

Meeting No. 466

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

December 8, 2016

The regular quarterly meeting of the Board of Directors (Board) of the TVA Retirement System (System) was held on Thursday, December 8, 2016, at 1:12 p.m., EST, at the TVA Chattanooga Office Complex, MRC 1S 419, Chattanooga, Tennessee.

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The following directors were present: Allen E. Stokes, Chair (via telephone); Anthony L. Troyani, Vice Chair; Brian M. Child; James W. Hovious; Leonard J. Muzyn; and Wilson Taylor III. 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; Brent B. Roberts, Manager, Financial Reporting; W. Colby Carter, Senior Counsel, Retirement Benefits & Compliance; and Vincent V. Sands, Board Adviser.

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466-1 Each director was notified in a memorandum dated November 30, 2016, of the regular quarterly meeting to be held on December 8, 2016. A copy of the notice from the Executive Secretary is filed as Exhibit 466-1.

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466-2 (A-6383). The Chair's report included the following:

- The Chair welcomed Wilson Taylor as a new Director on the Board. Mr. Taylor, who serves as TVA's Director, HR Business Office and Ombudsman, was appointed by TVA to replace John Hoskins on the Board effective October 5, 2016.
- The Chair presented recommendations for the Board's standing committee members for calendar year 2017. After discussion of the recommendations, the Board approved the following standing committee assignments, as recommended by the Chair:

Audit Committee

Wilson Taylor III, Chair
James W. Hovious
Leonard J. Muzyn

Retirement Committee

Leonard J. Muzyn, Chair
Brian M. Child
Wilson Taylor III

Investment Committee

Tammy W. Wilson, Chair
Anthony L. Troyani, Vice Chair
Brian M. Child
James W. Hovious
Leonard J. Muzyn
Allen E. Stokes
Wilson Taylor III

Election Committee

James W. Hovious, Chair
Wilson Taylor III
Tammy W. Wilson

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466-3 (A-6384). The Executive Secretary's report included the following:

- The Executive Secretary provided to the Board the proposed quarterly meeting schedule for calendar year 2017.
- The Executive Secretary provided to the Board the System staff's work plan for fiscal year 2017.
- The Executive Secretary notified the Board that the System staff, with Fidelity Investments, will be conducting 401(k) educational sessions across the valley from January 2017 through March 2017.

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466-4 (A-6385). Senior Counsel informed the Board that Chris Christie of Bradley Arant

Boult Cummings filed, on behalf of the Board, Responses to Plaintiffs Motion for Summary

Judgment on November 28, 2016. Senior Counsel also discussed with the Board the remaining issues in the current lawsuit against TVA and TVARS. On December 2, 2016, the plaintiffs' filed a Reply in Support of Plaintiffs' Motion for Summary Judgment, a copy of which the Executive Secretary provided to the Board.

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466-5 (A-6386). The Board noted its previous notational action approving a Response to Plaintiffs' Motion for Summary Judgment in the current lawsuit, which was filed by Bradley Arant Boult Cummings on behalf of the Board.

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466-6 (A-6387). The Board approved the minutes of Meeting No. 465 held September 8, 2016, by a vote of 6 to 0 with Director Wilson not present.

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466-7 (A-6388). The Board accepted the Treasurer's Report for the quarter ended September 30, 2016. A copy of the Treasurer's Report is filed as Exhibit 466-7.

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466-8 (A-6389). The Board accepted the Investment Performance Report prepared by Wilshire Associates Incorporated (Wilshire) for the quarter ended September 30, 2016. A copy of the Investment Performance Report is filed as Exhibit 466-8.

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466-9 (A-6390). The Board accepted the report of retirements approved for the quarter ended September 30, 2016. A copy of the report is filed as Exhibit 466-9.

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466-10 (A-6391). The Board accepted the quarterly review for the TVA Savings and Deferral Retirement Plan (401(k) Plan) prepared by Fidelity Investment Institutional Services Company (Fidelity) for the quarter ended September 30, 2016. A copy of the 401(k) Plan quarterly review is filed as Exhibit 466-10.

