

Meeting No. 483

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

September 12, 2019

The regular quarterly meeting of the Board of Directors (Board) of the TVA Retirement System (System) was held on Thursday, September 12, 2019, at 1:59 p.m., EDT, at the TVA Chattanooga Office Complex, MR 1S 419, Chattanooga, Tennessee.

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The following directors were present: Brian M. Child, Chair; Michael L. Belcher; Samuel J. DeLay; James W. Hovious; and Tina R. Shelton. Also present were Patrick D. Brackett, Executive Secretary; William B. Jenkins, Jr., Assistant Secretary; Sally R. Weber, Manager, Retirement Operations; Veenita Bisaria, Manager, Investment & Risk Management; Chris A. Stinnett, Sr. Analyst, Investment & Risk Management; W. Colby Carter, Senior Counsel; and Mark N. Meigs, Executive Secretary Elect.

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483-1 Each director was notified in a memorandum dated September 3, 2019, of the regular quarterly meeting to be held on September 12, 2019. A copy of the notice from the Executive Secretary is filed as Exhibit 483-1.

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483-2 (A-6647). The Chair's report included the following:

- The Chair welcomed Tina Shelton as a new Director on the Board. Ms. Shelton, who serves as TVA's Vice President, Total Rewards, was appointed by TVA on August 19, 2019, to the Board to fill the vacant seat previously held by Chris Hinton. The

Chair informed the Board that he has appointed Director Shelton to serve on the Board committees previously served on by Chris Hinton.

- The Chair noted that this will be the last meeting for Allen Stokes as a director on the Board whose carryover term as the 7th director retiree will be ending on October 31, 2019.
- The Chair recognized Pat Brackett who will be retiring as Executive Secretary on September 30, 2019. As a part of the recognition, the Chair presented him with a gift from the Board and shared information on the changes the System has experienced during his 36 years serving in the System, including the last 9 years as Executive Secretary.

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483-3 (A-6648). As a part of his report, the Executive Secretary recognized the System's experienced and knowledgeable staff who have worked with him throughout his tenure in the position.

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483-4 (A-6649). The Senior Counsel provided to the Board a revised 3-year governance policy review schedule. A copy of the schedule is filed as Exhibit 483-4.

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483-5. As a part of the Consent Agenda, the Board approved the minutes for the meeting reported below in A-6650, and accepted the reports as of June 30, 2019, listed below in A-6651, A-6652, A-6653, and A-6654.

- A-6650 Meeting No. 482 held June 6, 2019
- A-6651 Treasurer's Report (filed as Exhibit 483-5(a))
- A-6652 Investment Performance Report prepared by Wilshire Associates Incorporated (Wilshire) (filed as Exhibit 483-5(b))
- A-6653 Report of retirements approved (filed as Exhibit 483-5(c))

- A-6654 Quarterly review for the TVA Savings and Deferral Retirement Plan (401(k) Plan) prepared by Fidelity Investments Institutional Services Company (Fidelity) (filed as Exhibit 483-5(d))

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483-6 (A-6655). The Investment Committee report consisted of the items reported below at A-6656, A-6657, A-6658, A-6659, A-6660, and A-6661, and of the following items:

- The Board was provided and took note of information regarding asset allocation and investment manager asset transfers during the second quarter of 2019. A copy of the information is filed as Exhibit 483-6(a).
- The Board was provided and took note of information on due diligence meetings and conference calls between System staff and investment managers for the period June 2019 through August 2019. A copy of the information is filed as Exhibit 483-6(b).
- The Board was provided an update on the funded status of the System through June 2019. A copy of the asset-liability monitor report is filed as Exhibit 483-6(c).
- The Board reviewed and discussed the quarterly 401(k) Plan Discussion Guide from Aon, the System's 401(k) Plan consultant, covering the following: asset allocation and quarterly flows, performance of the investment funds in the 401(k) Plan's lineup, manager fee analysis, a review of the DFA U.S. Targeted Value Strategy as the small-mid cap value equity option in the 401(k) Plan's Tier III active fund options, and an overview and analysis of the 401(k) managed account market and the 401(k) Plan's managed account adviser, Fidelity PP&A. On August 28, 2019, the Investment Committee met with Aon and the System staff to review the quarterly 401(k) Plan Discussion Guide. A copy of the Guide is filed as Exhibit 483-6(d).
- On August 28, 2019, the Investment Committee was provided and discussed with Wilshire and System investment staff information on several investment managers and their portfolios and strategies. A copy of the Investment Manager Product Discussion List is filed as Exhibit 483-6(e).
- On August 28, 2019, Wilshire met with the Investment Committee and System staff to continue discussion on the System's asset allocation policy, including the evaluation of alternate policies incorporating the future liabilities of the System. A copy of the asset allocation discussion information from Wilshire is filed as Exhibit 483-6(f).
- On August 28, 2019, Wilshire's private market consultants provided the Investment Committee with a private credit and private real assets portfolio update, including an update on the continuing strategic implementation of the portfolio, potential manager recommendations in the pipeline for consideration for calendar year 2020, and the

current composition and performance of the System's private credit and real assets portfolios. A copy of Wilshire's private credit and private real assets portfolio update and implementation dated August 2019 is filed as Exhibit 483-6(g).

