

Meeting No. 489

MINUTES OF MEETING
THE BOARD OF DIRECTORS OF
THE TENNESSEE VALLEY AUTHORITY RETIREMENT SYSTEM

December 8, 2020

[Edited to remove personal information of members and retirees and proprietary or other confidential information pursuant to TVARS Confidentiality Policy]

The regular quarterly meeting of the Board of Directors (Board) of the TVA Retirement System (System) was held virtually on Tuesday, December 8, 2020, at 1:56 p.m., EST, via WebEx videoconferencing.

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The following directors were present: Brian M. Child, Chair; Michael L. Belcher; Marilyn G. Brown; Eric J. Davis; Samuel J. DeLay; James W. Hovious; and Tina R. Wallace. Also present were Mark N. Meigs, Executive Secretary; William B. Jenkins, Jr., Assistant Secretary; Sally R. Weber, Manager, Retirement Operations; Brent B. Roberts, Manager, Financial Reporting; Veenita Bisaria, Manager, Investment & Risk Management; Chris A. Stinnett, Sr. Analyst, Investment & Risk Management; and W. Colby Carter, Senior Counsel.

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489-1 Each director was notified in a memorandum dated November 13, 2020, of the regular quarterly meeting to be held on December 8, 2020. A copy of the notice from the Executive Secretary is filed as Exhibit 489-1.

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489-2 (A-6762). The Chair's report included the following:

- The Chair officially welcomed Marilyn Brown as the new 7th Director retiree on the Board. Following the work of the 7th Director special committee, the Board unanimously selected Ms. Brown to be a member of the Board at a special-called meeting on November 16, 2020.
- The Chair shared his thoughts on the past year, including the System's strong investment performance and all-time high for the System's assets despite the market challenges as a result of the COVID-19 pandemic.
- The Chair continued to recognize the Executive Secretary and the System staff for their work with the Board and all aspects of the System and its investments during the pandemic.
- The Chair designated the following members for the Board's standing and special committees for calendar year 2021:

Audit Committee

Tina R. Wallace, Chair
Marilyn G. Brown
Samuel J. DeLay

Retirement Committee

Michael L. Belcher, Chair
Samuel J. DeLay
Eric J. Davis

Investment Committee

[Committee of the whole Board]
Eric J. Davis, Chair

Election Committee

James W. Hovious, Chair
Marilyn G. Brown
Eric J. Davis

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489-3 (A-6763). The Executive Secretary's report included the following:

- Customer service update, which included (i) updated 2020 retirement benefit estimates that are available to employees in PLUS and that include a new cover page providing information on the retirement benefits for which each employee is eligible, (ii) updated and refreshed TVARS website (www.tvvars.com), and (iii) new educational webinars developed by TVARS and Fidelity that will roll out across the Valley targeting plants and smaller facilities, which will be communicated to employees through TVA Today. A copy of information on the 2020 retirement benefit estimates is filed as Exhibit 489-3(a).
- The Executive Secretary provided to the Board the System staff's work plan for fiscal year 2021. A copy of the fiscal year 2021 work plan is filed as Exhibit 489-3(b).

- The Executive Secretary provided to the Board the proposed quarterly meeting schedule for calendar year 2021. A copy of the quarterly meeting dates and locations is filed as Exhibit 489-3(c).
- The Executive Secretary informed the Board about the successful transition of the four BlackRock passively-managed funds in Tier 2 of the 401(k) Plan lineup to lower-cost share classes effective November 5, 2020. A copy of the notification to 401(k) Plan participants is filed as Exhibit 489-3(d).
- The Executive Secretary updated the Board on recent staff additions and changes and the integration of Mercer Investment Consulting, Inc. as the System's new defined contribution consultant for the 401(k) Plan.

