COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY-AMERICAN WATER COMPANY FOR A CERTIFICATE OF CONVENIENCE AND NECESSITY AUTHORIZING THE CONSTRUCTION OF RICHMOND ROAD STATION FILTER BUILDING IMPROVEMENTS	))))))	CASE NO. 2014-00258

ORDER

Kentucky-American Water Company ("Kentucky-American") has applied for a Certificate of Public Convenience and Necessity ("CPCN") authorizing the construction of a new filter building to replace the existing Richmond Road Station Water Treatment Plant ("RRS WTP") filter building.

Having reviewed the application and being otherwise sufficiently advised, the Commission finds that:

1. Kentucky-American, a corporation organized and existing under the laws of Kentucky, owns and operates facilities used to treat and distribute water to approximately 125,628 customers in Bourbon, Clark, Fayette, Gallatin, Grant, Harrison, Jessamine, Owen, Scott, and Woodford counties.[1] It provides wholesale water service to East Clark County Water District, Georgetown, Harrison County Water Association, Jessamine-South Elkhorn Water District, Midway, Nicholasville, North Middletown, Peaks Mill Water District, and Versailles.[2]

[1] *Annual Report of Kentucky-American Water Company to the Kentucky Public Service Commission for the Year Ended December 31, 2013* at 11 and 55.

[2] *Id.* at 62.

2. Kentucky-American's initial application, which was received on July 31, 2014, was supplemented and accepted for filing with the Commission on August 25, 2014. Neither the Kentucky Office of the Attorney General nor the Lexington-Fayette Urban County Government sought intervention in this matter. Additionally, no other person has sought intervention into this matter.

3. On September 26, 2014, the Commission entered an Order finding that an investigation is necessary and a procedural schedule was established. Commission Staff served upon Kentucky-American two requests for information, and an Informal Conference was held on October 30, 2014. Kentucky-American has not requested a hearing in this matter, and the Commission finds the record complete.

4. Kentucky-American states that reviews of its facilities are typically conducted by Kentucky-American staff and American Water Works Service Company Corporate Engineering staff ("American Water Corporate Engineering") on a 5-year time period as part of comprehensive planning efforts.[3] During a regular review of the facilities in August 2012, concerns were raised about the severe continued deterioration of the concrete support beams of the operating floor located above the pipe gallery in the RRS WTP filter building.[4] Kentucky-American states that prior to the August 2012

[3] Kentucky-American's Response to Commission Staff's First Request for Information ("Staff's First Request"), Item 7.

[4] Application, Direct Testimony of Brent E. O'Neill at 3. As part of Kentucky-American's most recent rate case, Case No. 2012-00520, *Application of Kentucky-American Water Company for an Adjustment of Rates Supported by a Fully Forecasted Test Year* (Ky. PSC Oct. 25, 2013), Kentucky-American's 2015 construction budget included a project at the RRS WTP filter building. *See also* Kentucky American Response to Staff's First Request, Item 19. Kentucky-American states that in Case No. 2012-00520, it was aware of the need for the project, but the details and expected expenditures were not known at the level of detail that is now known.

inspection, it had considered the deterioration superficial.[5] American Water Corporate Engineering prepared a "Preliminary Structural and Mechanical Evaluation" report that summarizes the findings of the August 2012 inspection.[6]

5. Kentucky-American's proposed project consists of the construction of a new filter building with eight dual-media filters, a chlorine contact basin, and a backwash tank at its RRS WTP location.[7] Each of the eight filters has a filtration rate of 3.6 million gallons per day ("MGD"). With one filter out of service for washing or maintenance, the remaining seven filters are capable of treating 25 MGD.[8]

6. Kentucky-American's RRS WTP's existing filter building was originally constructed with four filters in 1924. It was further expanded in 1937 with six additional filters, in 1938 with two additional filters, and in 1953 with four additional filters.[9] It houses a total of sixteen filters, each at a filtration capacity of 1.56 MGD, for an overall capacity of approximately 25 MGD.[10] Kentucky-American asserts that this building sustained no major improvements since it was expanded last in 1953.[11]

7. Kentucky-American's existing 16 filters, which are all identical in shape and size, are of combined filtration media (sand and granular activated carbon ("GAC")

[5] Kentucky-American's Response to Staff's First Request, Item 8(d).

[6] Kentucky-American's Response to Staff's First Request, Item 4.

[7] Application, Direct Testimony of Brent E. O'Neill at 14.

[8] Application, Direct Testimony of Brent E. O'Neill at 15.

[9] Application, HDR Report, Exhibit B.

