as ALLETE deems appropriate, in its financial statements under US accounting standards, and to provide an actuarial estimate of the net periodic benefit cost for the fiscal year ending December 31, 2021 for Plan B and Plan C.

This report may not be used for any other purpose. Mercer is not responsible for the consequences of any unauthorized use. Its content may not be modified, incorporated into or used in other material, sold or otherwise provided, in whole or in part, to any other person or entity, without Mercer's permission.

This report was prepared in accordance with generally accepted actuarial principles and procedures. The actuarial assumptions were selected by ALLETE. Based on the information provided to us, we believe that the actuarial assumptions are reasonable for the purposes described in this report.

All parts of this report, including any documents incorporated by reference, are integral to understanding and explaining its contents; no part may be taken out of context, used or relied upon without reference to the report as a whole.

Decisions about benefit changes, granting new benefits, investment policy, funding policy, benefit security and/or benefit-related issues should not be made solely on the basis of this valuation, but only after careful consideration of alternative economic, financial, demographic and societal factors, including financial scenarios that assume future sustained investment losses.

ALLETE is ultimately responsible for selecting the plan's accounting policies, methods and assumptions. This information is referenced or described in Section 2 of this report. ALLETE is solely responsible for communicating to Mercer any changes required to those policies, methods and assumptions.

ALLETE is solely responsible for selecting the plan's investment policies, asset allocations and individual investments. The Mercer actuaries who prepared this report have not provided any investment advice to the ALLETE.

This report is based on our understanding of applicable law and regulations as of the valuation date. Mercer is not an accountant or auditor and is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. As you know, Mercer is not a law firm, and this analysis is not intended to be a legal opinion. You should consider securing the advice of legal counsel with respect to any legal matters related to this document and any attachments.

ALLETE should notify Mercer promptly after receipt of this valuation report if ALLETE disagrees with anything contained herein or is aware of any information that would affect the results of this report that has not been communicated to Mercer or incorporated therein. The valuation report will be deemed final and acceptable to ALLETE unless ALLETE promptly provides such notice to Mercer.

Use of models

To prepare this report, we have employed Mercer's suite of proprietary valuation software and tools. The purpose of these models is to measure the Plan's liabilities, reflecting the Plan's census data and provisions, using the methods and assumptions prescribed or selected for the Plan's valuation, under the applicable laws, regulations, and other guidance in effect as of the valuation date.

Reliance on experts

We have relied on the experts who developed each of the following models:

- Mercer's portfolio return calculator
- Mercer's capital market assumptions
- The Mercer Bond Model.

These tools were used in the development of the discount rate for ASC 715 expense and disclosures, and in setting the expected return on asset assumption.

Professional qualifications

We are available to answer any questions on the material contained in this report, or to provide explanations or further details as may be appropriate. The undersigned credentialed actuary meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. We are not aware of any direct or material indirect financial interest or relationship, including investment consulting or other services provided to ALLETE, Inc. and Affiliated Companies by the actuary signing the report, that we believe would create a conflict of interest or impair the objectivity of our work. To the extent that other Mercer professionals may have provided investment services to ALLETE, Inc. and Affiliated Companies, we do not believe those services would result in a conflict of interest nor affect the objectivity of our work herein.

Suneeti Ahuja

February 8, 2021

Suneeti Ahuja, ASA, EA **Date**

Mercer
500 Dallas Street, Suite 1400
Houston, TX 77002

Phone: 713 276 2100

Appendix A

Disclosure information

Plan name	Plan B		Plan C		All Plans	
Country	USA		USA			
Fiscal year ending on	12/31/2020	12/31/2019	12/31/2020	12/31/2019	12/31/2020	12/31/2019
A. Change in benefit obligation						
1. Benefit obligation at beginning of year	$ 246,252,048	$ 189,765,693	$ 584,440,862	$ 535,081,187	$ 830,692,910	$ 724,846,880
2. Service cost	9,065,776	7,714,149	1,600,000	1,600,000	10,665,776	9,314,149
3. Interest cost	8,416,573	8,478,771	18,747,466	22,500,742	27,164,039	30,979,513
4. Participant contributions	-	-	-	-	-	-
5. Plan amendments	-	-	-	-	-	-
6. Plan curtailments	-	-	-	-	-	-
7. Plan settlements	-	-	-	-	-	-
8. Special termination benefits	-	-	-	-	-	-
9. Benefit payments						
a. Benefits paid from the plan assets	(7,711,416)	(6,787,861)	(44,990,197)	(45,066,070)	(52,701,613)	(51,853,931)
b. Direct benefit payments	-	-	-	-	-	-
10. Medicare subsidies received	-	-	-	-	-	-
11. Expenses paid	-	-	-	-	-	-
12. Taxes paid	-	-	-	-	-	-
13. Premiums paid	-	-	-	-	-	-
14. Net transfer in/(out) (including the effect of any business combinations/divestitures)	4,135,909	5,955,565	4,692,992	14,972,175	8,828,901	20,927,740
15. Plan combinations	-	-	-	-	-	-
16. Actuarial loss (gain)	26,291,814	41,125,731	87,619,680	55,352,828	113,911,494	96,478,559
17. Exchange rate changes	-	-	-	-	-	-
18. Benefit obligation at end of year	**$ 286,450,704**	**$ 246,252,048**	**$ 652,110,803**	**$ 584,440,862**	**$ 938,561,507**	**$ 830,692,910**

Plan name	Plan B		Plan C		All Plans	
Country	USA		USA			
Fiscal year ending on	12/31/2020	12/31/2019	12/31/2020	12/31/2019	12/31/2020	12/31/2019
B. Change in plan assets						
1. Fair value of plan assets at beginning of year	$ 141,195,557	$ 110,294,608	$ 558,382,049	$ 487,711,208	$ 699,577,606	$ 598,005,816
2. Actual return on plan assets	20,636,241	23,913,245	72,354,737	98,154,736	92,990,978	122,067,981
3. Employer contributions						
a. Employer contributions to plan	10,679,000	7,820,000	-	2,610,000	10,679,000	10,430,000
b. Employer direct benefit payments	-	-	-	-	-	-
4. Participants contributions	-	-	-	-	-	-
5. Plan settlements	-	-	-	-	-	-
6. Benefit payments						
a. Benefits paid from the plan assets	(7,711,416)	(6,787,861)	(44,990,197)	(45,066,070)	(52,701,613)	(51,853,931)
b. Direct benefit payments	-	-	-	-	-	-
7. Medicare subsidies received	-	-	-	-	-	-
8. Expenses paid	-	-	-	-	-	-
9. Taxes paid	-	-	-	-	-	-
10. Premiums paid	-	-	-	-	-	-
11. Acquisitions / divestitures	4,135,909	5,955,565	4,692,992	14,972,175	8,828,901	20,927,740
12. Plan combinations	-	-	-	-	-	-
13. Adjustments	-	-	-	-	-	-
14. Exchange rate changes	-	-	-	-	-	-
15. Fair value of plan assets at end of year	**$ 168,935,291**	**$ 141,195,557**	**$ 590,439,581**	**$ 558,382,049**	**$ 759,374,872**	**$ 699,577,606**

Plan name	Plan B		Plan C		All Plans	
Country	USA		USA			
Fiscal year ending on	12/31/2020	12/31/2019	12/31/2020	12/31/2019	12/31/2020	12/31/2019
C. Reconciliation of funded status						
1. Fair value of plan assets	$ 168,935,291	$ 141,195,557	$ 590,439,581	$ 558,382,049	$ 759,374,872	$ 699,577,606
2. Benefit obligations	286,450,704	246,252,048	652,110,803	584,440,862	938,561,507	830,692,910
3. Funded status (plan assets less benefit obligations)	**$ (117,515,413)**	**$ (105,056,491)**	**$ (61,671,222)**	**$ (26,058,813)**	**$ (179,186,635)**	**$ (131,115,304)**
4. Contributions and distributions made by company from measurement date to fiscal year end	-	-	-	-	-	-
5. Net amount [asset (obligation)] recognized in statement of financial position	**$ (117,515,413)**	**$ (105,056,491)**	**$ (61,671,222)**	**$ (26,058,813)**	**$ (179,186,635)**	**$ (131,115,304)**
D. Amounts recognized on the consolidated balance sheet position consists of						
1. Noncurrent assets	$ -	$ -	$ -	$ -	$ -	$ -
2. Current liabilities	-	-	-	-	-	-
3. Noncurrent liabilities	(117,515,413)	(105,056,491)	(61,671,222)	(26,058,813)	(179,186,635)	(131,115,304)
4. Net amount [asset (obligation)] recognized in statement of financial position	**$ (117,515,413)**	**$ (105,056,491)**	**$ (61,671,222)**	**$ (26,058,813)**	**$ (179,186,635)**	**$ (131,115,304)**
E. Reconciliation of amounts recognized in statement of financial position						
1. Initial net asset(obligation)	$ -	$ -	$ -	$ -	$ -	$ -
2. Prior service credit (cost)	-	-	1,102,732	1,251,750	1,102,732	1,251,750
3. Net gain (loss)	(76,188,848)	(65,112,954)	(211,112,619)	(170,557,412)	(287,301,467)	(235,670,366)
4. Accumulated other comprehensive income (loss)	**$ (76,188,848)**	**$ (65,112,954)**	**$ (210,009,887)**	**$ (169,305,662)**	**$ (286,198,735)**	**$ (234,418,616)**
5. Accumulated contributions in excess of net periodic benefit cost	(41,326,565)	(39,943,537)	148,338,665	143,246,849	107,012,100	103,303,312
6. Net amount [surplus (deficit)] recognized in statement of financial position	**$ (117,515,413)**	**$ (105,056,491)**	**$ (61,671,222)**	**$ (26,058,813)**	**$ (179,186,635)**	**$ (131,115,304)**

Plan name	Plan B		Plan C		All Plans	
Country	USA		USA			
Fiscal year ending on	12/31/2020	12/31/2019	12/31/2020	12/31/2019	12/31/2020	12/31/2019
F. Components of net periodic benefit cost						
1. Service cost	$ 9,065,776	$ 7,714,149	$ 1,600,000	$ 1,600,000	$ 10,665,776	$ 9,314,149
2. Interest cost	8,416,573	8,478,771	18,747,466	22,500,742	27,164,039	30,979,513
3. Expected return on plan assets	(9,338,523)	(8,715,846)	(33,378,786)	(35,437,077)	(42,717,309)	(44,152,923)
4. Amortization of initial net obligation (asset)	-	-	-	-	-	-
5. Amortization of prior service cost	-	-	(149,018)	(149,018)	(149,018)	(149,018)
6. Amortization of net (gain) loss	3,918,202	1,334,719	8,088,522	5,497,486	12,006,724	6,832,205
7. Curtailment (gain) / loss recognized	-	-	-	-	-	-
8. Settlement (gain) / loss recognized	-	-	-	-	-	-
9. Special termination benefit recognized	-	-	-	-	-	-
10. Net periodic benefit cost	**$ 12,062,028**	**$ 8,811,793**	**$ (5,091,816)**	**$ (5,987,867)**	**$ 6,970,212**	**$ 2,823,926**

Plan name	Plan B		Plan C		All Plans	
Country	USA		USA			
Fiscal year ending on	12/31/2020	12/31/2019	12/31/2020	12/31/2019	12/31/2020	12/31/2019
G. Changes in other comprehensive income						
Changes in plan assets and benefit obligations recognized in other comprehensive income						
1. New Prior service cost	$ -	$ -	$ -	$ -	$ -	$ -
2. Net loss (gain) arising during the year (includes curtailment gains not recognized as a component of Net period cost)	14,994,096	25,928,332	48,643,729	(7,364,831)	63,637,825	18,563,501
3. Effect of exchange rates on amounts included in AOCI	-	-	-	-	-	-
Amounts recognized as a component of net periodic benefit cost						
4. Amortization, settlement or curtailment recognition of net transition asset (obligation)	-	-	-	-	-	-
5. Amortization or curtailment recognition of prior service credit (cost)	-	-	149,018	149,018	149,018	149,018
6. Amortization or settlement recognition of net gain (loss)	(3,918,202)	(1,334,719)	(8,088,522)	(5,497,486)	(12,006,724)	(6,832,205)
7. Total recognized in other comprehensive loss (income)	**$ 11,075,894**	**$ 24,593,613**	**$ 40,704,225**	**$ (12,713,299)**	**$ 51,780,119**	**$ 11,880,314**
8. Total recognized in net periodic benefit and other comprehensive loss (income)	**$ 23,137,922**	**$ 33,405,406**	**$ 35,612,409**	**$ (18,701,166)**	**$ 58,750,331**	**$ 14,704,240**

Plan name	Plan B		Plan C		All Plans	
Country	USA		USA			
Fiscal year ending on	12/31/2020	12/31/2019	12/31/2020	12/31/2019	12/31/2020	12/31/2019
H. Assumptions to determine benefit obligations						
1. Effective discount rate	2.82%	3.47%	2.54%	3.34%	2.63%	3.38%
2. Rate of compensation increase	3.60%	4.10%	Not Applicable	Not Applicable	Not Applicable	4.10%
3. Measurement Date	12/31/2020	12/31/2019	12/31/2020	12/31/2019	12/31/2020	12/31/2019
I. Assumptions to determine net cost						
1. Discount rate	3.47%	4.53%	3.34%	4.39%	3.38%	4.43%
2. Expected return on assets	6.75%	7.25%	6.75%	7.25%	6.75%	7.25%
3. Rate of compensation increase	4.10%	4.10%	Not Applicable	Not Applicable	4.10%	4.10%
J. Additional year-end information						
Required information for all defined benefit plans						
1. Accumulated benefit obligation	252,946,361	206,467,430	652,110,803	584,440,862	905,057,164	790,908,292
K. Additional year-end information for plans with accumulated benefit obligations in excess of plan assets						
1. Projected benefit obligation	$ 286,450,704	$ 246,252,048	$ 652,110,803	$ 584,440,862	$ 938,561,507	$ 830,692,910
2. Accumulated benefit obligation	252,946,361	206,467,430	652,110,803	584,440,862	905,057,164	790,908,292
3. Fair value of plan assets	168,935,291	141,195,557	590,439,581	558,382,049	759,374,872	699,577,606

Plan name	Plan B		Plan C		All Plans	
Country	USA		USA			
Fiscal year ending on	12/31/2020	12/31/2019	12/31/2020	12/31/2019	12/31/2020	12/31/2019
L. Additional year-end information for plans with projected benefit obligations in excess of plan assets						
1. Projected benefit obligation	$ 286,450,704	$ 246,252,048	$ 652,110,803	$ 584,440,862	$ 938,561,507	$ 830,692,910
2. Fair value of plan assets	168,935,291	141,195,557	590,439,581	558,382,049	759,374,872	699,577,606
M. Cash flows						
1. Projected company contributions for following fiscal year	$ 10,340,000		$ -		$ 10,340,000	
2. Expected benefit payments for FYE						
31-Dec-2021 :	8,608,906		44,054,107		52,663,013	
31-Dec-2022 :	9,031,558		43,316,351		52,347,909	
31-Dec-2023 :	9,522,595		42,626,017		52,148,612	
31-Dec-2024 :	10,014,065		41,933,175		51,947,240	
31-Dec-2025 :	10,512,868		40,964,215		51,477,083	
Next five years	59,013,092		190,074,934		249,088,026	

Plan name	Plan B		Plan C		All Plans	
Country	USA		USA			
Fiscal year ending on	12/31/2020	12/31/2019	12/31/2020	12/31/2019	12/31/2020	12/31/2019
N. Accumulated contributions in excess of net periodic benefit cost						
1. Amount as of beginning of year	$ (39,943,537)	$ (38,951,744)	$ 143,246,849	$ 134,648,982	$ 103,303,312	$ 95,697,238
2. Net periodic pension (cost) income for fiscal year	(12,062,028)	(8,811,793)	5,091,816	5,987,867	(6,970,212)	(2,823,926)
3. Employer contributions made in fiscal year (excludes contributions made between measurement year end and fiscal year end)	10,679,000	7,820,000	-	2,610,000	10,679,000	10,430,000
4. Benefits paid directly by company in the fiscal year (excludes contributions made between measurement year end and fiscal year end)	-	-	-	-	-	-
5. FAS 88 (expense) income	-	-	-	-	-	-
6. Other gain / (loss) recognized	-	-	-	-	-	-
7. Plan combinations	-	-	-	-	-	-
8. Adjustment to match local books	-	-	-	-	-	-
9. Exchange rate adjustment	-	-	-	-	-	-
10. Preliminary amount as of end of year	(41,326,565)	(39,943,537)	148,338,665	143,246,849	107,012,100	103,303,312
11. Contributions and direct benefit payments made between measurement date and fiscal year end	-	-	-	-	-	-
12. Amount as of end of year	**$ (41,326,565)**	**$ (39,943,537)**	**$ 148,338,665**	**$ 143,246,849**	**$ 107,012,100**	**$ 103,303,312**

Appendix B

Estimated Net Periodic Benefit Cost

Plan name	Plan B	Plan C	All Plans
Country	USA	USA	
Fiscal year ending on	12/31/2021	12/31/2021	12/31/2021
A. Net Periodic Benefit Cost			
1. Service cost	$ 9,378,233	$ 1,600,000	$ 10,978,233
2. Interest cost	7,946,409	15,957,503	23,903,912
3. Expected return on plan assets	(10,304,605)	(33,054,723)	(43,359,328)
4. Amortization of initial net obligation (asset)	-	-	-
5. Amortization of prior service cost	-	(149,018)	(149,018)
6. Amortization of net (gain) loss	5,859,130	11,179,242	17,038,372
7. Curtailment (gain) / loss recognized	-	-	-
8. Settlement (gain) / loss recognized	-	-	-
9. Special termination benefit recognized	-	-	-
10. Net periodic benefit cost	**$ 12,879,167**	**$ (4,466,996)**	**$ 8,412,171**

Plan name	Plan B	Plan C	All Plans
Country	USA	USA	
Fiscal year ending on	12/31/2021	12/31/2021	12/31/2021
B. Additional Items For Net Periodic Benefit Cost Calculations			
1. Fair Value of Assets	168,935,291	590,439,581	759,374,872
2. Market-related value of assets	153,786,382	533,996,834	687,783,216
3. a. Expected expenses, taxes and insurance premiums	500,000	1,600,000	2,100,000
b. Weighted for timing	500,000	1,600,000	2,100,000
4. a. Expected benefits paid from plan assets	8,608,906	44,054,107	52,663,013
b. Weighted for timing	4,663,158	23,862,641	28,525,799
5. a. Expected benefits paid by company	-	-	-
b. Weighted for timing	-	-	-
6. a. Expected employer contributions to plan assets	10,340,000	-	10,340,000
b. Weighted for timing	9,909,166	-	9,909,166
7. a. Expected participant contributions	-	-	-
b. Weighted for timing	-	-	-
8. Average future years of service	10.70	18.10	Not applicable

Plan name	Plan B	Plan C	All Plans
Country	USA	USA	
Fiscal year ending on	12/31/2021	12/31/2021	12/31/2021
C. Benefit obligations and assets			
Funded Status			
1. Projected benefit obligation (PBO)	$ (286,450,704)	$ (652,110,803)	$ (938,561,507)
2. Fair value of plan assets	168,935,291	590,439,581	759,374,872
3. Funded status (1. + 2.)	**$ (117,515,413)**	**$ (61,671,222)**	**$ (179,186,635)**
Amounts to be reflected in future periods			
1. Transition obligation (asset)	-	-	-
2. Prior service cost (credit)	-	(1,102,732)	(1,102,732)
3. Net loss (gain)	76,188,848	211,112,619	287,301,467
4. Total not yet recognized in net periodic benefit cost (1.+ 2. + 3.)	**$ 76,188,848**	**$ 210,009,887**	**$ 286,198,735**
Cumulative employer contributions in excess of net periodic benefit cost	$ (41,326,565)	$ 148,338,665	$ 107,012,100