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489-4 (A-6764). For the Legal Update, the Senior Counsel provided information to the Board on plan amendments that will be presented for approval during 2021 as a result of the Bipartisan Budget Act of 2018 (BBA 2018), the Setting Every Community Up for Retirement Enhancement Act of 2019 (SECURE Act), and the Coronavirus Aid, Relief, and Economic Security Act (CARES Act). A copy of the Legal Update is filed as Exhibit 489-4.

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489-5 (A-6765). As required by the System's bylaws, an election was held for the offices of Chair and Vice-Chair of the Board.

- Mr. Child was nominated as a candidate for the office of Chair. Given the fact that only one candidate was nominated, Ms. Wallace made a motion to close the nominations and elect Mr. Child as Chair. After a second on the motion, the Directors voted to approve the motion, and Mr. Child was elected by consent as Chair for a three-year term ending at the first meeting of the Board after October 31, 2023.
- Mr. DeLay was nominated as a candidate for the office of Vice-Chair. Given the fact that only one candidate was nominated, Ms. Wallace made a motion to close the nominations and elect Mr. DeLay as Vice-Chair. After a second on the motion, the Directors voted to approve the motion, and Mr. DeLay was elected by consent as Vice-Chair for a three-year term ending at the first meeting of the Board after October 31, 2023.

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489-6. As a part of the Consent Agenda, the Board approved the minutes for the meetings reported below in A-6766 and A-6767, and accepted the reports as of September 30, 2020, listed below in A-6768, A-6769, A-6770, and A-6771.

- A-6766 Meeting No. 487 held September 10, 2020
- A-6767 Special-Called Meeting No. 488 held November 16, 2020
- A-6768 Treasurer's Report (filed as Exhibit 489-6(a))
- A-6769 Investment Performance Report prepared by Wilshire Associates Incorporated (Wilshire) (filed as Exhibit 489-6(b))
- A-6770 Report of retirements approved (filed as Exhibit 489-6(c))
- A-6771 Quarterly review for the 401(k) Plan prepared by Fidelity Investments Institutional Services Company (Fidelity) (filed as Exhibit 489-6(d))

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489-7 (A-6772). The Retirement Committee report consisted of items reported below at A-6773, A-6774, A-6775, A-6776, and A-6777, and of the following item:

- In response to an inquiry from a current employee, the Board discussed with the System staff information about the opportunity in 2018 for TVA employees with cash balance accounts to voluntarily elect future participation and retirement benefits in the 401(k) Plan, including the purpose, conditions, and communications around the election opportunity and whether the election would be offered again. Following the discussion, the Board requested the Senior Counsel to provide this information to the Board, a copy of which is filed as Exhibit 489-7.

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489-8 (A-6773). Prior to the meeting, the Board continued its discussion of the System's actuarial valuation assumptions with Mercer, the System's actuary. After a discussion, upon the recommendation of the Retirement Committee and Mercer, the Board voted to approve the actuarial assumptions to be used in the valuation of the System's liability valuation and

minimum contribution calculation as of September 30, 2020. The actuarial assumptions approved by the Board include the following: (a) a 6.75% assumed rate of return on investments of the System's assets, which remains within an acceptable actuarial range of the 60th percentile of the System's median assumed rate of return determined by Mercer based on the System's current asset allocation and Mercer's updated capital market assumptions; (b) an assumed rate of inflation of 2.25% consistent with the previous year; (c) cash balance benefit cash out election rate of 25% based on actual participant experience consistent with the previous year; (d) for the base mortality table, the Pri-2012 mortality tables adjusted based on the System's experience, consistent with the previous year; and (e) for the mortality improvement scale, the new MSS-2020 scale developed by Mercer based on Social Security data and Mercer research. A copy of Mercer's actuarial assumptions review presentation dated December 8, 2020, is filed as Exhibit 489-8.