[10] *Id.*

[11] *Id.*

caps) with a depth of approximately two and one-half feet compared to the combined filtration media depth of three feet as proposed in this project.[12]

8. Kentucky-American cites poor turbidity removal as the main concern with the existing filters. Due to the shallowness of the existing filters, inconsistent filtration results across the filters and more frequent filter turbidity breakthroughs occur, causing subsequent filter backwashes. Due to the shallowness of the filters, Kentucky-American adds more coagulants in the treatment process leading to increased costs in high-turbidity events.[13] Kentucky-American states that the shallowness of the existing filter beds removes the possibility of adding an additional sand layer to aid in turbidity removal. The addition of sand in the existing filter bed would impact the GAC cap thickness which can compromise Kentucky-American's compliance with disinfection by-product ("DBP") regulations.[14]

9. Kentucky-American cites the lack of available space in the pipe gallery of the existing filter building as a reason for issues such as rust and corrosion due to chlorine vapors and lack of ventilation. According to Kentucky-American, these issues cause operator safety issues and maintenance challenges such as the relocation of chemical injection points, pipe gallery valve and pipe maintenance difficulties, and the replacement of GAC caps for its existing filters.[15]

10. Kentucky-American states that a portion of the existing filter building suffers from severe deterioration. In particular, the building suffers from significant

[12] *Id.*

[13] *Id.*

[14] *Id.*

[15] *Id.*

concrete loss in the concrete support beams of the operating floor above the pipe gallery. This loss of concrete exposed the beam's reinforcing steel rebar to a corrosive atmosphere posing a potentially catastrophic structural risk.[16] Kentucky-American avers that the operating floor above the pipe gallery, which was being shored by jack columns, is in need of replacement.[17] Due to the configuration of the existing pipe gallery, the replacement of the operating floor, with continued operations, does not appear to be a feasible option.[18] In addition to the structural issues with the operating floor, cracks can be seen near the supports of the concrete beams that span across each filter and support the masonry building's exterior wall.[19] Kentucky-American also cited cracks on the outside of the existing filters that leak during operation.[20] Several cracks and evidence of brick movements in relation to the supporting structure were discovered during a structural inspection of exterior wall surface of the masonry building enclosure of the existing filter building.[21]

11. Kentucky-American states that remedial measures were installed to provide temporary support of the RRS WTP filter building operating floor during June 2013 to avoid a likely failure in the building.[22] Kentucky-American states that the

[16] Application, paragraph 5.

[17] Application, HDR Report, Exhibit B.

[18] *Id.*, Section 1, 1-8.

[19] *Id.*, Appendix C.

[20] *Id.*, Section 1, 1-8.

[21] *Id.*, Appendix C.

[22] Application, Direct Testimony of Brent E. O'Neill, at 4.

remedial measures were short-term, and, in July 2013, Kentucky-American states that it requested proposals to conduct an evaluation of the RRS WTP filter building.[23]

12. Kentucky-American states that it obtained five proposals in response to its July 2013 request for proposals and selected HDR Engineering, Inc. ("HDR") of Lexington, Kentucky, to conduct the evaluation and provide a report. Kentucky-American states that it requested HDR perform an assessment of the existing structure and determine the best course in returning the RRS WTP filter building to a viable and safe structure. HDR performed its analysis during August and September 2013 and presented Kentucky-American with a final report in September 2013.

13. Kentucky-American states that the HDR report indicated that the operating floor was in extremely poor shape. Kentucky-American states that HDR determined that new problems would continue to arise with the 90-year-old building and the structure would be increasingly difficult to maintain. Kentucky-American states that HDR concluded that substantial support and corrosion challenges were present in the filter building. The HDR report states that the RRS WTP filter building has limited usefulness for continued service without significant costly repairs and that one should expect significant maintenance and repair of both new and recurring structural issues.

14. Kentucky-American states that it directed HDR to explore all alternatives in finding a solution of how to address the deficiencies found in the review of the RRS

[23] *Id.*

WTP filter building.[24] As part of its review, HDR evaluated 13 options.[25] The options considered included alternative technologies, such as membrane filtration and ozone biofiltration, along with more conventional approaches, such as gravity filtration in a new filtration facility and renovation of the existing RRS WTP filter building.[26] During a vetting process, HDR conducted a workshop with Kentucky-American to narrow the 13 options to three choices for further consideration.[27] The vetting process included consideration of the feasibility of each option, treatment goals, security and risk, cost-effectiveness, and the immediate need.[28]

15. HDR selected three of the 13 options for further modification and discussion.[29] The three options selected for further modification and consideration were:

a. Option 1 – New Filter Building with GAC Dual Media Filters;

b. Option 5 – New Granular Media Filter and GAC Contactors Facility; and

c. Option 12 – Ozone and New Filter Building with GAC Dual Media.