Plan name	Plan B		Plan C		All Plans	
Country	USA		USA			
Fiscal year ending on	12/31/2021		12/31/2021		12/31/2021	
D. Amortization amounts						
1. Transition obligation (asset)						
a. Net amount as of beginning of fiscal year	$	-	$	-	$	-
b. Years remaining		-		-		-
c. Annual amortization		-		-		-
2. Prior service cost (credit) - unrecognized base						
amounts shown as of beginning of fiscal year						
a. (i) Unrecognized prior service cost base 1		-		(1,102,732)		(1,102,732)
(ii) Years remaining prior service cost base 1		-		7.4		7.4
(iii) Amortization of prior service cost base 1		-		(149,018)		(149,018)
3. (Gain) loss						
a. Net amount as of beginning of fiscal year	$	76,188,848	$	211,112,619	$	287,301,467
b. Excess of fair value over market-related value		15,148,909		56,442,747		71,591,656
c. Net (gain) loss potentially subject to amortization (a. + b.)		91,337,757		267,555,366		358,893,123
d. Corridor		28,645,070		65,211,080		93,856,150
e. Amount subject to amortization (c. - d.)		62,692,687		202,344,286		265,036,973
f. Amortization period		10.70		18.10		-
g. Annual amortization	**$**	**5,859,130**	**$**	**11,179,242**	**$**	**17,038,372**
E. Assumptions to determine net cost						
1. Discount rate		2.82%		2.54%		2.63%
2. Expected return on assets		6.50%		6.50%		6.50%
3. Rate of compensation increase		3.60%		Not Applicable		3.60%

Appendix C

Plan assets

Plan name	Plan B	Plan C	All Plans
Country	**USA**	**USA**	
Fiscal year ending on	**12/31/2020**	**12/31/2020**	**12/31/2020**
A. Development of Market-Related Value of Assets			
1. Fair value of assets at beginning of previous fiscal year	$ 141,195,557	$ 558,382,049	$ 699,577,606
2. Contributions during previous fiscal year	10,679,000	-	10,679,000
3. Distributions during previous fiscal year	(7,711,416)	(44,990,197)	(52,701,613)
4. RSOP rollovers during previous fiscal year	4,135,909	4,692,992	8,828,901
5. Administrative expenses during previous fiscal year	(398,090)	(1,488,611)	(1,886,701)
6. Expected return on assets at 6.75%	10,065,701	36,153,982	46,219,683
7. Expected market value as of Dec 31, 2020 (1. + 2. + 3. + 4. + 5. + 6.)	**$ 157,966,661**	**$ 552,750,215**	**$ 710,716,876**
8. Market value of assets as of Dec 31, 2020	168,935,291	590,439,581	759,374,872
9. Prior year fair value gain/(loss) *(8. – 7.)*	**$ 10,968,630**	**$ 37,689,366**	**$ 48,657,996**
10. Phase in of gains/(losses)			
a. Prior fiscal year gain/(loss) * 4/5	8,774,904	30,151,493	38,926,397
b. 2 years ago gain/(loss) * 3/5	9,494,873	39,247,351	48,742,224
c. 3 years ago gain/(loss) * 2/5	(4,768,847)	(21,762,173)	(26,531,020)
d. 4 years ago gain/(loss) * 1/5	1,647,979	8,806,076	10,454,055
11. Market-related value of assets at beginning of fiscal year (8. – 10a. – 10b. – 10c. – 10d.)	**$ 153,786,382**	**$ 533,996,834**	**687,783,216**

Mercer
500 Dallas Street, Suite 1400
Houston, TX 77002
www.mercer.com

MARSH & McLENNAN
COMPANIES

MERCER
MAKE TOMORROW, TODAY

Scott Striegel, FSA, EA, MAAA

333 South 7th Street, Suite 1400
Minneapolis, MN 55402
+1 612 642 8782
scott.striegel@mercer.com
www.mercer.com

Mr. Pat Cutshall
Treasurer
ALLETE
30 West Superior Street
Duluth, MN 55802-2093

October 10, 2019

Subject: Investment Returns on Pension Assets and their Impact on Pension Expense

Dear Pat,

You asked that we describe how investment earnings on pension plan assets affect pension expense. The short answer is that the investment returns reduce future years' pension expense.

The following example using ALLETE's 2020 budgeted expense for Plan B may help illustrate how excess investment returns affect pension expense. Scenario 1 shows the projected 2020 expense as detailed in Mercer's letter dated October 10, 2019. Scenario 2 shows the projected 2020 expense assuming Plan B assets return an additional $5 million in 2019.

FISCAL YEAR 2020 EXPENSE				
	SCENARIO 1		SCENARIO 2	
Service Cost	$	9,570,000	$	9,570,000
Interest Cost		8,180,000		8,180,000
Expected Return on Assets		(9,390,000)		(9,457,500)
Amortization of Prior Service Cost		-		-
Amortization of (Gain)/Loss		4,720,000		4,640,000
Total Pension Expense	$	13,080,000	$	12,932,500

The exhibit shows that the additional actual return in 2019 ($5 million) decreases the amortization of loss component of expense by $80,000 in 2020. In addition, this exhibit shows that because of the extra earnings, the asset base – on which the expected return on assets component of expense is calculated – increases, resulting in another annual credit to the expense calculation of $67,500 in 2020. As such, the total reduction in 2020 expense as a result of $5 million of excess returns is $147,500.

MERCER
MAKE TOMORROW, TODAY

A somewhat similar phenomenon occurs when a company makes extra contributions. The following exhibit repeats the information above for Scenario 1, but now adds Scenario 3 in which investment returns are the same as Scenario 1, but ALLETE makes an extra $10 million contribution to the plan on 12/31/2019.

FISCAL YEAR 2020 EXPENSE		
	SCENARIO 1	SCENARIO 2
Service Cost	$ 9,570,000	$ 9,570,000
Interest Cost	8,180,000	8,180,000
Expected Return on Assets	(9,390,000)	(10,065,000)
Amortization of Prior Service Cost	-	-
Amortization of (Gain)/Loss	4,720,000	4,720,000
Total Pension Expense	$ 13,080,000	$ 12,405,000

This exhibit shows that by making the extra contribution, the 2020 expense drops by $675,000. Of course by making this contribution, ALLETE loses the opportunity to invest the money elsewhere. If ALLETE were to invest the money outside the pension plan and earn 6.75% (the same as the expected return in the plan), ALLETE would recognize $675,000 in other investment income rather than a $675,000 reduction in pension expense.

Pat, I hope this is helpful. Please give me a call if you have questions.

Regards,

Scott Striegel, FSA, EA, MAAA
Principal

Copy:
Tara Anderson – ALLETE

Minnesota Power
Working Capital Requirements
Prepaid Other Post-retirement Benefits Projected
2022 Projected Budget Unadjusted

	A	B	C	D	E	G	H	I	J	K	L
	Regulatory Asset 18230-6016	Other Deferred Debits 1864-0047	OPEB Medical 2283-2004	OPEB Dental 2283-2005	OPEB Life 2283-2006	AOCI OPEB 2190-0004	Total	MP Regulated Allocator	Prepaid OPEB Asset - MP Regulated	MN Jurisdictional Allocator	Prepaid OPEB Asset - MN Jurisdictional
							(A+B+C+D+E+F+G)		(H x I)		(J x K)
Month											
December-21	(439,169)	36,118,791	-	(1,038,202)	(11,385,511)	(76,937)	23,178,972	80.280%	18,608,079	88.253%	16,422,181
January-22	(439,169)	36,840,452	-	(1,031,535)	(11,413,011)	(76,937)	23,879,800	79.930%	19,087,124	88.911%	16,970,610
February-22	(439,169)	37,562,113	-	(1,024,868)	(11,440,511)	(76,937)	24,580,628	79.930%	19,647,296	88.911%	17,468,666
March-22	(439,169)	38,283,774	-	(1,018,201)	(11,468,011)	(76,937)	25,281,456	79.930%	20,207,468	88.911%	17,966,722
April-22	(439,169)	39,005,435	-	(1,011,534)	(11,495,511)	(76,937)	25,982,284	79.930%	20,767,640	88.911%	18,464,778
May-22	(439,169)	39,727,096	-	(1,004,867)	(11,523,011)	(76,937)	26,683,112	79.930%	21,327,811	88.911%	18,962,834
June-22	(439,169)	40,448,757	-	(998,200)	(11,550,511)	(76,937)	27,383,940	79.930%	21,887,983	88.911%	19,460,890
July-22	(439,169)	41,170,418	-	(991,533)	(11,578,011)	(76,937)	28,084,768	79.930%	22,448,155	88.911%	19,958,946
August-22	(439,169)	41,892,079	-	(984,866)	(11,605,511)	(76,937)	28,785,596	79.930%	23,008,327	88.911%	20,457,002
September-22	(439,169)	42,613,740	-	(978,199)	(11,633,011)	(76,937)	29,486,424	79.930%	23,568,499	88.911%	20,955,058
October-22	(439,169)	43,335,401	-	(971,532)	(11,660,511)	(76,937)	30,187,252	79.930%	24,128,671	88.911%	21,453,114
November-22	(439,169)	44,057,062	-	(964,865)	(11,688,011)	(76,937)	30,888,080	79.930%	24,688,842	88.911%	21,951,170
December-22	(439,169)	44,778,724	-	(958,202)	(11,715,511)	(76,937)	31,588,905	79.930%	25,249,012	88.911%	22,449,224
									284,624,906 [1]		252,941,196 [1]
						13 month Average	**27,383,940**		**21,894,224** [2]		**19,457,015** [2]

Reconciliation of how 13-month average number and year end 2022 numbers tie to each other.

Total Minnesota Power 2022 year end balance	$ 31,588,905
Minnesota Power regulated allocator	79.93%
Total Minnesota Power regulated	25,249,012
MN Jurisdictional allocator	88.911%
MN Jurisdictional 2022 year end balance	$ 22,449,224

[1] Total 13 months - Dec 21 to Dec 22
[2] Total 13 months in [1] divided 13 months

Mercer Standard Percentile Approach

Range of Net Portfolio Returns

Annual Returns are Net of Expenses

Project File: U:\RET\CONS\MNP\...\OPEB combined PRC.mpc
Name of Client: ALLETE OPEB - Combined
Source of Return Data: Mercer Investment Consulting
Date of Return Data: April 2021
Annual Expense: 0.10%
Analyst: ES

Percentiles	Projection Horizon (years): 20
5%	0.65%
10%	1.76%
15%	2.51%
20%	3.11%
25%	**3.62%**
30%	**4.08%**
35%	**4.51%**
40%	**4.91%**
45%	**5.30%**
50%	**5.69%**
55%	**6.07%**
60%	**6.46%**
65%	**6.87%**
70%	**7.29%**
75%	**7.75%**
80%	8.26%
85%	8.86%
90%	9.61%
95%	10.72%

Interest Rate Hedge Ratio	N/A

[∑(Liability Hedging Assets x Liability Hedging Asset Duration)] / (Liability x Liability Duration)
(246,448,993) / (0,000 x 0.000000)

Funded Status Volatility	N/A

A measure of the one-year, one standard deviation change in funded status as a percent of the liability

Mercer Standard Percentile Approach

Asset Allocation of Portfolio

Specified By Consultant

Name of Client: ALLETE OPEB - Combined
Analyst: ES

Domestic Equity	Percentage Allocation
Domestic Equity-All Cap	0.0%
Domestic Equity-Large Cap	18.0%
Domestic Equity-Mid Cap	17.0%
Domestic Equity-Small Cap	9.0%
Domestic Equity-Micro Cap	0.0%
Company Stock-Large	0.0%
Company Stock-Small	0.0%
Defensive Equity	0.0%
International Equity	
International Equity-Unhedged	0.0%
International Equity-Hedged	0.0%
International Eq-Emerging Mkts	11.0%
International Eq-Small Cap	0.0%
Global Equity x-U.S. - All Cap	14.0%
Global Equity x-U.S. - Large Cap	0.0%
Global Equity	0.0%
Global Small Cap	0.0%
Global Defensive Equity - Unhedged	0.0%
Fixed Income	
Fixed Income-Aggregate	0.0%
Fixed Income-Gov/Credit	0.0%
Fixed Income-Gov/Credit (Downgrade Tolerant)	0.0%
Fixed Income-Short Gov/Corp	0.0%
Fixed Income-Intermediate Gov/Corp	29.0%
Fixed Income-Long Gov/Corp	0.0%
Fixed Income-Long Gov/Corp (Downgrade Tolerant)	0.0%
Fixed Income-Intermediate Government	0.0%
Fixed Income-Government	0.0%
Fixed Income-Long Gov	0.0%
Fixed Income-Very Long Gov	0.0%
Fixed Income-Intermediate Credit	0.0%
Fixed Income-Credit	0.0%
Fixed Income-Credit (Downgrade Tolerant)	0.0%
Fixed Income-Long Credit	0.0%
Fixed Income-Long Credit (Downgrade Tolerant)	0.0%
Fixed Income-Mortgages	0.0%
Fixed Income-High Yield	0.0%
Fixed Income-Muni Bonds	0.0%
Inflation-Indexed Bonds	0.0%
Cash	1.0%
Convertibles	0.0%
GICs	0.0%
Private Debt	0.0%
Multi-Asset Credit	0.0%
International - Non-US Gov't Unhedged	0.0%
International - Non-US Gov't Hedged	0.0%
International - Non-US Broad Unhedged	0.0%
Emerging Markets Hard Currency	0.0%
Alternatives	
Real Estate - Core	0.0%
Real Estate - REITS	0.0%
Private Equity	1.0%
Low-exposure Hedge Funds (Conservative prior to 7/1/2019)	0.0%
Diversified Hedge Funds (Moderate prior to 7/1/2019)	0.0%
Long-Biased Hedge Funds (Mod/Aggressive prior to 7/1/2019)	0.0%
Idiosyncratic Multi-Asset	0.0%
Commodities	0.0%
TOTAL	100.0%

Mercer Standard Percentile Approach

Asset Class Return Assumptions

Project File:	U:\RET\CONS\MNP\...\OPEB combined PRC.mpc
Name of Client:	ALLETE OPEB - Combined
Source of Return Data:	Mercer Investment Consulting
Date of Return Data:	April 2021
Annual Expense:	0.10%
Analyst:	ES

	Compound Annual Returns	Annual Arithmetic Returns	Standard Deviation of Annual Returns	Fixed Income Durations	Credit Spread Duration From Bonds	OAS From Bonds
Domestic Equity						
Domestic Equity-All Cap	5.63%	7.18%	18.4%			
Domestic Equity-Large Cap	5.55%	7.04%	18.0%			
Domestic Equity-Mid Cap	5.96%	7.70%	19.6%			
Domestic Equity-Small Cap	6.17%	8.36%	22.2%			
Domestic Equity-Micro Cap	6.25%	8.76%	23.8%			
Company Stock-Large	3.71%	7.04%	27.4%			
Company Stock-Small	1.75%	8.36%	39.7%			
Defensive Equity	5.73%	6.60%	13.7%			
International Equity						
International Equity-Unhedged	6.34%	8.20%	20.3%			
International Equity-Hedged	6.40%	7.94%	18.4%			
International Eq-Emerging Mkts	7.56%	10.59%	26.4%			
International Eq-Small Cap	6.79%	9.02%	22.4%			
Global Equity x-U.S. - All Cap	6.74%	8.69%	20.9%			
Global Equity x-U.S. - Large Cap	6.68%	8.61%	20.8%			
Global Equity	6.10%	7.65%	18.5%			
Global Small Cap	6.54%	8.53%	21.1%			
Global Defensive Equity - Unhedged	5.89%	6.70%	13.2%			
Fixed Income						
Fixed Income-Aggregate	2.80%	2.94%	5.5%	6.40	3.27	
Fixed Income-Gov/Credit	2.70%	2.86%	5.8%	7.37	4.36	
Fixed Income-Gov/Credit (Downgrade Tolerant)	2.86%	3.02%	5.7%	7.37	4.36	
Fixed Income-Short Gov/Corp	2.58%	2.61%	2.6%	1.94	3.27	
Fixed Income-Intermediate Gov/Corp	2.75%	2.81%	3.7%	4.16	0.02	
Fixed Income-Long Gov/Corp	2.53%	3.13%	11.1%	16.32	1.13	
Fixed Income-Long Gov/Corp (Downgrade Tolerant)	2.83%	3.42%	11.1%	16.32	13.27	
Fixed Income-Intermediate Government	2.53%	2.59%	3.6%	3.95	13.27	
Fixed Income-Government	2.49%	2.64%	5.6%	6.67		
Fixed Income-Long Gov	2.36%	3.20%	13.2%	18.52		
Fixed Income-Very Long Gov	1.99%	3.66%	18.8%	26.94		
Fixed Income-Intermediate Credit	3.18%	3.28%	4.7%	4.48		
Fixed Income-Credit	3.02%	3.27%	7.3%	8.23	2.91	
Fixed Income-Credit (Downgrade Tolerant)	3.39%	3.65%	7.4%	8.23	8.94	
Fixed Income-Long Credit	2.72%	3.39%	11.8%	14.90	8.94	
Fixed Income-Long Credit (Downgrade Tolerant)	3.31%	4.00%	12.0%	14.90	19.67	
Fixed Income-Mortgages	3.01%	3.15%	5.4%			
Fixed Income-High Yield	4.16%	4.78%	11.4%			
Fixed Income-Muni Bonds	2.26%	2.45%	6.3%			
Inflation-Indexed Bonds	2.26%	2.40%	5.3%			
Cash	2.11%	2.12%	1.3%	0.25		
Convertibles	4.04%	4.48%	9.6%			
GICs	2.15%	2.17%	2.3%			
Private Debt	5.56%	6.20%	11.7%			
Multi-Asset Credit	4.45%	4.83%	9.0%			
International - Non-US Gov't Unhedged	1.80%	2.19%	9.0%			
International - Non-US Gov't Hedged	2.15%	2.25%	4.6%			
International - Non-US Broad Unhedged	1.97%	2.37%	9.1%			
Emerging Markets Hard Currency	4.75%	5.33%	11.1%			
Credit Spread	0.00%	0.00%	0.46%			
Swap Yield	0.00%	0.00%	0.88%			
Tracking - assets	0.00%	0.00%	0.50%			
Alternatives						
Real Estate - Core	6.21%	7.16%	14.4%			
Real Estate - REITS	5.73%	7.60%	20.3%			
Private Equity	8.93%	11.03%	21.9%			
Low-exposure Hedge Funds (Conservative prior to 7/1/2019)	4.61%	4.76%	5.6%			
Diversified Hedge Funds (Moderate prior to 7/1/2019)	5.02%	5.28%	7.4%			
Long-Biased Hedge Funds (Mod/Aggressive prior to 7/1/2019)	5.42%	5.86%	9.8%			
Idiosyncratic Multi-Asset	4.47%	4.85%	8.9%			
Commodities	2.45%	3.70%	16.3%			
Inflation	2.19%	2.20%	1.5%			
AA Long Credit Liability - Duration 8				8.00	87.00	
AA Long Credit Liability - Duration 10				10.00	94.00	
AA Long Credit Liability - Duration 12				12.00	98.00	
PORTFOLIO - Gross	5.79%	6.66%	13.7%			
PORTFOLIO - Net of Expense	5.69%	6.56%	13.7%			

Note: Compound Returns reflect expected volatility and are, therefore, less than simple Arithmetic Average Returns.