- The System staff notified the Investment Committee of investment manager guidelines amendments approved by the Executive Secretary during second quarter of 2019. A copy of the information is filed as Exhibit 483-6(h).
- The Board was provided and took note of net internal rate of return (net IRR) performance information as of March 31, 2019, for all of the funds in the System's private equity portfolio compared to both vintage year IRRs for each fund and public market equivalent annualized performance. A copy of the report from Wilshire is filed as Exhibit 483-6(i).
- Senior Counsel updated the Board on the status of the change in the recordkeeper from BlackRock to Fidelity for the 401(k) Plan's Target Retirement Portfolios, which will take effect on October 1, 2019, and provided the Board a copy of a draft communication to employees on the change, including lower fees for the funds as well as recordkeeping. A copy of the communication is filed as Exhibit 483-6(j).

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483-7 (A-6656). On August 28, 2019, the Investment Committee discussed with HarbourVest Partners the overall strategic plan, and received an update on the 2019 and 2020 tactical plans, for the System's private equity investments through the HarbourVest Summit Hill Fund. At the Board meeting, after discussion and review of HarbourVest's strategic and tactical plans, and upon the recommendation of the Investment Committee, the Board approved a commitment of \$200 million for the 2020 tranche investment in the HarbourVest Summit Hill Fund and authorized the Executive Secretary to take any actions necessary to implement this action. A copy of the HarbourVest presentation dated August 2019 is filed as Exhibit 483-7.

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483-8 (A-6657). Under the System's asset allocation policy, there is a target of 5% for private credit, which is being built out through the fund-of-one limited partnership with Wilshire Private Markets, the Summit Hill Credit Fund. After discussion of Wilshire Private Markets'

strategic and tactical plans for 2019 and 2020, and upon the recommendation of the Investment Committee, the Board approved a commitment of \$180 million for the 2020 series investment in the Summit Hill Credit Fund and authorized the Executive Secretary to take any actions necessary to implement this action. A copy of the Wilshire presentation dated August 2019 is filed as Exhibit 483-8.

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483-9 (A-6658). Under the System's asset allocation policy, there is a target of 10% for private real assets, which is being built out through the fund-of-one limited partnership with Wilshire Private Markets, the Summit Hill Real Assets Fund. After discussion of Wilshire Private Markets' strategic and tactical plans for 2019 and 2020, and upon the recommendation of the Investment Committee, the Board approved a commitment of \$140 million for the 2020 series investment in the Summit Hill Real Assets Fund and authorized the Executive Secretary to take any actions necessary to implement this action. A copy of the Wilshire presentation dated August 2019 is filed as Exhibit 483-8.

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483-10 (A-6659). The Investment Committee previously reviewed with Wilshire an analysis of the System's U.S. equity portfolio structure and managers, including an analysis of the U.S. small cap equity portfolio and the consolidation of managers in the asset class (see Minute Entry 482-8). On August 28, 2019, the Investment Committee continued to discuss this analysis with Wilshire with a specific focus on manager consolidation. At the Board meeting, upon the recommendation of Wilshire and the Investment Committee, the Board approved the termination of the U.S. small cap equity strategy managed by Dimensional Fund Advisors (DFA), with \$45 million of the funds being allocated to the previously approved Wellington

Small Cap 2000 strategy managed by Wellington Management Company (see Minute Entry 482-8) and the remainder of the funds (approximately \$40) being allocated to the U.S. small cap equity strategy managed by Neuberger Berman, another current manager of the System. As a part of this approval, the Board authorized the Executive Secretary to take any actions necessary to implement the reallocation of the DFA portfolio assets. A copy of the analysis from Wilshire to the Board dated September 2019 is filed as Exhibit 483-10.

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483-11 (A-6660). Under the System's asset allocation policy, there is a target of 5% for private credit, which is being built out through the fund-of-one limited partnership with Wilshire Private Markets, the Summit Hill Credit Fund. As of June 30, 2019, the System's actual allocation to private credit is 0.7%, and it will take another 3 to 5 years to reach the target allocation. A copy of a memo from Wilshire to the Board on the System's REIT portfolio and recommendation is filed as Exhibit 478-11. On August 28, 2019, the Investment Committee discussed with Wilshire and the System investment staff an approach to gain similar market exposures as private credit with a short-term investment in a long-only, multi-asset credit strategy that would serve as a "proxy" for future private credit commitments.