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489-9 (A-6774). As a result of the new mortality improvement scale approved by the Board for the System's annual actuarial assumptions, upon the recommendation of the Retirement Committee, the Board approved the following amendments to Section 1(g) of the Actuarial Assumptions in the Appendix to the TVARS Rules and Regulations consistent with the new mortality improvement scale assumption:

APPENDIX TO THE RULES AND REGULATIONS OF THE TVA RETIREMENT SYSTEM

Actuarial Assumptions

Certain benefit payments are calculated on the basis of actuarial assumptions, mortality tables, and interest rates. The following have been adopted by the board. The board may change these assumptions, tables, and rates from time to time.

1. g. Effective September 30, ~~2019~~2020, for purposes of the System's actuarial valuations as set forth under the Rules and Regulations, the following service mortality and disability mortality tables will be used. For service mortality, the mortality table shall be the base healthy mortality table Pri-2012 from the Society of Actuaries' 2019 mortality study multiplied by a load factor of 100% for both male and female employees, 102% for male annuitants, and 115% for female annuitants, with no collar adjustment, and with mortality improvement projection based on Mercer's mortality improvement scale MSS-~~2019~~2020 (as updated annually, and reviewed and approved by the Board) which reflects generational mortality improvement based on the Social Security Administration's projected mortality experience. For disability mortality, the mortality table shall be the base disabled mortality table Pri-2012 from the Society of Actuaries' 2019 mortality study multiplied by a load factor of 125% for males and 95% for females, with no collar adjustment, and with mortality improvement projection based on Mercer's mortality improvement scale MSS-~~2019~~2020 (as updated annually, and reviewed and approved by the Board) which reflects generational mortality improvement based on the Social Security Administration's projected mortality experience.

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489-10 (A-6775). Upon the recommendation of the Retirement Committee, the Board approved the calculation of a 1.13% cost-of-living adjustment (COLA) in the monthly pension and supplemental benefits payable to eligible retirees and beneficiaries in accordance with the TVARS Rules. The COLAs are effective with the January 2021 payments as provided for in sections 6I, 7L and 18C3 of the TVARS Rules. A copy of the COLA calculation is filed as Exhibit 489-10.

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489-11 (A-6776). Upon the recommendation of the Retirement Committee, the Board approved the calculation of the following interest crediting rates for calendar year 2021: (i) a 6% annual interest rate credit to the cash balance accounts of participants hired before January 1, 1996, pursuant to Section 7C3(a) of the TVARS Rules; (ii) a 4.75% annual interest rate credit to the cash balance accounts of participants hired on or after January 1, 1996, pursuant to section 7C3(b)(ii) of the TVARS Rules; and (iii) a 4.75% annual interest rate credit for fixed fund accounts pursuant to Section 17 of the Actuarial Assumptions in the Appendix to the TVARS

Rules. A copy of these cash balance and fixed fund annual interest rate calculations is filed as Exhibit 489-11.

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489-12 (A-6777). Pursuant to the System's Administrative Claims and Appeals Procedures, the Board considered an appeal from [redacted], a former TVA employee who elected the level income plan (LIP) for his pension benefit and has requested that the Board cease the LIP reduction to his pension payments and refund the amount that has been paid back in excess of what he received up front as a part of the LIP. After a review of [redacted] request and related documentation, the Board found no basis for the LIP request and voted to deny the appeal. A copy of the appeal materials is filed as Exhibit 489-12.

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489-13 (A-6778). The Audit Committee report consisted of the item reported below at A-6779 and of the following items:

- Prior to the meeting, the Board met with Crowe LLP, the System's auditor (Crowe), and the System staff to review and discuss the results of the Service Organization Control (SOC1) Report for the System for the period August 1, 2019, to July 31, 2020. A copy of the SOC1 Report is filed as Exhibit 489-13(a).
- As a part of the System's governance policy review process, prior to the meeting, Senior Counsel reviewed with the Board the Investment Committee Charter and Retirement Committee Charter and discussed with the Board certain amendments to the Charters, including recommended amendments from Mercer, the System's 401(k) Plan consultant. These amendments to the two Charters will be presented at the next quarterly meeting for approval by the Board. A copy of the current version of the Investment Committee Charter and Retirement Committee Charter is filed as Exhibit 489-13(b).