Example: If Year 1 Return = 5% and Year 2 Return = 15%, then Annual Arithmetic Return = 10.00% and Compound Annual Return = 9.88%

Mercer Standard Percentile Approach

Asset Class Correlations

Correlations of Annual Returns

Project File: U:\RET\CONS\MNP\...\OPEB combined PRC.mpc
Name of Client: ALLETE OPEB - Combined
Data Source: Mercer Investment Consulting
Data Date: April 2021
Analyst: ES

Domestic Equity / International Equity

	All Cap	Large Cap	Mid Cap	Small Cap	Micro Cap	Co. Stock Large	Co. Stock Small	Defens Eqty	Un-hedged	Hedged	Emerg'g Mkts	Small Cap	Global Equity x-U.S. All Cap	Global Equity x-U.S. Large Cap	Global Equity	Global Small Cap	Global Defens Equity - unhedge
Domestic Equity																	
Domestic Equity-All Cap	1.00	1.00	0.99	0.94	0.91	0.83	0.83	1.00	0.77	0.85	0.73	0.76	0.80	0.80	0.96	0.92	0.97
Domestic Equity-Large Cap	1.00	1.00	0.97	0.91	0.88	0.84	0.84	1.00	0.77	0.84	0.73	0.74	0.80	0.80	0.96	0.90	0.97
Domestic Equity-Mid Cap	0.99	0.97	1.00	0.98	0.96	0.81	0.81	0.97	0.76	0.83	0.71	0.79	0.79	0.78	0.94	0.96	0.94
Domestic Equity-Small Cap	0.94	0.91	0.98	1.00	0.97	0.76	0.76	0.91	0.72	0.79	0.67	0.80	0.74	0.73	0.89	0.96	0.88
Domestic Equity-Micro Cap	0.91	0.88	0.96	0.97	1.00	0.74	0.74	0.88	0.70	0.77	0.65	0.78	0.72	0.71	0.87	0.94	0.86
Large Company Stock	0.83	0.84	0.81	0.76	0.74	1.00	1.00	0.84	0.65	0.71	0.61	0.62	0.67	0.67	0.80	0.75	0.81
Small Company Stock	0.83	0.84	0.81	0.76	0.74	1.00	1.00	0.84	0.65	0.71	0.61	0.62	0.67	0.67	0.80	0.75	0.81
Domestic Equity-Defensive Equity	1.00	1.00	0.97	0.91	0.88	0.84	0.84	1.00	0.77	0.84	0.73	0.73	0.80	0.80	0.96	0.90	0.97
International Equity																	
International Equity-Unhedged	0.77	0.77	0.76	0.72	0.70	0.65	0.65	0.77	1.00	0.92	0.78	0.96	0.97	0.97	0.91	0.87	0.86
International Equity-Hedged	0.85	0.84	0.83	0.79	0.77	0.71	0.71	0.84	0.92	1.00	0.73	0.89	0.90	0.90	0.92	0.88	0.94
International Equity-Emerging Mkts	0.73	0.73	0.71	0.67	0.65	0.61	0.61	0.73	0.78	0.73	1.00	0.74	0.90	0.90	0.85	0.79	0.75
International Equity-Small Cap	0.76	0.74	0.79	0.80	0.78	0.62	0.62	0.73	0.96	0.89	0.74	1.00	0.93	0.92	0.88	0.92	0.82
International Equity-Global Equity x-U.S. - All Cap	0.80	0.80	0.79	0.74	0.72	0.67	0.67	0.80	0.97	0.90	0.90	0.93	1.00	1.00	0.94	0.89	0.87
International Equity-Global Equity x-U.S. - Large Cap	0.80	0.80	0.78	0.73	0.71	0.67	0.67	0.80	0.97	0.90	0.90	0.92	1.00	1.00	0.94	0.87	0.87
International Equity-Global Equity	0.96	0.96	0.94	0.89	0.87	0.80	0.80	0.96	0.91	0.92	0.85	0.88	0.94	0.94	1.00	0.95	0.97
International Equity-Global Small Cap	0.92	0.90	0.96	0.96	0.94	0.75	0.75	0.90	0.87	0.88	0.79	0.92	0.89	0.87	0.95	1.00	0.91
International Equity-Global Defensive Equity - Unhedged	0.97	0.97	0.94	0.88	0.86	0.81	0.81	0.97	0.86	0.94	0.75	0.82	0.87	0.87	0.97	0.91	1.00
Fixed Income																	
Fixed Income-U.S. - Aggregate	0.14	0.14	0.14	0.13	0.13	0.12	0.12	0.15	0.07	0.11	0.03	0.07	0.07	0.07	0.11	0.11	0.20
Fixed Income-U.S. - Gov't/Credit	0.15	0.15	0.15	0.14	0.13	0.13	0.12	0.16	0.07	0.12	0.03	0.08	0.07	0.07	0.12	0.11	0.20
Fixed Income-U.S. - Gov't/Credit (Downgrade Tolerant)	0.16	0.16	0.15	0.14	0.14	0.13	0.13	0.17	0.08	0.13	0.04	0.09	0.08	0.08	0.13	0.12	0.21
Fixed Income-U.S. - Short Gov't/Corporate	0.08	0.08	0.08	0.08	0.07	0.07	0.06	0.10	0.01	0.05	-0.02	0.02	0.01	0.01	0.05	0.05	0.14
Fixed Income-U.S. - Intermediate Gov't/Corporate	0.14	0.14	0.13	0.13	0.12	0.12	0.11	0.15	0.06	0.11	0.02	0.07	0.06	0.06	0.11	0.10	0.19
Fixed Income-U.S. - Long Gov't/Corporate	0.16	0.17	0.16	0.15	0.15	0.14	0.13	0.17	0.09	0.14	0.05	0.09	0.09	0.09	0.14	0.13	0.22
Fixed Income-U.S. - Long Gov't/Corporate (Downgrade Tolerant)	0.18	0.18	0.17	0.16	0.16	0.15	0.14	0.18	0.10	0.15	0.06	0.10	0.10	0.10	0.15	0.14	0.23
Fixed Income-U.S. - Intermediate Gov't	-0.07	-0.07	-0.06	-0.06	-0.06	-0.05	-0.06	-0.05	-0.13	-0.10	-0.15	-0.11	-0.13	-0.13	-0.10	-0.09	-0.02
Fixed Income-Government	-0.07	-0.07	-0.06	-0.06	-0.06	-0.05	-0.06	-0.06	-0.13	-0.10	-0.15	-0.11	-0.13	-0.13	-0.10	-0.09	-0.02
Fixed Income-U.S. - Long Gov't	-0.06	-0.06	-0.06	-0.06	-0.06	-0.05	-0.06	-0.06	-0.12	-0.09	-0.15	-0.11	-0.13	-0.13	-0.10	-0.09	-0.02
Fixed Income-U.S. - Very Long Gov't	-0.06	-0.06	-0.06	-0.06	-0.06	-0.05	-0.06	-0.06	-0.12	-0.09	-0.15	-0.11	-0.13	-0.13	-0.10	-0.09	-0.02
Fixed Income-U.S. - Intermediate Credit	0.34	0.35	0.34	0.31	0.31	0.29	0.28	0.35	0.26	0.32	0.22	0.26	0.27	0.27	0.33	0.31	0.40
Fixed Income-U.S. - Credit	0.32	0.33	0.32	0.30	0.29	0.27	0.27	0.33	0.25	0.30	0.20	0.24	0.25	0.25	0.31	0.29	0.37
Fixed Income-U.S. - Credit (Downgrade Tolerant)	0.34	0.34	0.33	0.31	0.30	0.28	0.28	0.34	0.26	0.31	0.21	0.25	0.26	0.26	0.32	0.30	0.38
Fixed Income-U.S. - Long Credit	0.31	0.31	0.30	0.28	0.27	0.26	0.25	0.31	0.23	0.28	0.19	0.22	0.23	0.23	0.29	0.27	0.35
Fixed Income-U.S. - Long Credit (Downgrade Tolerant)	0.32	0.32	0.31	0.29	0.28	0.27	0.26	0.32	0.24	0.30	0.20	0.24	0.25	0.25	0.30	0.28	0.37
Fixed Income-U.S. - Mortgages	0.11	0.11	0.11	0.10	0.10	0.10	0.09	0.12	0.04	0.09	0.01	0.05	0.04	0.04	0.09	0.08	0.16
Fixed Income-U.S. - High Yield	0.57	0.57	0.55	0.52	0.50	0.47	0.47	0.57	0.50	0.56	0.46	0.48	0.52	0.52	0.57	0.54	0.60
Fixed Income-U.S. - Muni Bonds	0.16	0.16	0.16	0.15	0.14	0.13	0.13	0.17	0.11	0.14	0.08	0.11	0.11	0.11	0.15	0.14	0.19
Fixed Income-U.S. - Inflation-Indexed Bonds	-0.05	-0.05	-0.05	-0.04	-0.04	-0.04	-0.04	-0.04	-0.09	-0.07	-0.11	-0.08	-0.09	-0.09	-0.07	-0.07	-0.01
U.S. - Cash	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.08	-0.01	-0.04	-0.01	-0.02	-0.02	-0.02	-0.02	0.01
Fixed Income-U.S. - Convertibles	0.80	0.81	0.78	0.73	0.71	0.67	0.67	0.81	0.61	0.68	0.57	0.58	0.63	0.63	0.76	0.72	0.80
Fixed Income-U.S. - GICs	0.09	0.09	0.08	0.08	0.08	0.07	0.07	0.09	0.03	0.06	0.00	0.03	0.03	0.03	0.06	0.06	0.13
U.S. - Private Debt	0.59	0.59	0.57	0.54	0.52	0.49	0.49	0.59	0.51	0.56	0.48	0.48	0.53	0.53	0.59	0.55	0.59
Multi-Asset Credit	0.52	0.52	0.51	0.48	0.46	0.44	0.44	0.53	0.46	0.51	0.43	0.44	0.48	0.48	0.53	0.50	0.56
International - Non-US Gov't Unhedged	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	0.34	0.00	0.18	0.31	0.30	0.30	0.13	0.12	0.02
International - Non-US Gov't Hedged	-0.07	-0.07	-0.07	-0.06	-0.06	-0.06	-0.06	-0.06	-0.07	-0.05	-0.13	-0.05	-0.08	-0.08	-0.08	-0.07	0.02
International - Non-US Broad Unhedged	0.08	0.08	0.07	0.07	0.07	0.06	0.06	0.08	0.43	0.10	0.27	0.40	0.40	0.40	0.23	0.21	0.13
Emerging Markets Hard Currency	0.56	0.56	0.55	0.51	0.50	0.47	0.47	0.57	0.48	0.54	0.53	0.46	0.53	0.53	0.58	0.54	0.60
Alternatives																	
Real Estate - Core	0.46	0.46	0.45	0.42	0.41	0.39	0.39	0.46	0.38	0.43	0.36	0.37	0.40	0.40	0.46	0.43	0.48
Real Estate - REITS	0.74	0.72	0.75	0.73	0.72	0.61	0.61	0.73	0.59	0.65	0.55	0.61	0.61	0.60	0.71	0.72	0.73
Domestic Equity- Private Equity	0.88	0.86	0.90	0.90	0.88	0.72	0.72	0.86	0.66	0.72	0.61	0.71	0.68	0.67	0.83	0.87	0.82
Low-exposure Hedge Funds (Conservative prior to 7/1/2019)	0.37	0.37	0.36	0.34	0.33	0.31	0.31	0.37	0.29	0.32	0.27	0.28	0.30	0.30	0.35	0.33	0.36
Diversified Hedge Funds (Moderate prior to 7/1/2019)	0.70	0.70	0.68	0.64	0.62	0.59	0.59	0.70	0.56	0.61	0.53	0.53	0.58	0.58	0.68	0.64	0.69
Long-Biased Hedge Funds (Mod/Aggressive prior to 7/1/2019)	0.73	0.73	0.71	0.66	0.64	0.61	0.61	0.73	0.57	0.63	0.54	0.55	0.59	0.59	0.70	0.66	0.71
Idiosyncratic Multi-Asset	0.68	0.68	0.66	0.62	0.60	0.57	0.57	0.68	0.52	0.58	0.52	0.50	0.55	0.55	0.65	0.61	0.67
Commodities	0.28	0.28	0.27	0.25	0.24	0.23	0.23	0.28	0.41	0.26	0.39	0.39	0.43	0.43	0.36	0.34	0.29
Inflation	0.09	0.09	0.09	0.08	0.08	0.08	0.07	0.10	0.22	0.06	0.29	0.20	0.26	0.26	0.18	0.16	0.08

Fixed Income

	Aggre-gate	Gov/ Credit	Gov/ Credit (DT)	Short Gov/ Corp	Inter-med G/C	Long G/C	Long G/C (DT)	Interm Credit	Credit	Credit (DT)	Long Credit	Long Credit (DT)	Mortg-ages	High Yield	Muni Bonds	Inflation Indexed Bonds	Cash	Convert-ibles	GICs
Domestic Equity																			
Domestic Equity-All Cap	0.14	0.15	0.16	0.08	0.14	0.16	0.18	0.34	0.32	0.34	0.31	0.32	0.11	0.57	0.16	-0.05	-0.02	0.80	0.09
Domestic Equity-Large Cap	0.14	0.15	0.16	0.08	0.14	0.17	0.18	0.35	0.33	0.34	0.31	0.32	0.11	0.57	0.16	-0.05	-0.02	0.81	0.09
Domestic Equity-Mid Cap	0.14	0.15	0.15	0.08	0.13	0.16	0.17	0.34	0.32	0.33	0.30	0.31	0.11	0.55	0.16	-0.05	-0.02	0.78	0.08
Domestic Equity-Small Cap	0.13	0.14	0.14	0.08	0.13	0.15	0.16	0.31	0.30	0.31	0.28	0.29	0.10	0.52	0.15	-0.04	-0.02	0.73	0.08
Domestic Equity-Micro Cap	0.13	0.13	0.14	0.07	0.12	0.15	0.16	0.31	0.29	0.30	0.27	0.28	0.10	0.50	0.14	-0.04	-0.02	0.71	0.08
Large Company Stock	0.12	0.13	0.13	0.07	0.12	0.14	0.15	0.29	0.27	0.28	0.26	0.27	0.10	0.47	0.13	-0.04	-0.02	0.67	0.07
Small Company Stock	0.12	0.12	0.13	0.06	0.11	0.13	0.14	0.28	0.27	0.28	0.25	0.26	0.09	0.47	0.13	-0.04	-0.02	0.67	0.07
Domestic Equity-Defensive Equity	0.15	0.16	0.17	0.10	0.15	0.17	0.18	0.35	0.33	0.34	0.31	0.32	0.12	0.57	0.17	-0.04	-0.02	0.81	0.09
International Equity																			
International Equity-Unhedged	0.07	0.07	0.08	0.01	0.06	0.09	0.10	0.26	0.25	0.26	0.23	0.24	0.04	0.50	0.11	-0.09	-0.08	0.61	0.03
International Equity-Hedged	0.11	0.12	0.13	0.05	0.11	0.14	0.15	0.32	0.30	0.31	0.28	0.30	0.09	0.56	0.14	-0.07	-0.01	0.68	0.06
International Equity-Emerging Mkts	0.03	0.03	0.04	-0.02	0.02	0.05	0.06	0.22	0.20	0.21	0.19	0.20	0.01	0.46	0.08	-0.11	-0.04	0.57	0.00
International Equity-Small Cap	0.07	0.08	0.09	0.02	0.07	0.09	0.10	0.26	0.24	0.25	0.22	0.24	0.05	0.48	0.11	-0.08	-0.01	0.58	0.03
International Equity-Global Equity x-U.S. - All Cap	0.07	0.07	0.08	0.01	0.06	0.09	0.10	0.27	0.25	0.26	0.23	0.25	0.04	0.52	0.11	-0.09	-0.02	0.63	0.03
International Equity-Global Equity x-U.S. - Large Cap	0.07	0.07	0.08	0.01	0.06	0.09	0.10	0.27	0.25	0.26	0.23	0.25	0.04	0.52	0.11	-0.09	-0.02	0.63	0.03
International Equity-Global Equity	0.11	0.12	0.13	0.05	0.11	0.14	0.15	0.33	0.31	0.32	0.29	0.30	0.09	0.57	0.15	-0.07	-0.02	0.76	0.06
International Equity-Global Small Cap	0.11	0.11	0.12	0.05	0.10	0.13	0.14	0.31	0.29	0.30	0.27	0.28	0.08	0.54	0.14	-0.07	-0.02	0.72	0.06
International Equity-Global Defensive Equity - Unhedged	0.20	0.20	0.21	0.14	0.19	0.22	0.23	0.40	0.37	0.38	0.35	0.37	0.16	0.60	0.19	-0.01	0.01	0.80	0.13
Fixed Income																			
Fixed Income-U.S. - Aggregate	1.00	0.99	0.99	0.90	0.97	0.97	0.97	0.89	0.90	0.88	0.89	0.87	0.92	0.51	0.58	0.60	0.21	0.39	0.72
Fixed Income-U.S. - Gov't/Credit	0.99	1.00	1.00	0.91	0.98	0.99	0.99	0.90	0.91	0.90	0.90	0.88	0.85	0.52	0.57	0.59	0.21	0.39	0.72
Fixed Income-U.S. - Gov't/Credit (Downgrade Tolerant)	0.99	1.00	1.00	0.90	0.98	0.99	0.99	0.91	0.92	0.91	0.91	0.89	0.85	0.54	0.58	0.59	0.20	0.39	0.71
Fixed Income-U.S. - Short Gov't/Corporate	0.90	0.91	0.90	1.00	0.97	0.83	0.83	0.82	0.78	0.76	0.73	0.71	0.79	0.40	0.55	0.58	0.20	0.32	0.67
Fixed Income-U.S. - Intermediate Gov't/Corporate	0.97	0.98	0.98	0.97	1.00	0.94	0.94	0.90	0.88	0.87	0.86	0.84	0.84	0.50	0.58	0.60	0.21	0.38	0.71
Fixed Income-U.S. - Long Gov't/Corporate	0.97	0.99	0.99	0.83	0.94	1.00	1.00	0.89	0.92	0.91	0.93	0.91	0.83	0.54	0.56	0.56	0.20	0.39	0.70
Fixed Income-U.S. - Long Gov't/Corporate (Downgrade Tolerant)	0.97	0.99	0.99	0.83	0.94	1.00	1.00	0.90	0.93	0.92	0.94	0.92	0.83	0.56	0.56	0.56	0.20	0.40	0.70
Fixed Income-U.S. - Intermediate Gov't	0.89	0.89	0.88	0.94	0.92	0.83	0.82	0.66	0.65	0.63	0.63	0.60	0.78	0.16	0.49	0.62	0.22	0.19	0.66
Fixed Income-Government	0.90	0.90	0.89	0.87	0.90	0.87	0.86	0.65	0.65	0.62	0.64	0.60	0.78	0.16	0.48	0.62	0.22	0.20	0.66
Fixed Income-U.S. - Long Gov't	0.86	0.87	0.86	0.77	0.84	0.86	0.85	0.61	0.61	0.59	0.61	0.57	0.74	0.14	0.45	0.59	0.21	0.19	0.63
Fixed Income-U.S. - Very Long Gov't	0.86	0.87	0.86	0.77	0.84	0.86	0.85	0.61	0.61	0.59	0.61	0.57	0.74	0.14	0.45	0.59	0.21	0.19	0.63
Fixed Income-U.S. - Intermediate Credit	0.89	0.90	0.91	0.82	0.90	0.89	0.90	1.00	0.98	0.98	0.95	0.95	0.76	0.80	0.58	0.45	0.16	0.51	0.64
Fixed Income-U.S. - Credit	0.90	0.91	0.92	0.78	0.88	0.92	0.93	0.98	1.00	1.00	0.99	0.99	0.76	0.77	0.56	0.46	0.16	0.50	0.64
Fixed Income-U.S. - Credit (Downgrade Tolerant)	0.88	0.90	0.91	0.76	0.87	0.91	0.92	0.98	1.00	1.00	0.99	0.99	0.75	0.79	0.56	0.44	0.15	0.50	0.62
Fixed Income-U.S. - Long Credit	0.89	0.90	0.91	0.73	0.86	0.93	0.94	0.95	0.99	0.99	1.00	1.00	0.74	0.74	0.54	0.45	0.16	0.48	0.62
Fixed Income-U.S. - Long Credit (Downgrade Tolerant)	0.87	0.88	0.89	0.71	0.84	0.91	0.92	0.95	0.99	0.99	1.00	1.00	0.73	0.76	0.53	0.43	0.15	0.48	0.61
Fixed Income-U.S. - Mortgages	0.92	0.85	0.85	0.79	0.84	0.83	0.83	0.76	0.76	0.75	0.74	0.73	1.00	0.42	0.52	0.55	0.19	0.34	0.66
Fixed Income-U.S. - High Yield	0.51	0.52	0.54	0.40	0.50	0.54	0.56	0.80	0.77	0.79	0.74	0.76	0.42	1.00	0.41	0.11	0.04	0.58	0.34
Fixed Income-U.S. - Muni Bonds	0.58	0.57	0.58	0.55	0.58	0.56	0.56	0.58	0.56	0.56	0.54	0.53	0.52	0.41	1.00	0.34	0.12	0.29	0.43
Fixed Income-U.S. - Inflation-Indexed Bonds	0.60	0.59	0.59	0.58	0.60	0.56	0.56	0.45	0.46	0.44	0.45	0.43	0.55	0.11	0.34	1.00	0.15	0.14	0.47
U.S. - Cash	0.21	0.21	0.20	0.20	0.21	0.20	0.20	0.16	0.16	0.15	0.16	0.15	0.19	0.04	0.12	0.15	1.00	0.05	0.17
Fixed Income-U.S. - Convertibles	0.39	0.39	0.39	0.32	0.38	0.39	0.40	0.51	0.50	0.50	0.48	0.48	0.34	0.58	0.29	0.14	0.05	1.00	0.28
Fixed Income-U.S. - GICs	0.72	0.72	0.71	0.67	0.71	0.70	0.70	0.64	0.64	0.62	0.62	0.61	0.66	0.34	0.43	0.47	0.17	0.28	1.00
U.S. - Private Debt	0.19	0.20	0.21	0.13	0.19	0.21	0.23	0.45	0.42	0.43	0.39	0.41	0.15	0.72	0.21	-0.05	-0.02	0.51	0.11
Multi-Asset Credit	0.52	0.53	0.54	0.43	0.52	0.54	0.56	0.77	0.75	0.76	0.72	0.73	0.43	0.92	0.41	0.14	0.05	0.55	0.35
International - Non-US Gov't Unhedged	0.30	0.30	0.30	0.29	0.30	0.29	0.29	0.23	0.23	0.22	0.23	0.22	0.28	0.05	0.17	0.22	0.03	0.07	0.24
International - Non-US Gov't Hedged	0.76	0.75	0.74	0.73	0.75	0.72	0.71	0.57	0.58	0.56	0.57	0.55	0.70	0.13	0.42	0.55	0.35	0.17	0.60
International - Non-US Broad Unhedged	0.35	0.34	0.34	0.32	0.34	0.34	0.34	0.33	0.33	0.32	0.32	0.31	0.32	0.22	0.22	0.21	0.01	0.16	0.27
Emerging Markets Hard Currency	0.57	0.58	0.59	0.47	0.56	0.58	0.60	0.76	0.73	0.74	0.70	0.71	0.51	0.84	0.43	0.21	0.11	0.60	0.42
Alternatives																			
Real Estate - Core	0.35	0.35	0.36	0.30	0.34	0.35	0.36	0.40	0.39	0.39	0.38	0.38	0.32	0.36	0.24	0.17	0.05	0.46	0.27
Real Estate - REITS	0.30	0.30	0.31	0.24	0.29	0.31	0.32	0.41	0.40	0.41	0.39	0.39	0.27	0.48	0.23	0.10	0.03	0.64	0.22
Domestic Equity- Private Equity	0.12	0.13	0.13	0.07	0.12	0.14	0.15	0.29	0.27	0.28	0.26	0.27	0.10	0.47	0.14	-0.04	-0.02	0.69	0.08
Low-exposure Hedge Funds (Conservative prior to 7/1/2019)	0.10	0.11	0.11	0.11	0.12	0.10	0.11	0.20	0.18	0.18	0.16	0.16	0.08	0.27	0.10	0.01	0.00	0.31	0.06
Diversified Hedge Funds (Moderate prior to 7/1/2019)	0.11	0.12	0.13	0.06	0.11	0.13	0.14	0.29	0.27	0.28	0.25	0.27	0.09	0.48	0.13	-0.05	-0.02	0.57	0.07
Long-Biased Hedge Funds (Mod/Aggressive prior to 7/1/2019)	0.11	0.12	0.13	0.06	0.11	0.13	0.14	0.29	0.27	0.28	0.26	0.27	0.09	0.48	0.13	-0.05	-0.02	0.59	0.07
Idiosyncratic Multi-Asset	0.29	0.30	0.30	0.24	0.29	0.30	0.31	0.42	0.40	0.41	0.38	0.39	0.26	0.50	0.23	0.09	0.03	0.60	0.21
Commodities	0.21	0.21	0.21	0.25	0.24	0.19	0.19	0.26	0.23	0.23	0.21	0.21	0.17	0.23	0.16	0.29	0.03	0.27	0.14
Inflation	-0.01	0.00	0.01	0.10	0.05	-0.03	-0.03	0.06	0.02	0.02	-0.01	-0.01	-0.03	0.06	0.03	-0.02	-0.03	0.06	-0.03