At the Board meeting, following a review of potential managers with such strategies, and upon the recommendation of Wilshire and the Investment Committee, the Board approved an investment of \$200 million with Pacific Investment Management Company (PIMCO), a current System manager, in the PIMCO Income Fund with funding from global equity portfolios. As a part of this approval, the Board authorized the Executive Secretary to take any actions necessary to implement this action. A copy of the long-only credit investment manager search from Wilshire to the Board dated August 2019 is filed as Exhibit 483-11.

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483-12 (A-6661). As a part of the private equity portfolio, the System has an investment as a limited partner in the Adams Street Partners 2007 Direct Fund. The automatic term extensions of the Fund partnership have ended, so pursuant to the Fund's limited partnership agreement, the General Partner has requested approval from the limited partners to extend the term of the partnership another 2 years in order to allow for the liquidation of the Fund's investments. Upon the recommendation of the Investment Committee, the Board voted to approve the amendment to the Fund's limited partnership agreement to extend the term of the Fund an additional 2 years. A copy of the amendment is filed as Exhibit 483-12.

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483-13 (A-6662). The Retirement Committee report consisted of items reported below at A-6663, A-6664, and A-6665, and of the following items:

- Senior Counsel discussed with the Board recent lawsuits involving Fidelity and so-called "infrastructure fees" that Fidelity receives from unaffiliated firms that offer funds on Fidelity's mutual fund platform. A copy of information provided to the Board on these lawsuits is filed as Exhibit 483-13(a).
- Senior Counsel provided information to the Board on required 401(k) Plan hardship withdrawal changes that will go into effect on October 1, 2019, as a result of the Bipartisan Budget Act of 2018, and that Fidelity, which administers loans and hardship withdrawals for participants, is prepared to implement. Senior Counsel informed the Board that amendments to the 401(k) Plan Provisions on these hardship withdrawal changes will be presented at a future Board meeting for approval in order to wait for final regulations from the IRS. A copy of information from Fidelity on hardship withdrawals is filed as Exhibit 483-13(b).
- Senior Counsel updated the Board on the status of Groom Law Group's plan document compliance review of the TVARS Rules and Regulations and 401(k) Plan Provisions.
- System staff informed the Board that beginning in February 2020, the System will be changing the frequency of retirement benefit direct deposit statement mailings from Bank of New York Mellon (BNY Mellon) to go from monthly to each January and then also each month their deposit amount may change for any reason. Monthly direct

deposit statements will still be available monthly for retirees and beneficiaries who use the BNY Mellon on-line retiree portal. This change, which is consistent with how Social Security and other federal retirement systems mail direct deposit statements, will help save the System printing and mailing costs. A copy of this information, along with a communication schedule for the change, is filed as Exhibit 483-13(c).

- As a follow-up to a previous discussion with Mercer Human Resources Consulting (Mercer), the System's actuary, on lump-sum cash out opportunities that could be offered to System retirees and beneficiaries, the System staff presented additional information specific to the demographics of those with smaller retirement benefit amounts. A copy of this information, along with Mercer's information on lump-sum considerations, is filed as Exhibit 483-13(d).

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483-14 (A-6663). Prior to the meeting, the Board discussed the System's actuarial valuation assumptions with Mercer. 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 and benefit calculations as of September 30, 2019. 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; and (d) for liability valuation and minimum contribution requirements, the same base mortality table and mortality improvement scales as the previous year. A copy of Mercer's actuarial assumptions review presentation dated September 12, 2019, is filed as Exhibit 483-14.

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483-15 (A-6664). Upon the recommendation of the Retirement Committee, the Board approved a 1-year renewal of Mercer's Statement of Work to provide actuarial services to the System for fiscal year 2020, along with fixed 3-year pricing, and delegated to the Executive Secretary the authority to take any actions necessary to effect that approval. A copy of Mercer's Statement of Work is filed as Exhibit 483-15.

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483-16 (A-6665). The Board voted to adopt the following resolutions to affirm officer appointments, to authorize the officers to conduct certain transactions required in the operation and administration of the Fixed Benefit Fund, Variable Fund, and the 401(k) Plan, and to authorize the officers to sign checks on behalf of the System:

Operation and Administration of the Fixed Benefit Fund and Variable Fund:

WHEREAS the operation and administration of the Fixed Benefit Fund and Variable Fund require execution of various forms and documents on behalf of the Board of Directors of the System;

BE IT RESOLVED, that the Board hereby affirms the appointment of each of the below named officers of the System and authorizes each of them to approve, sign, attest, or authenticate on behalf of the Board any form or document required in the operation and administration of the Fixed Benefit Fund and Variable Fund. Such authority shall include but not be limited to (1) transfer of monies between the System and The Bank of New York Mellon, as master trustee of the System, (2) transfer of monies between investment managers, and (3) approval of withdrawals from the Fixed and Variable Funds.