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466-11 (A-6392). The Investment Committee report consisted of the items reported below at A-6393, A-6394, A-6395, A-6396, A-6397, and A-6398 and of the following items:

- The Board was provided and took note of the quarterly report on manager compliance with investment guidelines. A copy of the report, dated September 30, 2016, is filed as Exhibit 466-11(a).
- The Board was provided and took note of information regarding investment manager asset transfers during the third quarter of 2016. A copy of this information is filed as Exhibit 466-11(b).
- 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 August 2016 through November 2016. A copy of the information is filed as Exhibit 466-11(c).
- The Board was provided an update on the funded status of the System through September 30, 2016. A copy of the report is filed as Exhibit 466-11(d).
- The Board reviewed and discussed the quarterly 401(k) Plan Discussion Guide from Aon Hewitt Investment Consulting (AHIC) covering the following: market information, asset allocation, performance of the investment funds in the 401(k) Plan's lineup, and manager and fee updates. A copy of the AHIC 401(k) Plan Discussion Guide is filed as Exhibit 466-11(e).
- The Board was provided and discussed with Wilshire and System investment staff information on the following System portfolios: Western Asset Management Company Absolute Return fixed income portfolio, a high yield fixed income portfolio managed by Oaktree Capital Management; a domestic small cap equity portfolio managed by Fisher Investments, a domestic small cap equity portfolio managed by Neuberger Berman, and a global TIPs portfolio managed by Bridgewater Associates. A copy of this Investment Manager Product Discussion List is filed as Exhibit 466-11(f).

- The Board was provided a report from Wilshire regarding a previously approved private credit allocation within the opportunistic fixed income asset allocation bucket, including a recommendation with respect to implementation. A copy of the report is filed as Exhibit 466-11(g).
- The Board was provided a report from Wilshire regarding active versus passive management in various asset classes. A copy of the report is filed as Exhibit 466-11(h).
- On November 28, 2016, the Investment Committee met with Bridgewater Associates, a current System manager, which provided a review and update on the global TIPs portfolio Bridgewater manages for the System. A copy of the presentation is filed as Exhibit 466-11(i).
- The Board was provided capital market assumptions from various investment consultants for comparative purposes including Wilshire, Aon Hewitt, Mercer, Cambridge, and Willis Towers Watson. A copy of the comparison information is filed as Exhibit 466-11(j)

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466-12 (A-6393). On November 28, 2016, the Investment Committee met to discuss the recently completed search by Wilshire and the System staff for international small cap equity managers to broaden the System's non-U.S. equity asset class exposure. Upon the recommendation of Wilshire and the Investment Committee, the Board approved the selection of Dimensional Fund Advisors (DFA) and Fidelity Institutional Asset Management (FIAM) as new international small cap equity managers with a target allocation to each of 7.5% of the non-U.S. equity asset class or approximately \$85 million each. A copy of the Wilshire memo to the Board on this action dated November 28, 2016, is filed as Exhibit 466-12.

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466-13 (A-6394). After discussion, and upon the recommendation of Wilshire and the Investment Committee, the Board approved converting the fixed income absolute return portfolio managed by Western Asset Management (WAMCO) absolute return portfolio to a core fixed income portfolio. The decision was based on performance of the absolute return portfolio and

the need for a strategy that fits within the new safety oriented fixed income bucket asset allocation structure previously approved by the Board. A copy of the Wilshire memo to the Board on this action dated November 28, 2016, is filed as Exhibit 466-13.

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466-14 (A-6395). After discussion, and upon the recommendation of Wilshire and the Investment Committee, the Board approved a \$15 million commitment to Landmark Partners' newest private real estate secondary fund, the Landmark Real Estate Fund VIII. The System has previously made investments in Landmark's Funds VI and VII, which have delivered strong investment returns above expectations. A copy of Wilshire's memo to the Board on this action dated November 28, 2016, is filed as Exhibit 466-14.

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466-15 (A-6396). Under the Board's recently approved revised asset allocation policy with asset class buckets, 15% of the System's assets will be targeted for investment in public real assets composed of TIPS (50% target), commodities (20% target), global REITS (15% target), and MLPs (15% target). After discussion, and upon the recommendation of Wilshire and the Investment Committee, the Board approved an implementation plan for investments in these asset classes over time, which includes establishing REIT and TIPS index positions through Mellon Capital Management, the System's current index fund provider, and then liquidating these index positions as active managers are selected for these mandates and funded. A copy of Wilshire's memo to the Board on this implementation plan dated November 28, 2016, is filed as Exhibit 466-15.

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466-16 (A-6397). On November 28, 2016, the System staff provided an update to the Investment Committee on the status of liquidation of investments by W.R. Huff in the Huff Alternative Fund and a request by W.R. Huff for a further one-year extension of the term of the limited partnership with a proposed incentive fee on realizations greater than appraised values. After discussion regarding the unified position of a majority of limited partners in the Fund, including the System, upon the recommendation of the Investment Committee, the Board voted to approve an amendment to the Fund's limited partnership agreement extending its term through April 15, 2017, as requested by W.R. Huff, without the requested incentive fee. A copy of the updated Fund portfolio information and request from W.R. Huff is filed as Exhibit 466-16.