Fixed Income (continued) / Alternatives / Inflation

	Private Debt	Multi-Asset Credit	Int'l Un-hedged	Int'l Hedged	Broad Int'l Un-hedged	Emerging Market Debt	Real Estate - Core	Real Estate - REITS	Private Equity	Hedge Funds - Conser-vative (Mkt Neutral prior to 7/1/2006)	Hedge Funds - Mod	Hedge Funds - Mod/Agg-ressive (Aggress-ive prior to 7/1/2006)	Idiosyn Multi-Asset	Commodities	Inflation
Domestic Equity															
Domestic Equity-All Cap	0.59	0.52	-0.02	-0.07	0.08	0.56	0.46	0.74	0.88	0.37	0.70	0.73	0.68	0.28	0.09
Domestic Equity-Large Cap	0.59	0.52	-0.02	-0.07	0.08	0.56	0.46	0.72	0.86	0.37	0.70	0.73	0.68	0.28	0.09
Domestic Equity-Mid Cap	0.57	0.51	-0.02	-0.07	0.07	0.55	0.45	0.75	0.90	0.36	0.68	0.71	0.66	0.27	0.09
Domestic Equity-Small Cap	0.54	0.48	-0.02	-0.06	0.07	0.51	0.42	0.73	0.90	0.34	0.64	0.66	0.62	0.25	0.08
Domestic Equity-Micro Cap	0.52	0.46	-0.02	-0.06	0.07	0.50	0.41	0.72	0.88	0.33	0.62	0.64	0.60	0.24	0.08
Large Company Stock	0.49	0.44	-0.02	-0.06	0.06	0.47	0.39	0.61	0.72	0.31	0.59	0.61	0.57	0.23	0.08
Small Company Stock	0.49	0.44	-0.02	-0.06	0.06	0.47	0.39	0.61	0.72	0.31	0.59	0.61	0.57	0.23	0.07
Domestic Equity-Defensive Equity	0.59	0.53	-0.02	-0.06	0.08	0.57	0.46	0.73	0.86	0.37	0.70	0.73	0.68	0.28	0.10
International Equity															
International Equity-Unhedged	0.51	0.46	0.34	-0.07	0.43	0.48	0.38	0.59	0.66	0.29	0.56	0.57	0.52	0.41	0.22
International Equity-Hedged	0.56	0.51	0.00	-0.05	0.10	0.54	0.43	0.65	0.72	0.32	0.61	0.63	0.58	0.26	0.06
International Equity-Emerging Mkts	0.48	0.43	0.18	-0.13	0.27	0.53	0.36	0.55	0.61	0.27	0.53	0.54	0.52	0.39	0.29
International Equity-Small Cap	0.48	0.44	0.31	-0.05	0.40	0.46	0.37	0.61	0.71	0.28	0.53	0.55	0.50	0.39	0.20
International Equity-Global Equity x-U.S. - All Cap	0.53	0.48	0.30	-0.08	0.40	0.53	0.40	0.61	0.68	0.30	0.58	0.59	0.55	0.43	0.26
International Equity-Global Equity x-U.S. - Large Cap	0.53	0.48	0.30	-0.08	0.40	0.53	0.40	0.60	0.67	0.30	0.58	0.59	0.55	0.43	0.26
International Equity-Global Equity	0.59	0.53	0.13	-0.08	0.23	0.58	0.46	0.71	0.83	0.35	0.68	0.70	0.65	0.36	0.18
International Equity-Global Small Cap	0.55	0.50	0.12	-0.07	0.21	0.54	0.43	0.72	0.87	0.33	0.64	0.66	0.61	0.34	0.16
International Equity-Global Defensive Equity - Unhedged	0.59	0.56	0.02	0.02	0.13	0.60	0.48	0.73	0.82	0.36	0.69	0.71	0.67	0.29	0.08
Fixed Income															
Fixed Income-U.S. - Aggregate	0.19	0.52	0.30	0.76	0.35	0.57	0.35	0.30	0.12	0.10	0.11	0.11	0.29	0.21	-0.01
Fixed Income-U.S. - Gov't/Credit	0.20	0.53	0.30	0.75	0.34	0.58	0.35	0.30	0.13	0.11	0.12	0.12	0.30	0.21	0.00
Fixed Income-U.S. - Gov't/Credit (Downgrade Tolerant)	0.21	0.54	0.30	0.74	0.34	0.59	0.36	0.31	0.13	0.11	0.13	0.13	0.30	0.21	0.01
Fixed Income-U.S. - Short Gov't/Corporate	0.13	0.43	0.29	0.73	0.32	0.47	0.30	0.24	0.07	0.11	0.06	0.06	0.24	0.25	0.10
Fixed Income-U.S. - Intermediate Gov't/Corporate	0.19	0.52	0.30	0.75	0.34	0.56	0.34	0.29	0.12	0.12	0.11	0.11	0.29	0.24	0.05
Fixed Income-U.S. - Long Gov't/Corporate	0.21	0.54	0.29	0.72	0.34	0.58	0.35	0.31	0.14	0.10	0.13	0.13	0.30	0.19	-0.03
Fixed Income-U.S. - Long Gov't/Corporate (Downgrade Tolerant)	0.23	0.56	0.29	0.71	0.34	0.60	0.36	0.32	0.15	0.11	0.14	0.14	0.31	0.19	-0.03
Fixed Income-U.S. - Intermediate Gov't	-0.06	0.21	0.31	0.78	0.30	0.30	0.24	0.14	-0.05	0.03	-0.07	-0.07	0.13	0.18	0.04
Fixed Income-Government	-0.07	0.20	0.31	0.78	0.30	0.30	0.25	0.14	-0.05	0.01	-0.07	-0.07	0.13	0.15	-0.01
Fixed Income-U.S. - Long Gov't	-0.07	0.19	0.30	0.75	0.28	0.29	0.24	0.14	-0.05	0.00	-0.06	-0.06	0.12	0.12	-0.05
Fixed Income-U.S. - Very Long Gov't	-0.07	0.19	0.30	0.75	0.28	0.29	0.24	0.14	-0.05	0.00	-0.06	-0.06	0.12	0.12	-0.05
Fixed Income-U.S. - Intermediate Credit	0.45	0.77	0.23	0.57	0.33	0.76	0.40	0.41	0.29	0.20	0.29	0.29	0.42	0.26	0.06
Fixed Income-U.S. - Credit	0.42	0.75	0.23	0.58	0.33	0.73	0.39	0.40	0.27	0.18	0.27	0.27	0.40	0.23	0.02
Fixed Income-U.S. - Credit (Downgrade Tolerant)	0.43	0.76	0.22	0.56	0.32	0.74	0.39	0.41	0.28	0.18	0.28	0.28	0.41	0.23	0.02
Fixed Income-U.S. - Long Credit	0.39	0.72	0.23	0.57	0.32	0.70	0.38	0.39	0.26	0.16	0.25	0.26	0.38	0.21	-0.01
Fixed Income-U.S. - Long Credit (Downgrade Tolerant)	0.41	0.73	0.22	0.55	0.31	0.71	0.38	0.39	0.27	0.16	0.27	0.27	0.39	0.21	-0.01
Fixed Income-U.S. - Mortgages	0.15	0.43	0.28	0.70	0.32	0.51	0.32	0.27	0.10	0.08	0.09	0.09	0.26	0.17	-0.03
Fixed Income-U.S. - High Yield	0.72	0.92	0.05	0.13	0.22	0.84	0.36	0.48	0.47	0.27	0.48	0.48	0.50	0.23	0.06
Fixed Income-U.S. - Muni Bonds	0.21	0.41	0.17	0.42	0.22	0.43	0.24	0.23	0.14	0.10	0.13	0.13	0.23	0.16	0.03
Fixed Income-U.S. - Inflation-Indexed Bonds	-0.05	0.14	0.22	0.55	0.21	0.21	0.17	0.10	-0.04	0.01	-0.05	-0.05	0.09	0.29	-0.02
U.S. - Cash	-0.02	0.05	0.03	0.35	0.01	0.11	0.05	0.03	-0.02	0.00	-0.02	-0.02	0.03	0.03	-0.03
Fixed Income-U.S. - Convertibles	0.51	0.55	0.07	0.17	0.16	0.60	0.46	0.64	0.69	0.31	0.57	0.59	0.60	0.27	0.06
Fixed Income-U.S. - GICs	0.11	0.35	0.24	0.60	0.27	0.42	0.27	0.22	0.08	0.06	0.07	0.07	0.21	0.14	-0.03
U.S. - Private Debt	1.00	0.71	-0.03	-0.07	0.10	0.60	0.28	0.44	0.50	0.26	0.47	0.48	0.44	0.19	0.08
Multi-Asset Credit	0.71	1.00	0.07	0.18	0.22	0.81	0.35	0.45	0.44	0.25	0.44	0.44	0.47	0.23	0.07
International - Non-US Gov't Unhedged	-0.03	0.07	1.00	0.45	0.98	0.12	0.08	0.04	-0.02	0.00	-0.02	-0.02	0.05	0.44	0.31
International - Non-US Gov't Hedged	-0.07	0.18	0.45	1.00	0.42	0.29	0.18	0.09	-0.06	0.00	-0.07	-0.07	0.11	0.10	-0.11
International - Non-US Broad Unhedged	0.10	0.22	0.98	0.42	1.00	0.25	0.13	0.12	0.06	0.05	0.06	0.06	0.13	0.47	0.32
Emerging Markets Hard Currency	0.60	0.81	0.12	0.29	0.25	1.00	0.40	0.50	0.47	0.25	0.45	0.46	0.53	0.25	0.06
Alternatives															
Real Estate - Core	0.28	0.35	0.08	0.18	0.13	0.40	1.00	0.89	0.39	0.18	0.32	0.34	0.37	0.23	0.10
Real Estate - REITS	0.44	0.45	0.04	0.09	0.12	0.50	0.89	1.00	0.67	0.27	0.51	0.53	0.53	0.27	0.10
Domestic Equity- Private Equity	0.50	0.44	-0.02	-0.06	0.06	0.47	0.39	0.67	1.00	0.31	0.60	0.62	0.58	0.23	0.08
Low-exposure Hedge Funds (Conservative prior to 7/1/2019)	0.26	0.25	0.00	0.00	0.05	0.25	0.18	0.27	0.31	1.00	0.88	0.87	0.63	0.14	0.09
Diversified Hedge Funds (Moderate prior to 7/1/2019)	0.47	0.44	-0.02	-0.07	0.06	0.45	0.32	0.51	0.60	0.88	1.00	0.98	0.77	0.19	0.07
Long-Biased Hedge Funds (Mod/Aggressive prior to 7/1/2019)	0.48	0.44	-0.02	-0.07	0.06	0.46	0.34	0.53	0.62	0.87	0.98	1.00	0.78	0.20	0.07
Idiosyncratic Multi-Asset	0.44	0.47	0.05	0.11	0.13	0.53	0.37	0.53	0.58	0.63	0.77	0.78	1.00	0.22	0.06
Commodities	0.19	0.23	0.44	0.10	0.47	0.25	0.23	0.27	0.23	0.14	0.19	0.20	0.22	1.00	0.65
Inflation	0.08	0.07	0.31	-0.11	0.32	0.06	0.10	0.10	0.08	0.09	0.07	0.07	0.06	0.65	1.00

Mercer Standard Percentile Approach

Investment Expense Default

Name of Client: ALLETE OPEB - Combined

Analyst: ES

	Percentage Allocation	Basis Points	Weighted Average
Domestic Equity			
Domestic Equity-All Cap	0.0%	5	0.0000%
Domestic Equity-Large Cap	18.0%	5	0.0090%
Domestic Equity-Mid Cap	17.0%	6	0.0102%
Domestic Equity-Small Cap	9.0%	6	0.0054%
Domestic Equity-Micro Cap	0.0%	6	0.0000%
Company Stock-Large	0.0%	0	0.0000%
Company Stock-Small	0.0%	0	0.0000%
Defensive Equity	0.0%	6	0.0000%
International Equity			
International Equity-Unhedged	0.0%	10	0.0000%
International Equity-Hedged	0.0%	10	0.0000%
International Eq-Emerging Mkts	11.0%	20	0.0220%
International Eq-Small Cap	0.0%	10	0.0000%
Global Equity x-U.S. - All Cap	14.0%	10	0.0140%
Global Equity x-U.S. - Large Cap	0.0%	10	0.0000%
Global Equity	0.0%	10	0.0000%
Global Small Cap	0.0%	10	0.0000%
Global Defensive Equity - Unhedged	0.0%	10	0.0000%
Fixed Income			
Fixed Income-Aggregate	0.0%	7	0.0000%
Fixed Income-Gov/Credit	0.0%	7	0.0000%
Fixed Income-Gov/Credit (Downgrade Tolerant)	0.0%	7	0.0000%
Fixed Income-Short Gov/Corp	0.0%	7	0.0000%
Fixed Income-Intermediate Gov/Corp	29.0%	7	0.0203%
Fixed Income-Long Gov/Corp	0.0%	7	0.0000%
Fixed Income-Long Gov/Corp (Downgrade Tolerant)	0.0%	7	0.0000%
Fixed Income-Intermediate Government	0.0%	7	0.0000%
Fixed Income-Government	0.0%	7	0.0000%
Fixed Income-Long Gov	0.0%	7	0.0000%
Fixed Income-Very Long Gov	0.0%	7	0.0000%
Fixed Income-Intermediate Credit	0.0%	7	0.0000%
Fixed Income-Credit	0.0%	7	0.0000%
Fixed Income-Credit (Downgrade Tolerant)	0.0%	7	0.0000%
Fixed Income-Long Credit	0.0%	7	0.0000%
Fixed Income-Long Credit (Downgrade Tolerant)	0.0%	7	0.0000%
Fixed Income-Mortgages	0.0%	7	0.0000%
Fixed Income-High Yield	0.0%	7	0.0000%
Fixed Income-Muni Bonds	0.0%	7	0.0000%
Inflation-Indexed Bonds	0.0%	7	0.0000%
Cash	1.0%	0	0.0000%
Convertibles	0.0%	7	0.0000%
GICs	0.0%	7	0.0000%
Private Debt	0.0%	0	0.0000%
Multi-Asset Credit	0.0%	7	0.0000%
International - Non-US Gov't Unhedged	0.0%	10	0.0000%
International - Non-US Gov't Hedged	0.0%	10	0.0000%
International - Non-US Broad Unhedged	0.0%	10	0.0000%
Emerging Markets Hard Currency	0.0%	10	0.0000%
Alternatives			
Real Estate - Core	0.0%	0	0.0000%
Real Estate - REITS	0.0%	0	0.0000%
Private Equity	1.0%	0	0.0000%
Low-exposure Hedge Funds (Conservative prior to 7/1/2019)	0.0%	0	0.0000%
Diversified Hedge Funds (Moderate prior to 7/1/2019)	0.0%	0	0.0000%
Long-Biased Hedge Funds (Mod/Aggressive prior to 7/1/2019)	0.0%	0	0.0000%
Idiosyncratic Multi-Asset	0.0%	0	0.0000%
Commodities	0.0%	0	0.0000%
Investment Fees by Asset Class	100.0%		0.0809%
Trustee Fee by Asset Size	204,000,000	2	0.0200%
Total Investment Expense			0.1009%

MERCER

ASC 715 (US GAAP) Actuarial Valuation Report as of December 31, 2020

Postretirement Welfare Plans

ALLETE, INC. and Affiliated Companies

January 29, 2021

welcome to brighter

Contents

1. Report highlights 1

2. Data, assumptions, methods, and provisions 4

3. Important notices 5

Appendix A. Disclosure information

Appendix B. Estimated net periodic benefit cost information

Appendix C. Plan assets

1 Report highlights

Mercer has prepared this report for ALLETE, Inc. and Affiliated Companies (ALLETE) to (i) present actuarial estimates of liabilities as at December 31, 2020 for the following plans:

- Non-Union Medical, Dental, and Life
- Union Medical, Dental, and Life

to be incorporated, as ALLETE deems appropriate, in the financial statements prepared under US accounting standards, and (ii) provide an actuarial estimateof the net periodic benefit cost for the fiscal year ending December 31, 2021.