Mark N. Meigs, Executive Secretary
William B. Jenkins, Jr., Assistant Secretary
Sally R. Weber, Treasurer
W. Colby Carter, Assistant Treasurer
Courtney L. Hammontree, Assistant Treasurer
Patrick B. Vananda, Assistant Treasurer
T. Justin Vineyard, Assistant Treasurer

RESOLVED further, that this resolution shall become effective October 1, 2019, and shall supersede and rescind any previous resolutions adopted by the Board to the extent inconsistent with this resolution.

Operation and Administration of the 401(k) Plan:

WHEREAS the operation and administration of the TVA Savings and Deferral Retirement Plan (401(k) Plan) require execution of various forms and documents on behalf of the Board of Directors of the System;

BE IT RESOLVED, that the Board hereby affirms the appointment of each of the below named officers of the System and authorizes each of them to approve, sign, attest, or authenticate on behalf of the Board any form or document required in the operation and administration of the 401(k) Plan. Such authority shall include but not be limited to (1) letters, documents, and agreements as required for the investment of the funds of the 401(k) Plan in the Plan's eligible investment funds, and (2) orders for the purchase, sale, transfer, assignment, investment in, or withdrawal from such Plan or funds.

Mark N. Meigs, Executive Secretary
William B. Jenkins, Jr., Assistant Secretary
Sally R. Weber, Treasurer
W. Colby Carter, Assistant Treasurer
Courtney L. Hammontree, Assistant Treasurer
Patrick B. Vananda, Assistant Treasurer
T. Justin Vineyard, Assistant Treasurer

RESOLVED further, that this resolution shall become effective October 1, 2019, and shall supersede and rescind any previous resolutions adopted by the Board to the extent inconsistent with this resolution.

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483-17 (A-6666). The Election Committee reported the following to the Board: (i) nominations for the current election are closed; (ii) Jim Hovious and Julia Koella are the two candidates in the election; and (iii) the election period began September 9, 2019, and will run through September 25, 2019.

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483-18 (A-6667). The Audit Committee report consisted of the items reported below at A-6668 and A-6669, and of the following items:

- Following the meeting, pursuant to the System's governance policies, the Board will work with Jeanna Cullins, Partner, and Julie Becker, Associate Partner, of Aon, the Board's governance and fiduciary consultant, to perform and complete the annual Board self-evaluation and Executive Secretary evaluation. The Board was previously

provided a copy of the self-evaluation questionnaires to be completed for discussion purposes with Aon and these questionnaires are filed as Exhibit 483-18(a).

- As a part of the System's governance policy review process, the Board was provided a copy of Board Self Evaluation Policy and Executive Secretary Evaluation Policy, which will be reviewed with Aon following the meeting as a part of the Board's annual evaluations.

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483-19 (A-6668). Upon the recommendation of the Audit Committee, the Board voted to approve, and authorized the Executive Secretary to execute, an engagement letter with Crowe LLP to perform the fiscal year 2019 financial statement audits of the System and the 401(k) Plan. A copy of the engagement letter between Crowe and the System is filed as Exhibit 483-19.

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483-20 (A-6669). Following the review and evaluation of the Board's Request for Proposal for the System's external auditor, which included in-person interviews with the finalists on August 16, 2019, upon the recommendation of the Audit Committee, Executive Secretary, and System staff, the Board approved retaining Crowe LLP to perform the System's financial statement audits and SOC1 examination of the System's administration and controls with 3-year fixed pricing and authorized the Executive Secretary to take any actions necessary to implement this action. A copy of a memo from the Executive Secretary to the Board regarding the auditor RFP evaluation and recommendation is filed as Exhibit 483-20.


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483-21 (A-6670). The 7th Director Search Committee updated the Board on the status of the 7th Director selection process, including interviews with several candidates during the last quarter, discussions with the Board about the interviewed candidates prior to the Board meeting, and the addition of Tina Shelton to the Committee. While no action was presented to the Board

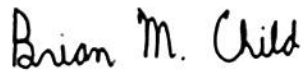
by the Committee, the Committee will work to set up a date for the Board to have further discussions on the interviewed candidates being considered for selection.

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The meeting was adjourned at 2:25 p.m., EDT.



Executive Secretary



Chair