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489-14 (A-6779). Upon the recommendation of the Audit Committee, the Board voted to approve an engagement letter with Crowe to perform the System's SOC1 audit for the period

August 1, 2020, to July 31, 2021. A copy of the engagement letter between Crowe and the System is filed as Exhibit 489-14.

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489-15 (A-6780). The Election Committee report consisted of the item reported below at A-6781.

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489-16 (A-6781). The Election Committee presented, and the Board accepted, the results of the election among Sam DeLay, Julia Koella, and Wesley Conkle that ended September 24, 2020. Sam DeLay received 55.3% of the votes to win re-election to the System Board for a new three-year term from November 1, 2020, through October 31, 2023. Overall voter participation was 28% with 92% of the votes cast online. A copy of the certified election results from Election-America is filed as Exhibit 489-16.

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489-17 (A-6782). The Investment Committee report consisted of the items reported below at A-6783, A-6784, A-6785, and A-6786, and of the following items:

- The Board was provided and took note of information regarding asset allocation and investment manager asset transfers during the third quarter of 2020. A copy of the information is filed as Exhibit 489-17(a).
- The Board was provided and took note of information on due diligence meetings and conference calls between System staff and investment managers and service providers for the period September 2020 through November 2020. A copy of the information is filed as Exhibit 489-17(b).
- Under the System's asset allocation policy, there is a 7.5% target for defensive equity strategies – public equity strategies that are expected to provide downside protection versus the broad equity market during drawdown periods. On December 4, 2020, as a part of the build out of the System's defensive equity allocation, Wilshire, the

System's investment consultant, provided education to the Investment Committee on the types of defensive equity strategies the System may consider as a part of this allocation. A copy of the Wilshire's Defensive Equity Education presentation is filed as Exhibit 489-17(c).

- On December 4, 2020, Wilshire Associates presented to and discussed with the Investment Committee an updated analysis of the expected risk and return of the System's investment portfolio based on the current asset allocation, Wilshire's updated capital market assumptions as of September 2020, and Wilshire's expected alpha for the System's portfolio as a result of active management. This analysis was provided to the Investment Committee as a part of the Board's evaluation with Mercer of the assumed rate of return assumption for purposes of the System's actuarial valuation as of September 30, 2020. A copy of Wilshire's analysis is filed as Exhibit 489-17(d).
- The Board was provided and took note of net internal rate of return (net IRR) performance information as of June 30, 2020, for all of the funds in the System's legacy private equity portfolio compared to both vintage year IRRs for each fund and public market equivalent annualized performance. A copy of this report from Wilshire and the System's investment staff is filed as Exhibit 489-17(e).
- The December 4, 2020, Investment Committee meeting was the first committee meeting for Mercer Investment Consulting, Inc. as the System's new defined contribution plan consultant. After consulting team introductions, Mercer and the TVARS staff discussed with the Committee and agreed on a vision to evolve the 401(k) Plan from a savings plan to a true retirement plan for TVA employees, retirees and beneficiaries. This discussion also included various goals for the 401(k) Plan that include providing employees with a way to save for retirement that also assists them with a successful transition into retirement, focusing on the overall financial wellness of employees with a desire for employees to remain in the 401(k) Plan upon retirement, and addressing the needs of a diverse employee population. A copy of information on the Mercer consulting team and the vision and goals for the 401(k) Plan is filed as Exhibit 489-17(f).
- In addition to addressing the vision and goals for the 401(k) Plan, at the December 4, 2020, Investment Committee meeting, Mercer provided to the Committee and System staff the 401(k) Plan quarterly review covering the following: a proposed forward-looking calendar through March 2022, investment performance and fees of the 401(k) Plan fund line-up, and a comprehensive governance review that included 401(k) Plan statistics, Fidelity quarterly fees as the provider of recordkeeping and trustee services, governance process, and regulatory, legal and legislative updates. A copy of Mercer's Q3 2020 DC Quarterly Review dated December 4, 2020, is filed as Exhibit 489-17(g).