All figures in this report are expressed in US Dollars unless otherwise stated.

The results herein reflect the disclosure rules under Accounting Standards Update 2018-14. Specifically, the AOCI expected to be recognized in the next fiscal year expense for all plans has been eliminated. Additionally, ASU 2018-14 eliminates the +/-1% trend sensitivity on the OPEB plan. Finally, information that can be used in the narrative on the reasons for significant gains and losses has been included in the Review of Results section.

Please see Section 3 of this report for further explanation as to the purposes and limitations of this report.

Summary of results

Below are highlights of the results as of December 31, 2020 compared to the corresponding figures as of December 31, 2019.

	Fiscal year ending December 31, 2020			Fiscal year ending December 31, 2019		
	Non-Union	Union	Total	Non-Union	Union	Total
Net periodic benefit cost	**(4,377,496)**	**(4,217,640)**	**(8,595,136)**	**(850,082)**	**(1,563,502)**	**(2,413,584)**
Benefit obligation	88,750,626	75,670,591	164,421,217	78,880,695	67,185,537	146,066,232
Fair value of assets	92,853,797	93,177,382	186,031,179	88,554,567	85,102,349	173,656,916
Funded status	**4,103,171**	**17,506,791**	**21,609,962**	**9,673,872**	**17,916,812**	**27,590,684**
Discount rate at year-end	2.70%	2.70%		3.45%	3.45%	

The net periodic benefit cost for the fiscal year ending December 31, 2020, does not include any charges due to any special event.

The estimated net periodic benefit cost for the fiscal year ending December 31, 2021, is shown below:

	Fiscal year ending December 31, 2021		
	Non-Union	Union	Total
Estimated Net periodic benefit cost	**(2,449,219)**	**(4,168,323)**	**(6,617,542)**

Please note that the actual net periodic benefit cost for the fiscal year ending December 31, 2021 may be substantially different from the estimate and may be revised if assets and/or liabilities are remeasured during the year due to a significant event and/or cash flows are updated.

Review of Results

The funding surplus for the Non-Union Plans decreased from $9,673,872 to $4,103,171 as of December 31, 2020. The funding surplus for the Union Plans decreased from $17,916,812 to $17,506,791 as of December 31, 2020. Accumulated other comprehensive income changed from an income of $11,176,690 at December 31, 2019 to an income of $906,513 at December 31, 2020 for the Non-Union plans and from an income of $8,840,408 at December 31, 2019 to an income of $4,256,387 at December 31, 2020 for the Union plans.

The key factors contributing to the change in the unrecognized loss include:

- Non-union plan assets earned a return of $10,117,494, which was $5,697,155 in excess of the expected return. Similarly, union plan assets earned a return of $10,785,342, which was $5,456,645 in excess of the expected return. The excess returns reduced the unrecognized loss by $5,697,155 and $5,456,645 for non-union and union, respectively.

- The claims amounts and premiums were updated based on last year's benefit provisions to reflect more recent plan experience. This resulted in a decrease in benefit obligation of $1,184,352 for the non-union plans and $1,521,195 for the union plans.

- Based on the experience study completed in 2020, retirement rates, withdrawal rates, spouse age difference and percent married were updated.These updated assumptions increased the benefit obligation by $2,535,984 for non-union plans and $339,604 for union plans.

- The discount rate decreased by 75 basis points from 3.45% to 2.70% . This increased the benefit obligation by $7,968,704 for non-union plans and $7,187,862 for union plans.

- Finally, we incorporated new census data as of January 1, 2020 in our valuation. Along with updated data, the service cost and interest cost accruals offset by claims paid increased the benefit obligation by $2,718,879 for non-union plans and $1,006,345 for union plans.

Details of the disclosure information are shown in Appendix A. The estimated net periodic benefit cost information is shown in Appendix B. Details of Plan assets are shown in Appendix C.

Please refer to the remainder of the report for more information about these summary numbers.

2

Data, assumptions, methods and provisions

This report is based on the participant data, assumptions, methods, and provisions summarized in the report titled *Postretirement Welfare Plan. Data, Assumptions, Methods, and Provisions as of December 31, 2020*, dated January 2021, and incorporated herein by reference.

Authorized users of this report should contact Mercer to request a copy of the above report, if they do not already have the report, in order to understand all aspects of the calculations that are incorporated by reference.

We used financial data submitted by the trustees and plan sponsor as of the measurement date without further audit. Customarily, this information would not be verified by a plan’s actuary. We have reviewed the information for internal consistency and general reasonableness.

3
Important notices

Mercer has prepared this report exclusively for ALLETE; subject to this limitation, ALLETE may direct that this report be provided to its auditors in connection with the audit of its financial statements. Mercer is not responsible for use of this report by any other party.

The only purposes of this report are to present actuarial estimates of liabilities as of December 31, 2020, for the following plans:

- Non-Union Medical, Dental, and Life
- Union Medical, Dental, and Life

To be incorporated, as ALLETE deems appropriate, in the financial statements prepared under US accounting standards, and provide an actuarial estimate of the net periodic benefit cost for the fiscal year ending December 31, 2021.

This report may not be used for any other purpose. Mercer is not responsible for the consequences of any unauthorized use. Its content may not be modified, incorporated into or used in other material, sold or otherwise provided, in whole or in part, to any other person or entity, without Mercer's permission.

This report was prepared in accordance with generally accepted actuarial principles and procedures. The actuarial assumptions were selected by ALLETE. Based on the information provided to us, we believe that the actuarial assumptions are reasonable for the purposes described in this report.

All parts of this report, including any documents incorporated by reference, are integral to understanding and explaining its contents; no part may be taken out of context, used, or relied upon without reference to the report as a whole.

Decisions about benefit changes, granting new benefits, investment policy, funding policy, benefit security, and/or benefit-related issues should not be made solely on the basis of this valuation, but only after careful consideration of alternative economic, financial, demographic, and societal factors, including financial scenarios that assume future sustained investment losses.

ALLETE is ultimately responsible for selecting the Plan's accounting policies, methods, and assumptions. This information is referenced or described in Section 2 of this report. ALLETE is solely responsible for communicating to Mercer any changes required to those policies, methods and assumptions.

ALLETE is solely responsible for selecting the plans' investment policies, asset allocations, and individual investments. The Mercer actuaries who prepared this report have not provided any investment advice to ALLETE.

This report is based on our understanding of applicable law and regulations as of the valuation date. Mercer is not an accountant or auditor and is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. As you know, Mercer is not a law firm, and this analysis is not intended to be a legal opinion. You should consider securing the advice of legal counsel with respect to any legal matters related to this document and any attachments.

ALLETE should notify Mercer promptly after receipt of this valuation report if ALLETE disagrees with anything contained herein or is aware of any information that would affect the results of this report that has not been communicated to Mercer or incorporated therein. The valuation report will be deemed final and acceptable to ALLETE unless ALLETE promptly provides such notice to Mercer.

Use of models

To prepare this report, we have employed Mercer's suite of proprietary valuation software and tools. The purpose of these models is to measure the Plan's liabilities, reflecting the Plan's census data and provisions, using the methods and assumptions prescribed or selected for the Plan's valuation, under the applicable laws, regulations, and other guidance in effect as of the measurement date. Certain short-term assumptions used in the postretirement medical plan valuation, such as projections of employer claims costs and future health care inflationary costs, were developed using models customized by the health actuary.

Reliance on experts

We have relied on the experts who developed the following models:

- The Mercer Bond Model
- Mercer’s portfolio return calculator
- Mercer’s capital market assumptions

These tools were used in the development of the discount rate for ASC 715 expense and disclosures, and in setting the expected return on asset assumption.

Professional qualifications

We are available to answer any questions on the material contained in this report or to provide explanations or further details as may be appropriate. Collectively, the undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. We are not aware of any direct or material indirect financial interest or relationship, including investments or other services that we believe would create a conflict of interest or impair the objectivity of our work. To the extent that other Mercer professionals may have provided investment services to ALLETE, we do not believe those services would result in a conflict of interest nor affect the objectivity of our work herein.

Suneeti Ahuja

January 29, 2021

Suneeti Ahuja, ASA, EA **Date**
Senior Associate
Long-Term Aspect

Theodore J Hoffman

January 29, 2021

Theodore J. Hoffman, FSA, MAAA **Date**
Principal
Healthcare Aspect

Appendix A

Disclosure information

Plan name	Non-Union Medical		Union Medical		Medical Total	
Country	USA		USA			
Fiscal year ending on	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019
A. Change in benefit obligation						
1. Benefit obligation at beginning of year	$ 57,009,586	$ 73,794,189	$ 49,530,636	$ 60,315,041	$ 106,540,222	$ 134,109,230
2. Service cost	1,183,911	1,364,956	1,645,598	1,700,356	2,829,509	3,065,312
3. Interest cost	1,906,099	3,000,500	1,660,386	2,470,793	3,566,485	5,471,293
4. Participant contributions	1,376,199	1,546,970	1,193,153	1,292,310	2,569,352	2,839,280
5. Plan amendments	-	(19,334,383)	-	(15,219,920)	-	(34,554,303)
6. Plan curtailments	-	-	-	-	-	-
7. Plan settlements	-	-	-	-	-	-
8. Special termination benefits	-	-	-	-	-	-
9. Benefit payments						
a. Benefits paid from the plan assets	(6,311,334)	(6,317,603)	(3,367,391)	(5,051,396)	(9,678,725)	(11,368,999)
b. Direct benefit payments	(288,674)	(429,575)	-	-	(288,674)	(429,575)
10. Medicare subsidies received	-	-	-	-	-	-
11. Expenses paid	-	-	-	-	-	-
12. Taxes paid	-	-	-	-	-	-
13. Premiums paid	-	-	-	-	-	-
14. Net transfer in/(out) (including the effect of any business combinations/divestitures)	-	-	-	-	-	-
15. Plan combinations	-	-	-	-	-	-
16. Actuarial loss (gain)	9,272,598	3,384,532	4,564,597	4,023,452	13,837,195	7,407,984
17. Exchange rate changes	-	-	-	-	-	-
18. Benefit obligation at end of year	$ 64,148,385	$ 57,009,586	$ 55,226,979	$ 49,530,636	$ 119,375,364	$ 106,540,222

Plan name	Non-Union Medical		Union Medical		Medical Total	
Country	USA		USA			
Fiscal year ending on	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019
B. Change in plan assets						
1. Fair value of plan assets at beginning of year	$ 73,699,197	$ 66,726,517	$ 69,006,584	$ 60,131,641	$ 142,705,781	$ 126,858,158
2. Actual return on plan assets	8,423,273	11,743,313	8,760,896	12,634,029	17,184,169	24,377,342
3. Employer contributions						
a. Employer contributions to plan	-	-	-	-	-	-
b. Employer direct benefit payments	288,674	429,575	-	-	288,674	429,575
4. Participants contributions	1,376,199	1,546,970	1,193,153	1,292,310	2,569,352	2,839,280
5. Plan settlements	-	-	-	-	-	-
6. Benefit payments						
a. Benefits paid from the plan assets	(6,311,334)	(6,317,603)	(3,367,391)	(5,051,396)	(9,678,725)	(11,368,999)
b. Direct benefit payments	(288,674)	(429,575)	-	-	(288,674)	(429,575)
7. Medicare subsidies received	-	-	-	-	-	-
8. Expenses paid	-	-	-	-	-	-
9. Taxes paid	-	-	-	-	-	-
10. Premiums paid	-	-	-	-	-	-
11. Acquisitions / divestitures	-	-	-	-	-	-
12. Plan combinations	-	-	-	-	-	-
13. Adjustments	-	-	-	-	-	-
14. Exchange rate changes	-	-	-	-	-	-
15. Fair value of plan assets at end of year	$ 77,187,335	$ 73,699,197	$ 75,593,242	$ 69,006,584	$ 152,780,577	$ 142,705,781
C. Reconciliation of funded status						
1. Fair value of plan assets	$ 77,187,335	$ 73,699,197	$ 75,593,242	$ 69,006,584	$ 152,780,577	$ 142,705,781
2. Benefit obligations	64,148,385	57,009,586	55,226,979	49,530,636	119,375,364	106,540,222
3. Funded status (plan assets less benefit obligations)	$ 13,038,950	$ 16,689,611	$ 20,366,263	$ 19,475,948	$ 33,405,213	$ 36,165,559

Plan name	Non-Union Medical		Union Medical		Medical Total	
Country	USA		USA			
Fiscal year ending on	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019
D. Amounts recognized on the consolidated balance sheet position consists of						
1. Noncurrent assets	$ 13,038,950	$ 16,689,611	$ 20,366,263	$ 19,475,948	$ 33,405,213	$ 36,165,559
2. Current liabilities	-	-	-	-	-	-
3. Noncurrent liabilities	-	-	-	-	-	-
4. Net amount [asset (obligation)] recognized in statement of financial position	$ 13,038,950	$ 16,689,611	$ 20,366,263	$ 19,475,948	$ 33,405,213	$ 36,165,559
E. Reconciliation of amounts recognized in statement of financial position						
1. Prior service credit (cost)	15,181,887	19,038,250	12,099,887	15,447,520	27,281,774	34,485,770
2. Net gain (loss)	(8,064,095)	(3,534,212)	(4,829,775)	(5,027,257)	(12,893,870)	(8,561,469)
3. Accumulated other comprehensive income (loss)	$ 7,117,792	$ 15,504,038	$ 7,270,112	$ 10,420,263	$ 14,387,904	$ 25,924,301
4. Accumulated contributions in excess of net periodic benefit cost	5,921,158	1,185,573	13,096,151	9,055,685	19,017,309	10,241,258
5. Net amount [surplus (deficit)] recognized in statement of financial position	$ 13,038,950	$ 16,689,611	$ 20,366,263	$ 19,475,948	$ 33,405,213	$ 36,165,559
F. Components of net periodic benefit cost						
1. Service cost	$ 1,183,911	$ 1,364,956	$ 1,645,598	$ 1,700,356	$ 2,829,509	$ 3,065,312
2. Interest cost	1,906,099	3,000,500	1,660,386	2,470,793	3,566,485	5,471,293
3. Expected return on plan assets	(3,691,893)	(4,009,915)	(4,310,530)	(4,597,226)	(8,002,423)	(8,607,141)
4. Amortization of prior service cost	(3,856,363)	(1,127,012)	(3,347,633)	(782,693)	(7,203,996)	(1,909,705)
5. Amortization of net (gain) loss	11,335	19,493	311,713	71,502	323,048	90,995
6. Curtailment (gain) / loss recognized	-	-	-	-	-	-
7. Settlement (gain) / loss recognized	-	-	-	-	-	-
8. Special termination benefit recognized	-	-	-	-	-	-
9. Net periodic benefit cost	$ (4,446,911)	$ (751,978)	$ (4,040,466)	$ (1,137,268)	$ (8,487,377)	$ (1,889,246)

Plan name	Non-Union Medical		Union Medical		Medical Total	
Country	USA		USA			
Fiscal year ending on	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019
G. Changes in other comprehensive income						
Changes in plan assets and benefit obligations recognized in other comprehensive income						
1. Prior service cost	$ -	$ (19,334,383)	$ -	$ (15,219,920)	$ -	$ (34,554,303)
2. Net loss (gain) arising during the year (includes curtailment gains not recognized as a component of NPBC)	4,541,218	(4,348,866)	114,231	(4,013,351)	4,655,449	(8,362,217)
3. Effect of exchange rates	-	-	-	-	-	-
Amounts recognized as a component of net periodic benefit cost						
4. Amortization or curtailment recognition of prior service credit (cost)	3,856,363	1,127,012	3,347,633	782,693	7,203,996	1,909,705
5. Amortization or settlement recognition of net gain (loss)	(11,335)	(19,493)	(311,713)	(71,502)	(323,048)	(90,995)
6. Total recognized in other comprehensive loss (income)	$ 8,386,246	$ (22,575,730)	$ 3,150,151	$ (18,522,080)	$ 11,536,397	$ (41,097,810)
7. Total recognized in net periodic benefit and other comprehensive loss (income)	$ 3,939,335	$ (23,327,708)	$ (890,315)	$ (19,659,348)	$ 3,049,020	$ (42,987,056)
H. Assumptions to determine benefit obligations						
Discount rate	2.70%	3.45%	2.70%	3.45%		
Health care cost trend rates						
Immediate trend rate	5.93%	6.20%	5.93%	6.20%		
Ultimate trend rate	4.50%	4.50%	4.50%	4.50%		
Year rate reaches ultimate trend rate	2038	2038	2038	2038		
Measurement date	31-Dec-2020	31-Dec-2019	31-Dec-2020	31-Dec-2019		
I. Assumptions to determine net cost						
Discount rate	3.45%	4.47%	3.45%	4.47%		
Expected return on assets	5.40%	5.80%	6.75%	7.25%		
Health care cost trend rates						
Immediate trend rate	6.20%	6.46%	6.20%	6.46%		
Ultimate trend rate	4.50%	4.50%	4.50%	4.50%		
Year rate reaches ultimate trend rate	2038	2038	2038	2038		

