## MINUTES OF MEETING

## OF THE BOARD OF DIRECTORS

## RETIREMENT SYSTEM OF THE TENNESSEE VALLEY AUTHORITY

September 18, 2015

The regular quarterly meeting of the Board of Directors (Board) of the TVA Retirement System (System) was held on Friday, September 18, 2015, at 1:02 p.m., EDT, in the Kinsey Room at the Chattanoogan Hotel, 1201 Broad Street, Chattanooga, Tennessee.

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The following directors were present: Anthony L. Troyani, Vice-Chair; Brian M. Child; John M. Hoskins; James W. Hovious; Leonard J. Muzyn; and Tammy W. Wilson. Allen E. Stokes, Chair, was not present. Also present were Patrick D. Brackett, Executive Secretary; Pamela K. Ramsey, Assistant Secretary; W. Colby Carter, Senior Counsel, Retirement Benefits & Compliance; Veenita Bisaria, Manager, Investment & Risk Management; Chris A. Stinnett, Sr. Analyst, Investment & Risk Management; and Sally R. Weber, Lead Sr. Consultant, Retirement Benefits.

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458-1 Each director was notified in a memorandum dated August 17, 2015, of the regular quarterly meeting to be held on September 18, 2015. A copy of the notice from the Executive Secretary is filed as Exhibit 458-1.

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458-2 (A-6258). There were no items to report from the Vice Chair.

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458-3 (A-6259). The Executive Secretary's report included the following:

- The Executive Secretary noted the Board's meetings on August 10, 2015, with Jeanna Cullins of Aon Hewitt, the Board's governance consultant, in which they performed the Board Self Evaluation and Executive Secretary Evaluation and received governance and fiduciary training, all in conformance with the Board's governance policies.
- The Executive Secretary provided to the Board a succession planning report on key staff positions within TVARS.
- The Executive Secretary provided to the Board the proposed budget for the System for fiscal year 2016.

A copy of the information provided by the Executive Secretary to the Board is filed as Exhibit 458-3.

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458-4 (A-6260). The Legal Counsel's update included the following:

- Following the Board meeting, Chris Christie of Bradley Arant Boult Cummings, outside legal counsel representing the System in the current lawsuit against TVA and the System, provided an update (via telephone) to the Board on the status of the lawsuit. Senior Counsel informed the Board that a lawsuit update has been posted on the TVARS website.
- Senior Counsel updated the Board on proposed changes by the Internal Revenue Service to its qualified retirement plan determination letter program.

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458-5 (A-6261). The Board noted its previous notational action approving the final negotiated loaned employee agreement between TVARS and TVA. A copy of the executed loaned employee agreement, effective July 1, 2015, is filed as Exhibit 458-5.

458-6 (A-6262). The Board approved the minutes of Meeting No. 455 held June 19, 2015.

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458-7 (A-6263). The Board approved the minutes of Special-Called Meeting No. 456 held July 24, 2015.

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458-8 (A-6264). The Board approved, as amended, the minutes of Special-Called Meeting No. 457 held July 30, 2015.

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458-9 (A-6265). The Board accepted the Treasurer's Report for the quarter ending June 30, 2015. A copy of the Treasurer's Report is filed as Exhibit 458-9.

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458-10 (A-6266). The Board accepted the Investment Performance Report prepared by Wilshire Associates Incorporated (Wilshire) for the quarter ending June 30, 2015. A copy of the Investment Performance Report is filed as Exhibit 458-10.

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458-11 (A-6267). The Board accepted the report of retirements approved for the quarter ending June 30, 2015. A copy of the report and summary demographic information regarding retirements in the quarter is filed as Exhibit 458-11.

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458-12 (A-6268). The Board accepted the quarterly review for the Savings and Deferral Retirement Plan (401(k) Plan) prepared by Fidelity Investment Institutional Services Company

(Fidelity) for the quarter ending June 30, 2015. A copy of the 401(k) Plan quarterly review is filed as Exhibit 458-12.