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466-17 (A-6398). Upon the recommendation of the Investment Committee, the Board voted to approve, and authorized the Executive Secretary to execute, a contract with Wilshire for investment consulting services for the period January 1, 2017, through December 31, 2017. A copy of the contract is filed as Exhibit 466-17.

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466-18 (A-6399). The Retirement Committee report consisted of items reported below at A-6400, A-6401, and A-6402, and of the following item:

- The Executive Secretary provided to the Board an overview of Bank of New York Mellon's benefit disbursement services. BNY Mellon is the System's trustee and custodian and has the ability to process the System's benefit disbursements while also providing a secure internet portal where retirees may view pay and deductions, and also make changes to their address, and federal withholding. Fees for these services were negotiated as part of the RFP performed earlier in 2016, but approval of these services has not been requested. A copy of the overview and information related to BNY Mellon's disbursement services is filed as Exhibit 466-18.

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466-19 (A-6400). Prior to the meeting, the Board discussed with Mercer, the System's actuary, the System's actuarial valuation assumptions. 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, 2016. The actuarial assumptions approved by the Board include the following: (a) a decrease in the assumed rate of return on investments of the System's assets from 7% to 6.75%; (b) the assumed rate of inflation of 2.25% consistent with the previous year; and (c) for liability valuation and minimum contribution requirements, the adoption of the following mortality tables: (i) for the base table, the RP-2014 table with a 5% load based on actual plan experience (consistent with previous year), and for the mortality improvement scale, the MSS-2016 scale developed by Mercer based on Social Security data and Mercer research. A copy of Mercer's presentation dated December 8, 2016, is filed as Exhibit 466-19.

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466-20 (A-6401). The Board approved the calculation of a 0.99% cost-of-living adjustment (COLA) in the monthly pension and supplemental benefits payable to eligible retirees and beneficiaries in accordance with the System Rules. The COLAs are effective with the January 2017 payments as provided for in sections 6I, 7L and 18C3 of the System Rules. A copy of the COLA calculation is filed as Exhibit 466-20.

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466-21 (A-6402). The Board approved the calculation of the following cash balance interest crediting rates for calendar year 2017: (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 System Rules, and (ii) a 5% 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 System Rules. A copy of the cash balance annual interest rate calculations is filed as Exhibit 466-21.

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466-22 (A-6403). The Election Committee report consisted of the item reported below at A-6404.

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466-23 (A-6404). The Election Committee presented, and the Board accepted, the results of the election that ended September 14, 2016. James W. Hovious received 73.85% of the votes to win election to the System Board for a three year term from November 1, 2016, through October 31, 2019. Overall voter participation was 28% with 95% of the votes cast via the Internet. A copy of the certified election results is filed as Exhibit 466-23.

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466-24 (A-6405). The Audit Committee report consisted of the items reported below at A-6406 and A-6407, and of the following items:

- Pursuant to the TVARS Ethics and Code of Conduct Policy, the Board and staff (i) were provided a copy of the Policy and a synopsis of the Office of Government Ethics (OGE) Standards of Ethical Conduct, and (ii) signed an acknowledgment stating they had read and will abide by them. A copy of these materials and the signed acknowledgment is filed as Exhibit 466-24(a).
- Pursuant to the TVARS Confidentiality Policy, the Board and staff (i) were provided a copy of the Policy, and (ii) signed a statement affirming they had read, understand, and will comply with the Policy. A copy of the TVARS Confidentiality Policy and the signed affirmation is filed as Exhibit 466-24(b).
- The Board was provided and took note of a summary of charges on the System's credit card for the previous quarter.
- The Board was provided and took note of the System Board's travel expenses for the previous quarter.

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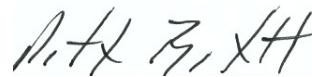
466-25 (A-6406). Prior to the meeting, the Audit Committee met with Crowe Horwath, the System's auditor, via teleconference to review and discuss the results of the Service Organization Control (SOC1) Report for the System for the period August 1, 2015, to July 31, 2016. After discussion, and upon the recommendation of the Audit Committee, the Board accepted the SOC1 Report for the System for the period August 1, 2015, to July 31, 2016, prepared by Crowe Horwath. A copy of the SOC1 Report is filed as Exhibit 466-25.

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466-26 (A-6407). Upon the recommendation of the Audit Committee, the Board voted to approve, and authorized the Executive Secretary to execute, an engagement letter with Crowe Horwath to perform the System's SOC1 audit for the period August 1, 2016, to July 31, 2017. A copy of the engagement letter with Crowe Horwath is filed as Exhibit 466-26.

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The meeting was adjourned at 1:29 p.m., EST.



Executive Secretary



Chair