Plan name	Non-Union Medical		Union Medical		Medical Total	
Country	USA		USA			
Fiscal year ending on	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019
J. Additional year-end information for plans with accumulated benefit obligations in excess of plan assets						
1. Projected benefit obligation	$ -	$ -	$ -	$ -	$ -	$ -
2. Accumulated benefit obligation	-	-	-	-	-	-
3. Fair value of plan assets	-	-	-	-	-	-
K. Additional year-end information for plans with projected benefit obligations in excess of plan assets						
1. Projected benefit obligation	$ -	$ -	$ -	$ -	$ -	$ -
2. Fair value of plan assets	-	-	-	-	-	-
L. Cash flows						
1. Projected company contributions for following fiscal year	$ -		$ -		$ -	
2. Expected benefit payments for FYE						
31-Dec-2021 :	3,586,419		2,852,277		6,438,696	
31-Dec-2022 :	3,590,854		2,856,070		6,446,924	
31-Dec-2023 :	3,488,679		2,772,695		6,261,374	
31-Dec-2024 :	3,449,021		2,867,859		6,316,880	
31-Dec-2025 :	3,420,167		2,859,376		6,279,543	
Next five years	17,126,750		14,586,339		31,713,089	
M. Accumulated contributions in excess of net periodic benefit cost						
1. Amount as of beginning of year	$ 1,185,573	$ 4,020	$ 9,055,685	$ 7,918,417	$ 10,241,258	$ 7,922,437
2. Net periodic pension (cost) income for fiscal year	4,446,911	751,978	4,040,466	1,137,268	8,487,377	1,889,246
3. Employer contributions made in fiscal year (excludes contributions made between measurement year end and fiscal year end)	-	-	-	-	-	-
4. Benefits paid directly by company in the fiscal year (excludes contributions made between measurement year end and fiscal year end)	288,674	429,575	-	-	288,674	429,575
5. FAS 88 (expense) income	-	-	-	-	-	-
6. Other gain / (loss) recognized	-	-	-	-	-	-
7. Plan combinations	-	-	-	-	-	-
8. Adjustment to match local books	-	-	-	-	-	-
9. Exchange rate adjustment	-	-	-	-	-	-
10. Amount as of end of year	$ 5,921,158	$ 1,185,573	$ 13,096,151	$ 9,055,685	$ 19,017,309	$ 10,241,258

Plan name	Non-Union Dental		Union Dental		Dental Total	
Country	USA		USA			
Fiscal year ending on	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019
A. Change in benefit obligation						
1. Benefit obligation at beginning of year	$ 8,420,393	$ 8,271,357	$ 6,709,795	$ 6,375,706	$ 15,130,188	$ 14,647,063
2. Service cost	142,907	136,358	174,450	152,569	317,357	288,927
3. Interest cost	284,595	361,732	227,314	279,453	511,909	641,185
4. Participant contributions	232,858	211,975	176,160	156,358	409,018	368,333
5. Plan amendments	-	-	-	-	-	-
6. Plan curtailments	-	-	-	-	-	-
7. Plan settlements	-	-	-	-	-	-
8. Special termination benefits	-	-	-	-	-	-
9. Benefit payments						
a. Benefits paid from the plan assets	(488,300)	(547,083)	(339,548)	(374,310)	(827,848)	(921,393)
b. Direct benefit payments	(33,306)	(19,365)	-	-	(33,306)	(19,365)
10. Medicare subsidies received	-	-	-	-	-	-
11. Expenses paid	-	-	-	-	-	-
12. Taxes paid	-	-	-	-	-	-
13. Premiums paid	-	-	-	-	-	-
14. Net transfer in/(out) (including the effect of any business combinations/divestitures)	-	-	-	-	-	-
15. Plan combinations	-	-	-	-	-	-
16. Actuarial loss (gain)	1,478,244	5,419	1,192,496	120,019	2,670,740	125,438
17. Exchange rate changes	-	-	-	-	-	-
18. Benefit obligation at end of year	$ 10,037,391	$ 8,420,393	$ 8,140,667	$ 6,709,795	$ 18,178,058	$ 15,130,188

Plan name	Non-Union Dental		Union Dental		Dental Total	
Country	USA		USA			
Fiscal year ending on	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019
B. Change in plan assets						
1. Fair value of plan assets at beginning of year	$ 8,174,545	$ 7,098,984	$ 8,018,526	$ 6,809,215	$ 16,193,071	$ 13,908,199
2. Actual return on plan assets	989,137	1,410,669	1,016,556	1,427,263	2,005,693	2,837,932
3. Employer contributions						
a. Employer contributions to plan	-	-	-	-	-	-
b. Employer direct benefit payments	33,306	19,365	-	-	33,306	19,365
4. Participants contributions	232,858	211,975	176,160	156,358	409,018	368,333
5. Plan settlements	-	-	-	-	-	-
6. Benefit payments						
a. Benefits paid from the plan assets	(488,300)	(547,083)	(339,548)	(374,310)	(827,848)	(921,393)
b. Direct benefit payments	(33,306)	(19,365)	-	-	(33,306)	(19,365)
7. Medicare subsidies received	-	-	-	-	-	-
8. Expenses paid	-	-	-	-	-	-
9. Taxes paid	-	-	-	-	-	-
10. Premiums paid	-	-	-	-	-	-
11. Acquisitions / divestitures	-	-	-	-	-	-
12. Plan combinations	-	-	-	-	-	-
13. Adjustments	-	-	-	-	-	-
14. Exchange rate changes	-	-	-	-	-	-
15. Fair value of plan assets at end of year	$ 8,908,240	$ 8,174,545	$ 8,871,694	$ 8,018,526	$ 17,779,934	$ 16,193,071
C. Reconciliation of funded status						
1. Fair value of plan assets	$ 8,908,240	$ 8,174,545	$ 8,871,694	$ 8,018,526	$ 17,779,934	$ 16,193,071
2. Benefit obligations	10,037,391	8,420,393	8,140,667	6,709,795	18,178,058	15,130,188
3. Funded status (plan assets less benefit obligations)	$ (1,129,151)	$ (245,848)	$ 731,027	$ 1,308,731	$ (398,124)	$ 1,062,883

Plan name	Non-Union Dental		Union Dental		Dental Total	
Country	USA		USA			
Fiscal year ending on	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019
D. Amounts recognized on the consolidated balance sheet position consists of						
1. Noncurrent assets	$ -	$ -	$ 731,027	$ 1,308,731	$ 731,027	$ 1,308,731
2. Current liabilities	-	-	-	-	-	-
3. Noncurrent liabilities	(1,129,151)	(245,848)	-	-	(1,129,151)	(245,848)
4. Net amount [asset (obligation)] recognized in statement of financial position	$ (1,129,151)	$ (245,848)	$ 731,027	$ 1,308,731	$ (398,124)	$ 1,062,883
E. Reconciliation of amounts recognized in statement of financial position						
1. Prior service credit (cost)	-	-	-	-	-	-
2. Net gain (loss)	787,938	1,704,072	(48,777)	632,742	739,161	2,336,814
3. Accumulated other comprehensive income (loss)	$ 787,938	$ 1,704,072	$ (48,777)	$ 632,742	$ 739,161	$ 2,336,814
4. Accumulated contributions in excess of net periodic benefit cost	(1,917,089)	(1,949,920)	779,804	675,989	(1,137,285)	(1,273,931)
5. Net amount [surplus (deficit)] recognized in statement of financial position	$ (1,129,151)	$ (245,848)	$ 731,027	$ 1,308,731	$ (398,124)	$ 1,062,883
F. Components of net periodic benefit cost						
1. Service cost	$ 142,907	$ 136,358	$ 174,450	$ 152,569	$ 317,357	$ 288,927
2. Interest cost	284,595	361,732	227,314	279,453	511,909	641,185
3. Expected return on plan assets	(398,226)	(417,853)	(505,579)	(525,125)	(903,805)	(942,978)
4. Amortization of prior service cost	-	-	-	-	-	-
5. Amortization of net (gain) loss	(28,801)	(26,340)	-	-	(28,801)	(26,340)
6. Curtailment (gain) / loss recognized	-	-	-	-	-	-
7. Settlement (gain) / loss recognized	-	-	-	-	-	-
8. Special termination benefit recognized	-	-	-	-	-	-
9. Net periodic benefit cost	$ 475	$ 53,897	$ (103,815)	$ (93,103)	$ (103,340)	$ (39,206)

Plan name	Non-Union Dental		Union Dental		Dental Total	
Country	USA		USA			
Fiscal year ending on	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019
G. Changes in other comprehensive income						
Changes in plan assets and benefit obligations recognized in other comprehensive income						
1. Prior service cost	$ -	$ -	$ -	$ -	$ -	$ -
2. Net loss (gain) arising during the year (includes curtailment gains not recognized as a component of NPBC)	887,333	(987,397)	681,519	(782,119)	1,568,852	(1,769,516)
3. Effect of exchange rates	-	-	-	-	-	-
Amounts recognized as a component of net periodic benefit cost						
4. Amortization or curtailment recognition of prior service credit (cost)	-	-	-	-	-	-
5. Amortization or settlement recognition of net gain (loss)	28,801	26,340	-	-	28,801	26,340
6. Total recognized in other comprehensive loss (income)	$ 916,134	$ (961,057)	$ 681,519	$ (782,119)	$ 1,597,653	$ (1,743,176)
7. Total recognized in net periodic benefit and other comprehensive loss (income)	$ 916,609	$ (907,160)	$ 577,704	$ (875,222)	$ 1,494,313	$ (1,782,382)
H. Assumptions to determine benefit obligations						
Discount rate	2.70%	3.45%	2.70%	3.45%		
Health care cost trend rates						
Immediate trend rate	5.00%	5.00%	5.00%	5.00%		
Ultimate trend rate	4.50%	4.50%	4.50%	4.50%		
Year rate reaches ultimate trend rate	2038	2038	2038	2038		
Measurement date	31-Dec-2020	31-Dec-2019	31-Dec-2020	31-Dec-2019		
I. Assumptions to determine net cost						
Discount rate	3.45%	4.47%	3.45%	4.47%		
Expected return on assets	5.40%	5.80%	6.75%	7.25%		
Health care cost trend rates						
Immediate trend rate	5.00%	5.00%	5.00%	5.00%		
Ultimate trend rate	4.50%	4.50%	4.50%	4.50%		
Year rate reaches ultimate trend rate	2038	2038	2038	2038		

Plan name	Non-Union Dental		Union Dental		Dental Total	
Country	USA		USA			
Fiscal year ending on	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019
J. Additional year-end information for plans with accumulated benefit obligations in excess of plan assets						
1. Projected benefit obligation	$ -	$ -	$ -	$ -	$ -	$ -
2. Accumulated benefit obligation	-	-	-	-	-	-
3. Fair value of plan assets	-	-	-	-	-	-
K. Additional year-end information for plans with projected benefit obligations in excess of plan assets						
1. Projected benefit obligation	$ 10,037,391	$ 8,420,393	$ -	$ -	$ 10,037,391	$ -
2. Fair value of plan assets	8,908,240	8,174,545	-	-	8,908,240	-
L. Cash flows						
1. Projected company contributions for following fiscal year	$ -		$ -		$ -	
2. Expected benefit payments for FYE						
31-Dec-2021 :	392,866		276,928		669,794	
31-Dec-2022 :	409,827		292,099		701,926	
31-Dec-2023 :	425,510		307,446		732,956	
31-Dec-2024 :	440,598		322,319		762,917	
31-Dec-2025 :	454,839		336,299		791,138	
Next five years	2,449,845		1,874,102		4,323,947	
M. Accumulated contributions in excess of net periodic benefit cost						
1. Amount as of beginning of year	$ (1,949,920)	$ (1,915,388)	$ 675,989	$ 582,886	$ (1,273,931)	$ (1,332,502)
2. Net periodic pension (cost) income for fiscal year	(475)	(53,897)	103,815	93,103	103,340	39,206
3. Employer contributions made in fiscal year (excludes contributions made between measurement year end and fiscal year end)	-	-	-	-	-	-
4. Benefits paid directly by company in the fiscal year (excludes contributions made between measurement year end and fiscal year end)	33,306	19,365	-	-	33,306	19,365
5. FAS 88 (expense) income	-	-	-	-	-	-
6. Other gain / (loss) recognized	-	-	-	-	-	-
7. Plan combinations	-	-	-	-	-	-
8. Adjustment to match local books	-	-	-	-	-	-
9. Exchange rate adjustment	-	-	-	-	-	-
10. Amount as of end of year	$ (1,917,089)	$ (1,949,920)	$ 779,804	$ 675,989	$ (1,137,285)	$ (1,273,931)

Plan name	Non-Union Life		Union Life		Life Total	
Country	USA		USA			
Fiscal year ending on	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019
A. Change in benefit obligation						
1. Benefit obligation at beginning of year	$ 13,450,716	$ 11,503,416	$ 10,945,106	$ 8,927,010	$ 24,395,822	$ 20,430,426
2. Service cost	-	-	104,130	78,631	104,130	78,631
3. Interest cost	453,448	501,541	370,869	391,121	824,317	892,662
4. Participant contributions	62,074	60,050	48,607	39,889	110,681	99,939
5. Plan amendments	-	-	-	-	-	-
6. Plan curtailments	-	-	-	-	-	-
7. Plan settlements	-	-	-	-	-	-
8. Special termination benefits	-	-	-	-	-	-
9. Benefit payments						
a. Benefits paid from the plan assets	(689,761)	(773,905)	(421,290)	(412,489)	(1,111,051)	(1,186,394)
b. Direct benefit payments	-	-	-	-	-	-
10. Medicare subsidies received	-	-	-	-	-	-
11. Expenses paid	-	-	-	-	-	-
12. Taxes paid	-	-	-	-	-	-
13. Premiums paid	-	-	-	-	-	-
14. Net transfer in/(out) (including the effect of any business combinations/divestitures)	-	-	-	-	-	-
15. Plan combinations	-	-	-	-	-	-
16. Actuarial loss (gain)	1,288,373	2,159,614	1,255,523	1,920,944	2,543,896	4,080,558
17. Exchange rate changes	-	-	-	-	-	-
18. Benefit obligation at end of year	$ 14,564,850	$ 13,450,716	$ 12,302,945	$ 10,945,106	$ 26,867,795	$ 24,395,822

Plan name	Non-Union Life		Union Life		Life Total	
Country	USA		USA			
Fiscal year ending on	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019
B. Change in plan assets						
1. Fair value of plan assets at beginning of year	$ 6,680,825	$ 6,513,581	$ 8,077,239	$ 7,039,701	$ 14,758,064	$ 13,553,282
2. Actual return on plan assets	705,084	881,099	1,007,890	1,410,138	1,712,974	2,291,237
3. Employer contributions						
a. Employer contributions to plan	-	-	-	-	-	-
b. Employer direct benefit payments	-	-	-	-	-	-
4. Participants contributions	62,074	60,050	48,607	39,889	110,681	99,939
5. Plan settlements	-	-	-	-	-	-
6. Benefit payments						
a. Benefits paid from the plan assets	(689,761)	(773,905)	(421,290)	(412,489)	(1,111,051)	(1,186,394)
b. Direct benefit payments	-	-	-	-	-	-
7. Medicare subsidies received	-	-	-	-	-	-
8. Expenses paid	-	-	-	-	-	-
9. Taxes paid	-	-	-	-	-	-
10. Premiums paid	-	-	-	-	-	-
11. Acquisitions / divestitures	-	-	-	-	-	-
12. Plan combinations	-	-	-	-	-	-
13. Adjustments	-	-	-	-	-	-
14. Exchange rate changes	-	-	-	-	-	-
15. Fair value of plan assets at end of year	$ 6,758,222	$ 6,680,825	$ 8,712,446	$ 8,077,239	$ 15,470,668	$ 14,758,064
C. Reconciliation of funded status						
1. Fair value of plan assets	$ 6,758,222	$ 6,680,825	$ 8,712,446	$ 8,077,239	$ 15,470,668	$ 14,758,064
2. Benefit obligations	14,564,850	13,450,716	12,302,945	10,945,106	26,867,795	24,395,822
3. Funded status (plan assets less benefit obligations)	$ (7,806,628)	$ (6,769,891)	$ (3,590,499)	$ (2,867,867)	$ (11,397,127)	$ (9,637,758)

Plan name	Non-Union Life		Union Life		Life Total	
Country	USA		USA			
Fiscal year ending on	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019
D. Amounts recognized on the consolidated balance sheet position consists of						
1. Noncurrent assets	$ -	$ -	$ -	$ -	$ -	$ -
2. Current liabilities	-	-	-	-	-	-
3. Noncurrent liabilities	(7,806,628)	(6,769,891)	(3,590,499)	(2,867,867)	(11,397,127)	(9,637,758)
4. Net amount [asset (obligation)] recognized in statement of financial position	$ (7,806,628)	$ (6,769,891)	$ (3,590,499)	$ (2,867,867)	$ (11,397,127)	$ (9,637,758)
E. Reconciliation of amounts recognized in statement of financial position						
1. Prior service credit (cost)	-	421,860	986,527	1,389,190	986,527	1,811,050
2. Net gain (loss)	(6,999,217)	(6,453,280)	(3,951,475)	(3,558,147)	(10,950,692)	(10,011,427)
3. Accumulated other comprehensive income (loss)	$ (6,999,217)	$ (6,031,420)	$ (2,964,948)	$ (2,168,957)	$ (9,964,165)	$ (8,200,377)
4. Accumulated contributions in excess of net periodic benefit cost	(807,411)	(738,471)	(625,551)	(698,910)	(1,432,962)	(1,437,381)
5. Net amount [surplus (deficit)] recognized in statement of financial position	$ (7,806,628)	$ (6,769,891)	$ (3,590,499)	$ (2,867,867)	$ (11,397,127)	$ (9,637,758)
F. Components of net periodic benefit cost						
1. Service cost	$ -	$ -	$ 104,130	$ 78,631	$ 104,130	$ 78,631
2. Interest cost	453,448	501,541	370,869	391,121	824,317	892,662
3. Expected return on plan assets	(330,220)	(378,256)	(512,588)	(548,438)	(842,808)	(926,694)
4. Amortization of prior service cost	(421,860)	(508,261)	(402,663)	(402,663)	(824,523)	(910,924)
5. Amortization of net (gain) loss	367,572	232,975	366,893	148,218	734,465	381,193
6. Curtailment (gain) / loss recognized	-	-	-	-	-	-
7. Settlement (gain) / loss recognized	-	-	-	-	-	-
8. Special termination benefit recognized	-	-	-	-	-	-
9. Net periodic benefit cost	$ 68,940	$ (152,001)	$ (73,359)	$ (333,131)	$ (4,419)	$ (485,132)

Plan name	Non-Union Life		Union Life		Life Total	
Country	USA		USA			
Fiscal year ending on	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019
G. Changes in other comprehensive income						
Changes in plan assets and benefit obligations recognized in other comprehensive income						
1. Prior service cost	$ -	$ -	$ -	$ -	$ -	$ -
2. Net loss (gain) arising during the year (includes curtailment gains not recognized as a component of NPBC)	913,509	1,656,771	760,221	1,059,244	1,673,730	2,716,015
3. Effect of exchange rates	-	-	-	-	-	-
Amounts recognized as a component of net periodic benefit cost						
4. Amortization or curtailment recognition of prior service credit (cost)	421,860	508,261	402,663	402,663	824,523	910,924
5. Amortization or settlement recognition of net gain (loss)	(367,572)	(232,975)	(366,893)	(148,218)	(734,465)	(381,193)
6. Total recognized in other comprehensive loss (income)	$ 967,797	$ 1,932,057	$ 795,991	$ 1,313,689	$ 1,763,788	$ 3,245,746
7. Total recognized in net periodic benefit and other comprehensive loss (income)	$ 1,036,737	$ 1,780,056	$ 722,632	$ 980,558	$ 1,759,369	$ 2,760,614
H. Assumptions to determine benefit obligations						
Discount rate	2.70%	3.45%	2.70%	3.45%		
Health care cost trend rates						
Immediate trend rate	Not applicable	Not applicable	Not applicable	Not applicable		
Ultimate trend rate	Not applicable	Not applicable	Not applicable	Not applicable		
Year rate reaches ultimate trend rate	Not applicable	Not applicable	Not applicable	Not applicable		
Measurement date	31-Dec-2020	31-Dec-2019	31-Dec-2020	31-Dec-2019		
I. Assumptions to determine net cost						
Discount rate	3.45%	4.47%	3.45%	4.47%		
Expected return on assets	5.40%	5.80%	6.75%	7.25%		
Health care cost trend rates						
Immediate trend rate	Not applicable	Not applicable	Not applicable	Not applicable		
Ultimate trend rate	Not applicable	Not applicable	Not applicable	Not applicable		
Year rate reaches ultimate trend rate	Not applicable	Not applicable	Not applicable	Not applicable		

ASC715 (US GAAP)
Actuarial valuation report as of December 31, 2020

ALLETE, Inc.