Kentucky-American states that based upon a review of the merits of each option and

[24] Application, Direct Testimony of Brent E. O'Neill, at 9.

[25] *Id.*

[26] Application, HDR report, Exhibit B at 3-1.

[27] *Id.* at 2-22.

[28] *Id.* at 2-22, 2-23.

[29] *Id.* at 3-11.

interaction with Kentucky-American staff, HDR recommended that a new filter building with GAC dual media filters be constructed.[30]

16. Kentucky-American, through its HDR report, considers the existing filter building a highly-weathered structure with limited usefulness for continued service calling for expected significant structural maintenance issues.[31] The HDR report also highlights the poor condition of electrical equipment, the need to replace the electrical equipment, and the potential National Electrical Code issues due to the unavailability of adequate space.[32]

17. Hazen and Sawyer, P.C., of Lexington, Kentucky, prepared the plans and specifications for the proposed project.

18. The Kentucky Division of Water ("DOW") has approved the plans and specifications for the proposed project.[33]

19. The Commission finds that a failure of the operating floor could have a widespread failure effect on the existing building structure which can interrupt the operations of the RRS WTP.

20. The Commission finds that Kentucky-American's process of identifying and reviewing alternatives was reasonable and that Kentucky-American selected the option that is the most reasonable and least-cost solution to address the problems with the RRS WTP filter building.

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[30] Application, Direct Testimony of Brent E. O'Neill, at 10.

[31] Application, HDR report, Exhibit B, Appendix C.

[32] *Id.*, Section 1, 1-8, Exhibit B.

[33] Application at Exhibit F, Letter from Mark Rasche, Professional Engineer, Supervisor, Engineering Section, Water Infrastructure Branch, DOW, to Zachery Dukes, Kentucky-American Water Company (June 27, 2014).

21. The proposed construction will not result in wasteful duplication of existing facilities.

22. The proposed construction does not conflict with any existing certificates or the service of any other utility operating in the area.

23. Public convenience and necessity require the proposed construction to allow Kentucky-American to continue to provide reliable and adequate water service to its customers.

24. The total estimated capital cost of the proposed RRS WTP filter building project is $15.6 million.[34] Initially, Kentucky-American will fund the project with short-term bank borrowings[35] that it obtains from American Water Capital Corporation ("AWCC"). AWCC provides short-term funding to Kentucky-American through its access to the commercial paper markets at the identical rates it receives.[36] Eventually, Kentucky-American expects to permanently finance its capital construction with an appropriate mix of debt and equity as it does with its entire annual capital construction program.[37]

[34] Application at 4.

[35] According to Kentucky-American, the project was to be funded initially by available funds from a previous financing or short-term bank borrowings, Application at 4. However, in its response to Staff's First Request, Item 18, Kentucky-American stated that the previous financing would be used to refinance outstanding short-term debt.

[36] *See*, e.g., Case No. 2012-00393, *Application of Kentucky-American Water Company for Issuance of Indebtedness and Continued Participation with American Water Capital Corp.* (Ky. PSC Oct. 29, 2012) at 2-4.

[37] Application, Direct Testimony of Linda Bridwell at 4.

IT IS THEREFORE ORDERED that:

1. Kentucky-American is granted a CPCN to proceed with the proposed construction as set forth in its Application.

2. Kentucky-American shall notify the Commission prior to performing any additional construction not expressly authorized by this Order.

3. Any deviation from the construction approved shall be undertaken only with the prior approval of the Commission.

4. Kentucky-American shall file with the Commission documentation of the total costs of this project, including the cost of construction and all other capitalized costs, (e.g., engineering, legal, administrative) within 60 days of the date that construction is substantially completed. Construction costs shall be classified into appropriate plant accounts in accordance with the Uniform System of Accounts for water utilities prescribed by the Commission.

5. Kentucky-American shall file a copy of the "as-built" drawings and a certified statement that the construction has been satisfactorily completed in accordance with the contract plans and specifications within 60 days of the substantial completion of the construction certificated herein.

6. Kentucky-American shall require construction to be inspected under the general supervision of a licensed professional engineer with a Kentucky registration in civil or mechanical engineering to ensure that the construction work is done in accordance with the contract drawings and specifications and in conformance with the best practices of the construction trades involved in the project.

7. Any documents filed in the future pursuant to ordering paragraphs 2, 4, and 5 shall reference this case number and shall be retained in the utility's general correspondence file.

8. The Executive Director is delegated authority to grant reasonable extensions of time for the filing of any documents required by this Order upon Kentucky-American's showing of good cause for such extension.

By the Commission

ENTERED

DEC 23 2014

KENTUCKY PUBLIC SERVICE COMMISSION

ATTEST:

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