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489-18 (A-6783). Under the System's asset allocation policy, there is a 10% target for multi-asset credit strategies, which include public, private, and alternative credit strategies. On December 4, 2020, as a part of the build out of the System's credit allocation, Wilshire provided education to the Investment Committee on the types of multi-asset credit strategies the System may consider as a part of this allocation and presented a proposed investment allocation plan across the various strategies within this asset class.

At the September 2019 meeting, the Board approved a \$200 million investment with Pacific Investment Management Company (PIMCO), a current System manager, in the PIMCO Income Fund, a multi-asset long-only public markets credit strategy (see Minute Entry 483-11). As a part of Wilshire's proposed multi-asset credit strategy implementation plan, at the Board meeting, upon the recommendation of Wilshire and the Investment Committee, the Board approved an additional investment of \$50 million to the PIMCO Income Fund. A copy of Wilshire's Multi-Asset Credit Education presentation and PIMCO recommendation is filed as Exhibit 489-18.

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489-19 (A-6784). On December 4, 2020, as a part of the build out of the System's credit allocation, Wilshire provided education to the Investment Committee on the types of multi-asset credit strategies the System may consider as a part of this allocation and presented a proposed investment allocation plan across the various strategies within this asset class. As a part of Wilshire's proposed multi-asset credit strategy implementation plan, at the Board meeting, upon the recommendation of Wilshire and the Investment Committee, the Board selected Brevet Capital Management (Brevet) as a new investment manager of the System and approved an investment of \$35 million to Brevet's Short Duration Limited Partnership Fund with a strategy

that focuses on senior-secured, asset-based loans, with a strong bias towards government projects and programs. A copy of Wilshire's Multi-Asset Credit Education presentation and Brevet recommendation is filed as Exhibit 489-19.

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489-20 (A-6785). Under the System's asset allocation policy, there is a 5% target for public real assets. On December 4, 2020, Wilshire provided to the Investment Committee a review of the midstream energy infrastructure asset class within public real assets, including a review of the System's two current midstream energy infrastructure managers, Harvest Fund Advisors (Harvest) and Tortoise Capital Advisors (Tortoise). As a result of the review and Wilshire's recommendation to reduce the System's allocation to midstream energy infrastructure within the public real assets allocation, at the Board meeting, upon the recommendation of Wilshire and the Investment Committee, the Board approved consolidating the System's investment in midstream energy infrastructure with one manager, Harvest, and the termination of Tortoise as an investment manager of the System. As a part of this action, the Board also approved a change to the benchmark for Harvest and the asset class to the Alerian Midstream Energy Index (AMNA), a broad composite of North American energy infrastructure companies that include MLPs, C-Corps and Canadian companies, effective January 1, 2021. A copy of Wilshire's Midstream Energy Infrastructure Asset Class Review presentation and midstream energy infrastructure manager recommendation is filed as Exhibit 489-20.

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489-21 (A-6786). As a part of the System's legacy private equity portfolio, the System has investments as a limited partner in the Adams Street Co-Investment Fund II. L.P., the Adams Street Partnership Fund – 2005 U.S. Fund, L.P., and the Adams Street Partnership Fund – 2005

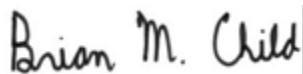
Non-U.S. Fund, L.P. (Adams Street Funds). The extension terms of the three Adams Street Funds are ending December 31, 2020, so pursuant to the Funds' limited partnership agreements, the General Partner has requested approval from the limited partners to extend the term of the partnerships another 2 years through December 31, 2022. Upon the recommendation of the Investment Committee, the Board voted to approve the 2-year extension of the partnership terms for the Adams Street Funds. A copy of the term extension approvals for the Adams Street Funds is filed as Exhibit 489-21.

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The meeting was adjourned at 2:39 p.m., EST.



Executive Secretary



Chair