Plan name	Non-Union Life		Union Life		Life Total	
Country	USA		USA			
Fiscal year ending on	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019
J. Additional year-end information for plans with accumulated benefit obligations in excess of plan assets						
1. Projected benefit obligation	$ -	$ -	$ -	$ -	$ -	$ -
2. Accumulated benefit obligation	-	-	-	-	-	-
3. Fair value of plan assets	-	-	-	-	-	-
K. Additional year-end information for plans with projected benefit obligations in excess of plan assets						
1. Projected benefit obligation	$ 14,564,850	$ 13,450,716	$ 12,302,945	$ 10,945,106	$ 26,867,795	$ 24,395,822
2. Fair value of plan assets	6,758,222	6,680,825	8,712,446	8,077,239	15,470,668	14,758,064
L. Cash flows						
1. Projected company contributions for following fiscal year	$ -		$ -		$ -	
2. Expected benefit payments for FYE						
31-Dec-2021 :	637,419		408,579		1,045,998	
31-Dec-2022 :	648,480		426,703		1,075,183	
31-Dec-2023 :	659,445		445,097		1,104,542	
31-Dec-2024 :	670,317		463,802		1,134,119	
31-Dec-2025 :	681,227		482,542		1,163,769	
Next five years	3,568,369		2,690,556		6,258,925	
M. Accumulated contributions in excess of net periodic benefit cost						
1. Amount as of beginning of year	$ (738,471)	$ (890,472)	$ (698,910)	$ (1,032,041)	$ (1,437,381)	$ (1,922,513)
2. Net periodic pension (cost) income for fiscal year	(68,940)	152,001	73,359	333,131	4,419	485,132
3. Employer contributions made in fiscal year (excludes contributions made between measurement year end and fiscal year end)	-	-	-	-	-	-
4. Benefits paid directly by company in the fiscal year (excludes contributions made between measurement year end and fiscal year end)	-	-	-	-	-	-
5. FAS 88 (expense) income	-	-	-	-	-	-
6. Other gain / (loss) recognized	-	-	-	-	-	-
7. Plan combinations	-	-	-	-	-	-
8. Adjustment to match local books	-	-	-	-	-	-
9. Exchange rate adjustment	-	-	-	-	-	-
10. Amount as of end of year	$ (807,411)	$ (738,471)	$ (625,551)	$ (698,910)	$ (1,432,962)	$ (1,437,381)

Plan name	Non-Union Total		Union Total		All Plans	
Country						
Fiscal year ending on	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019
A. Change in benefit obligation						
1. Benefit obligation at beginning of year	$ 78,880,695	$ 93,568,962	$ 67,185,537	$ 75,617,757	$ 146,066,232	$ 169,186,719
2. Service cost	1,326,818	1,501,314	1,924,178	1,931,556	3,250,996	3,432,870
3. Interest cost	2,644,142	3,863,773	2,258,569	3,141,367	4,902,711	7,005,140
4. Participant contributions	1,671,131	1,818,995	1,417,920	1,488,557	3,089,051	3,307,552
5. Plan amendments	-	(19,334,383)	-	(15,219,920)	-	(34,554,303)
6. Plan curtailments	-	-	-	-	-	-
7. Plan settlements	-	-	-	-	-	-
8. Special termination benefits	-	-	-	-	-	-
9. Benefit payments						
a. Benefits paid from the plan assets	(7,489,395)	(7,638,591)	(4,128,229)	(5,838,195)	(11,617,624)	(13,476,786)
b. Direct benefit payments	(321,980)	(448,940)	-	-	(321,980)	(448,940)
10. Medicare subsidies received	-	-	-	-	-	-
11. Expenses paid	-	-	-	-	-	-
12. Taxes paid	-	-	-	-	-	-
13. Premiums paid	-	-	-	-	-	-
14. Net transfer in/(out) (including the effect of any business combinations/divestitures)	-	-	-	-	-	-
15. Plan combinations	-	-	-	-	-	-
16. Actuarial loss (gain)	12,039,215	5,549,565	7,012,616	6,064,415	19,051,831	11,613,980
17. Exchange rate changes	-	-	-	-	-	-
18. Benefit obligation at end of year	$ 88,750,626	$ 78,880,695	$ 75,670,591	$ 67,185,537	$ 164,421,217	$ 146,066,232

Plan name	Non-Union Total		Union Total		All Plans	
Country						
Fiscal year ending on	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019
B. Change in plan assets						
1. Fair value of plan assets at beginning of year	$ 88,554,567	$ 80,339,082	$ 85,102,349	$ 73,980,557	$ 173,656,916	$ 154,319,639
2. Actual return on plan assets	10,117,494	14,035,081	10,785,342	15,471,430	20,902,836	29,506,511
3. Employer contributions						
a. Employer contributions to plan	-	-	-	-	-	-
b. Employer direct benefit payments	321,980	448,940	-	-	321,980	448,940
4. Participants contributions	1,671,131	1,818,995	1,417,920	1,488,557	3,089,051	3,307,552
5. Plan settlements	-	-	-	-	-	-
6. Benefit payments						
a. Benefits paid from the plan assets	(7,489,395)	(7,638,591)	(4,128,229)	(5,838,195)	(11,617,624)	(13,476,786)
b. Direct benefit payments	(321,980)	(448,940)	-	-	(321,980)	(448,940)
7. Medicare subsidies received	-	-	-	-	-	-
8. Expenses paid	-	-	-	-	-	-
9. Taxes paid	-	-	-	-	-	-
10. Premiums paid	-	-	-	-	-	-
11. Acquisitions / divestitures	-	-	-	-	-	-
12. Plan combinations	-	-	-	-	-	-
13. Adjustments	-	-	-	-	-	-
14. Exchange rate changes	-	-	-	-	-	-
15. Fair value of plan assets at end of year	$ 92,853,797	$ 88,554,567	$ 93,177,382	$ 85,102,349	$ 186,031,179	$ 173,656,916
C. Reconciliation of funded status						
1. Fair value of plan assets	$ 92,853,797	$ 88,554,567	$ 93,177,382	$ 85,102,349	$ 186,031,179	$ 173,656,916
2. Benefit obligations	88,750,626	78,880,695	75,670,591	67,185,537	164,421,217	146,066,232
3. Funded status (plan assets less benefit obligations)	$ 4,103,171	$ 9,673,872	$ 17,506,791	$ 17,916,812	$ 21,609,962	$ 27,590,684

Plan name	Non-Union Total		Union Total		All Plans	
Country						
Fiscal year ending on	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019
D. Amounts recognized on the consolidated balance sheet position consists of						
1. Noncurrent assets	$ 13,038,950	$ 16,689,611	$ 21,097,290	$ 20,784,679	$ 34,136,240	$ 37,474,290
2. Current liabilities	-	-	-	-	-	-
3. Noncurrent liabilities	(8,935,779)	(7,015,739)	(3,590,499)	(2,867,867)	(12,526,278)	(9,883,606)
4. Net amount [asset (obligation)] recognized in statement of financial position	$ 4,103,171	$ 9,673,872	$ 17,506,791	$ 17,916,812	$ 21,609,962	$ 27,590,684
E. Reconciliation of amounts recognized in statement of financial position						
1. Prior service credit (cost)	15,181,887	19,460,110	13,086,414	16,836,710	28,268,301	36,296,820
2. Net gain (loss)	(14,275,374)	(8,283,420)	(8,830,027)	(7,952,662)	(23,105,401)	(16,236,082)
3. Accumulated other comprehensive income (loss)	$ 906,513	$ 11,176,690	$ 4,256,387	$ 8,884,048	$ 5,162,900	$ 20,060,738
4. Accumulated contributions in excess of net periodic benefit cost	3,196,658	(1,502,818)	13,250,404	9,032,764	16,447,062	7,529,946
5. Net amount [surplus (deficit)] recognized in statement of financial position	$ 4,103,171	$ 9,673,872	$ 17,506,791	$ 17,916,812	$ 21,609,962	$ 27,590,684
F. Components of net periodic benefit cost						
1. Service cost	$ 1,326,818	$ 1,501,314	$ 1,924,178	$ 1,931,556	$ 3,250,996	$ 3,432,870
2. Interest cost	2,644,142	3,863,773	2,258,569	3,141,367	4,902,711	7,005,140
3. Expected return on plan assets	(4,420,339)	(4,806,024)	(5,328,697)	(5,670,789)	(9,749,036)	(10,476,813)
4. Amortization of prior service cost	(4,278,223)	(1,635,273)	(3,750,296)	(1,185,356)	(8,028,519)	(2,820,629)
5. Amortization of net (gain) loss	350,106	226,128	678,606	219,720	1,028,712	445,848
6. Curtailment (gain) / loss recognized	-	-	-	-	-	-
7. Settlement (gain) / loss recognized	-	-	-	-	-	-
8. Special termination benefit recognized	-	-	-	-	-	-
9. Net periodic benefit cost	$ (4,377,496)	$ (850,082)	$ (4,217,640)	$ (1,563,502)	$ (8,595,136)	$ (2,413,584)

Plan name	Non-Union Total				Union Total				All Plans			
Country												
Fiscal year ending on	Dec 31, 2020		Dec 31, 2019		Dec 31, 2020		Dec 31, 2019		Dec 31, 2020		Dec 31, 2019	
G. Changes in other comprehensive income												
Changes in plan assets and benefit obligations recognized in other comprehensive income												
1. Prior service cost	$	-	$	(19,334,383)	$	-	$	(15,219,920)	$	-	$	(34,554,303)
2. Net loss (gain) arising during the year (includes curtailment gains not recognized as a component of NPBC)		6,342,060		(3,679,492)		1,555,971		(3,736,226)		7,898,031		(7,415,718)
3. Effect of exchange rates		-		-		-		-		-		-
Amounts recognized as a component of net periodic benefit cost												
4. Amortization or curtailment recognition of prior service credit (cost)		4,278,223		1,635,273		3,750,296		1,185,356		8,028,519		2,820,629
5. Amortization or settlement recognition of net gain (loss)		(350,106)		(226,128)		(678,606)		(219,720)		(1,028,712)		(445,848)
6. Total recognized in other comprehensive loss (income)	$	10,270,177	$	(21,604,730)	$	4,627,661	$	(17,990,510)	$	14,897,838	$	(39,595,240)
7. Total recognized in net periodic benefit and other comprehensive loss (income)	$	5,892,681	$	(22,454,812)	$	410,021	$	(19,554,012)	$	6,302,702	$	(42,008,824)
H. Assumptions to determine benefit obligations												
Discount rate		2.70%		3.45%		2.70%		3.45%				
Health care cost trend rates												
Immediate trend rate		5.80%		6.05%		5.81%		6.06%				
Ultimate trend rate		4.50%		4.50%		4.50%		4.50%				
Year rate reaches ultimate trend rate		2038		2038		2038		2038				
Measurement date		31-Dec-2020		31-Dec-2019		31-Dec-2020		31-Dec-2019				
I. Assumptions to determine net cost												
Discount rate		3.45%		4.47%		3.45%		4.47%				
Expected return on assets		5.40%		5.80%		6.75%		7.25%				
Health care cost trend rates												
Immediate trend rate		6.05%		6.31%		6.06%		6.32%				
Ultimate trend rate		4.50%		4.50%		4.50%		4.50%				
Year rate reaches ultimate trend rate		2038		2038		2038		2038				

Plan name	Non-Union Total		Union Total		All Plans	
Country						
Fiscal year ending on	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019	Dec 31, 2020	Dec 31, 2019
J. Additional year-end information for plans with accumulated benefit obligations in excess of plan assets						
1. Projected benefit obligation	$ -	$ -	$ -	$ -	$ -	$ -
2. Accumulated benefit obligation	-	-	-	-	-	-
3. Fair value of plan assets	-	-	-	-	-	-
K. Additional year-end information for plans with projected benefit obligations in excess of plan assets						
1. Projected benefit obligation	$ -	$ -	$ -	$ -	$ -	$ -
2. Fair value of plan assets	-	-	-	-	-	-
L. Cash flows						
1. Projected company contributions for following fiscal year	$ -		$ -		$ -	
2. Expected benefit payments for FYE						
31-Dec-2021 :	4,616,704		3,537,784		8,154,488	
31-Dec-2022 :	4,649,161		3,574,872		8,224,033	
31-Dec-2023 :	4,573,634		3,525,238		8,098,872	
31-Dec-2024 :	4,559,936		3,653,980		8,213,916	
31-Dec-2025 :	4,556,233		3,678,217		8,234,450	
Next five years	23,144,964		19,150,997		42,295,961	
M. Accumulated contributions in excess of net periodic benefit cost						
1. Amount as of beginning of year	$ (1,502,818)	$ (2,801,840)	$ 9,032,764	$ 7,469,262	$ 7,529,946	$ 4,667,422
2. Net periodic pension (cost) income for fiscal year	4,377,496	850,082	4,217,640	1,563,502	8,595,136	2,413,584
3. Employer contributions made in fiscal year (excludes contributions made between measurement year end and fiscal year end)	-	-	-	-	-	-
4. Benefits paid directly by company in the fiscal year (excludes contributions made between measurement year end and fiscal year end)	321,980	448,940	-	-	321,980	448,940
5. FAS 88 (expense) income	-	-	-	-	-	-
6. Other gain / (loss) recognized	-	-	-	-	-	-
7. Plan combinations	-	-	-	-	-	-
8. Adjustment to match local books	-	-	-	-	-	-
9. Exchange rate adjustment	-	-	-	-	-	-
10. Amount as of end of year	$ 3,196,658	$ (1,502,818)	$ 13,250,404	$ 9,032,764	$ 16,447,062	$ 7,529,946

Appendix B

Estimated Net Periodic Benefit Cost

Plan name	Non-Union Medical	Union Medical	Medical Total
Country	USA	USA	USA
Fiscal year ending on	Dec 31, 2021	Dec 31, 2021	Dec 31, 2021
A. Net Periodic Benefit Cost			
1. Service cost	$ 1,464,701	$ 1,551,311	$ 3,016,012
2. Interest cost	1,683,590	1,452,623	3,136,213
3. Expected return on plan assets	(3,593,613)	(4,427,360)	(8,020,973)
4. Amortization of prior service cost	(3,856,363)	(3,347,633)	(7,203,996)
5. Amortization of net (gain) loss	1,320,029	677,537	1,997,566
6. Curtailment (gain) / loss recognized	-	-	-
7. Settlement (gain) / loss recognized	-	-	-
8. Special termination benefit recognized	-	-	-
9. Net periodic benefit cost	$ (2,981,656)	$ (4,093,522)	$ (7,075,178)

Plan name	Non-Union Medical	Union Medical	Medical Total
Country	USA	USA	USA
Fiscal year ending on	Dec 31, 2021	Dec 31, 2021	Dec 31, 2021
B. Additional Items For Net Periodic Benefit Cost Calculations			
1. Fair Value of Assets	77,187,335	75,593,242	152,780,577
2. Market-related value of assets	70,901,154	69,539,366	140,440,520
3. a. Expected expenses, taxes and insurance premiums	-	-	-
b. Weighted for timing	-	-	-
4. a. Expected benefits paid from plan assets	3,586,419	2,852,277	6,438,696
b. Weighted for timing	1,793,210	1,426,139	3,219,349
5. a. Expected benefits paid by company	-	-	-
b. Weighted for timing	-	-	-
6. a. Expected employer contributions to plan assets	-	-	-
b. Weighted for timing	-	-	-
7. a. Expected participant contributions	-	-	-
b. Weighted for timing	-	-	-

Plan name	Non-Union Medical	Union Medical	Medical Total
Country	USA	USA	USA
Fiscal year ending on	Dec 31, 2021	Dec 31, 2021	Dec 31, 2021
C. Benefit obligations and assets			
Funded Status			
1. Accumulated postretirement benefit obligation (APBO)	(64,148,385)	(55,226,979)	(119,375,364)
2. Fair value of plan assets	77,187,335	75,593,242	152,780,577
3. Funded status (1. + 2.)	$ 13,038,950	$ 20,366,263	$ 33,405,213
Amounts to be reflected in future periods			
1. Prior service cost (credit)	(15,181,887)	(12,099,887)	(27,281,774)
2. Net loss (gain)	8,064,095	4,829,775	12,893,870
3. Total not yet recognized in net periodic benefit cost (1. + 2.)	$ (7,117,792)	$ (7,270,112)	$ (14,387,904)
Cumulative employer contributions in excess of net periodic benefit cost	$ 5,921,158	$ 13,096,151	$ 19,017,309

Plan name	Non-Union Medical	Union Medical	Medical Total
Country	USA	USA	USA
Fiscal year ending on	Dec 31, 2021	Dec 31, 2021	Dec 31, 2021
D. Amortization amounts			
1. Prior service cost (credit) - unrecognized base			
amounts shown as of beginning of fiscal year			
a. (i) Total unrecognized prior service cost	$ (15,181,887)	$ (12,099,887)	$ (27,281,774)
(ii) Total amortization of prior service cost	(3,856,363)	(3,347,633)	(7,203,996)
b. (i) Unrecognized prior service cost base 1	(186,586)	(504,793)	(691,379)
(ii) Years remaining prior service cost base 1	1.35	2.09	
(iii) Amortization of prior service cost base 1	(138,212)	(241,527)	(379,739)
c. (i) Unrecognized prior service cost base 2	(14,995,301)	(11,595,094)	(26,590,395)
(ii) Years remaining prior service cost base 2	4.03	3.73	
(iii) Amortization of prior service cost base 2	(3,718,151)	(3,106,106)	(6,824,257)
2. (Gain) loss			
a. Net amount as of beginning of fiscal year	$ 8,064,095	$ 4,829,775	$ 12,893,870
b. Excess of fair value over market-related value	6,286,181	6,053,876	12,340,057
c. Net (gain) loss potentially subject to amortization (a. + b.)	14,350,276	10,883,651	25,233,927
d. Corridor	7,090,115	6,953,937	14,044,052
e. Amount subject to amortization (c. - d.)	7,260,161	3,929,714	11,189,875
f. Amortization period	5.50	5.80	Not applicable
g. Annual amortization	$ 1,320,029	$ 677,537	$ 1,997,566
E. Assumptions to determine net cost			
Discount rate	2.70%	2.70%	
Expected return on assets	5.20%	6.50%	
Health care cost trend rates			
Immediate trend rate	5.93%	5.93%	
Ultimate trend rate	4.50%	4.50%	
Year rate reaches ultimate trend rate	2038	2038	