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458-13 (A-6269). The Investment Committee report consisted of the item reported below at A-6270 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 June 30, 2015, is filed as Exhibit 458-13(a).
- The Board was provided and took note of information regarding investment manager asset transfers for the fiscal year through June 30, 2015. A copy of this information is filed as Exhibit 458-13(b).
- The Board was provided and took note of information on due diligence meetings and conference calls between System staff and investment managers during the second and third quarters of 2015. A copy of the information is filed as Exhibit 458-13(c).
- The Board was provided and took note of the quarterly 401(k) Plan Discussion Guide from Aon Hewitt Investment Consulting covering the following: performance of the investment funds in the current 401(k) Plan lineup, performance of the investment funds selected for the new 401(k) Plan lineup, and review and discussion of money market fund reform and the money market selection for the new lineup. A copy of the AHIC 401(k) Plan Discussion Guide is filed as Exhibit 458-13(d).
- The Board was provided an update on the funded status of the System through June 30, 2015. A copy of the report is filed as Exhibit 458-13(e).
- The Board was provided a semi-annual report from Wilshire on the performance of the System's private markets portfolio (private equity, private real estate, and private real assets), which included net internal rate of return (net IRR) performance information for all of the funds in the portfolio compared to both vintage year IRRs for each fund and public market equivalent annualized performance. A copy of Wilshire's report dated March 31, 2015, is filed as Exhibit 458-13(f).
- The Executive Secretary notified the Board of an amendment to the investment guidelines of Ballie Gifford Overseas Limited which manages an international equity portfolio. The amendment makes a minor clarification regarding the tracking error of the portfolio versus the benchmark. A copy of the investment guideline amendment with Ballie Gifford is filed as Exhibit 458-13(g).

- The Executive Secretary notified the Board of an amendment to the Sigular Guff Distressed Real Estate Opportunities Fund, II. LP, in which the System is a limited partner. The amendment revises the investment guidelines of the Fund to increase from 45% to 49.9% the maximum allocation permissible to investments located outside of North America. A copy of the investment guideline amendment of the Fund is filed as Exhibit 458-13(h).
- The Board and staff were provided an update from Wilshire on current investigations and information requests by the Securities and Exchange Commission involving current System managers AQR, Guggenheim, PIMCO, and Wellington. A copy of the Wilshire memo, dated September 17, 2015, is filed as Exhibit 458-13(i).

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458-14 (A-6270). The Board was provided the results of Wilshire's asset allocation study comparing the optimum portfolios for various risk policies taking into consideration the System's liabilities, the System's future cash flows, future capital market assumptions, and constraints on certain asset classes within the portfolio. After discussion with Wilshire, the Executive Secretary, and the TVARS investment staff, the Board took no action on the System's current asset allocation policy but will continue to evaluate alternative policies based on revised assumptions and information. A copy of Wilshire's asset allocation study results, dated September 17, 2015, is filed as Exhibit 458-14.

Given the dramatic price decline in energy-related commodities, the value of the System's commodities allocation has dropped into a range that requires rebalancing under the System's Investment Policy Statement, and the Board previously approved not rebalancing the System's commodities portfolio pending the completion of Wilshire's asset allocation study (see Minute Entry 454-14). In light of the Board's action to make no changes to the System's current asset allocation policy at this time, upon the recommendation of the Investment Committee, the Board approved rebalancing the System's portfolio to bring the commodities allocation back to

4.5% of the total portfolio, which is the midpoint of the rebalancing range for commodities between 4% and 5%.

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458-15 (A-6271). The Retirement Committee report consisted of items reported below at A-6272, A-6273 and A-6274, and of the following items:

- The Board was provided with a Quarterly Communication Update providing the TVA Retirees Association meetings attended during the third quarter of 2015. A copy of the Quarterly Communication Update is filed as Exhibit 458-15(a).
- The Board was provided and took note of a petition from a group of TVARS members regarding the Board's previous decision to only allow employees to elect to make contributions to the Fixed and Variable Funds from their compensation and not from total pay (see Minute Entry 454-15). The Board confirmed the reasoning for the decisions based on the definition of compensation in the TVARS Rules and that this is the reason to be given to members in response.
- On Thursday, September 17, 2015, the Board met with Steve McManus of Fidelity and discussed the following: (i) current overview of 401(k) Plan participant information and demographics; (ii) income replacement analysis performed by Fidelity for 401(k) Plan participants; and (iii) a proposed timeline for the implementation of the new 401(k) Plan investment lineup. A copy of Fidelity's presentation, dated September 17, 2015, is filed as Exhibit 458-15 (b).
- On Thursday, September 17, 2015, the Board met with Aon Hewitt Investment Consulting (AHIC), the consultant for the 401(k) Plan. During the meeting, AHIC reviewed and discussed with the Board the following: (i) the results of the 401(k) Plan live fee benchmarking analysis performed by AHIC; (ii) reenrollment strategy options; and (iii) potential naming conventions for the new target-date funds. A copy of AHIC's 401(k) Plan live fee benchmarking analysis, dated September 17, 2015, is filed as Exhibit 458-15(c).

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458-16 (A-6272). Upon the recommendation of the Retirement Committee, the Board approved Mercer's Statement of Work to provide actuarial services to the System for fiscal year

2016, 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 458-16.

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458-17 (A-6273). Upon the recommendation of the Retirement Committee, the Board approved Mercer's Statement of Work to provide a new long-term funding policy study for the System, 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 458-17.

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458-18 (A-6274). The Board was provided a review of the System's valuation assumptions used by Mercer, the System's actuary. After a discussion, the Board, upon the recommendation of the Retirement Committee and Mercer, voted to approve the actuarial assumptions to be used in the valuation of the System's liability and benefit calculations as of September 30, 2015. The actuarial assumptions approved by the Board include the following:

(a) the assumed rate of return on investments of the System's assets remains 7%; (b) a decrease in the assumed rate of inflation from 2.5% to 2.25%; and (c) for liability valuation and minimum contribution requirements, the adoption of the following new mortality tables: (i) for the base table, the MRP-2007 table developed by Mercer based on actual plan experience with 5% load with Mercer-adjusted social security scale (MSS-207), and for the projection scale, the MSS-2007 scale developed by Mercer based on actual plan experience. A copy Mercer's presentation dated September 17, 2015, is filed as Exhibit 458-18.

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458-19 (A-6275). The Election Committee had no items to report.

458-20 (A-6276). The Audit Committee report consisted of the items reported below at A-6277, A-6278 and A-6279, and of the following items:

- The Audit Committee provided an update on the status of the Service Organization Control (SOC1) audit for the System being performed by Crowe Horwath.
- Pursuant to the TVARS Confidentiality Policy, the Board and staff were provided a
  copy of the Policy and signed an acknowledgment that each of them had read and
  understood the Policy and agree to comply with the terms of the Policy.
- 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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458-21 (A-6277). The Board was provided for review a copy of a proposed restatement of the System's Bylaws drafted by Jeanna Cullins, partner with Aon Hewitt Investment Consulting, the Board's governance consultant, the Executive Secretary, and Senior Counsel. Senior Counsel provided an overview of the major revisions, and the Board took no action and will continue to discuss and review. A copy of the draft restated Bylaws is filed as Exhibit 458-21.

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458-22 (A-6278). The Board was provided for review a copy of Committee Charters drafted by Jeanna Cullins, partner with Aon Hewitt Investment Consulting, the Board's governance consultant, the Executive Secretary, and Senior Counsel. Senior Counsel provided an overview of the major sections, and the Board took no action and will continue to discuss and review. A copy of the draft Committee Charters is filed as Exhibit 458-22.

458-23 (A-6279). After discussion, and upon the recommendation of the Audit Committee, the Board approved revisions to the Executive Secretary Evaluation Policy regarding the performance evaluation and setting of compensation for the Executive Secretary consistent with the Loaned Employee Agreement between TVARS and TVA. A copy of the revised Executive Secretary Evaluation Policy, dated September 17, 2015, which will be posted on the TVARS website, is filed as Exhibit 458-23.

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The meeting was adjourned at 1:15 p.m. EDT.

Executive Secretary

Chair