Plan name	Non-Union Dental	Union Dental	Dental Total
Country	USA	USA	USA
Fiscal year ending on	Dec 31, 2021	Dec 31, 2021	Dec 31, 2021
A. Net Periodic Benefit Cost			
1. Service cost	$ 173,145	$ 184,878	$ 358,023
2. Interest cost	265,706	216,059	481,765
3. Expected return on plan assets	(407,419)	(523,329)	(930,748)
4. Amortization of prior service cost	-	-	-
5. Amortization of net (gain) loss	-	-	-
6. Curtailment (gain) / loss recognized	-	-	-
7. Settlement (gain) / loss recognized	-	-	-
8. Special termination benefit recognized	-	-	-
9. Net periodic benefit cost	$ 31,432	$ (122,392)	$ (90,960)

Plan name	Non-Union Dental	Union Dental	Dental Total
Country	USA	USA	USA
Fiscal year ending on	Dec 31, 2021	Dec 31, 2021	Dec 31, 2021
B. Additional Items For Net Periodic Benefit Cost Calculations			
1. Fair Value of Assets	8,908,240	8,871,694	17,779,934
2. Market-related value of assets	8,031,412	8,189,680	16,221,092
3. a. Expected expenses, taxes and insurance premiums	-	-	-
b. Weighted for timing	-	-	-
4. a. Expected benefits paid from plan assets	392,866	276,928	669,794
b. Weighted for timing	196,433	138,464	334,897
5. a. Expected benefits paid by company	-	-	-
b. Weighted for timing	-	-	-
6. a. Expected employer contributions to plan assets	-	-	-
b. Weighted for timing	-	-	-
7. a. Expected participant contributions	-	-	-
b. Weighted for timing	-	-	-

Plan name	Non-Union Dental	Union Dental	Dental Total
Country	USA	USA	USA
Fiscal year ending on	Dec 31, 2021	Dec 31, 2021	Dec 31, 2021
C. Benefit obligations and assets			
Funded Status			
1. Accumulated postretirement benefit obligation (APBO)	(10,037,391)	(8,140,667)	(18,178,058)
2. Fair value of plan assets	8,908,240	8,871,694	17,779,934
3. Funded status (1. + 2.)	$ (1,129,151)	$ 731,027	$ (398,124)
Amounts to be reflected in future periods			
1. Prior service cost (credit)	-	-	-
2. Net loss (gain)	(787,938)	48,777	(739,161)
3. Total not yet recognized in net periodic benefit cost (1. + 2.)	$ (787,938)	$ 48,777	$ (739,161)
Cumulative employer contributions in excess of net periodic benefit cost	$ (1,917,089)	$ 779,804	$ (1,137,285)

Plan name	Non-Union Dental	Union Dental	Dental Total
Country	USA	USA	USA
Fiscal year ending on	Dec 31, 2021	Dec 31, 2021	Dec 31, 2021
D. Amortization amounts			
1. Prior service cost (credit) - unrecognized base			
amounts shown as of beginning of fiscal year			
a. (i) Total unrecognized prior service cost	$ -	$ -	$ -
(ii) Total amortization of prior service cost	-	-	-
b. (i) Unrecognized prior service cost base 1	-	-	-
(ii) Years remaining prior service cost base 1	-	-	-
(iii) Amortization of prior service cost base 1	-	-	-
c. (i) Unrecognized prior service cost base 2	-	-	-
(ii) Years remaining prior service cost base 2	-	-	-
(iii) Amortization of prior service cost base 2	-	-	-
2. (Gain) loss			
a. Net amount as of beginning of fiscal year	$ (787,938)	$ 48,777	$ (739,161)
b. Excess of fair value over market-related value	876,828	682,014	1,558,842
c. Net (gain) loss potentially subject to amortization (a. + b.)	88,890	730,791	819,681
d. Corridor	1,003,739	818,968	1,822,707
e. Amount subject to amortization (c. - d.)	-	-	-
f. Amortization period	5.50	5.80	Not applicable
g. Annual amortization	$ -	$ -	$ -
E. Assumptions to determine net cost			
Discount rate	2.70%	2.70%	
Expected return on assets	5.20%	6.50%	
Health care cost trend rates			
Immediate trend rate	5.00%	5.00%	
Ultimate trend rate	4.50%	4.50%	
Year rate reaches ultimate trend rate	2038	2038	

Plan name	Non-Union Life	Union Life	Life Total
Country	USA	USA	USA
Fiscal year ending on	Dec 31, 2021	Dec 31, 2021	Dec 31, 2021
A. Net Periodic Benefit Cost			
1. Service cost	$ -	$ 102,957	$ 102,957
2. Interest cost	384,646	326,664	711,310
3. Expected return on plan assets	(311,555)	(514,321)	(825,876)
4. Amortization of prior service cost	-	(402,663)	(402,663)
5. Amortization of net (gain) loss	427,914	534,954	962,868
6. Curtailment (gain) / loss recognized	-	-	-
7. Settlement (gain) / loss recognized	-	-	-
8. Special termination benefit recognized	-	-	-
9. Net periodic benefit cost	$ 501,005	$ 47,591	$ 548,596

Plan name	**Non-Union Life**	**Union Life**	**Life Total**
Country	**USA**	**USA**	**USA**
Fiscal year ending on	**Dec 31, 2021**	**Dec 31, 2021**	**Dec 31, 2021**
B. Additional Items For Net Periodic Benefit Cost Calculations			
1. Fair Value of Assets	6,758,222	8,712,446	15,470,668
2. Market-related value of assets	6,310,153	8,116,913	14,427,066
3. a. Expected expenses, taxes and insurance premiums	-	-	-
b. Weighted for timing	-	-	-
4. a. Expected benefits paid from plan assets	637,419	408,579	1,045,998
b. Weighted for timing	318,710	204,290	523,000
5. a. Expected benefits paid by company	-	-	-
b. Weighted for timing	-	-	-
6. a. Expected employer contributions to plan assets	-	-	-
b. Weighted for timing	-	-	-
7. a. Expected participant contributions	-	-	-
b. Weighted for timing	-	-	-

Plan name	**Non-Union Life**		**Union Life**		**Life Total**	
Country	**USA**		**USA**		**USA**	
Fiscal year ending on	**Dec 31, 2021**		**Dec 31, 2021**		**Dec 31, 2021**	
C. Benefit obligations and assets						
Funded Status						
1. Accumulated postretirement benefit obligation (APBO)		-		(12,302,945)		(12,302,945)
2. Fair value of plan assets		6,758,222		8,712,446		15,470,668
3. Funded status (1. + 2.)	$	(7,806,628)	$	(3,590,499)	$	(11,397,127)
Amounts to be reflected in future periods						
1. Prior service cost (credit)		-		(986,527)		(986,527)
2. Net loss (gain)		6,999,217		3,951,475		10,950,692
3. Total not yet recognized in net periodic benefit cost (1. + 2.)	$	6,999,217	$	2,964,948	$	9,964,165
Cumulative employer contributions in excess of net periodic benefit cost	$	(807,411)	$	(625,551)	$	(1,432,962)

Plan name	Non-Union Life	Union Life	Life Total
Country	USA	USA	USA
Fiscal year ending on	Dec 31, 2021	Dec 31, 2021	Dec 31, 2021
D. Amortization amounts			
1. Prior service cost (credit) - unrecognized base			
amounts shown as of beginning of fiscal year			
a. (i) Total unrecognized prior service cost	$ -	$ (986,527)	$ (986,527)
(ii) Total amortization of prior service cost	-	(402,663)	(402,663)
b. (i) Unrecognized prior service cost base 1	-	(986,527)	(986,527)
(ii) Years remaining prior service cost base 1	-	2.45	
(iii) Amortization of prior service cost base 1	-	(402,663)	(402,663)
c. (i) Unrecognized prior service cost base 2	-	-	-
(ii) Years remaining prior service cost base 2	-	-	-
(iii) Amortization of prior service cost base 2	-	-	-
2. (Gain) loss			
a. Net amount as of beginning of fiscal year	$ 6,999,217	$ 3,951,475	$ 10,950,692
b. Excess of fair value over market-related value	448,069	595,533	1,043,602
c. Net (gain) loss potentially subject to amortization (a. + b.)	7,447,286	4,547,008	11,994,294
d. Corridor	1,456,485	1,230,295	2,686,780
e. Amount subject to amortization (c. - d.)	5,990,801	3,316,713	9,307,514
f. Amortization period	14.00	6.20	Not applicable
g. Annual amortization	$ 427,914	$ 534,954	$ 962,868
E. Assumptions to determine net cost			
Discount rate	2.70%	2.70%	
Expected return on assets	5.20%	6.50%	
Health care cost trend rates			
Immediate trend rate	Not applicable	Not applicable	
Ultimate trend rate	Not applicable	Not applicable	
Year rate reaches ultimate trend rate	Not applicable	Not applicable	

Plan name	Non-Union Total	Union Total	All Plans
Country	USA	USA	USA
Fiscal year ending on	Dec 31, 2021	Dec 31, 2021	Dec 31, 2021
A. Net Periodic Benefit Cost			
1. Service cost	$ 1,637,846	$ 1,839,146	$ 3,476,992
2. Interest cost	2,333,942	1,995,346	4,329,288
3. Expected return on plan assets	(4,312,587)	(5,465,010)	(9,777,597)
4. Amortization of prior service cost	(3,856,363)	(3,750,296)	(7,606,659)
5. Amortization of net (gain) loss	1,747,943	1,212,491	2,960,434
6. Curtailment (gain) / loss recognized	-	-	-
7. Settlement (gain) / loss recognized	-	-	-
8. Special termination benefit recognized	-	-	-
9. Net periodic benefit cost	$ (2,449,219)	$ (4,168,323)	$ (6,617,542)

Plan name	Non-Union Total	Union Total	All Plans
Country	USA	USA	USA
Fiscal year ending on	Dec 31, 2021	Dec 31, 2021	Dec 31, 2021
B. Additional Items For Net Periodic Benefit Cost Calculations			
1. Fair Value of Assets	92,853,797	93,177,382	186,031,179
2. Market-related value of assets	85,242,719	85,845,959	171,088,678
3. a. Expected expenses, taxes and insurance premiums	-	-	-
b. Weighted for timing	-	-	-
4. a. Expected benefits paid from plan assets	4,616,704	3,537,784	8,154,488
b. Weighted for timing	2,308,353	1,768,893	4,077,246
5. a. Expected benefits paid by company	-	-	-
b. Weighted for timing	-	-	-
6. a. Expected employer contributions to plan assets	-	-	-
b. Weighted for timing	-	-	-
7. a. Expected participant contributions	-	-	-
b. Weighted for timing	-	-	-

Plan name	**Non-Union Total**	**Union Total**	**All Plans**
Country	**USA**	**USA**	**USA**
Fiscal year ending on	**Dec 31, 2021**	**Dec 31, 2021**	**Dec 31, 2021**
C. Benefit obligations and assets			
Funded Status			
1. Accumulated postretirement benefit obligation (APBO)	(74,185,776)	(75,670,591)	(149,856,367)
2. Fair value of plan assets	92,853,797	93,177,382	186,031,179
3. Funded status (1. + 2.)	$ 4,103,171	$ 17,506,791	$ 21,609,962
Amounts to be reflected in future periods			
1. Prior service cost (credit)	(15,181,887)	(13,086,414)	(28,268,301)
2. Net loss (gain)	14,275,374	8,830,027	23,105,401
3. Total not yet recognized in net periodic benefit cost (1. + 2.)	$ (906,513)	$ (4,256,387)	$ (5,162,900)
Cumulative employer contributions in excess of net periodic benefit cost	$ 3,196,658	$ 13,250,404	$ 16,447,062

Plan name		Non-Union Total		Union Total		All Plans
Country		USA		USA		USA
Fiscal year ending on		Dec 31, 2021		Dec 31, 2021		Dec 31, 2021
D. Amortization amounts						
1. Prior service cost (credit) - unrecognized base						
amounts shown as of beginning of fiscal year						
a. (i) Total unrecognized prior service cost	$	(15,181,887)	$	(13,086,414)	$	(28,268,301)
(ii) Total amortization of prior service cost		(3,856,363)		(3,750,296)		(7,606,659)
b. (i) Unrecognized prior service cost base 1		(186,586)		(1,491,320)		(1,677,906)
(ii) Years remaining prior service cost base 1						
(iii) Amortization of prior service cost base 1		(138,212)		(644,190)		(782,402)
c. (i) Unrecognized prior service cost base 2		(14,995,301)		(11,595,094)		(26,590,395)
(ii) Years remaining prior service cost base 2						
(iii) Amortization of prior service cost base 2		(3,718,151)		(3,106,106)		(6,824,257)
2. (Gain) loss						
a. Net amount as of beginning of fiscal year	$	14,275,374	$	8,830,027	$	23,105,401
b. Excess of fair value over market-related value		7,611,078		7,331,423		14,942,501
c. Net (gain) loss potentially subject to amortization (a. + b.)		21,886,452		16,161,450		38,047,902
d. Corridor		9,550,339		9,003,200		18,553,539
e. Amount subject to amortization (c. - d.)		13,250,962		7,246,427		20,497,389
f. Amortization period		Not applicable		Not applicable		Not applicable
g. Annual amortization	$	1,747,943	$	1,212,491	$	2,960,434
E. Assumptions to determine net cost						
Discount rate		2.70%		2.70%		
Expected return on assets		5.20%		6.50%		
Health care cost trend rates						
Immediate trend rate						
Ultimate trend rate						
Year rate reaches ultimate trend rate						

Appendix C

Plan assets

Plan name	Non-Union Medical	Union Medical	Non-Union Dental	Union Dental
Country	USA	USA	USA	USA
Fiscal year ending on	Dec 31, 2020	Dec 31, 2020	Dec 31, 2020	Dec 31, 2020
A. Development of Market-Related Value of Assets				
1. Fair value of assets at beginning of previous fiscal year	$ 73,699,197	$ 69,006,584	$ 8,174,545	$ 8,018,526
2. Contributions during previous fiscal year	1,376,199	1,193,153	232,858	176,160
3. Distributions during previous fiscal year	(6,311,334)	(3,367,391)	(488,300)	(339,548)
4. Expected return on assets assumption	5.40%	6.75%	5.40%	6.75%
5. Expected return on assets	3,846,508	4,584,564	434,528	535,736
6. Expected market value as of Dec 31, 2020 (1. + 2. + 3. + 5.)	$ 72,610,570	$ 71,416,910	$ 8,353,631	$ 8,390,874
7. Market value of assets as of Dec 31, 2020	77,187,335	75,593,242	8,908,240	8,871,694
8. Prior year fair value gain/(loss) *(7. – 6.)*	$ 4,576,765	$ 4,176,332	$ 554,609	$ 480,820
9. Phase in of gains/(losses)				
a. Prior fiscal year gain/(loss) * 4/5	3,661,412	3,341,066	443,687	384,656
b. 2 years ago gain/(loss) * 3/5	4,806,914	5,046,451	605,188	564,897
c. 3 years ago gain/(loss) * 2/5	(3,459,136)	(3,436,663)	(317,347)	(388,251)
d. 4 years ago gain/(loss) * 1/5	1,276,991	1,103,022	145,300	120,712
10. Market-related value of assets at beginning of fiscal year (7. – 9a. – 9b. – 9c. – 9d.)	$ 70,901,154	$ 69,539,366	$ 8,031,412	$ 8,189,680

Plan name	Non-Union Life	Union Life	Non-Union Total	Union Total	All Plans
Country	USA	USA	USA	USA	USA
Fiscal year ending on	Dec 31, 2020	Dec 31, 2020	Dec 31, 2020	Dec 31, 2020	Dec 31, 2020
A. Development of Market-Related Value of Assets					
1. Fair value of assets at beginning of previous fiscal year	$ 6,680,825	$ 8,077,239	$ 88,554,567	$ 85,102,349	$ 173,656,916
2. Contributions during previous fiscal year	62,074	48,607	1,671,131	1,417,920	3,089,051
3. Distributions during previous fiscal year	(689,761)	(421,290)	(7,489,395)	(4,128,229)	(11,617,624)
4. Expected return on assets assumption	5.40%	6.75%	5.40%	6.75%	6.06%
5. Expected return on assets	343,817	532,636	4,624,853	5,652,936	10,277,789
6. Expected market value as of Dec 31, 2020 (1. + 2. + 3. + 5.)	$ 6,396,955	$ 8,237,192	$ 87,361,156	$ 88,044,976	$ 175,406,132
7. Market value of assets as of Dec 31, 2020	6,758,222	8,712,446	92,853,797	93,177,382	186,031,179
8. Prior year fair value gain/(loss) *(7. – 6.)*	$ 361,267	$ 475,254	$ 5,492,641	$ 5,132,406	$ 10,625,047
9. Phase in of gains/(losses)					
a. Prior fiscal year gain/(loss) * 4/5	289,014	380,203	4,394,113	4,105,925	8,500,038
b. 2 years ago gain/(loss) * 3/5	314,408	547,960	5,726,510	6,159,308	11,885,818
c. 3 years ago gain/(loss) * 2/5	(273,800)	(438,540)	(4,050,283)	(4,263,454)	(8,313,737)
d. 4 years ago gain/(loss) * 1/5	118,447	105,910	1,540,738	1,329,644	2,870,382
10. Market-related value of assets at beginning of fiscal year (7. – 9a. – 9b. – 9c. – 9d.)	$ 6,310,153	$ 8,116,913	$ 85,242,719	$ 85,845,959	$ 171,088,678

Mercer (US) Inc.
500 Dallas Street, Suite 1400
Houston, TX 77002
713-276-2100
www.mercer.com

MARSH & McLENNAN
COMPANIES

pwc

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of ALLETE, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheet of ALLETE, Inc. and its subsidiaries (the "Company") as of December 31, 2020 and 2019, and the related consolidated statements of income, of comprehensive income, of equity and of cash flows for each of the three years in the period ended December 31, 2020, including the related notes and financial statement schedule listed in the index appearing under Item 15(a)(2) (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control Over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

pwc

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Accounting for the Effects of Regulatory Matters

As described in Note 4 to the consolidated financial statements, the Company's regulated utility operations are subject to accounting standards for the effects of certain types of regulation. As of December 31, 2020, there was $481 million of regulatory assets and $532 million of regulatory liabilities recorded. Regulatory assets represent incurred costs that have been deferred as they are probable for recovery in customer rates. Regulatory liabilities represent obligations to make refunds to customers and amounts collected in rates for which the related costs have not yet been incurred. Management assesses quarterly whether regulatory assets and liabilities meet the criteria for probability of future recovery or deferral. As disclosed by management, these standards require the Company to reflect the effect of regulatory decisions in its financial statements. This assessment considers factors such as, but not limited to, changes in the regulatory environment and recent rate orders to other regulated entities under the same jurisdiction. If future recovery or refund of costs becomes no longer probable, the assets and liabilities would be recognized in current period net income or other comprehensive income.

The principal consideration for our determination that performing procedures relating to the Company's accounting for the effects of regulatory matters is a critical audit matter is the significant judgment by management in determining the recoverability of costs; this in turn led to a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating audit evidence obtained related to the recoverability of costs.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's implementation of new regulatory orders, changes to existing regulatory orders, and assessing the recoverability of costs. These procedures also included, among others, evaluating (i) the reasonableness of management's assessment of impacts arising from correspondence with regulators and changes in laws and regulations, (ii) management's judgments related to the recoverability of regulatory assets and the establishment of regulatory liabilities, and (iii) the sufficiency of the disclosures in the consolidated financial statements. Testing the regulatory assets and liabilities involved considering the provisions and formulas outlined in rate orders, other regulatory correspondence, and application of relevant regulatory precedents.

PricewaterhouseCoopers LLP

Minneapolis, Minnesota
February 17, 2021

We have served as the Company's auditor since 1963.